FACTORS ASSOCIATED WITH ADOLESCENT PREGNANCY AND ITS HEALTH CONSEQUENCES AMONG CHEPANG WOMEN IN SELECTED WARDS OF RAKSIRANG RURAL MUNICIPALITY, MAKWANPUR DISTRICT: A MIXED METHOD STUDY

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SCHOOL OF PUBLIC HEALTH

PATAN ACADEMY OF HEALTH SCIENCES

LALITPUR, NEPAL

2023

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A THESIS PRESENTED BY

KUSUMSHEELA BHATTA

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

UNDER THE AEGIS OF

PROFESSOR MADHUSUDAN SUBEDI

GUIDE

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SCHOOL OF PUBLIC HEALTH

PATAN ACADEMY OF HEALTH SCIENCES

LALITPUR, NEPAL

2023

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Where other people's work has been used (either from a printed source, internet, or any other source) this has been carefully acknowledged and referenced in accordance with policies of Patan Academy of Health Sciences.

I, hereby declare that the thesis titled "Factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang Rural Municipality, Makwanpur District: A mixed method study" is my own work. I have not submitted any part of the thesis for the award of any other degree or other purposes prior to this date.

Funding: Awarded with "Nepal Health Research Council-Postgraduate health research grant 2022"

Competing Interests: None

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Letter of Recommendation

This is to certify that KUSUMSHEELA BHATTA (Registration number: 07-2021-0001) has carried out the Master of Public Health thesis under our direct guidance in accordance with academic policies and requirements of School of Public Health, Patan Academy of Health Sciences, Nepal.

The thesis entitled "FACTORS ASSOCIATED WITH ADOLESCENT PREGNANCY AND ITS HEALTH CONSEQUENCES AMONG CHEPANG WOMEN IN SELECTED WARDS OF RAKSIRANG RURAL MUNICIPALITY, MAKWANPUR DISTRICT: A MIXED METHOD STUDY" is an original work. To our knowledge, no part of the thesis is used for any other academic degree or other purpose prior to this date.

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The thesis entitled "FACTORS ASSOCIATED WITH ADOLESCENT PREGNANCY AND ITS HEALTH CONSEQUENCES AMONG CHEPANG WOMEN IN SELECTED WARDS OF RAKSIRANG RURAL MUNICIPALITY, MAKWANPUR DISTRICT: A MIXED METHOD STUDY" carried out by KUSUMSHEELA BHATTA (Registration number: 07-2021-0001) has been reviewed and evaluated by the Public Health Subject Committee and approved for final evaluation.

Professor Madhusudan Subedi

Chair, Public Health Subject Committee

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Date: March 24, 2023

Patan Academy of Health Sciences

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Thesis Approval Sheet

The thesis entitled

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Ref: PHP2209061673.A1 Date: 5 Mar 2023

Re: IRC-PAHS approval for Research

Ms. Kusumsheela Bhatta,

Thank you for submission of your research proposal. Your proposal has been approved by Institutional Review Committee "IRC-PAHS." We are confident that you will follow the ethical guidelines, suggested changes as per IRC-PAHS proposal submission form; and provide necessary information / materials / interim report as and when required. Please do not modify the approved proposal. If it is absolutely necessary, please obtain permission of IRC-PAHS for amendment. Submit summary report and master datasheet upon completion of your study as and when required by IRC-PAHS.

Title of Study: "Factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang Rural Municipality, Makwanpur District: A mixed method study."

Objectives:

1. To find out the prevalence of adolescent pregnancy among Chepang women of 10 to 25 years of age who have had at least a birth in selected wards of Raksirang Rural Municipality
2. To determine factors associated with adolescent pregnancy among Chepang women from quantitative data
3. To explore factors associated with adolescent pregnancy among Chepang women from qualitative data
4. To explore health consequences faced by Chepang adolescent mothers during pregnancy, childbirth, and the postpartum period
5. To triangulate the results obtained from the quantitative and qualitative study

Investigator: Kusumsheela Bhatta, MPH Student, School of Public Health, Patan Academy of Health Sciences, Lalitpur, Nepal.

Multi center: No Multi country: No Funding: Yes Thesis: Yes

For any queries please contact IRC-PAHS.

Sincerely,

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DEDICATION

This work is dedicated to

My Mother

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I can't remain still without acknowledging all the concerned who in one way or another provided their valuable time and assistance and without whom the accomplishment of this study wouldn't have been possible.

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Kusumsheela Bhatta

Summary

Background: Adolescent pregnancy, which is defined as any pregnancy in a girl aged 10-19 years, is a matter of concern for public health and human rights. The Chepang people are an indigenous ethnic group and are one of the most marginalized and disadvantaged communities in Nepal. Maternal conditions are among the top causes of disability-adjusted life years (DALYs) and death among girls aged 15-19.

Aim: This study aimed to determine the factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang Rural Municipality, Makwanpur District.

Design: Concurrent triangulation mixed method design

Methods: A cross-sectional study was conducted among 231 Chepang women selected from Wards 5 and 8 of Raksirang Rural Municipality. Chepang women aged 10 to 25 years who ever gave birth were included in the quantitative study. Simple random sampling was done to select the participants. A semi-structured questionnaire was used for interviewing the mothers. The data were coded, entered in Epidata Version 3.1, and analyzed using STATA MP 13 version and EZR software Version 4.0.4. Bivariate and Multivariate logistic regression using odds ratio with 95% CI was carried out. Variables with a VIF of more than 2 and a p-value of more than 0.25 were excluded from the final model. For the qualitative study, 40 participants (20 in-depth interviews and 20 key informant interviews) were recruited through judgmental sampling. An interview guide was used for interviewing the participants. All interviews were audio-recorded, transcribed, translated, and analyzed using RQDA package. Braun and Clarke's six steps thematic analysis was done for qualitative analysis.

Result: The study revealed that the prevalence of adolescent pregnancy among Chepang women was 71.4% [CI 65.14-77.16]. A large proportion of respondents (72.73%) were married before the age of 18 years. Early age at marriage (AOR= 236, CI: 71.46-472.67), poor knowledge of adolescent pregnancy (AOR=10.3, CI 8.42-14.87), unplanned pregnancy (AOR=13.3, CI 10.76-19.2), and lack of sex education (AOR=6.57, CI 3.85-11.27) were significantly associated with adolescent pregnancy.

21.8% of adolescent mothers had an abortion and 73.3% of adolescent mothers had delivered their first child at home. 24.8% of adolescent mothers had experienced health problems during pregnancy, 29.1% had health problems during delivery and 22.4% had health problems during the postpartum period.

The factors affecting adolescent pregnancy from qualitative study were identified as lack of access and use of sexual and reproductive health services, programs and policies, elopement marriages, discontinuation of education, poor knowledge and understanding of marriage pregnancy and childbirth, and existing socio-cultural beliefs and norms. Likewise, adolescent mothers mostly opted for home delivery, had miscarriages, sought abortion care due to unwanted pregnancy, and feared consuming iron tablets during pregnancy.

The triangulation of the data from qualitative and quantitative study validated that early marriage, unplanned pregnancy, knowledge of adolescent pregnancy, and sex education were the factors influencing adolescent pregnancy. The areas of divergence identified during triangulation were elopement marriage, education level, distance to the health facility, societal family and peer pressure, socioeconomic status, and contraceptive use, where qualitative findings contradicted quantitative findings. The areas of expansion were identified as women's position in society, the role of men in family planning, fear of not having a child later using contraception, hesitancy and fear of the service provider, programs and policies, repercussion of media and technology, immaturity and unfilled desires, schooling after marriage as a stigma, children subjected to forced labor and fear to consume iron tablets.

Conclusion: The prevalence of adolescent pregnancy among the Chepang community was high. Increasing awareness of the consequences of adolescent pregnancy, providing comprehensive sexuality education to adolescents, improving access to reproductive health services, and taking legal action to stop child marriage could prevent adolescent pregnancy among Chepang women.

Keywords: adolescent pregnancy, factors, Chepang, sexual and reproductive health, Nepal

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List of Abbreviations

AFRH	Adolescent Friendly Reproductive Health
AHW	Auxiliary Health Worker
AIC	Akaike Information Criterion
ANC	Antenatal Care
ANM	Auxiliary Nurse and Midwife
AOR	Adjusted Odds Ratio
AUC	Area under curve
BEONC	Basic Emergency Obstetric and Neonatal Care
CEONC	Comprehensive Emergency Obstetric and Neonatal Care
CI	Confidence interval
COVID-19	Corona Virus Disease 2019
CVI	Content Validity Index
CVR	Content Validity Ratio
CTEVT	Council for Technical Education and Vocational Training
DALY	Disability Adjusted Life Years
DE	Design Effect
FCHV	Female Community Health Volunteer
FP	Family Planning
ICA	Inter Coder Agreement
ICR	Inter Coder Reliability
IDI	In-depth Interview
IQR	Interquartile Range
IRC	Institutional Review Committee
IUCD	Intra-uterine Contraceptive Device

KII	Key-Informant Interview
LBW	Low Birth Weight
MPH	Masters of Public Health
NDHS	Nepal Demographic Health Survey
NGO	Non-Governmental Organization
NHRC	Nepal Health Research Council
OR	Odds Ratio
PAHS	Patan Academy of Health Sciences
PHC	Primary Health Care
PHCC	Primary Health Care Center
RC	Reference Category
ROC	Receiver Operating Characteristic
RQDA	R-based Qualitative Data Analysis
SDG	Sustainable Development Goal
SEAR	South-East Asian Region
SES	Socio-economic Status
SLC	School Leaving Certificate
SoPH	School of Public Health
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USEF	U.S. Education Foundation
VDC	Village Development Committee
VIF	Variance Inflation Factor
WHO	World Health Organization

Chapter I : Introduction

1.1 Background of the study

Adolescent pregnancy is a public health concern not only for developing countries like Nepal but also for many developed countries as it is associated with negative consequences both for the teenagers who become pregnant and for their children.[1] Adolescent pregnancy is considered a major public health concern due to the need for collaborative efforts from various sectors to assist young women in avoiding unintended pregnancies and coping with the consequences of pregnancy.[2]

The issue of adolescent pregnancy is linked to human rights concerns because a pregnant adolescent girl who is compelled or coerced to drop out of school is being deprived of her right to education. Similarly, a girl who is prohibited from accessing contraception or even basic knowledge about preventing pregnancy is being deprived of her right to health.[3]

Pregnancies that occur in females who are under the age of 18 have irreversible consequences and can infringe on the rights of girls, resulting in life-threatening consequences concerning their developmental, sexual, and reproductive health.[4] The probability of health issues for both the mother and the child increases with the mother's younger age.[5] Every year, approximately 70,000 adolescents in developing nations die due to pregnancy and childbirth-related reasons.[6] Women aged between 10-19 years are twice as likely to die from pregnancy-related complications as women in their 20s. Additionally, adolescents are more susceptible to various health issues such as unsafe abortion, pregnancy-induced hypertension, nutritional anemia, spontaneous abortion, obstructed labor, preterm birth, postpartum infections, and obstetric fistulae, compared to older women.[7] Although pregnancy can have significant and far-reaching impacts on a girl's life, most quantitative research has primarily examined its effects on health, education, and economic productivity.[3]

At present, there are 18 countries where more than half of the women begin childbearing during their teenage years, surpassing the average proportion of all low-

and middle-income countries 60 years ago. All these countries are situated in sub-Saharan Africa, and the nation with the highest percentage outside this region is Bangladesh, where 48% of women still commence motherhood during their teenage years.[8]

The world recognized adolescent pregnancy as a serious concern and a systemic failure to uphold the right of girls since a long time ago. The 1975 World Conference of the International Women's Year in Mexico followed by the 1994 International Conference on Population and Development in Cairo and the recent 2030 Agenda for Sustainable Development adopted in 2015 in New York. Various international commitments are also interlinked with reducing adolescent pregnancy including Sustainable Development Goals (SDG). SDG Goal 3 (Target 3.7 Universal access to sexual and reproductive care, family planning, and education) and SDG Goal 5 (Target 5.6 Universal access to reproductive rights and health) addresses the concern of adolescent pregnancy.[9]

Chepang community is one of the highly marginalized groups living on the hilly and steeper slopes of primarily Chitwan, Dhading, Gorkha, Makawanpur District of Nepal. The total population of Chepang is 68,399 out of which the male population is 34,620 and of the female population is 33,779.[10] The total population of Chepangs in Makwanpur district is 9799 which makes 37.41% of the total population in this district.[11] The social and economic structure of the Chepang is divided into two groups: - the Kachhare, who have no sub-clans, and are considered “pure” Chepang, and the Pukunthali, who are organized into sub-clans, supposedly “mixed” with neighboring populations. The Kachhare Chepang live in the mountainous and hilly regions while Pukunthali lives primarily in the urban parts of the Terai.[12] Raksirang Rural Municipality Profile 2078 B.S. addresses child marriage, multiple marriages, and opposition to using contraception among males of the Chepang community as a major concern.[13]

There have been many initiatives at the policy level to reduce adolescent pregnancy in Nepal. In 1963, the law banned adolescent pregnancy of less than 20 years.[14] Further, the Nepal government adopted the Adolescent Development and Health

Strategy in 2002 followed by National Adolescent Sexual and Reproductive Health Program in 2010.[15] All of these efforts aimed at increasing the age at marriage and reducing adolescent pregnancy through approaches of health promotion and socio-economic development. However, despite such efforts, adolescent pregnancy is still a common phenomenon in Nepal. Nepal ranks second highest in the South Asian Region for pregnancy and childbirth among adolescents.[16]

1.2 Statement of Problem

There are about 360 million adolescents comprising about 20% of the population in the countries of the South-East Asia Region (SEAR). [17] Nepal is predominantly a young population country with a large proportion of the population below age 30. Adolescents constitute 24 percent of the total population according to the census of 2011.[10] As young individuals reach adolescence, they face not just physical transformations but also become more susceptible to violations of their human rights, particularly in regard to sexuality, marriage, and childbirth. This is a widespread issue affecting millions of young people globally.[18]

Teenage pregnancies are a universal issue that arises in high-, middle-, and low-income nations. Nonetheless, these pregnancies are more prevalent in disadvantaged communities, often driven by poverty and limited access to education and employment opportunities.[19]

Every day in developing countries, 20,000 girls under the age of 18 give birth. This amounts to 7.3 million births a year. 95 percent of the world's births to adolescents (girls aged 15-19) take place in low- and middle-income countries.[20] Although the estimated worldwide fertility rate among adolescents has decreased, the actual number of births to adolescent girls has not declined due to the significant and expanding population of young women in the 15-19 age bracket, particularly in certain regions of the world.[21]

In low- and middle-income countries, almost 59% of first adolescent births were to child mothers 60 years ago, whereas the recent figure stands at 45%. However, the decrease in percentage amounts to only two points per decade.[8]

South Asia is ranked second to Sub-Saharan Africa with the highest rate of adolescent pregnancy.[22] In Nepal after declining between 2001 (21%) and 2011 (17%), teenage childbearing has remained constant from 2011 to 2016 (17%). However, teenage childbearing has declined to 14% as per NDHS 2022 including 10% who have had a live birth, 2% who have had a pregnancy loss, and 4% who are currently pregnant.[23,24] In 2020 the adolescent birth rate per 1000 girls aged 15-19 was 88 while that of the neighboring country India was 11.[20]

Complications during pregnancy and childbirth are the leading cause of death for 15–19-year-old girls globally.[25] Adolescent mothers aged 10–19 years face higher risks of eclampsia, puerperal endometritis, and systemic infections than women aged 20–24 years. Likewise, babies born to mothers under 20 years of age face higher risks of low birth weight, preterm delivery, and severe neonatal conditions.[26] Additionally, some 3.9 million unsafe abortions among girls aged 15–19 years occur each year, contributing to maternal mortality, morbidity, and lasting health problems.[27]

Globally, roughly 84% of pregnant adolescents between the ages of 15 and 19 have attended at least one antenatal care visit. This figure is slightly lower than the 88% of women and girls aged 15-49 who attended at least one antenatal care visit. The percentage of teenage girls who received skilled delivery care is also lower than the percentage for all women and girls (77% compared to 84%). Additionally, a smaller proportion of adolescent girls received postnatal care for themselves compared to all women and girls (66% versus 69%).[28]

1.3 Rationale of the study

Adolescent pregnancy causes overwhelming challenges not only for the adolescent herself but also takes an enormous toll on their families and societies. Thus, the prevalence of adolescent pregnancy is a matter of concern for public health, individual rights, and choice and also for families' and societies' overall health and well-being. In addition, the disadvantage of adolescent pregnancy is passed to the next generations, for example, children's life opportunities are affected in several ways by the lack of maternal education.

The unprecedented global pandemic led to the loss of schooling access among millions of girls around the world and increased their risk of child marriage and pregnancy. The story is no different among the highly marginalized Chepang communities where crisis finds a way of hitting the hardest. Indeed, the need to understand adolescent childbearing trends is greater than ever. The exploratory component of this study will also uncover the untold story of these crises and their effects on adolescent childbearing.

Most studies on adolescent pregnancy in Nepal are hospital-based that haven't looked into community-based factors such as family and societal norms regarding adolescent pregnancy, enforcement of laws, access to reproductive health services, etc.[16] In addition, there have been no studies that tend to understand factors associated with teenage pregnancy in Chepang communities. Cultural and social norms in certain communities like the Chepang community within Nepal still prefer early marriages.

Hence, it is utmost to design a community-based study on adolescent pregnancy that can look deeply into the factors associated with it in Chepang communities which can thereby turn into strong recommendations for its prevention. Adolescent pregnancy in Nepal is still a complicated issue that is twirled into many cultural, social, and gender perspectives. A systematic review for a comprehensive understanding of risk and protective factors related to adolescent pregnancy had also recommended mixed methods for future studies.[29]

This study will help to generate evidence on the prevalence of adolescent pregnancy among the Chepang community of Raksirang Rural Municipality (in a situation where there is no current evidence/state of knowledge of the particular community). The generation of evidence on the prevalence and factors associated with adolescent pregnancy will help bring a richer set of policy levers and a heightened sense of urgency in tackling the issue. There will also be the identification of community-based needs, lessons, and priorities for a changing future regarding adolescent pregnancy among Chepang communities. Efforts against adolescent pregnancy will also drive to reduce gender-based inequalities such as girls out of school, and child marriage,

limiting girls' abilities to navigate safe and consensual sex and restricting girls' life aspirations.

Thus, this community-based study with both qualitative and quantitative components will determine the factors associated with adolescent pregnancy which will aid in providing evidence for bringing enhanced efforts to reduce its prevalence in the future and understanding health consequences will aid in providing targeted health system interventions to the pregnant adolescent so that they wouldn't face any further health complications during antepartum, childbirth and the postpartum period.

Evidence from this study can also assist policymakers and program managers to formulate an integrated policy and programmatic response targeted to Chepang communities and geared towards reducing adolescent pregnancy and improving their health.

1.4 Research Questions

- What is the prevalence of adolescent pregnancy among Chepang women in selected wards of Raksirang Rural Municipality, Makwanpur District in Nepal?
- What are the factors associated with adolescent pregnancy among Chepang communities in selected wards of Raksirang Rural Municipality, Makwanpur District in Nepal?
- What are the health consequences of adolescent pregnancy among adolescent mothers in Chepang communities of selected wards of Raksirang Rural Municipality?

1.5 Objectives

1.5.1 General Objective

To find prevalence, factors associated with adolescent pregnancy, and its health consequences among Chepang women in selected wards of Raksirang Rural Municipality, Makwanpur District, Nepal

1.5.2 Specific Objectives

- To find out the prevalence of adolescent pregnancy among Chepang women of 10 to 25 years of age who have had at least a birth in selected wards of Raksirang Rural Municipality
- To determine factors associated with adolescent pregnancy among Chepang women from quantitative data
- To explore factors associated with adolescent pregnancy among Chepang women from qualitative data
- To explore health consequences faced by Chepang adolescent mothers during pregnancy, childbirth, and the postpartum period
- To triangulate the results obtained from the quantitative and qualitative study

Chapter II : Literature Review

The following literature review presents firstly an overview of the prevalence of adolescent pregnancy followed by factors associated with adolescent pregnancy and its health consequences.

The search engines used for literature are 'Google Scholar', 'PubMed' etc. The literature review is limited to the literature published in English and Nepali languages.

Key words used for search:

Key search words like 'adolescent pregnancy', 'teenage pregnancy', 'adolescent motherhood', 'early motherhood' in combination with 'factors associated', 'factors affecting', 'determinants', 'health consequences', 'health effects', 'maternal outcomes', etc. uncovered a smaller corpus of work which helped to systematize the review.

2.1 Prevalence of adolescent pregnancy

a. Global Level

Between 2015 and 2021, around 14% of teenage girls and young women worldwide reported having a baby before the age of 18. However, this percentage differs depending on various factors such as the region, country, urban or rural location within the country, and the educational and income levels of the adolescent girl or young woman.[28]

At present, roughly one-third of women in low- and middle-income countries begin childbearing in their teenage years. This represents a decrease compared to sixty years ago when almost half of the women had their first child before the age of 20. Although this decline is positive, it only accounts for a reduction of approximately three percentage points per decade. Nearly 50% of initial births to teenage mothers are to girls aged 17 or younger, and 6% of these first births are to girls aged 14 or younger.[8]

A systematic review and meta-analysis of published and unpublished studies in Africa unveiled that the overall pooled prevalence of adolescent pregnancy in Africa was

18.8% (95%CI: 16.7, 20.9) and 19.3% (95%CI, 16.9, 21.6) in the Sub-Saharan African region. The prevalence was highest in East Africa (21.5%) and lowest in Northern Africa (9.2%).[30]

b. Regional Level

Annually, more than 3.7 million births occur to adolescent girls aged 15-19 in Asia and the Pacific. The regions of the Pacific and Southeast Asia exhibit the highest rates of adolescent fertility, with 51 and 43 births per 1,000 girls, respectively. In South Asia, there has been a notable decline in adolescent fertility rates over the last two decades, with a current rate of 26 births per 1,000 girls. However, in Southeast Asia and the Pacific, the reduction in adolescent fertility rates has been sluggish or non-existent.[31]

South Asia is home to almost 350 million adolescents, making it the region with the highest population of young people compared to other regions. Unfortunately, the region also experiences high rates of child marriage and teenage pregnancy. Almost half of all girls in South Asia get married before the age of 18, and one in five give birth before reaching the age of 18.[32] Early marriage is a common occurrence in South Asian nations, including India, Pakistan, Sri Lanka, Nepal, Maldives, Bhutan, and Bangladesh, which has resulted in high rates of teenage pregnancies in these countries.[5]

The National Family Health Survey (NFHS) in 2015-16 found that the prevalence of adolescent pregnancy among women aged 15-19 in India was 7.9%.[33] Likewise, pregnancy among adolescent girls in Bangladesh was high, with 66% of women under the age of 18 reporting a first birth.[34]

c. National Level

As per NDHS 2022 overall, 14% of women aged 15–19 have ever been pregnant, including 10% who have had a live birth, 2% who have had a pregnancy loss, and 4% who are currently pregnant. The prevalence of teenage pregnancy in Nepal varies by province, with Karnali Province having the highest rate at 21%, followed by Madhesh Province at 20%, and Bagmati Province having the lowest rate at 8%.[23]

In accordance with a systematic review and meta-analysis of teenage pregnancy in Nepal from 2000-2020, the prevalence of teenage pregnancy was found to be 13.2%.[35] Likewise, pooled analysis of NDHS (2006,2011,2016) showed that over the study period (2006–2016), the rate of adolescent pregnancy was 173 per 1000 women aged 15–19 years.[16] A descriptive cross-sectional study conducted over six months showed that out of 2688 deliveries, the prevalence of adolescent pregnancy was 5.3%.[36] A descriptive research design among Chepang women in Korak VDC in Chitwan showed that 56.1% had gotten married before the age of 16 years, and 58.1% gave their first childbirth at the age of 17-19 years.[29] Likewise, another study conducted among 217 married women of Dalit ethnic groups, showed that 93(42.9%) married women gave birth to their first child during their teenage years.[37] A retrospective comparative study carried out in 350 adolescent pregnant mothers who had delivered newborn at Nepal Medical College and Teaching Hospital from April 2005 to February 2009-revealed that the prevalence of adolescent pregnancy was 11.1%.[38]

2.2 Current Knowledge of Associated Factors

Education: As per NDHS 2016, teenage childbearing decreases with increasing education, from 33% among women with no education to 7% among women with an SLC or above.[24] Similarly, a cross-sectional study among 457 women of age between 14 and 24 years in Rupandehi district of Nepal showed that lack of education for the girls was the key contributing factor for adolescent pregnancy.[39] A hospital-based unmatched case-control study conducted among mothers aged ≤29 years admitted to a postnatal ward of Manipal Medical College Teaching Hospital and Gandaki Medical College Teaching Hospital showed that teenage pregnancy was associated with lower education.[40] Pooled analysis of NDHS (2006,2011,2016) showed that adolescent pregnancy was significantly lower among educated women.[16] Likewise as per NDHS 2022 report, women aged 15–19 with no education (33%) were more likely to start childbearing earlier than those with at least some secondary education (8%).[23] A case-control study conducted in BP Koirala Institute of Health Sciences among all pregnant women in the age group of 13-19 years, who delivered at the institute hospital between November 1, 1998, and August 31, 1999, showed that adolescent pregnant

women were less educated than the other groups.[41] A qualitative study that explored the perception of teenage mothers showed that a majority of them perceived low education as aggravating factor leading to teenage pregnancy.[42] A systematic review of studies published between 1996 to 2007 identified low educational attainment as a risk factor for teenage pregnancy.[5] A prospective, cross-sectional study was carried out in the College of Medical Sciences Teaching Hospital, Bharatpur during the period of two years from September 2008 to August 2010 depicted that most teenagers had low or inadequate education.[43] Various systematic reviews also showed that low maternal education was significantly associated with adolescent pregnancy.[30, 44]

Decision-making power- In the cross-sectional study conducted among pregnant teenagers visiting selected health facilities of Sunsari District in Eastern Nepal in 2020, almost 40% of respondents were completely dependent on their family about the decision of their pregnancy and could not put their opinion.[45]

Socio-economic status: According to NDHS 2016, teenage women in the lowest wealth quintile are more likely to have begun childbearing than women in the highest wealth quintile (20% versus 6%).[24] Pooled analysis of NDHS (2006,2011,2016) showed that adolescent pregnancy was significantly higher among women with a poor household wealth index.[16] A case-control study conducted in BP Koirala Institute of Health Sciences among all pregnant women in the age group of 13-19 years showed that adolescent pregnant women had a poor economic background as compared to the other group.[41] Systematic reviews of studies have also identified socio-economic status as a risk factor for teenage pregnancy.[5, 44]

As per a meta-analysis in Nepal, 57.1% of teenage pregnant ladies belonged to low socio-economic class (Proportion, 0.571; CI, 0.454-0.680; I2: 96.17), 32.8% belonged to medium socio-economic class (Proportion, 0.328; CI, 0.219-0.459; I2: 96.90), and only 6.3% were high socioeconomic class (Proportion, 0.063; CI, 0.026-0.146; I2: 97.02).[35]

Ethnicity: An observational study in 12 hospitals in Nepal for a period of 12 months showed that men from the disadvantaged ethnic group have a higher likelihood of

being adolescent mothers compared to the advantaged ethnic group.[46] A descriptive cross-sectional study in Okhaldhunga community hospital in 2017 showed that the highest percentage of teenage pregnancy was found among Janajati community of 1056 (53.3%).[47] A hospital-based unmatched case-control study conducted among mothers aged ≤29 years admitted to the postnatal ward of Manipal Medical College Teaching Hospital and Gandaki Medical College Teaching Hospital showed that teenage pregnancy was associated with disadvantaged ethnicity.[40] Pooled analysis of NDHS (2006,2011,2016) showed that adolescent pregnancy was significantly higher among Dalit/Madhesi.[16]

Social class: The incidence of teenage pregnancies was significantly higher in the lower social classes (52%) than in the higher social classes (26%) in accordance with the retrospective exploratory study among 575 adolescent mothers.[48]

Early Age at Marriage: According to the UNFPA report "Girlhood not motherhood: Preventing adolescent pregnancy," 90% of teenage births occur within the context of marriage. The report highlights that child brides were more likely to experience early pregnancies and have more children than girls who marry at a later age.[49] Median age at first marriage for women in Nepal is 17.9 years as per NDHS 2016.[24] Most girls aged 17 or younger in 54 developing countries give birth to their first child while being married.[8] In Nepalese culture, getting married is often seen as a requirement or societal pressure for women to start bearing children and to conceive shortly after tying the knot.

Marriage Type: A case-control study conducted in BP Koirala Institute of Health Sciences among all pregnant women in the age group of 13-19 years, who delivered at the institute hospital between November 1, 1998, and August 31, 1999, showed that adolescent pregnant women were more likely to have love marriages as compared to the other group.[41]

Substance use: A systematic review for a comprehensive understanding of risk and protective factors related to adolescent pregnancy revealed that substance use increased the hazards of adolescent pregnancy.[29]

Low Social Status of Women: Low involvement of teenage girls in decision-making also contributes to early pregnancy. A study where seventy adolescent pregnant women were compared with seventy primigravida women in the 20 to 29 years age group showed that most adolescent marriages (80%) were arranged by parents without the girl's consent.[41] Similarly, findings from another study depicted that a higher proportion of adolescent pregnant women (67%) were found to be part of an extended family, of which just over half (51%) claimed that the authority over conception remains with their husband despite the teenagers' desire to make their own decisions.[48] A study on the sexual experience of adolescent females mentioned that they tended to have sex when their partner wanted even if they do not want to.[50]

Unplanned pregnancy: A case-control study conducted in BP Koirala Institute of Health Sciences among all pregnant women in the age group of 13-19 years, who delivered at the institute hospital between November 1, 1998, and August 31, 1999, showed that adolescent pregnant women were more likely to have an unintended pregnancy.[41] A study drawn from NDHS data showed more than two-fifth of the pregnant women reported unintended pregnancy and the likelihood of unintended pregnancy decreased as women's age at first marriage increased.[51] About 21 million adolescent girls become pregnant in developing countries and 10 million of these pregnancies are unplanned. [25]

Occupation: A hospital-based unmatched case-control study showed that teenage pregnancy was associated with agriculture, labor, and family occupation.[40]

Unemployment: As per the findings from the pooled analysis of NDHS 2006, 2011, and 2016, unemployed women have higher odds of adolescent pregnancies.[16] Likewise, the study conducted in Manipal Medical College Teaching Hospital and Gandaki Medical College Teaching Hospital showed that teenage pregnancy was associated with the non-working status of women.[40]

Media exposure to public health issues: A pooled analysis of NDHS (2006, 2011, and 2016) showed that adolescent pregnancy was significantly lower among women with access to media exposure to public health issues.[16]

Knowledge regarding adolescent pregnancy: A study conducted in Gorkha among 100 respondents concluded that half of the respondents (74%) had adequate knowledge of the consequences of teenage pregnancy.[52] Another descriptive study was conducted to find out contributing factors of teenage pregnancy among 102 pregnant teenagers at selected health facilities of Sunsari district that depicted inadequate knowledge about teenage pregnancy as a significant factor.[45]

A study at Selected Government Junior Colleges in India depicted that 41% of adolescent girls had moderate knowledge,34% had adequate and 25% had inadequate knowledge about teenage pregnancy.[53] According to a study to assess the knowledge of teenage pregnancy and its prevention among the teenage girl in India, a maximum number (37.5%) of teenage girls have very poor and 15.625% of them have good knowledge of teenage pregnancy.[54]

Similarly, research conducted among 200 adolescent school students from selected urban and rural schools of Gangtok, East Sikkim showed that out of 100 samples in urban schools 71% had average knowledge,14% had good knowledge and 15% had poor knowledge regarding teenage pregnancy whereas among the 100 samples in rural schools, 65% had average knowledge, 32% had good knowledge and 0.3% had poor knowledge regarding teenage pregnancy.[55]

Awareness regarding contraception: A prospective, cross-sectional study carried out in the College of Medical Sciences Teaching Hospital, Bharatpur revealed that most teenagers had little knowledge about contraception and less number of teenagers used temporary means of contraception.[43] Likewise a systematic review and meta-analysis in 2020 showed 68.1% were aware (Proportion, 0.681; CI, 0.260-0.928; I2, 98.40), and 31.9% were unaware of contraceptive methods (Proportion, 0.319; CI, 0.072- 0.740; I2, 98.40).[35] A quantitative exploration of the sociocultural context of teenage pregnancy in Sri Lanka showed that 46% of teenagers and 64% of male partners knew that pregnancy was possible at first intercourse.[56]

Contraceptive use: A descriptive cross-sectional study conducted in the Department of Obstetrics and Gynecology, Nobel Medical College and Teaching Hospital,

Biratnagar over a period of six months showed that only 2 (1.4%) of teenage mothers had used Injectable Depo Provera.[36] Likewise a meta-analysis showed that among teenage pregnant ladies, only 3.2% reported using any methods of contraception (Proportion, 0.032; CI, 0.007-0.134; I2, 88.11) while 96.8% reported not using any methods of contraception (Proportion, 0.968; CI, 0.866- 0.993; I2, 88.11).[35]

Lack of sex education: A systematic review to find the determinants of adolescent pregnancy in Sub-saharan Africa identified the lack of comprehensive sexuality education as a major determinant.[57] Likewise, a comprehensive analysis of 64 studies, involving more than 87,000 young individuals, has validated the positive outcomes of sexuality education programs implemented in schools. The review found that such programs are associated with increased and better use of contraception methods, including condom use during the last sexual activity, lower incidence of high-risk sexual behavior, and less frequent occurrences of unprotected sex in the preceding three months.[58]

Another study to explore the impact of sex education on teenage pregnancy in basic schools in Ghana showed that concealing sex education and sex-knowledge from the youth made them more curious and vulnerable.[59] A quasi-experimental study in the US showed that federal funding for more comprehensive sex education reduced county-level teen birth rates by more than 3%.[60]

Likewise, a study showed that sex education was associated with lower self-reported pregnancy rates among teenagers.[61] In contrast, finding from another study indicated teenagers who were exposed to school-based sex education experienced slightly higher pregnancy rates than those who were not exposed.[62] Another study concluded that sex education had no significant effect on adolescent pregnancy.[63]

2.3 Reasons for Adolescent Pregnancy

According to research conducted in Ghana, the primary reasons for the high rates of early adolescent pregnancy in the community were identified as the absence of effective communication between parents and daughters, societal stigmatization of sex-related conversations within households, and inadequate financial

independence.[64] In addition, the findings of in-depth and focus group interviews with 29 adolescent and young women and men in Nicaragua suggest that economic hardship, reliance on material possessions, fragmented family relationships, and a persistent desire for affection all played a significant role in contributing to adolescent pregnancy.[65] A qualitative study that explored the perception of teenage mothers showed that a majority of them perceived love marriage as aggravating factor leading to teenage pregnancy.[42]

Moreover, a research study conducted in rural Lao aimed to investigate the causes of teenage pregnancy. The study revealed that factors contributing to teenage pregnancy included societal acceptance of pre-marital sexual intercourse among teenagers, early marriage and pregnancy, inadequate understanding of sexual and reproductive health, and limited access to relevant services.[66] Likewise, according to a study conducted in Eastern Uganda, teenage pregnancy was most commonly attributed to negative peer influences, being lured into sexual activity with gifts or other incentives, and living in poverty.[67]

Semi-structured interviews were carried out with 53 sexually active adolescent females, and the results indicated that male partners who were abusive were often interested in impregnating their partners at a young age. These partners would manipulate condom use, interfere with the use of birth control, and express their desire for young women to become pregnant.[68]

A qualitative study was conducted in healthcare centers located in urban-rural areas of Iran, which involved 14 married women aged between 13 and 19. The study found that insufficient knowledge about contraceptive methods, societal pressure to become pregnant, and misconceptions were the primary factors that contributed to adolescent pregnancy.[69] A study among Ugandan females depicted that adolescent pregnancy was primarily influenced by perceptions of control over getting pregnant and readiness for childbearing. Premarital pregnancy was perceived as negative whereas post-marital pregnancy was regarded as positive.[70]

A qualitative study conducted in Gambia on Teenage Mother's Experiences and perspectives revealed that among other things, teenagers do not only need information and skills about how to abstain from unwanted or unhealthy sexual activity; they also need to receive accurate, balanced, age-appropriate information about sexuality and sexual behavior.[71] Furthermore, a qualitative descriptive study conducted in 2011 among Thai adolescents (aged 15-19) living in Sweden found that despite residing in a society with comprehensive sexual education and youth services, these adolescents still held misconceptions about contraception.[72]

An exploratory study was conducted among parents and community leaders in Nigeria to examine teenage pregnancy prevention initiatives. The study revealed that although such initiatives existed, most of the participants were unaware of them. Additionally, more than two-thirds of the participants discouraged teenagers from using contraceptives.[73] Moreover, a qualitative study was conducted in Tanzania using focus group discussions, facility assessment interviews, and case studies. The study found that many health facilities did not have skilled service providers who could provide adequate care related to sexual and reproductive health rights. Additionally, these services were often inaccessible due to a lack of privacy, confidentiality, equipment, and negative attitudes from service providers. [74]

From March to May 2016, a qualitative study was conducted in Eastern Uganda to investigate the perceived determinants of teenage pregnancies. The study revealed that lack of life and social survival skills, inadequate knowledge on how to avoid pregnancy, low acceptance and use of contraceptives, neglect by parents, sexual abuse, pressure to contribute to family welfare through early marriage or sexual transactions, lack of community responsibility, media influence, peer pressure, cultural beliefs that promote early marriage and childbearing, and lack of role models were all considered contributing factors.[75] In addition, the risky sexual behavior of young people in England was studied using a qualitative approach, which revealed that embarrassment was a significant risk factor. The study showed that fear of embarrassment and concern about how they are perceived by others can constrain young people's ability to engage in protective behavior and seek information and advice.[76]

A qualitative study was conducted in South Africa, which included 13 in-depth interviews with pregnant teenagers. The study found that socioeconomic factors such as poverty, the controversial influence of the child support grant, transgenerational sex, and financial support from an older partner to secure income for the teenage girl or her family were all factors that influenced adolescent pregnancy. Additionally, substance abuse, particularly alcohol, by either the teenager or her parents was found to have a critical influence.[77] Furthermore, a qualitative study was conducted from a phenomenological perspective, which revealed that adolescents faced several dominant societal challenges. These challenges included coping with economic and financial constraints, resorting to unsafe abortion to reduce the stigma associated with an unplanned pregnancy, managing the extra responsibility of taking care of the baby, and the challenge of returning to school after delivery.[78]

An exploratory study among South African teenagers and young adults revealed that parenting style was a factor influencing the risk for pregnancy. Adolescents who perceived their parents to be more responsive, communicative, and allowing them to develop were unlikely to fall pregnant as opposed to those who perceived the opposite. [79] Moreover, a qualitative study that explored the perception of teenage mothers showed that a majority of them perceived in-law's pressure as aggravating factor leading to teenage pregnancy.[42]

However, some studies also reported positive outcomes of teenage pregnancy. A qualitative study conducted with 11 UK respondents who were teenage mothers revealed that despite many reported negative consequences of adolescent pregnancy, it can result in positive outcomes for both the mother and child when appropriate protective factors and adaptation strategies are present.[80]

2.4 Health Consequences

The consequences of teenage pregnancy can have significant impacts on both the physical and mental health of adolescents, as well as on the well-being of their children in the future. The maternal mortality rate and the total number of maternal

deaths among girls aged 15-19 years in Southeast Asia are 3 deaths per 100000 girls and 880 deaths respectively.[31]

Most recently a systematic review and meta-analysis in Nepal from 2000 to 2020 revealed that 75.4% of teenage pregnancies had a vaginal delivery with or without episiotomy, 6.5% by instrumental deliveries, and 21.5% by cesarean section. Preterm delivery was 12.0%, and post-term delivery was 8.2%. Abortion was reported in 11.1% of teenage pregnancies. Moreover, major tears were reported in 52.9%, obstructed labor was in 4%, and pre-labor rupture of the membrane was in 7.0% of teenage pregnancies.[35]

A study conducted in 12 hospitals in Nepal for a period of 12 months indicated that the prevalence of prolonged labor, babies born with a small weight for gestational age, and incidence of preterm birth was higher among adolescent mothers compared to adult mothers.[46] Likewise, a descriptive cross-sectional study conducted in Okhaldhunga Community Hospital in 2019 showed that among teenage delivery, a significant tear was found in 7.9% as a maternal complication.[47] A study from neighboring country India where data from India's fourth National Family Health Survey, 2015–16 among primiparous women aged 15–49 years who had given birth in the previous 5 years was analyzed, the results showed that compared with adult mothers, adolescent mothers were shorter, more likely to be underweight, anemic, less likely to access health services, and had poorer complementary feeding practices.[81]

Another hospital-based retrospective cohort study of 4,101 deliveries to compare the outcomes between teenage and non-teenage pregnancies in Nepal depicted that pregnancy in teenagers was associated with significantly increased risk ($p<0.05$) of delivery of very and moderately preterm births and low birth weight babies.[82] A cross-sectional study conducted at the obstetrics and gynecological department of Dhulikhel hospital for an 18-month period from 2013 to 2014 showed that pregnancy co-morbidities detected were Urinary tract infection -18.4%, threatened preterm- 12.9% followed by antepartum hemorrhage-4.7%. However, other major co-morbidities such as hypertensive disorder, and gestational diabetes were found to be very less such as,

hypertension-0.8% and gestational diabetes was found in only one woman.[83] Another cross-sectional study which was done in a six-month period among teenage (10-19 years) in the rural Kathmandu Valley among 180 subjects showed the prevalence of anemia was quite high (56.66%) in teenage pregnancy. However severe (<7.9 gm) anemia was observed in 55.67% of cases.[84]

In regards to the adverse birth outcomes of adolescent pregnancy, a retrospective comparative study carried out on 350 adolescent pregnant mothers at Nepal Medical College Teaching Hospital from April 2005 to February 2009 showed a reasonable number of preterm (10.9% Vs 6.3% p = 0.029), low birth weight (12.3% vs 9.1% P = 0.259) and small for gestational age babies (7.4% vs 5.1% p = 0.318)) and birth asphyxia (10.3% Vs 5.1% p = 0.009%).[38] A comparative study conducted from 10th January 2010 to 9th January 2012 among teenage mothers (aged 13-19 completed years at delivery) delivering in the Gandaki Medical College hospital revealed that the incidence of complications in teenage primigravida (study group) compared with non-teenage (control group) deliveries were anemia (20% vs 6%), preterm labor (20 % vs 7%), urinary tract infection (8 % vs 4%), preeclampsia (4 % vs 2%) and prelabour rupture of membrane (10% vs 4%).[85]

Another prospective, cross-sectional study was carried out in the College of Medical Sciences Teaching Hospital (CMSTH), Bharatpur during the period of two years from September 2008 to August 2010 failed to show any statistically significant difference in the incidence of anemia, LBW babies, preterm delivery, hypertensive disorder of pregnancy, mode of delivery in different ages of teenage mothers. However, there was a significant difference in the incidence of perinatal death in different ages of teenage mothers indicating that perinatal deaths were more in younger teenagers.[43] Moreover, a descriptive cross-sectional study conducted among primiparous mothers of age 15-19 (n=168) and 20-24 (n=401) recorded in the delivery record book of Dhulikhel Hospital from June 2007 to May 2008 showed the low birth weight baby among teenage mothers and young mothers were 28% and 26.7% respectively (p=0.572). Maternal complication like antepartum hemorrhage (2.4% Vs. 1.7%) and postpartum hemorrhage (0.6% Vs. 0.2%) was higher among adolescents.[86]

2.5 Summary of Literature Review and Existing Gap

Adolescent pregnancy is a significant public health concern worldwide, and several factors have been associated with it. Research suggests that poverty, lack of education, early marriage, inadequate access to reproductive healthcare, low-decision making power, ethnicity, social class, marriage type, family pressure, substance use, low social status of women, unplanned pregnancy, parent's behavior, occupation, unemployment, media exposure to public health issues, availability of AFRH information and services including contraceptives, awareness on contraceptive use, use of family planning means, lack of knowledge, and cultural beliefs and practices contribute to the prevalence of adolescent pregnancy. Moreover, adolescent pregnancy has been linked to adverse health outcomes for both the mother and the child, including low birth weight, premature delivery, and maternal mortality. Additionally, adolescent mothers are at risk of experiencing social stigma, dropping out of school, and facing economic difficulties.

Despite the considerable body of research on adolescent pregnancy and its health consequences in developing countries, there are several gaps in the literature that require further investigation. There have been no studies on understanding the factors that influence adolescent pregnancy among the Chepang community which is one of the indigenous and marginalized ethnic group in Nepal. Most studies on adolescent pregnancy were hospital-based with the analysis done using secondary data. There had been limited community-based studies that attempted to explore the factors affecting adolescent pregnancy. In addition, there has been limited research that focused on the perspectives, experiences, and feelings of adolescent mothers using qualitative dimensions.

Chapter III : Methodology

This chapter contains the detailed method, steps, and processes that were followed for implementing the study, thereby maintaining the quality, consistency, and rigor of the study.

3.1 Study Design

A cross-sectional study with a concurrent triangulation mixed-method design was done to find out the factors associated with adolescent pregnancy and its health consequences among Chepang women in Raksirang Rural Municipality of Makwanpur District.

3.2 Study site and Justification

The study was conducted in Wards 5 and 8 of Raksirang Rural Municipality, Makwanpur District. This study site has been chosen considering the majority of the Chepangs living in these wards as well as the feasibility of the researcher.

Raksirang Rural Municipality has been formed by the decision of the Government of Nepal dated 2017-04-09 by merging the four former Village Development Committees (VDC) of Kankada, Raksirang, Sarikhet, and Khairang in the western and northern part of Makwanpur district. The total population of this Rural Municipality is 30830. The total area is 226.7 sq. km and the population density is 135.72 sq. km. It is bounded on the east by Hetauda Sub-Metropolitan Municipality and Kailash Rural Municipality, on the west by Rapti Municipality of Chitwan District, on the south by Manhari Rural Municipality, and the north by Kailash Rural Municipality and Bellu Rorang Rural Municipality of Dhading District.[87]

In ward 5 of Raksirang Rural Municipality, there are 540 households with 1696 females and 1757 males population.[88] Likewise, ward 8 of Raksirang Rural Municipality has 459 households with 1426 females and 1560 males population.[89]

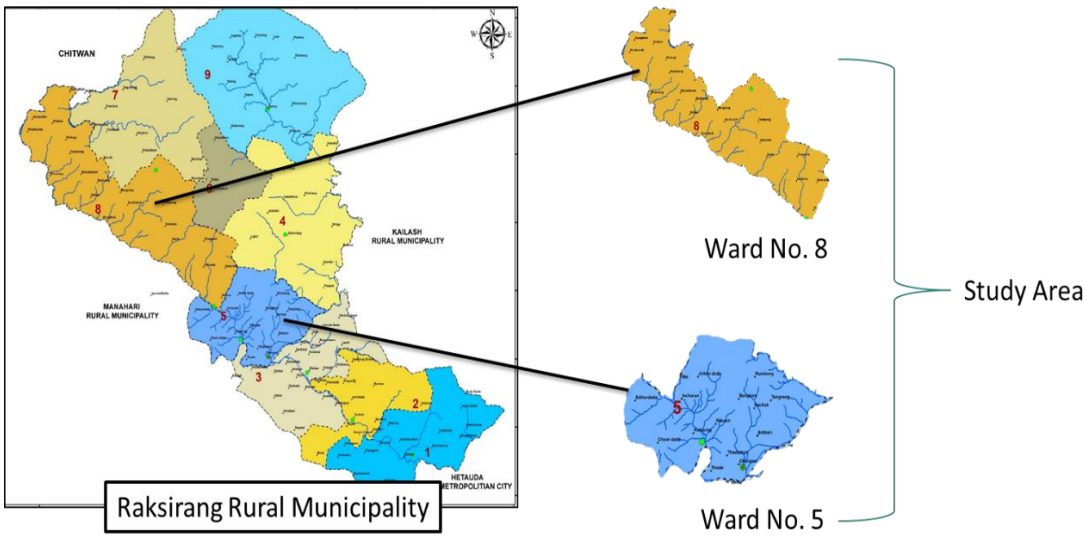

Figure 1: Study Site- Wards 5 and 8 of Raksirang Rural Municipality

3.3 Study Duration

The study duration was for 6 months starting from October 2022 to April 2023. The topic of the study was proposed to the faculty members in April 2022 and it was presented to the public health subject committee on 11th August 2022. After obtaining approval from the committee a detailed proposal was developed. Approval from Raksirang Rural Municipality for the conduction of the research study was obtained on 14th August 2022. Tools development and pilot testing were done before submitting to Institutional Review Committee (IRC). The proposal was submitted for ethical clearance from IRC, PAHS on 20th August 2022, and ethical approval was obtained on 6th September 2022.

Development of the sampling frame and preliminary coordination was done before data collection by coordinating with local assistants and FCHV's. The data collection was done for two months i.e. from November 2022 to December 2022 with simultaneous data entry and transcriptions. As per the proposed plan, the data collection was supposed to be started in early October 2022. However, it was postponed for a month due to festivals and national elections. The translation and transcription process was completed by mid of February 2023. Meanwhile, quantitative data analysis including bivariate analysis and logistic regression was done.

The overall analysis along with the triangulation of qualitative and quantitative data was completed by the end of February 2023.

The first draft of the report was submitted to the guide and co-guide for their review on 18th March 2023. After incorporating the feedback and comments from supervisors, the revised report was submitted on 21st March 2023. The subject committee presentation was successfully conducted on 24th March 2023. The presentation received valuable feedback and comments from the committee, which were carefully considered and incorporated into the draft report. As a result of this collaborative effort, a revised report was completed and submitted on 26th March 2023. The anticipated thesis defense took place on 30th March, 2023, and following that successful milestone, a meticulously revised final report was dutifully submitted on 4th April, 2023.

3.4 Study population

Chepang community is one of the highly marginalized groups living on the hilly and steeper slopes of primarily Chitwan, Dhading, Gorkha, and Makwanpur District of Nepal. The total population of Chepang is 68,399 out of which the male population is 34,620 and that of female population is 33,779. The total population of Chepangs in Makwanpur district is 9799 which makes up 37.41% of the total population in this district.[10]

For the quantitative study, information was collected from Chepang women of Ward 5 and 8 in Raksirang Rural Municipality aged 10 to 25 years who have given at least one birth just before sampling frame preparation. Likewise, for the qualitative study, in-depth interviews were done with Chepang adolescent mothers aged 10 to 25 years in Wards 5 and 8 of Raksirang Rural Municipality. In addition, key informant interviews were done with FCHVs working in Ward 5 and 8 of Raksirang Rural Municipality, the health coordinator of Raksirang Rural Municipality, elected Political Leaders of Wards 5 and 8, School Teacher and other health professionals working among Chepang community of ward 5 and 8 for at least 3 years.

For both qualitative and quantitative study, participants who did not give consent to participate in the study, were seriously ill, and had communication difficulties due to speaking and hearing impairment were excluded from the study.

3.4.1 Inclusion criteria

Following criteria were followed for the inclusion of samples in the study:

1. Chepang women who ever gave birth and between 10 to 25 years before sampling frame preparation.
2. Women who gave their consent to participate in the study.
3. For KII with FCHV's, health workers, and school teachers of Raksirang Rural Municipality, at least three years of serving in the respective wards among the Chepang community was defined as the inclusion criteria.

3.4.2 Exclusion criteria

Following criteria were followed for the inclusion of samples in the study:

1. Participants with serious illnesses at the time of data collection.
2. Participants with communication difficulties due to speaking and hearing impairment.

However, none of the participants were found with the above-mentioned condition during data collection.

3.5 Sampling Design and sample size

3.5.1 Quantitative component

Sample size was calculated by using the following formula:

Sample Size (n) = $\frac{Z^2pq}{d^2}$

Here,

Standard Normal Variate (Z) = 1.96 at 95% Confidence Interval

value of p = 0.101 (In Province 3 of Nepal, 10.1% of women aged 15-19 have begun childbearing as per NDHS 2016.[24])

Value of q = 1-0.101 = 0.899

Allowable error (d) = 0.05

Sample size (n_1) = $\frac{(1.96)^2 \text{x} 0.101 \text{x} 0.899}{0.05^2}$

= 139.52 ~ 140

Again, adjusting 10% non-response rate to the sample

n_2 = 140(1+0.1)

So, sample size after adjusting non-response rate (n_2) = 154

Further using design effect,

Design Effect (DEFF) =1.5

Final Sample Size of the study (n) = 1.5 × 154 = 231

The study was conducted in Wards 5 and 8 of Raksirang Rural Municipality. Simple random sampling was done to select the participants. The procedure for selecting the participants was:

- The researcher had communicated with the organizations working in wards 5 and 8 of Raksirang Rural Municipality (Bighnaharta Nepal, Social changemakers and Innovators) as well as their staff and around 30 youth volunteers in these wards.
- After obtaining ethical approval from IRC, the researcher again communicated with these staff and volunteers, FCHV's and locals of wards 5 and 8 and requested them to provide the name lists of participants' ages who met our study's inclusion criteria along with their tole name and age. Thus, the list of 276 Chepang mothers aged 10 to 25 years who meet the study's other inclusion criteria were prepared. While preparing the name list, participants tole names and their ages were also collected to avoid any duplication of participants. In cases where the participant's name was duplicated with the same age and tole name, the researcher again communicated with the locals and FCHVs to ensure its validity.
- Once the final list was prepared, the participants were selected from the two wards.
- Further, simple random sampling was done to select the participants. RANDBETWEEN function in excel was used to select the participants randomly.

Table 1: Sampling Frame for Quantitative Study

SN	Ward	Total Number of Chepang mothers meeting inclusion criteria	Number of Chepang Mothers randomly selected
1	5	152	127
2	8	124	104
Total from Wards 5 and 8		276	231

Please refer to Annex VII for a detailed sampling frame from each ward.

3.5.2 Qualitative Component

Based on Warrens's suggestion regarding the minimum number of interviews in the qualitative study, a total of 25 interviews were proposed.[90] Out of 15 in-depth interviews with Chepang Adolescent mothers, the interview was stopped after the 10th IDI in consultation with supervisors due to data saturation as no new information was coming in terms of factors associated and health consequences. Likewise, the key informant's interviews were done with 4 FCHV's, 1 health coordinator,2 elected political leaders, 1 school teacher, and 2 other health care providers.

Judgmental Sampling was used as a sampling method for selecting participants for KII and IDI. Among the participants of quantitative data, 15 Chepang mothers who were pregnant in their adolescence (10-19 years of age) were selected purposively for qualitative interviews. The key informants were chosen based on their working experience among Chepangs, familiarity with their sociocultural dynamics, and willingness to give information. The time duration for the qualitative interviews was 20-45 minutes, depending on the participant's response.

Table 2: Participants for the qualitative study

S.N.	Type of study participants	Proposed number of interviews	Number of interviews taken	Method
1	Chepang Adolescent Mothers	15	10	IDI
2	FCHV	4	4	KII
3	Health coordinator	1	1	KII
4	Elected political leaders	2	2	KII
5	School Teacher	1	1	KII
6	Other health care providers	2	2	KII

3.6 Operational Definitions

Age: It refers to the completed age of the study participant in completed years at the time of the interview.

Adolescent Pregnancy: Any pregnancy from a girl who is 10-19 years of age, the age being defined as her age at the time the baby is born.[91]

Health consequences: In this study, health consequences refer to any significant adverse experiences faced by adolescent mothers related to their health status during antepartum, childbirth, and postpartum.

Unplanned pregnancy: A pregnancy that occurs to a woman who was not planning to have any (more) children, or that was mistimed, in that it occurred earlier than desired.[92]

Family Planning: The information, means, and methods that allow individuals to decide if and when to have children. It includes a wide range of contraceptives as well as non-invasive methods such as the calendar method and abstinence. It also includes information about how to become pregnant when it is desirable, as well as the treatment of infertility.[92]

Sex education: A curriculum-based process of teaching and learning about the cognitive, emotional, physical, and social aspects of sexuality, aiming to equip children and young people with knowledge, skills, attitudes, and values that will empower them to realize their health, well-being, and dignity; develop respectful social and sexual relationships, consider how their choices affect their own well-being and that of others, and understand and ensure the protection of their rights throughout their lives.[92]

Abortion: Any premature exit of the products of conception resulting at the end of pregnancy including both induced abortion and miscarriage, also known as spontaneous abortion. Spontaneous abortion refers to the loss of pregnancy naturally before twenty weeks of gestation.[92]

Contraception: The act of intentionally preventing pregnancy such as through the use of devices, practices, medications, or surgical procedures.[92]

Antepartum: The antepartum is the period of time from conception to before the start of labor.

Childbirth: Childbirth in this study referred to the time period from the start of labor to the birth of the child.

Postnatal period: The postpartum period begins immediately after the birth of the baby and extends up to six weeks (42 days) after birth.[93]

Socio-economic status: Socio-economic status (SES) was measured using Kuppuswamy's SES Scale modified within the context of Nepal. The scale measures SES based on the education and occupation of the household head and monthly family income. Depending on the score obtained there are five socioeconomic classes: Upper(I) (score: 26-29), Upper Middle (II) (score: 16-25), Lower Middle (III) (score:11-15), Upper Lower (IV) (score: 5-10) and Lower (V) (score: <5).[94]

Knowledge regarding adolescent pregnancy: The Knowledge Questionnaire about early pregnancy has nine questions with "right, wrong, and I do not know" answers which have been adapted from a cross-sectional study conducted in health centers of Tabriz, Iran. The content validity ratio (CVR) and content validity index (CVI) of the tool is 0.88 and 0.84, respectively. Likewise, Cronbach's alpha coefficient is 0.85. The Knowledge score was categorized into three levels for analysis: Good (Score 7-9), Average (Score 4-6), and Poor (Score 0-3).[95]

Education of household head: Based on Kuppuswamy SES scale, profession or honors includes any post-graduation including B.E. and B.Arch., Graduate or post-graduate means any graduation degree, Intermediate or post-high school diploma means 12 pass, High school means SLC pass, Middle School certificate means 8th grade completed, primary school means up to 5th grade completed and literate means a person aged seven years or more who can read and write with understanding in Nepali

language, and illiterate means a person aged seven years or more who cannot read and write with understanding in Nepali language.[96]

Occupation: On the basis of Kuppuswamy's SES scale, the Profession category includes doctors, advocates, engineers, architects, directors, managers, senior administrators, readers, professors, newspaper editors, college principals, architects, bank managers; Semi-professional includes high school teachers, college lecturers, junior administrators, junior medical practitioners; Clerical, shop owner and farmer include clerk, accountant, typist, elementary school teacher, farm owner, shop keeper, salesman, insurance agent, news journalist; Skilled worker includes driver, telephone operator, mason, carpenter, mechanic; Semi-skilled worker includes factory laborer, car cleaner, petty shop keeper; Un-skilled worker includes domestic servant, peon, watchman; and Unemployed means not engaged in any occupation.[96]

Monthly income of the family: The total monthly income of the family of study participants was assessed and the range of income was based on the Kuppuswamy scale. The ranges of family income were: ≥97451, 48751-97450, 36651-48750, 24351-36650, 14551-24350, 4851-14550, and ≤4850.

Nuclear family: A two-generation family consisting of a father and mother and children or a single, possibly widow, parent, and his/her children.

Joint family: Three or more generations living together with both vertical and lateral extensions having a single line of authority, either patrilineal or matrilineal.

Distance of nearest health facility: Duration to reach the nearest health facility in minutes by walking was categorized as less than 30 minutes and more than equal to 30 minutes.

Child marriage: Child marriage refers to any formal marriage or informal union between a child under the age of 18 and an adult or another child.[97]

3.7 Data collection tools and techniques

For quantitative data collection, a semi-structured questionnaire was used for interviewing the mothers. The semi-structured questionnaire was divided into six parts. The first part of the tools contained socio-demographic variables. The second part included pregnancy and marriage-related information such as the participant's age at first marriage, marriage type, wanting to get married, participant's age at first pregnancy, planned pregnancy, and participant's mother and sister's age at first pregnancy. The third part of the tool had contraception-related information such as knowledge of contraceptives, use of contraceptives, and decision on contraceptives. Likewise, the fourth part of the tool contained information on knowledge related to adolescent pregnancy. The fifth part included access-related information. Finally, the last part of the tool had health consequences-related information.

For qualitative research, an interview guide was used for interviewing the participants. In-depth interviews were done with the adolescent mothers using an interview guide and key informant interviews were done with the health workers and officers using a separate KII guide. The in-depth interview guide had been developed from an extensive literature review and discussion with the supervisor and co-supervisor.

3.8 Data Collection Procedure

Data collection for both qualitative and quantitative interviews was done by the student herself who is conducting the research activity in partial fulfillment for the degree of Master of Public Health. The data collection duration was two months starting from November 2022 and after obtaining ethical approval from IRC. The student researcher was accompanied by a local of Ward 5 when collecting data from Ward 5 and a local of Ward 8 when collecting data from Ward 8. These local assistants were selected based on the following criteria:

- Only females were selected considering the sensitivity of cultural and gender-based norms of the community.

- The local assistant from each ward who accompanied the student researcher were the ones who primarily assisted in the development of the Sampling frame.
- The local assistants were well-acquainted with the Chepang households and the entire community of respective wards.
- The local assistants were able to speak the Chepang language and translate it into the Nepali language when necessary.

The majority of the Chepang community members could fluently speak the Nepali language. Therefore, as long as the respondents were able to speak the Nepali language and didn't need translation, the local assistant accompanying the student researcher during data collection was not present during the interview itself. The primary role of the local assistant was only to guide the student researcher through the households of selected Chepang women in the community. The interview was only conducted between the student investigator and the respondent.

3.9 Study Variables

Independent Variables

Respondent's Education, Respondents husband's Education, Respondents Mother's Education, Family Type, Family Size, Respondents Husbands Occupation, Respondent's Occupation, Socio-economic status, Age at First Marriage, Knowledge of contraceptives, Use of contraceptives, Unplanned pregnancy, Knowledge regarding adolescent pregnancy, Marriage Type, Family Influence, Peer Influence, Sex education, Access to contraceptives, Distance to the nearest health facility, Decision Making Power

Dependent Variable - Adolescent pregnancy

*Further, health consequences among adolescent mothers (during antepartum, childbirth, and postpartum period) were assessed descriptively.

3.10 Conceptual Framework

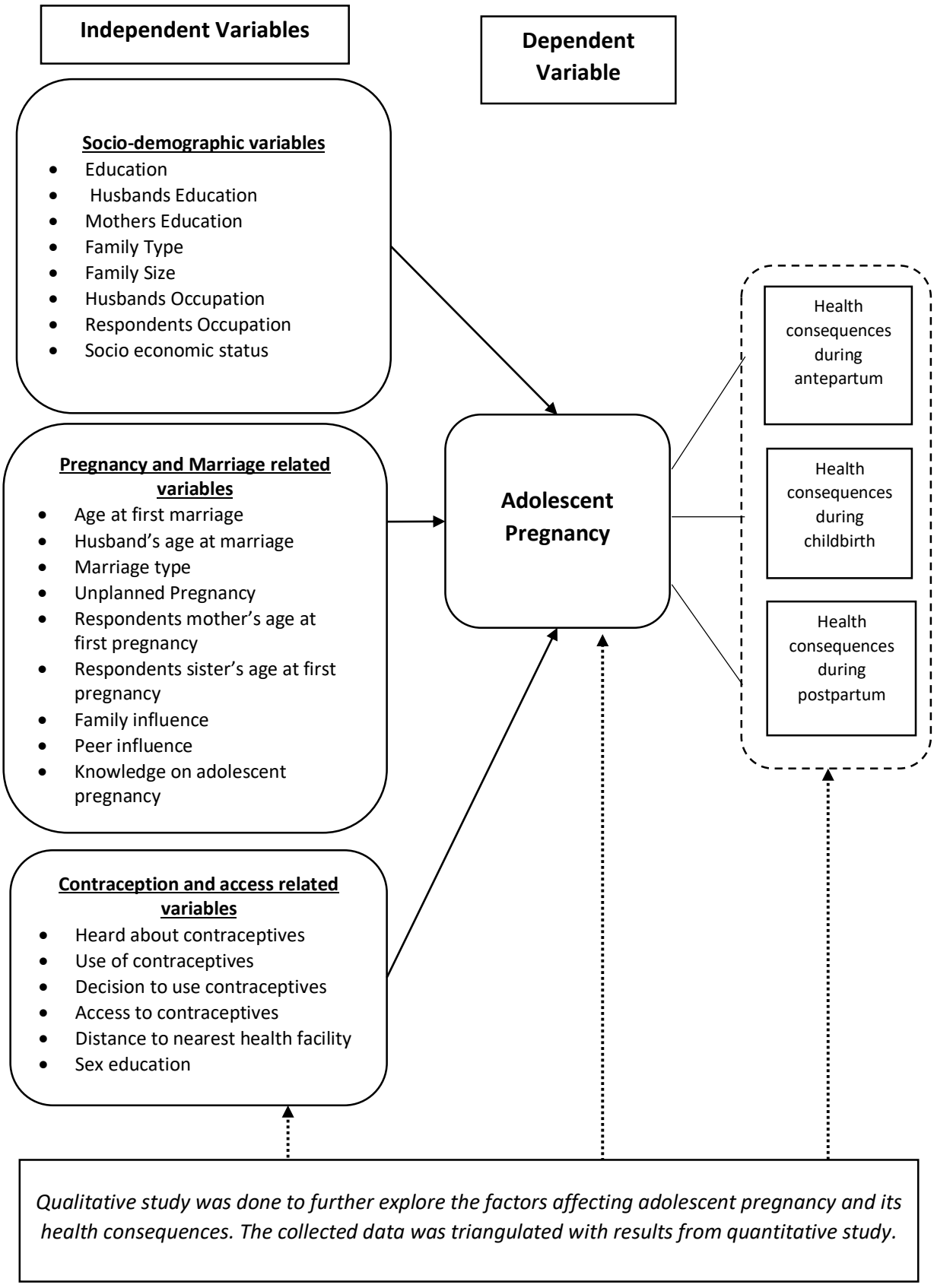

Figure 2: Conceptual Framework

3.11 Data processing and analysis

3.11.1 Quantitative Component

For the quantitative study, the data were coded, entered in Epidata Version 3.1, and cleaned in MS Excel 2016. Cleaned data in excel format was imported and analyzed using STATA 13 MP version and EZR software (version 4.0.4). Descriptive statistics were presented using frequency, percentage, mean and standard deviation, median, and interquartile range depending on the distribution of variables. Bivariate analysis of the independent variables was carried out with the dependent variable. Multivariate logistic regression was carried out for those found significant in bivariate analysis to identify the independent predictor of the outcome variable. Multi-collinearity between variables was assessed through the Variation Inflation Factor (VIF). Variables with a VIF of more than 2 and a p-value of more than 0.25 were excluded from the final model.

3.11.2 Qualitative Component

For the qualitative study, the recorded interviews were transferred to the computer and then first transcribed and translated into the English language as soon as possible after the interview was over. All the transcripts were anonymized ahead of data analysis by using respondents ID A1, A2,…,An for in-depth interviews with adolescent mothers, and K1, K2,….,Kn for key informants. The information gained from interviews (In-depth interviews and Key informant interviews) was converted into 'txt' format and then imported to RQDA package of R software. RQDA package of R software is freely available software that helps manage and analyze qualitative data. [98] Each transcript was read and again re-read to find a similar kind of response. It was then marked, and different codes were generated. The same procedure was repeated for all transcripts.

Braun and Clark's six-step thematic analysis with inductive coding was used to perform the qualitative analysis.[99] Relevant quotes were used to represent each code within each theme. The codes identified were homogeneous within the theme and heterogeneous between the themes. The six steps followed are explained below:

a. Familiarizing with the data

The data collected by in-depth interviews and key informant interviews were transcribed into Nepali and then translated into the English language in the word file. During the process, the listening of the audio recordings and reading provided insights about codes from the data.

b. Generating initial codes

The transcribed data was imported into the RQDA package of R software after converting the word file into a text document. The data were repeatedly read to generate the initial codes and sub-codes and marked such that similar texts were grouped under common codes. The initial codes from the data were obtained using R packages for qualitative data analysis. Two independent coders generated the initial codes for inter-coder percent agreement. The Inter-Coder Positive Percent Agreement was obtained to be 76.51% (Annex VIII).

The codes were finalized after getting feedback from the supervisors and making corrections by cleaning, renaming, and editing them.

c. Generating Initial Themes

The finalized codes were grouped according to the similarity of the information generated by each of the codes.

d. Review of themes

The initial themes were reworked once again, and comparable ideas were combined. The themes were combined to produce themes that best represented the information generated as per the objective of the study.

e. Defining and naming themes

In this step, final subthemes and themes were generated to present the qualitative findings.

The themes and subthemes identified to explore factors associated with adolescent pregnancy are presented in Table 20. Likewise, the themes and codes to explore health consequences among adolescent Chepang mothers are depicted in Table 21.

f. Producing the report

The summary findings of the study along with the themes, codes, and some relevant verbatim were described which has been reported in the result section.

3.11.3 Mixed-method component

The findings from the quantitative and qualitative study were used to triangulate the findings. Area of convergence, divergence, and expansion was identified and explained in the mixed-method section.

3.12 Measures to ensure validity and reliability

3.12.1 Quantitative component

Questions on socio-demographic factors were compiled from the 2016 NDHS, STEPS survey 2019, and other adolescent pregnancy-related factors were identified in the literature.

Factors associated with adolescent pregnancy were compiled from the literature and factors identified from the pilot study conducted in rural municipalities of Lalitpur district. The list of possible factors was prepared and discussed with the guide, co-guide, and faculty of School of Public Health (SoPH) to establish the face and content validity of the tool.

Following factors were assessed in this study:

- Respondents Education
- Respondents Husbands Education
- Respondents Mothers Education
- Family Type
- Respondents Occupation
- Respondents Husband Occupation

- Socio-economic status
- Respondent's Age at First Marriage
- Respondent's Husbands age at marriage
- Knowledge of contraceptives
- Use of contraceptives
- Unplanned pregnancy
- Knowledge regarding adolescent pregnancy
- Marriage Type
- Family Influence
- Peer Influence
- Sex education in school
- Access to contraceptives
- Distance to the health facility
- Decision-Making Power

A pilot test was conducted among 30 adolescent mothers, selected purposively, from Bagmati and Konjyosom Rural Municipality of Lalitpur district. 4 in-depth interviews and 2 key informant interviews were taken for the qualitative study in the pilot test. Family type, marriage type, age at marriage, and unplanned pregnancy were significantly associated with adolescent pregnancy. The results from the triangulation of findings identified early marriage, marriage by elopement, unplanned pregnancy, and perception regarding contraceptives as convergent factors, ethnicity as divergent factors and health workers' behavior, laws, marriage and pregnancy norms, family pressure, access to media and decision making level as expansion factors. [100]

Following revisions in the quantitative tool was done based on the pilot testing data collection, analysis, and results:

- The question on "Respondent's mother-in-law's age at first pregnancy" was removed after the pilot testing as the majority of the participants were not able to recall and answer.

- The variable “Distance of school from the house” was removed after the pilot testing as the majority of the participant had attained their school-level education while staying with their parents and thus asking them about the distance of the school from their husband’s houses didn’t make much meaning during analysis.
- In the qualitative interview, participants explained how they were influenced by their friends and families to give birth at an early age. Thus, after the pilot testing, questions regarding family influence and peer influence were added to the quantitative tool as well.

Following revisions in the qualitative tools were done based on pilot testing data collection, analysis, and results:

- In pilot testing, when the adolescent mothers were asked “Have there been changes in pregnancy and childbirth norms across generations in your family?” as per the interview guide, the answers were only guided to yes/no rather than the description. Therefore, the question was later reframed as “What changes have occurred in pregnancy and childbirth norms across generations in your family”?
- In the pilot testing, there weren’t questions related to health consequences in the KII guide. But the key informants themselves mentioned the health consequences faced by adolescent mothers. Thus, health consequences-related questions were added to the KII guide after the pilot testing.

Further, to ensure the face validity of the tool, participants were asked whether the construct actually measured what it intended to measure during pre-testing.

Questions were forward-translated into Nepali language and then back-translated to English. Back-translated versions of the questions were compared with the original questions and finalized after discussion with the supervisors.

3.12.2 Qualitative component

Establishing the trustworthiness of a research study is crucial for the quality of qualitative research. Conventional means of validity and reliability are not applicable to qualitative studies. The trustworthiness of the qualitative component of this study was ensured by using Guba's constructs of rigor.[101] The four criteria are explained below;

Credibility

The interview guide was developed based on an extensive literature review and with guidance from the guide and co-guide. Iterative questioning was done to generate rich information. Similarly, there were frequent debriefing sessions between the supervisor, co-supervisor, and researcher to ensure everything was done according to plan. The interviews were recorded using a separate mobile phone. The participant's gestures, facial expressions, and voice tone were noted during the interview. The recorded interviews were transferred to the computer and then first transcribed and translated into the English language as soon as possible after the interview was over. Audio recordings and their translation were kept by the researcher and checked by the guide and co-guide. Member checking of participants was done by providing the results to three participants (A6, A10, K6) conveniently and following up on the telephone by reading out key results from their transcripts. The participants had an agreement with the results presented.

Dependability

Inter Coder Reliability (ICR) is a measure that examines the degree to which multiple coders agree on how they will assign codes to text segments and how comparable their coding decisions will be when assessing the characteristics of the text.[102] Inter Coder Reliability (ICR) was done to assess the reliability of codes generated after transcripts were made. One of the codings was done by the researcher and the other coding of the same transcripts was done by a MPH colleague. Altogether 114 codes were matched between the two researchers. The codes with the same words or synonyms were considered matched and those giving different meanings were

considered unmatched. The final codes used in the study are coding done by coder one. The Inter coder agreement was performed using the percent positive method and was calculated as 76.51%. (Annex V)

Transferability

Background information had been provided to establish the context of the study and to make readers familiar with the research context. Likewise, a detailed description of the research process in question had been done to allow comparison and also to replicate similar research.

Confirmability

The researcher's personal beliefs, assumptions, and experiences of the study were noted during the course of the study. The researcher only acted as a facilitator during the interview process. The data analysis was solely guided by participants' responses, and the researcher's presumptions and beliefs were not used during data analysis. The researcher's reflexivity was written by the researcher and has been presented in the following section.

3.13 Reflexivity and Positionality

In conducting qualitative research, it is important to recognize and acknowledge my role in the research process, including my past experiences, assumptions, and beliefs that may have influenced the study. Throughout this research project, I have been transparent about my subjective perspective as a qualitative researcher. While this presented a challenge, especially given that it was my first time conducting fieldwork, I have made a conscious effort to embrace and articulate my personal perspective throughout the study.

As I was not familiar with the community, I sought the support of local NGOs that had been working in the study area for over 5 years. My communication and collaboration with these organizations proved to be extremely valuable, particularly in establishing early relationships with the locals, FCHVs, and in constructing the sampling frame.

Recognizing the importance of building trust and acceptance within the local community, I made sure to seek the assistance of individuals who were familiar with the customs and traditions of the Chepang community. I was fortunate to have the companionship of two kind-hearted Chepang sisters, who accompanied me throughout the data collection process. Their guidance proved invaluable in establishing a strong rapport with the community members and overcoming language barriers. I was grateful to learn from them the customary greeting, "Jay Masi", which is highly preferred by the Chepang community and helped me to assimilate better into their culture.

In the field, I quickly realized that my youthful appearance was not what locals had anticipated based on our previous phone conversations. However, this turned out to be an advantage in my data collection journey. As my respondents were between 10 to 25 years old, my relatable age allowed them to feel comfortable sharing their personal information, including their reproductive health experiences. This resulted in a deeper level of trust, and I felt more like a friend or big sister who was there to listen and support them in their struggles and joys.

During my time in the field, I was initially worried that participants might feel pressured to tell me what I wanted to hear or modify their responses based on my education and social standing. However, to my delight, I found that the participants were steadfast in their beliefs and values. Their responses were honest and genuine, and they didn't seem to be swayed by my background or credentials. I greatly appreciated their sincerity and was impressed by their unwavering commitment to their own belief system.

While conducting qualitative interviews, I always kept in mind the ethical considerations and potential power dynamics involved. I made a conscious effort to build trust and rapport with my participants and create a comfortable environment for them to share their experiences. Sometimes, I even forgot that I was there as a researcher and found myself engaging in heartfelt conversations with them. To ensure their comfort, I refrained from recording these conversations and instead focused on actively listening and being empathetic. It was important to me that they felt heard

and understood, and I was grateful for the opportunity to connect with them on a personal level.

Some of their life stories would even tear me down emotionally. I would feel really low and just start looking for ways to support them in any way I could. One of the respondents asked me for an abortion pill as she had just given birth and didn't want another child at the age of 16. I suggested to her where she could get one and also taught her about family planning methods after the data collection. Some of the respondents were as young as 15 and planning for home delivery while some of them had no clue about family planning and ANC service. As a part of my ethical duty, I gave them all the information after the data collection was done.

As a public health student, I was initially driven by the notion that adolescent pregnancy had negative health consequences. However, when I entered the field, I realized that this community's experiences were far from what I had imagined. I challenged my beliefs and tried to understand their perspectives and worldview, asking questions with a neutral mindset. As a result, I became more enthusiastic and eager to learn about their ways of life, thinking, and attitudes toward health. During the interviews, my focus was to listen to their values, without imposing my own. I cherished the moments of living life as they did - enjoying their food, celebrating their festivals (chewar), dancing with them, and attending church on Saturdays. These experiences allowed me to gain a deeper understanding of them than the 20-45 minute interviews could provide, and I found the beauty of being a part of qualitative research.

Being an outsider in the community was actually beneficial for me during the data collection process. Since I had no previous connection or history with the locals, they felt more at ease sharing information with me, knowing that their confidentiality was assured.

I ensured that the interviews were conducted in a private and comfortable setting for the participants. We would often go to a nearby field where there was no one around to ensure their privacy and confidentiality. Additionally, to make sure that the

participants felt at ease, I conducted the interviews without the presence of local assistants who were native to the community. This way, the respondents could openly and freely share their experiences and thoughts with me.

One aspect that the participants seemed hesitant to disclose was their income status. It was evident that a significant portion of the community was engaged in weed and opium farming, which is illegal in Nepal. Understandably, they were afraid that discussing their involvement in such activities could lead to police intervention and the destruction of their crops, which were often their primary source of income. As a result, during the interviews, they refrained from discussing their earnings or any money generated from the sale of these products.

Gathering data from the community was a challenging but fulfilling experience, given the geographical hurdles that had to be overcome. The entire ward was susceptible to landslides, which added to the complexity of the task. Many of the participants were occupied with farming activities, which meant that I had to go looking for them in the fields, sometimes requiring me to climb steep hills and cross rivers multiple times. While it was tiring, my experience with hiking and trekking came in handy, and the stunning views from the top of the hills made it all worthwhile. I developed a deep fondness for the place and the people. Luckily, the favorable weather conditions made traveling and walking more feasible.

It was interesting to observe that many members of the Chepang community had converted from Hinduism to Christianity, and as a result, had given up alcohol. However, given the physical demands of working in the fields, a few individuals still drank alcohol. During data collection, some respondents were under the influence of alcohol, which required me to ask questions more than once to ensure they fully understood. Despite this challenge, I remained respectful and patient throughout the interviews.

It was a strategic decision to start data collection in Ward 5, where access and transport were relatively easier, before moving on to the more challenging terrain of

Ward 8. In retrospect, it proved to be a wise decision as it allowed for a smoother transition and adaptation to the new environment.

As a Hindu researcher working in a community that has been predominantly converted to Christianity, I found myself in a new and unique experience. The pastors in the community often shared their perspectives on Christianity, Jesus, and the benefits of following their religion. While I deeply respected their values and beliefs, I also had to be mindful of any potential influence or manipulation. It was an opportunity for me to broaden my understanding of different religions and cultures and to maintain a neutral perspective during the data collection process.

Communicating to the respondents that the research study does not offer immediate benefits posed a significant challenge, as the community was accustomed to receiving assistance and support from outsiders, either individually or through institutions.

Despite the challenges of poverty and limited access to basic necessities, I was warmly welcomed into the community with open arms. The locals went out of their way to provide me with the best food available and made sure that I was safe and comfortable. However, at times, they would converse among themselves in the Chepang language, which I did not understand. This made me feel like an outsider, and I found myself laughing along without fully understanding the context. It was a valuable lesson in the importance of knowing the language of the community one is working with.

In addition, the participants and the entire community were grateful for my presence despite the challenging living conditions such as the difficult terrain, lack of electricity, proper food and accommodation, and even basic necessities. Everyone I encountered on my journey expressed their appreciation for my efforts in traveling to listen to them and conduct a study on their health status. I believe this also gave them a sense of significance and a feeling of being appreciated.

On the final day of my data collection, I couldn't help but feel emotional as I knew it was time to leave the community I had grown so close to. Throughout my time there, I interacted with so many people, observed their culture, and developed a deep

connection with them. Their warm and welcoming nature, their openness to share their feelings, and their innocent values have left an indelible mark on my heart. I am grateful for the time and effort that all the participants put into the study, and their willingness to share their experiences with me.

As I reflect on my time in the community, I feel humbled and honored to have had the opportunity to conduct research that may lead to improved health outcomes for pregnant adolescents in the future. I hope that the evidence I have gathered will help bring about targeted health interventions that can prevent health complications during antepartum, childbirth, and postpartum periods. Lastly, I look forward to working with this community in any capacity I can, and I am grateful for the memories and experiences that will stay with me for a lifetime.

3.14 Ethical considerations

Approval of the study was taken from the Institutional Review Committee of Patan Academy of Health Sciences (IRC-PAHS Ref: PHP2209061673.A1). Approval had been taken from Raksirang Rural Municipality prior to the conduction of the study. The study's purpose was explained in detail to the participant's guardians and informed written consent was obtained from all participant's guardians for eligible participants less than 18 years before the interview. Assent was taken from adolescents below 18 years after taking informed consent from the guardian. Informed consent was taken from eligible participants above 18 years of age. Participants were allowed to withdraw from the study without giving any reason during the interview. Confidentiality of the information was maintained and their personal identifying number was not disclosed. For quantitative data, participants were given a separate identification numbers such as Q1, Q2, Q3,……,Qn. Likewise, for qualitative data, all the participants were anonymized by using separate respondents ID as A1, A2,…,An for in-depth interviews with adolescent mothers, and K1, K2,….,Kn for key informants. While conducting qualitative interviews, it was ensured that the participant was alone. Recorded audio, and transcribed and translated documents were kept in a password-protected folder and computer.

3.15 Data storage, sharing, and dissemination of findings

The identification of the participants was made anonymous by using the respondent ID while analyzing and further storage. The research data, results, and report were stored in the researcher's computer in a password-protected folder and were made accessible to the researcher and thesis guide, and co-guide only. A copy of the thesis report will be provided to the SoPH, PAHS which will be kept for 5 years. The results of the study will be presented as a dissertation in SoPH, PAHS. A soft copy of the report will be provided to the respective wards and Raksirang Rural Municipality. Manuscript of the study will be submitted to a scientific journal for publication.

3.16 Challenges during data collection

The primary challenge encountered during the data collection process was the dispersed nature of the households in the area, which presented logistical difficulties as there was limited access to transportation. Despite the community experiencing a shortage of electricity and limited access to proper food and accommodation services, I made a valiant effort to adapt to the resources that were available.

Another challenge that I faced while conducting interviews with women in this community was finding a private and comfortable space to discuss sensitive topics such as family planning and pregnancy planning. In many cases, the women had their mother-in-law present during the interview, making it difficult for them to open up about personal matters. Despite this, I made every effort to respectfully create a safe and confidential environment for our conversations.

The language barrier was another major hindrance at times. Being unable to speak Chepang, the native language of the people, hindered my communication with them. Nevertheless, with the assistance of local aides, we found ways to bridge the gap by providing on-the-spot translation whenever possible.

Chapter IV : Quantitative Results

It includes descriptive and inferential statistics of the data as per the research objectives. This chapter begins by describing the socio-demographic characteristics of the participants. Then pregnancy and marriage-related characteristics, contraception-related characteristics, access-related characteristics, and health consequences have been described. The quantitative section concludes with bivariate and multivariate logistic regression of independent variables with the dependent variable.

4.1 Descriptive Statistics

4.1.1 Socio-demographic characteristics of Participants

The socio-demographic characteristics include age, education level, family type, family size, husband's level of education, respondents' occupation, husband's occupation, and socio-economic status.

Table 3: Distribution of participants by socio-demographic characteristics (n=231)

Sociodemographic Variables	Frequency (n)	Percentage (%)
Age		
Less than or equal to 21	120	51.9
More than 21	111	48.1
Median= 21 years , IQR =10 , Minimum= 15 years, Maximum= 25 years		
Education level		
No education	28	12.1
Basic education (1-8)	169	73.1
Lower Basic Education (1-5)	89	38.5
Upper basic education (6-8)	80	34.6
Secondary (9-12)	34	14.7
Lower Secondary (9-10)	28	12.1
Higher Secondary (11-12)	6	2.6
Family Type		
Nuclear	91	39.39
Joint	140	60.61
Family Size		
Less than or equal to 7	150	64.9
More than 7	81	35.1
Median= 7, IQR =16 , Minimum=2 , Maximum=18		

Table 3: Distribution of participants by socio-demographic characteristics (n=231) ***continued...***

Sociodemographic Variables	Frequency (n)	Percentage (%)
Husband's level of education		
No education	29	12.6
Basic education (1-8)	154	66.7
Lower Basic Education (1-5)	76	32.9
Upper basic education (6-8)	78	33.8
Secondary (9-12)	47	20.3
Lower Secondary (9-10)	25	10.8
Higher Secondary (11-12)	22	9.5
More than secondary (13 and above)	1	0.4
Occupation		
Semi-profession	1	0.4
Clerical, shop owner, farmer	219	94.8
Semi-skilled worker	4	1.7
Unskilled worker	1	0.4
Unemployment	6	2.6
Husband's Occupation		
Semi-profession	7	3
Clerical, shop owner, farmer	169	73.2
Skilled worker	3	1.3
Semi-skilled worker	14	6.1
Unskilled worker	33	14.3
Unemployment	4	1.7
Socio-economic status		
Upper Middle	3	1.3
Lower Middle	54	23.4
Upper Lower	172	74.5
Lower	2	0.9

The table above shows the background characteristics of the respondents who participated in the study. Since the age of the respondents was not normally distributed, the median age was calculated. The median age was observed to be 21 years (IQR- 10). The age was categorized into two categories based on median age for further analysis purposes. The majority of the participants had basic level education (73.1%) followed by secondary education (14.7%) and no education (12.1%). Likewise, more than half of the participants (60.61%) lived in joint families while the rest of forty percent (39.39%) lived in nuclear families. On the same note, almost two-thirds of the participants (64.9%) had a family size less than or equal to seven while the remaining thirty-five percent (35.1%) had a family of more than 7 members. (Table 3)

In regards to husbands' level of education, two-thirds (66.7%) of them had a basic level of education followed by secondary level education (20.3%) and no education (12.6%). Only one of the respondent's husbands had more than a secondary level of education (0.4%). The majority of the respondents were clerical, shop owners or farmers (94.8%) followed by semi-skilled workers (1.7%), unskilled workers (0.4%), and semi-profession (0.4%). Only six of the participants (2.6%) were unemployed. Similarly, the majority of the participant's husbands were also engaged in clerical, shop owner, or farmer occupations (73.2%) followed by unskilled workers (14.3%), semi-skilled workers (6.1%), semi-profession (3%), and skilled worker (1.3%). Only four of the respondent's husbands (1.7%) were unemployed. (Table 3)

Socioeconomic status was assessed using the modified Kuppuswamy scale. The majority of the respondents were found to be in the upper lower category (74.5%) followed by the lower middle category (23.4%), upper middle (1.3%), and lower category (0.9%). (Table 3)

4.1.2 Prevalence of Adolescent Pregnancy

Table 4: Prevalence of Adolescent Pregnancy among Chepang women of Raksirang Rural Municipality (n=231)

Variable	Frequency (n)	Percentage (%)
Age at first pregnancy		
10-19 years	165	71.4 [95% CI: 65.14-77.16]
20+ years	66	28.6 [95% CI: 22.84-34.86]
Median=18 years , IQR =10 , Minimum= 14 years , Maximum=24 years		

In regards to the age at first pregnancy which is also a dependent variable for this study, approximately 7 out of 10 respondents (71.4%) [95% CI: 65.14-77.16] had been pregnant during their adolescence (10-19 years). The median age at first pregnancy was 18 years old. (Table 4)

4.1.3 Pregnancy and Marriage-Related Characteristics of Participants

Table 5: Distribution of Participants by Pregnancy and Marriage related information (n=231)

Variables	Frequency (n)	Percentage (%)
Age at marriage		
Less than 18 years	168	72.73
More than or equal to 18 years	63	27.27
Median= 17 years, IQR =10 , Minimum=12 years , Maximum=24 years		
Husbands Age at marriage		
Less than 18 years	67	29
More than or equal to 18 years	164	71
Median= 20 , IQR = 20 , Minimum= 10 , Maximum= 30		
Wanted to get married		
Yes	193	83.5
No	38	16.5
Type of marriage		
Arranged	83	35.9
Love	148	64.1
Planned pregnancy		
Yes	91	39.4
No	140	60.6
Mother's age at first pregnancy (n=72)		
10-19 years	65	90.3
20+ years	7	9.7
Median= 16 , IQR = 8 , Minimum= 14 , Maximum= 22		
Older sister's age at first pregnancy (n=73)		
10-19 years	30	41.1
20+ years	43	58.9
Median= 20 , IQR = 15 , Minimum= 15 , Maximum= 30		
Family influence to give birth		
Yes	74	32
No	157	68
Peers influence to give birth		
Yes	57	24.7
No	174	75.3

A large proportion of respondents (72.73%) were married before the age of 18 years. The median age of marriage was 17 years. In contrast just under a third of respondents' husbands were married before the age of 18 years (29%). A significant proportion of respondents (83.5%) wanted to get married and almost two-thirds (64.1%) of the respondents had a love marriage. (Table 5)

Around two-fifths (39.4%) of the respondents had planned pregnancies while sixty percent of respondents had unplanned pregnancies. 72 respondents out of 231 were

able to recall their mother's age at first pregnancy. The majority (90.3%) of the respondent's mothers were pregnant during their adolescence (10-19 years). Likewise, around two-fifth (41.1%) of respondents' elder sister were pregnant during their adolescence. (Table 5)

In regards to any sort of influence or pressure to give birth, around one-third (32%) of the respondents were influenced by their family to give birth, and around one-fourth (24.7%) of the respondents were influenced by their peers to give birth. (Table 5)

4.1.4 Contraceptive use related characteristics of Participants

Table 6: Distribution of Participants by Contraception related information (n=231)

Variables	Frequency (n)	Percentage (%)
Heard about contraceptives		
Yes	231	100
Types of Contraceptives Heard (Total response = 1019 , n= 231)		
Female sterilization	35	15.2%
Male sterilization	44	19.1%
IUCD	91	39.6%
Injectable	227	98.7%
Implants	208	90.4%
Pill	211	91.7%
Condom	196	85.2%
Emergency Contraception	7	3%
Used any contraceptives		
Yes	10	4.3
No	221	95.7
Decision to use method		
Self only	49	21.2
Partner only	11	4.8
Both partner and self	171	74

*Multiple Responses

All of the respondents (100%) had heard about contraceptives. Among them, almost all respondents had heard about injectables (98.7%), followed by pills (91.7%), implants (90.4%), condoms (85.2%), IUCD (39.6%), female sterilization, male sterilization (19.1%) and emergency contraception (3%). Likewise, the majority of the respondents (95.7%) didn't use any form of contraception after they were married and before they had given birth to their first child. Regarding the decision to use the contraception method, a large proportion of respondents (74%) mentioned that both

partner and self were the decision maker followed by self only (21.2%) and partner only (4.8%). (Table 6)

4.1.5 Knowledge of Participants regarding adolescent pregnancy

Table 7: Distribution of participants by their knowledge regarding adolescent pregnancy (n=231)

S.N.	**Items**	**Correct**	**Wrong**	**I do not know**
1	Early pregnancy causes unwanted pregnancy.	99 (42.9%)	105 (45.5%)	27 (11.7%)
2	Early pregnancy increases abortion.	139 (60.2%)	56 (24.2%)	36 (15.6%)
3	Early marriage reduces the distance between pregnancies.	100 (43.3%)	91 (39.4%)	40 (17.3%)
4	Early marriage increases the number of pregnancies.	101 (43.7%)	92 (39.8%)	38 (16.5%)
5	Pregnancy at the age of less than 20 years causes complications of pregnancy and childbirth. (Increased blood pressure, bleeding and infection)	132 (57.1%)	54 (23.4%)	45 (19.5%)
6	Pregnancy at the age of less than 20 years (due to pregnancy and childbirth complications) increases adolescent mothers' death.	119 (51.5%)	55 (23.8%)	57 (24.7%)
7	Childbirth before the age of 20 will increase the probability of death of infants and children under five years old.	111 (48.1%)	52 (22.5%)	68 (29.4%)
8	Pregnancy and childbirth before the age of 20 increase mental disorders such as postpartum depression.	104 (45%)	38 (16.5%)	89 (38.5%)
9	Pregnancy and childbirth before the age of 20 cause iron deficiency in adolescent girls.	100 (43.3%)	20 (8.7%)	111 (48.1%)
		Cronbach's alpha= 0.891		

The Knowledge Questionnaire about adolescent pregnancy has nine questions with "Right, Wrong, and I do not know" answers. The answers which were "right" were given a score of 1 and the answers which were "wrong" or "I do not know

were given a score of 0. The total score for all 9 questions was categorized into three levels for analysis: Good (Score 7-9), Average (Score 4-6), and Poor (Score 0-3).

Almost half (45.5%) of the respondents stated that they don't think early marriage causes unwanted pregnancy. Likewise, almost 2 out of 5 respondents mentioned it is wrong to state that early marriage increases the number of pregnancies. Approximately half of the respondents (51.5%) stated it is right that pregnancy at the age of less than 20 years increases an adolescent's mother's death followed by 24.1% of the respondents who didn't know about it. Similarly, just more than two-fifth of the respondents stated that pregnancy and childbirth before the age of 20 years cause iron deficiency in adolescent girls whereas almost half of the participants (48.1%) didn't know about it. (Table 7)

Table 8: Distribution of Participants by their overall knowledge score regarding adolescent pregnancy (n=231)

Variables	Frequency (n)	Percentage (%)
Knowledge regarding adolescent pregnancy (Score range)		
Good (Score:7-9)	68	29.4
Average (Score:4-6)	72	31.2
Poor (Score: 0-3)	91	39.4
Median= 5 , IQR = 9 , Minimum= 0 , Maximum= 9		

Around two-fifths of the respondents (39.4%) had poor knowledge regarding adolescent pregnancy followed by average knowledge (31.2%) and good knowledge (29.4%). The median knowledge score was 5 (IQR-9). (Table 8)

4.1.6 Access to Reproductive Health Services of Participants

Almost all of the participants (97%) mentioned that they knew of a place to obtain family planning services. The majority of the respondents (96%) stated health posts as a place to obtain family planning services followed by the clinic (11.2%) and hospital (4.9%). Around two-thirds (66.7%) of the participants had to travel more than 30 minutes to reach the nearest health institution. A large proportion of respondents (76.6%) were able to get contraceptives as and when required. Likewise, slightly less than two-thirds of the participants (64.9%) hadn't received sex education. (Table 9)

Table 9: Distribution of Participants by Access to Reproductive Health Services related information (n=231)

Variables	Frequency (n)	Percentage (%)
Place to obtain family planning		
Yes	224	97
No	7	3
Specify Place (Total response =251 , n= 224)		
Health Post	215	96
Clinic	25	11.2
Hospital	11	4.9
Distance to nearest health facility		
Less than 30 minutes	77	33.3
More than 30 minutes	154	66.7
Median= 120 , IQR = 175 , Minimum= 5 , Maximum= 180		
Able to get contraceptives as required		
Yes	177	76.6
No	54	23.4
Sex Education		
Yes	81	35.1
No	150	64.9

4.1.7 Health consequences among adolescent mothers during pregnancy, delivery, and postpartum

Table 10: Health consequences among adolescent mothers during pregnancy, delivery, and postpartum (n=165)

Variables	Frequency (n)	Percentage (%)
Abortion		
Yes	36	21.8
No	129	78.2
Health problems during pregnancy		
Yes	41	24.8
No	124	75.2
Types of health problems during pregnancy (Total response = 85, n= 41)		
Vaginal bleeding	5	12.2
Swollen feet/body	3	7.3
White/smelly discharge from the vagina	4	9.8
High blood pressure	4	9.8
Excessive weight gain	2	4.9
Body ache	21	51.2
Headache	21	51.2
Severe pain in lower part of stomach	20	48.8
Post term pregnancy	2	4.9
Fever	1	2.4
Dizziness	1	2.4
Ectopic Pregnancy	1	2.4

Table 10: Health consequences among adolescent mothers during pregnancy, delivery, and postpartum *continued...*

Variables	Frequency (n)	Percentage (%)
Place of delivery		
Home delivery	121	73.3
Birthing Center (HP)	1	0.6
BEONC (PHCC)	20	12.1
CEONC (District Hospital)	20	12.1
Private Hospital	1	0.6
Road	2	1.2
Method of delivery		
Spontaneous vaginal delivery	158	95.8
Assisted vaginal delivery	2	1.2
Cesarean section	5	3
Health problems/ Complications during delivery		
Yes	48	29.1
No	117	70.9
Types of health problems during delivery (Total response = 74 , n= 48)		
Prolonged labor	45	93.8
Excessive bleeding	19	39.6
Pre-term labor	4	8.3
High blood pressure	2	4.2
Reverse baby	2	4.2
Retained placenta	2	4.2
Health problems during postpartum period		
Yes	37	22.4
No	128	77.6
***Types of health problems during postpartum (Total response = 58 , n= 37)**		
Excessive bleeding	13	35.1
Foul discharge from vagina	8	21.6
Fever	11	29.7
Lower abdominal pain	6	16.2
Excessive tiredness or difficulty in breathing	3	8.1
Swelling of feet/hand/face	5	13.5
Excessive headache	3	8.1
Breast engorgement/ Breast abscess	3	8.1
Infection in the area of wound	2	5.4
Increased pain or infection in the perineum	1	2.7
Dizziness	1	2.7
High blood pressure	1	2.7
Problem in uterus after delivery	1	2.7

*Multiple Responses

Just under one-fifth (21.8%) of the respondents had an abortion or miscarriage. In addition, slightly less than one-fourth (24.8%) of respondents had experienced health

problems during pregnancy. The health problems during pregnancy mainly included headache (51.2%), body ache (51.2%), severe pain in the lower part of the stomach (48.8%), vaginal bleeding (12.2%), white/smelly discharge from the vagina (9.8%), high blood pressure (9.8%), swollen feet/body (7.3%), excessive weight gain (4.9%), post-term pregnancy (4.9%), fever (2.4%), dizziness (2.4%) and ectopic pregnancy (2.4%). (Table 10)

In regards to the place of delivery, more than seven out of 10 respondents had home delivery (73.3%), followed by CEONC–district hospital (12.1%), BEONC-PHCC (12.1%), road (1.2%), private hospital (0.6%) and birthing center –HP (0.6%). The majority of the respondents had a spontaneous vaginal delivery (95.2%) followed by Cesarean section (3%) and Assisted vaginal delivery (1.2%). (Table 10)

Moreover, just under a third of respondents (29.1%) had health problems or complications during delivery. The health problems during delivery included prolonged labor (93.8%), excessive bleeding (39.6%), pre-term labor (8.3%), retained placenta (4.2%), high blood pressure (4.2%), and reverse baby (4.2%). (Table 10)

Likewise, just over a fifth of respondents (22.4%) had health problems during the postpartum period. The health problems during postpartum included excessive bleeding (35.1%), fever (29.7%), foul discharge from the vagina (21.6%), lower abdominal pain (16.2%), swelling of feet/hand/face (13.5%), excessive tiredness or difficulty in breathing (8.1%), breast engorgement/breast abscess (8.1%), excessive headache (8.1%), infection in the area of wound (5.4%), increased pain or infection in the area of perineum (2.7%), dizziness (2.7%), high blood pressure (2.7%) and problem in the uterus after delivery (2.7%). (Table 10)

4.1.8 Distribution of adolescent pregnancy by socio-demographic characteristics of the study participants

Table 11: Distribution of adolescent pregnancy by socio-demographic characteristics of the study participants

Variables	Adolescent Pregnancy		Total
	Yes	No	
Education level			
No education	21 (75%)	7 (25%)	28
Basic education (1-8)	124 (73.4%)	45 (26.6%)	169
Secondary (9-12)	20 (58.8%)	14 (41.2%)	34
Family Type			
Nuclear	64 (70.3%)	27 (29.7%)	91
Joint	101 (72.1%)	39 (27.9%)	140
Family Size			
Less than or equal to 7	99 (66%)	51 (34%)	150
More than 7	66 (81.5%)	15 (18.5%)	81
Husband's level of education			
No education	22 (75.9%)	7 (24.1%)	29
Basic education (1-8)	121 (78.6%)	33 (21.4%)	154
Secondary and above (9-12)	22 (45.8%)	26 (54.2%)	48
Occupation			
Semi profession, clerical , shop owner, farmer	157 (71.4%)	63 (28.6%)	220
Semi-skilled and unskilled worker	4 (80%)	1 (20%)	5
Unemployment	4 (66.7%)	2 (33.3%)	6
Husband's Occupation			
Semi-profession	3 (42.9%)	4 (57.1%)	7
Clerical , shop owner, farmer	123 (72.8%)	46 (27.2%)	169
Skilled and semi-skilled worker	11 (64.7%)	6 (35.3%)	17
Unskilled worker	24 (72.7%)	9 (27.3%)	33
Unemployment	3 (75%)	1 (25%)	4
Socio-economic status			
Upper	31 (54.4%)	26 (45.6%)	57
Lower	134 (77%)	40 (23%)	174

The education level of the respondent and her husband's education level had five categories initially and for further analysis purposes category lower basic and upper basic education were merged into basic education and the category lower secondary and higher secondary education were merged as secondary level education. (Table 11)

3 of 4 (75%) respondents with no education had adolescent pregnancy. However, more than half of respondents (58.8%) who had secondary-level education were also pregnant in their adolescence. In regards to the husband's level of education, a large

proportion of respondents' husbands with no education (75.9%) had their wives pregnant in their adolescence. Likewise, just more than four-fifths (81.5%) of the respondents who had a family of more than 7 members were pregnant during their adolescence. In addition, the majority (80%) of the adolescent mothers were engaged in semi-skilled and unskilled occupations. (Table 11)

Among the participants, 72.8% of the participant's husbands who were engaged in clerical, shop owner, and farmer occupations were pregnant in their adolescence while 42.9% who were engaged in semi-profession occupations were pregnant in their adolescence. (Table 11)

In regards to socio-economic status, the categories upper middle and lower middle were merged as 'Upper' and the categories upper lower and lower were merged as 'Lower' for further analysis purposes. Just over half of the respondents who had upper socio-economic status were pregnant at adolescent age while more than three fourth (77%) of the respondents who had lower socio-economic status were pregnant at adolescent age. (Table 11)

4.1.9 Distribution of adolescent pregnancy by pregnancy and marriage-related characteristics of the study participants

The table depicts that a majority (93.5%) of respondents who were married before the age of 18 years were pregnant in their adolescence whereas less than a fifth of the respondents (12.7%) who were married after the age of 18 were pregnant in their adolescence. (Table 12)

There were missing values for the mother's age at first pregnancy and older sister's age at first pregnancy due to recall bias and few respondents not having any elder sisters. Thus, median imputation was done in these variables for further analysis purposes considering the non-normal distribution of the data. Four-fifth (80%) of the respondents whose elder sister were pregnant at the age of 10-19 years were also pregnant in their adolescence age. Likewise, almost 7 out of 10 (68.9%) respondents who wanted to get married were adolescent pregnant mothers. A significant

proportion of respondents (79.1%) who had a love marriage had adolescent pregnancies. (Table 12)

Table 12: Distribution of adolescent pregnancy by pregnancy and marriage-related characteristics of the study participants

Variables	Adolescent Pregnancy		Total
	Yes	No	
Age at marriage			
Less than 18 years	157 (93.5%)	11 (6.5%)	168
18 years or more	8 (12.7%)	55 (18%)	63
Husbands age at marriage			
Less than 18 years	59 (88.1%)	8 (19.1%)	67
18 years or more	106 (64.6%)	58 (35.4%)	164
Mother's age at first pregnancy			
10-19 years	160 (71.4%)	64 (28.6%)	224
20+ years	5 (71.4%)	2 (28.6%)	7
Older sisters age at first pregnancy			
10-19 years	24 (80%)	6 (20%)	30
20+ years	141 (70.1%)	60 (39.9%)	201
Wanted to get married			
Yes	133 (68.9%)	60 (31.1%)	193
No	32 (84.2%)	6 (15.8%)	38
Type of marriage			
Arranged Marriage	48 (57.8%)	35 (42.2%)	83
Love Marriage	117 (79.1%)	31 (20.9%)	148
Unplanned Pregnancy			
Yes	128 (91.4%)	12 (8.6%)	140
No	37 (40.7%)	54 (59.3%)	91
Family influence to give birth			
Yes	55 (74.3%)	19 (25.7%)	74
No	110 (70.1%)	47 (29.9%)	157
Peers influence to give birth			
Yes	43 (75.4%)	14 (24.6%)	57
No	122 (70.1%)	52 (29.9%)	174
Knowledge on Adolescent Pregnancy			
Poor (Score: 0-3)	78 (85.7%)	13 (14.3%)	91
Average (Score:4-6)	50 (69.4%)	22 (30.6%)	72
Good (Score:7-9)	37 (54.4%)	31 (45.6%)	68

Similarly, a very large majority of participants (91.4%) who had unplanned pregnancies were pregnant in their adolescence. In regards to influencing to give birth, 7 out of 10 respondents (70.1%) who didn't have family influence and peer influence to give birth were pregnant in their adolescence. Moreover, a large proportion of respondents (85.7%) who had a poor level of knowledge regarding adolescent pregnancy were pregnant in their adolescence whereas more than half of the respondents (54.4%)

who had good knowledge regarding adolescent pregnancy were pregnant in their adolescence. (Table 12)

4.1.10 Distribution of adolescent pregnancy by contraception and access-related characteristics of the study participants

Table 13: Distribution of adolescent pregnancy by contraception and access-related characteristics of the study participants

Variables	Adolescent Pregnancy		Total
	Yes	No	
Used any contraceptives			
Yes	4 (40%)	6 (60%)	10
No	161(72.9%)	60 (27.1%)	221
Decision to use method			
Both partner and self	115(67.3%)	56 (32.7%)	171
Either	50 (83.3%)	10 (16.7%)	60
Place to obtain family planning			
Yes	159 (71%)	65 (29%)	224
No	6 (85.7%)	1 (14.3%)	7
Able to get contraceptives as required			
Yes	119(67.2%)	58 (32.8%)	177
No	46 (85.2%)	8 (14.8%)	54
Distance of health facility			
less than 30 min	47 (61%)	30 (39%)	77
30 min or more	118(76.6%)	36 (23.4%)	154
Sex education			
Yes	36 (44.4%)	45 (55.6%)	81
No	129 (86%)	21 (14%)	150

Approximately 7 out of 10 respondents (72.6%) who didn't use any form of contraceptives had adolescent pregnancies. Regarding the decision to use the method, the categories husband only and self only were merged into the category Either, resulting in a total of two categories. A significant proportion of respondents (83.3%) where either husband or wife made the decision to use family planning methods had adolescent pregnancy. Likewise, the majority of the respondents who didn't know about the place to obtain family planning methods (85.7%) were pregnant in their adolescence. Just over three fourth (76.6%) of respondents who had to walk more than 30 minutes on foot to reach a health facility had adolescent pregnancy. In addition, a very large majority of respondents (86%) who hadn't received sex education were pregnant in their adolescence. (Table 13)

4.2 Inferential statistics

In this section bivariate and multivariate logistic regression were carried out to identify the association of independent variables with the dependent variable and to identify the factors associated with adolescent pregnancy among Chepang women.

As per the conceptual framework, four models of logistic regression were performed. In the first model, dependent and sociodemographic variables were assessed, while in the second model, pregnancy and marriage-related variables and dependent variable were assessed and in the third model contraception and access-related variables and dependent variable were assessed. In the fourth model, the sociodemographic, pregnancy and marriage-related, and contraception and access-related variables were taken simultaneously and assessed for the dependent variable, which was called the final model. The final model identified the factors associated with adolescent pregnancy among Chepang women.

Bivariate and multivariate logistic regression was performed for analysis. At first bivariate analysis was carried out between each independent variable and dependent variable. Variance inflation factor (VIF) as a numerical diagnostic was run to check the multicollinearity and to identify the independent predictors of the dependent variable. Variables with a VIF of more than 2 were excluded from the final model. Variables with p-value less than 0.25 and VIF less than or equal to 2 were included in the final multivariate logistic regression model. Variables with p-value less than 0.05 were considered a predictor of the outcome variable.

4.2.1 Association between socio-demographic variables with adolescent pregnancy

First bivariate logistic regression was carried out to identify the association between sociodemographic variables and adolescent pregnancy. After checking for multi-collinearity, variables with VIF less than or equal to 2 and p-value less than 0.25 during bivariate analysis were taken into multivariate logistic regression.

Table 14: Association of Adolescent Pregnancy with Sociodemographic variables (Both unadjusted and adjusted odds ratio)- Fitted Model 1

Variables	Adolescent Pregnancy		Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
	Yes	No				
Education level				**0.216**		0.279
No education	21 (75%)	7 (25%)	1.929 [0.899-4.139]	0.092	1.970 [0.547-7.080]	0.3
Basic education (1-8)	124 (73.4%)	45 (26.6%)	2.1 [0.703-6.275]	0.184	1.980 [0.852-4.6]	0.112
Secondary (9-12) [RC]	20 (58.8%)	14 (41.2%)	1		1	
Family Type						
Nuclear	64 (70.3%)	27 (29.7%)	0.915 (0.511-1.64)	0.766		
Joint [RC]	101 (72.1%)	39 (27.9%)	1			
Family Size						
Less than or equal to 7 [RC]	99 (66%)	51 (34%)	1		1	
More than 7	66 (81.5%)	15 (18.5%)	2.267 [1.178-4.362]	**0.013***	2.590 [1.280-5.230]	**0.008****
Husband's level of education				**0.001****		**0.009****
No education	22 (75.9%)	7 (24.1%)	4.333 [2.182-8.604]	0.001	2.440 [0.669-8.880]	0.177
Basic education (1-8)	121 (78.6%)	33 (21.4%)	3.714 [1.336-10.327]	0.012	3.590 [1.560-8.290]	0.002
Secondary and above (9-12) [RC]	22 (45.8%)	26 (54.2%)	1		1	
Occupation				0.885		
Semi profession, Clerical , shop owner, farmer [RC]	157 (71.4%)	63 (28.6%)	1			
Semi-skilled and unskilled worker	4 (80%)	1 (20%)	1.605 [0.176-14.642]	0.675		
Unemployment	4 (66.7%)	2 (33.3%)	0.803 [0.143-4.492]	0.802		

Table 14: Association of Adolescent Pregnancy with Sociodemographic variables (Both unadjusted and adjusted odds ratio)- Fitted Model 1 *continued...*

Variables	Adolescent Pregnancy		Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
	Yes	No				
Husband's Occupation				0.548		
Semi-profession [RC]	3 (42.9%)	4 (57.1%)	1			
Clerical , shop owner, farmer	123 (72.8%)	46 (27.2%)	3.565 [0.768-16.544]	0.105		
Skilled and semi-skilled worker	11 (64.7%)	6 (35.3%)	2.444 [0.495-14.748]	0.330		
Unskilled worker	24 (72.7%)	9 (27.3%)	3.556 [0.662-19.108]	0.139		
Unemployment	3 (75%)	1 (25%)	4 [0.265-60.325]	0.317		
Socio-economic status						
Upper [RC]	31 (54.4%)	26 (45.6%)	1		1	
Lower	134 (77%)	40 (23%)	2.81[1.5-5.27]	**0.001****	1.430 [0.631-3.240]	0.391

[RC] = Reference Category; OR= Odds Ratio; CI= Confidence Interval
*p<0.05; **p<0.01

The bivariate logistic regression between sociodemographic variables and dependent variables showed that family size, husband's level of education, and socio-economic status were statistically significant with Adolescent pregnancy. The research revealed that Chepang mothers with a family size of more than 7 members were 2.27 times (p-value: 0.013, CI: 1.178-4.362) more likely to have adolescent pregnancy as compared to those who had a family size of less than 7 members. Similarly, Chepang mothers whose husbands had no education were 4.3 times (p-value: 0.001, CI: 2.182-8.604] and whose husbands had a basic level of education were 3.714 times (p-value: 0.012, CI: 1.336-10.327) more likely to have adolescent pregnancy as compared to those whose husband's had a secondary and above level of education. In regards to socio-economic status, the analysis showed that Chepang mothers with lower socioeconomic status were 2.81 times (p-value: 0.001, CI:1.5-5.27) more likely to be

pregnant in their adolescence in comparison to Chepang mothers with upper socioeconomic status. (Table 14)

During bivariate analysis education level of the respondent had a p-value of less than 0.25. Therefore, the variables education level of the respondent, family size, husband's level of education, and socioeconomic status were taken to the final model of logistic regression between adolescent pregnancy and socio-demographic variables. While assessing multicollinearity the VIF was less than 2. Similarly, the final model fitted the data (p-value less than 0.05) while comparing the null versus fitted model. The area under the curve (AUC) of the model was 0.692 [95% CI: 0.615 - 0.769] and the accuracy of the model was 75.32%. (Appendix III)

After multivariate logistic regression, the husband's level of education and family size showed a significant association with adolescent pregnancy. The research depicted that Chepang mothers with a family size of more than 7 members were 2.59 times (p-value: 0.008, CI: 1.28-5.23) more likely to have adolescent pregnancy as compared to those who had a family size of fewer than 7 members after controlling for other variables. Similarly, respondents whose husbands had no education were 2.44 times (p-value: 0.177, CI: 0.669-8.880] and whose husbands had a basic level of education were 3.59 times (p-value: 0.002, CI: 1.560-8.290) more likely to have adolescent pregnancy as compared to those whose husband's had a secondary and above level of education after controlling for other variables. (Table 14)

4.2.2 Association between adolescent pregnancy with marriage and pregnancy-related variables

The bivariate logistic regression between adolescent pregnancy and marriage and pregnancy-related variables showed that age at marriage, husband's age at marriage, type of marriage, unplanned pregnancy, and knowledge regarding adolescent pregnancy were significantly associated with adolescent pregnancy. (Table 15)

Table 15: Association of Adolescent Pregnancy with marriage and pregnancy variables (Both unadjusted and adjusted odds ratio)- Fitted Model 2

Variables	Adolescent Pregnancy		Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
	Yes	No				
Age at marriage						
Less than 18	157 (93.5%)	11 (6.5%)	98.123 [37.530-256.555]	**0.001****	150 [44.2-358]	**<0.001****
18 or more [RC]	8 (12.7%)	55 (18%)	1		1	
Husbands age at marriage						
Less than 18	59 (88.1%)	8 (19.1%)	4.035 [1.804-9.024]	**0.001****	1.67 [0.399-6.950]	0.484
18 or more [RC]	106 (64.6%)	58 (35.4%)	1		1	
Mothers age at first pregnancy						
10-19 years	160 (71.4%)	64 (28.6%)	1 [0.189-5.287]	>0.99		
20+ years [RC]	5 (71.4%)	2 (28.6%)	1			
Older sisters age at first pregnancy						
10-19 years	24 (80%)	6 (20%)	1.702 [0.662-4.376]	0.270		
20+ years [RC]	141 (70.1%)	60 (39.9%)	1			
Wanted to get married						
Yes [RC]	133 (68.9%)	60 (31.1%)	1	**0.062**	1	0.525
No	32 (84.2%)	6 (15.8%)	2.406 [0.955-6.060]		1.67 [0.344-8.080]	
Type of marriage						
Arranged Marriage [RC]	48 (57.8%)	35 (42.2%)	1	**0.001****	1	0.0975
Love Marriage	117 (79.1%)	31 (20.9%)	2.752 [1.528-4.958]		2.84 [0.826-9.790]	
Unplanned Pregnancy						
Yes	128 (91.4%)	12 (8.6%)	15.568 [11.07-23.66]	**0.001****	13.5 [10.37-21.58]	**0.001****
No [RC]	37 (40.7%)	54 (59.3%)	1		1	

Table 15: Association of Adolescent Pregnancy with marriage and pregnancy variables (Both unadjusted and adjusted odds ratio)- Fitted Model 2 *continued...*

Variables	Adolescent Pregnancy		Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
	Yes	No				
Family influence to give birth						
Yes	55 (74.3%)	19 (25.7%)	1.237 [0.663-2.307]	0.504		
No [RC]	110 (70.1%)	47 (29.9%)				
Peers influence to give birth						
Yes	43 (75.4%)	14 (24.6%)	1.309 [0.660-2.597]	0.441		
No [RC]	122 (70.1%)	52 (29.9%)	1			
Knowledge of Adolescent Pregnancy				**0.001****		**0.0018***
Poor (Score: 0-3)	78 (85.7%)	13 (14.3%)	5.027 [2.359-10.713]	0.001	21.3 [16.68-49.23]	0.0004
Average (Score:4-6)	50 (69.4%)	22 (30.6%)	1.904 [0.953-3.805]	0.068	4.4 [3.81-5.9]	0.045
Good (Score:7-9) [RC]	37 (54.4%)	31 (45.6%)	1		1	

[RC] = Reference Category; OR= Odds Ratio; CI= Confidence Interval
*p<0.05; **p<0.01

The research showed that participants who were married before the age of 18 were 98.123 times (p-value: 0.001, CI: 37.350-256.55) more likely to be pregnant in their adolescence as compared to those who were married after the age of 18. Similarly, participants whose husbands were married before the age of 18 were 4.035 times (p-value: 0.001, CI: 1.804-9.024) more likely to be pregnant in their adolescence as compared to those whose husbands were married after the age of 18. Regarding the type of marriage, participants who had love marriage were 2.752 times (p-value: 0.001, CI: 1.528-4.958) more likely to be pregnant in their adolescence as compared to those who had arranged marriages. Furthermore, those who had unplanned pregnancies were 15.56 times (p-value: 0.001, CI: 11.07-23.66) more likely to have adolescent pregnancies than those who had planned pregnancies. Concerning the knowledge of participants, those who had poor knowledge scores were 5.027 times (p-value: 0.001, CI: 2.359-10.713) and those who had average knowledge scores were 1.904 times (p-value: 0.068, CI: 0.953-3.805) more likely to have adolescent pregnancy in comparison to those who had good knowledge score. (Table 15)

For multivariate logistic regression, a p-value of less than 0.25 and a VIF of less than or equal to 2 were considered. So pregnancy and marriage-related variables like age at marriage, husband's age at marriage, wanted to get married, type of marriage, unplanned pregnancy, and knowledge on adolescent pregnancy were taken to the final model of logistic regression between outcome and marriage and pregnancy-related variables. The model fitted the data (p-value less than 0.05) while comparing the null versus fitted model. The area under the curve (AUC) of the model was 0.976 [95% CI: 0.959 - 0.993] and the accuracy of the model was 92.64%. (Appendix IV)

After multivariate logistic regression, age at marriage, unplanned pregnancy, and knowledge regarding adolescent pregnancy were found to be significantly associated with the outcome variable. The multivariate analysis revealed that participants who were married before the age of 18 were 150 times (p-value: 0.001, CI: 44.2-358) more likely to be pregnant in their adolescence as compared to those who were married after the age of 18 after controlling for other variables. Moreover, those who had unplanned pregnancies were 13.5 times (p-value: 0.001, CI: 10.37-21.58) more likely to have adolescent pregnancies than those who had planned pregnancies after controlling for other variables. Concerning the knowledge of participants, those who had poor knowledge scores were 21.3 times (p-value: 0.0004, CI: 16.68-49.23) and those who had average knowledge scores were 4.4 times (p-value: 0.045, CI: 3.81-5.9) more likely to have adolescent pregnancy in comparison to those who had good knowledge score after controlling for other variables. (Table 15)

4.2.3 Association between adolescent pregnancy with contraception and access-related variables

The bivariate logistic regression between adolescent pregnancy and contraception and access-related variables showed that using any contraceptives, decision to use method, able to get contraceptives, the distance of health facility, and sex education were significantly associated with adolescent pregnancy. (Table 16)

Table 16: Association of Adolescent Pregnancy with contraception and access related variables (Both unadjusted and adjusted odds ratio)- Fitted Model 3

Variables	Adolescent Pregnancy		Total	Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
	Yes	No					
Used any contraceptives							
Yes [RC]	4 (40%)	6 (60%)	10	1	**0.036***	1	0.128
No	161 (72.9%)	60 (27.1%)	221	4.025 [1.098-14.760]		3.190[0.7170-14.2]	
Decision to use method							
Both partner and self [RC]	115 (67.3%)	56 (32.7%)	171	1		1	
Either	50 (83.3%)	10 (16.7%)	60	2.435 [1.150-5.156]	**0.02***	2.00 [0.8690-4.590]	0.103
Place to obtain family planning							
Yes [RC]	159 (71%)	65 (29%)	224	1	0.41		
No	6 (85.7%)	1 (14.3%)	7	2.453 [0.290-20.776]			
Able to get contraceptives as required							
Yes [RC]	119 (67.2%)	58 (32.8%)	177	1	**0.013***	1	0.656
No	46 (85.2%)	8 (14.8%)	54	2.803 [1.242-6.324]		1.240 [0.485-3.150]	
Distance of nearest health facility							
less than 30 [RC]	47 (61%)	30 (39%)	77	1	**0.014***	1	0.294
more than 30	118 (76.6%)	36 (23.4%)	154	2.092 [1.159-3.777]		1.450 [0.726-2.880]	
Sex education							
Yes [RC]	36 (44.4%)	45 (55.6%)	81	1	**0.001****	1	**0.001****
No	129 (86%)	21 (14%)	150	7.679[4.064-14.507]		6.36 [3.28-12.3]	

[RC] = Reference Category; OR= Odds Ratio; CI= Confidence Interval
*p<0.05; **p<0.01

The research depicted that participants who didn't use any contraceptives after being married were 4.025 times (p-value: 0.036, CI: 1.098-14.760) more likely to be pregnant in their adolescence as compared to those who used any contraceptives after being

married. Likewise, participants who decided to use the method either by self or by decision of their husband were 2.435 times (p-value: 0.02, CI: 1.150-5.156) more likely to have adolescent pregnancy as compared to those participants in which the decision to use contraceptives was made both by husband and wife. Similarly, participants who weren't able to get contraceptives as and when required were 2.803 times (p-value: 0.013, CI: 1.242-6.324) more likely to have adolescent pregnancy as compared to those who were able to get contraceptives when required. (Table 16)

In regards to distance to the health facility, the participants who had to walk more than 30 minutes to reach the nearest facility were 2.092 times (p-value: 0.014, CI: 1.159-3.777) more likely to be pregnant in their adolescence as compared to those who had to walk less than 30 minutes to reach the nearest health facility. Furthermore, participants who didn't receive sex education were 7.679 times (p-value: 0.001, CI: 4.064-14.507) more likely to be pregnant in their adolescence than those who received sex education. (Table 16)

For multivariate logistic regression, the p-value of less than 0.25 and VIF of less than or equal to 2 were considered. So variables used any contraceptives, the decision to use the method, able to get contraceptives, the distance to the nearest health facility, and sex education were taken to the final model of logistic regression between outcome and contraception and access-related variables.

The model fitted the data (p-value less than 0.05) while comparing the null versus fitted model. The area under the curve (AUC) of the model was 0.777 [95% CI: 0.712 - 0.843] and the accuracy of the model was 76.62%. (Appendix V)

After multivariate analysis, only the variable sex education was found to be significantly associated with adolescent pregnancy. Those participants who didn't receive sex education were 6.36 times (p-value: 0.001, CI: 3.28-12.3) more likely to be pregnant in their adolescence than those who received sex education. (Table 16)

4.2.4 Predictors of Adolescent Pregnancy using multivariate logistic regression

Table 17: Multivariate logistic regression to identify the factors associated with adolescent pregnancy among Chepang women- Final Model

Variables	Unadjusted OR [95% CI]	p-value	Adjusted OR [95% CI]	p-value
Family Size				
Less than or equal to 7 [RC]	1		1	
More than 7	2.267 [1.178-4.362]	**0.013***	4.3 [0.66-11.2]	0.095
Husband's level of education		**0.001****		0.2232
No education	4.333 [2.182-8.604]	0.001	5.65 [0.766-15.4]	0.14
Basic education (1-8)	3.714 [1.336-10.327]	0.012	3.26 [0.897-12.4]	0.152
Secondary and above (9-12) [RC]	1		1	
Age at marriage				
< 18 years	98.123 [37.530-256.555]	**0.001****	236 [71.46-472.67]	**0.001****
≥ 18 years [RC]	1		1	
Type of marriage				
Arranged Marriage [RC]	1		1	
Love Marriage	2.752 [1.528-4.958]	**0.001****	2.32 [0.768-6.19]	0.229
Unplanned Pregnancy				
Yes	15.568 [11.07-23.66]	**0.001****	13.3 [10.76-19.2]	**0.00047****
No [RC]	1		1	
Knowledge on Adolescent Pregnancy		**0.001****		**0.0212***
Poor (Score: 0-3)	5.027 [2.359-10.713]	0.001	10.3 [8.42-14.87]	0.008
Average (Score:4-6)	1.904 [0.953-3.805]	0.068	5.46 [4.31-9.64]	0.047
Good (Score:7-9) [RC]	1		1	
Used any contraceptives				
Yes [RC]	1		1	
No	4.025 [1.098-14.760]	**0.036***	0.726 [0.068-7.73]	0.791
Decision to use method				
Both partner and self [RC]	1		1	
Either	2.435 [1.150-5.156]	**0.02***	0.27 [0.9476-1.539]	0.139
Sex education				
Yes [RC]	1	**0.001****	1	**0.0085****
No	7.679[4.064-14.507]		6.57 [3.85-11.27]	

[RC] = Reference Category; OR= Odds Ratio; CI= Confidence Interval

*p<0.05; **p<0.01

Final multivariate logistic regression of independent variables with outcome variables was performed to identify the predictors of Adolescent pregnancy. Variables with p value less than 0.25 from Fitted Model 1, Fitted Model 2, and Fitted Model 3 and VIF less than or equal to 2 were taken to the final model. Values of VIF exceeding 10 are often regarded as indicating multicollinearity, but in weaker models, which is often the case in logistic regression; values above 2.5 may be a cause for concern. [103] Thus, family size, husband's level of education, age at marriage, type of marriage, unplanned pregnancy, knowledge of adolescent pregnancy, used contraceptives, the decision to use method, and sex education were taken into the final model.

The model fitted the data (p-value less than 0.05) while comparing the null versus fitted model. The area under the curve (AUC) of the model was 0.984 [95% CI: 0.971 - 0.998] and the accuracy of the model was 95.24%. (Appendix VI)

The multivariate logistic regression revealed that age at marriage, unplanned pregnancy, knowledge regarding adolescent pregnancy, and sex education were the independent predictors of adolescent pregnancy.

The research revealed that participants who were married before the age of 18 were 236 times (p-value: 0.001, CI: 71.46-472.67) more likely to be pregnant in their adolescence as compared to those who were married after the age of 18 after controlling for other variables. Moreover, those who had unplanned pregnancies were 13.3 times (p-value: 0.00047, CI: 10.76-19.2) more likely to have adolescent pregnancies than those who had planned pregnancies after controlling for other variables. It can be observed that those who had poor knowledge scores were 10.3 times (p-value: 0.008, CI: 8.4-14.8) and those who had average knowledge scores were 5.46 times (p-value: 0.047, CI: 4.3-9.6) more likely to have adolescent pregnancy in comparison to those who had good knowledge score after controlling for other variables. Furthermore, those participants who didn’t receive sex education were 6.57 times (p-value: 0.0085, CI: 3.85-11.27) more likely to be pregnant in their adolescence than those who received sex education. (Table 17)

4.3 Summary of Quantitative Findings

The quantitative study included 231 Chepang mothers from Ward 5 and 8 of Raksirang Rural Municipality with a median age of 21 years. The majority of the participants had basic level education (73.1%) followed by secondary education (14.7%) and no education (12.1%). The majority of the respondents were clerical, shop owners or farmers (94.8%) followed by semi-skilled workers (1.7%), unskilled workers (0.4%), and semi-profession (0.4%).

The prevalence of adolescent pregnancy was 71.4% [95% CI: 65.14-77.16]. A large proportion of respondents (72.73%) were married before the age of 18 years. Around two-fifths of the respondents (39.4%) had poor knowledge regarding adolescent pregnancy followed by average knowledge (31.2%) and good knowledge (29.4%).

Just under one-fifth (21.8%) of adolescent mothers had an abortion or miscarriage. In regards to the place of delivery, slightly more than seven out of ten adolescent mothers had home delivery (73.3%).

Slightly less than one-fourth (24.8%) of adolescent mothers had experienced health problems during pregnancy. Moreover, just under a third of adolescent mothers (29.1%) had health problems or complications during delivery, and just over a fifth (22.4%) had health problems during the postpartum period.

After controlling for covariates during multivariate logistic regression, early age at marriage (AOR= 236, CI: 71.46-472.67), poor knowledge of adolescent pregnancy (AOR=10.3, CI 8.42-14.87), unplanned pregnancy (AOR=13.3, CI 10.76-19.2), and lack of sex education (AOR=6.57, CI 3.85-11.27) were significantly associated with adolescent pregnancy.

Chapter V : Qualitative Results

The chapter includes the qualitative results obtained from the analysis of qualitative interviews done with two objectives:

- To explore factors associated with adolescent pregnancy among Chepang women from qualitative data
- To explore health consequences faced by Chepang adolescent mothers during pregnancy, childbirth, and the postpartum period

5.1 Socio-demographic characteristics of the participants

To maintain the anonymity of the participants, adolescent mothers were assigned the code 'A' and key informants were assigned the code 'K'. A total of 10 in-depth interviews were done with adolescent mothers. Out of 10 participants only one participant had attained secondary level education whereas all other participants had attained basic level education. Five of the participants were from Ward 5 and the other five participants were from Ward 8.

Table 18: Socio-demographic characteristics of Chepang adolescent mothers who participated in in-depth interviews

S.N.	Code in the scripts	Code in Report	Age (Completed years)	Age at first pregnancy	Education Level	Place of Residence
1.	IDI1	A1	22	14	No	Ward 5
2.	IDI2	A2	18	16	5	Ward 8
3.	IDI3	A3	23	18	+2	Ward 5
4.	IDI4	A4	25	15	4	Ward 5
5.	IDI5	A5	24	16	5	Ward 5
6.	IDI6	A6	23	17	6	Ward 8
7.	IDI7	A7	24	16	3	Ward 8
8.	IDI8	A8	21	17	4	Ward 5
9.	IDI9	A9	20	16	5	Ward 8
10.	IDI10	A10	17	17	7	Ward 8

Four FCHV's working in Wards 5 and 8 of Raksirang Rural Municipality were chosen purposively for key-informant interviews. The years of serving by FCHV's ranged from 8 to 13 years. Similarly, a teacher from Ward 8 of Raksirang Rural Municipality who had served for 3 years was selected. Ward chiefs of wards 5 and 8 were interviewed

and they had served for 7 months in the respective position. The health coordinator of Raksirang Rural Municipality who had been working for 7 years was interviewed in the study. A senior ANM working for 26 years in Kakada Health Post was selected purposively in the study. Moreover, the AHW of Sarikhet Health post was another key informant in this study.

Table 19: Socio-demographic characteristics of the key informants who participated in the qualitative study

S.N.	Code in the scripts	Code in Report	Age (Completed years)	Sanctioned Post	Working Organization	Period of Serving
1.	KII1	K1	22	Teacher	Shree Jana Kalyan School, Raksirang-8	3 years
2.	KII2	K2	52	FCHV	Raksirang-8	13 years
3.	KII3	K3	31	FCHV	Raksirang-5	15 years
4.	KII4	K4	42	FCHV	Raksirang-5	13 years
5.	KII5	K5	30	FCHV	Raksirang-8	8 years
6.	KII6	K6	28	Health Coordinator	Raksirang Rural Municipality Office	7 years
7.	KII7	K7	45	Ward Chief	Raksirang-5	7 months
8.	KII8	K8	52	Ward Chief	Raksirang- 8	7 months
9.	KII9	K9	33	AHW	Raksirang Sarikhet Health Post	7 years
10.	KII10	K10	46	Sr. ANM	Raksirang Kakanda Health Post	26 years

5.2 Factors associated with Adolescent Pregnancy

Table 20: Themes, Sub-themes, and Codes identified to explore factors associated with adolescent pregnancy

Codes	Subthemes	Theme
Long distance to the health facility, out-of-pocket health expenditure, geographical constraints, lack of carrier, difficult in transportation, lack of transportation, seasonal difficulty	Lack of access to sexual and reproductive health services	Access and Use of Sexual and Reproductive Health Services
Health consequences of the use of FP, being weak after sterilization, stop of menstrual flow after using contraception, unavailability of family planning device	Health barriers to using contraceptive methods	
Fear of using contraception, fear of not having a child after using contraception, contraception use immediately after marriage, having a child at young age is a seasonal harvest	Fear of not having a child after using contraception	
Women mostly use contraceptives, reluctance to use condoms by their husbands, rare use of condoms, husbands disagreement to use the family planning method	Contraception is the sole responsibility of women	
Fear of being touched, fear and shy to go health institutions, more comfortable with local health worker	Hesitancy and fear of service provider	
Child-friendly community, lack of relay of information, incentives provision, lack of relay of information on incentives, ineffectiveness of programs, expectations from programs	Programs and Policies to reduce child marriage and adolescent pregnancy	Programmatic Aspects
Legal actions, lack of legal action, monetary compensation, maintaining confidentiality for legal action	Enforcement of laws	
FCHV not visiting, counseling from new faces, role of external agencies, role of leaders, collaborative efforts, role of local government	Role of various stakeholders	
Falling in love causes early marriage, willingness to marry, elopement is a new trend	Elopement is the new trend	Elopement Marriages as a thoughtful escape
Marriage against parent's will, fear of not being married by parents, parents not happy	Marrying against parents will	
Access to media and technology, Facebook is the cause of elopement	Repercussion of media and technology	
Unfulfilled desires, household work burden, immaturity	Immaturity and unfulfilled desires	

Table 20: Themes, Sub-themes and codes identified to explore factors associated with adolescent pregnancy *continued...*

Codes	Subthemes	Theme
Lack of secondary schools, scholarship and allowances program, no system of scholarship for child marriage	Hurdles to access secondary-level education	Discontinuation of education
Low interest in studies, language barrier, getting spoiled	Apathy towards learning	
Financial crisis, lack of money for education, poverty, school dropout, unemployment, no habit of saving	Poverty-induced drop out from schools	
Study after marriage not acceptable, fear of society	Schooling after marriage is a stigma	
Child labor, work at an early age	Children subjected to forced labor	
Perception that child marriage causes suffering, lack of education, perception regarding age at marriage, ease to give birth at young age	Knowledge and understanding of early marriage	Knowledge and understanding of marriage, pregnancy, and childbirth
Lack of education, lack of knowledge on use of FP, abortion better than contraceptive use, being weak after sterilization	Knowledge and understanding of contraception	
Giving birth at old age is difficult, giving birth at young age is beneficial, perception regarding age at pregnancy, perception regarding pregnancy and childbirth	Knowledge and Understanding of adolescent pregnancy and childbirth	
Lack of sex education, unplanned pregnancy, not knowing about being pregnant	Unplanned pregnancy	
Awareness is important, difference in ethnicity, lack of education	Awareness is the key	
Early marriage, husband age at marriage, sisters age at marriage	Early marriage is a common practice	Socio-cultural beliefs and norms on marriage, pregnancy, and childbirth
Teenage pregnancy is the norm, religious values and norms, norms regarding age at marriage, norms regarding age at pregnancy, mothers age at pregnancy	Norms regarding pregnancy and childbirth	
Parents pressure, family pressure to have child, peer influence, persuasion to marry, societal pressure	Societal, family, and peer pressure	
Lack of parental guidance, parents pressure, negligence from parents	Role of Parents	
Alcohol consumption, son preference, lack of support from husband, giving birth is the reason of existence, violence against women	Women's position in society	
Change is a slow process, stubborn nature, not wanting to listen, reluctance to change, behavior change, change over time, negligence, scared of talking to outsiders	Reluctance to change	

5.2.1 Access and Use of Sexual and Reproductive Health Services

Access and use of sexual and reproductive health services include a wide range of services and interventions that aim to support individuals in their sexual and reproductive health needs and the actual utilization of those services and interventions. The theme “access and use of sexual and reproductive health services” has four subthemes: lack of access to sexual and reproductive health services, health barriers to using contraceptive methods, fear of not having a child after using contraception, and contraception is the sole responsibility of women.

i. Lack of access to SRH services

Most of the participants mentioned that they had to walk long distances to access health services.

One of the key informants revealed that service seekers had to walk uphill for more than an hour due to which they were hesitant to seek sexual and reproductive health services:

[...]when we question them why they didn’t meet us for counseling, they say that they couldn’t meet because they couldn’t travel a long distance. They live very far. They live uphill. Those poor people have to walk uphill. [...]It takes a long time to come and go. When they come down, it’s easier for them as they are habituated to walking these places so it may take them an hour, but going back takes them two hours. Some places are too far away […] (K5, 30 years old, FCHV)

On the same note, another key informant elaborated:

Even now the health institution is far away. Previously they had to walk for seven hours to get health services. Now they reach in around 3 hours. Let’s assume Sheeladhani (a place in Raksirang), you might have reached the upper village some days before. If you have to reach Sheeladhani from another village called Pangung (village) in ward-8, it will take about 3 hours to 3 and a half hours. If you have to come to the bazaar (market) then, even if you walk early in the morning to reach Manahari, it takes 5/6 hours on foot. (K8, 52 years old, Ward Representative)

The long walking distance to the health facility was revealed as a major barrier to seeking health services by most Chepang mothers.

We have to reach Badbhanjyang (a village) from here- the nearest health institution. It takes around one hour. For someone who lives far away, it might even take more time. (A2, 18 years old, Chepang Mother, Ward 8)

In addition, not having any ambulance or transport services added an obstacle to reaching health institutions. One of the participants expressed her concern as:

I have to walk downwards for 2 hours to reach the health institution and to come back home from the village, it's an upward walk of 2 hours. It is difficult. There are no ambulance or transport services either. (A6, 23 years old, Chepang Mother, Ward 8)

One of the reasons for the lack of transportation services was seasonal difficulties as in rainy seasons the roads would be damaged and no vehicles could go uphill. Respondents shared how the rainy season makes it difficult for them to access health services as:

If you go from the house below at Penche (market), it will take 10-15 minutes. But if you go from the village itself it will take a very long time. I think it will take around 3 hours by walking. It is difficult to reach there from the village. Now the vehicle also comes here but in the rainy season, the vehicle can't reach up to here. And it becomes difficult to reach the health post. But when there's no rainfall the vehicle can come up here as well. (A5, 24 years old, Chepang Mother, Ward 5)

In the rainy season, I go there on foot. But now in this season, the vehicle comes here. So I go in the vehicle. Back then we used to go to the health institution on foot as there were no proper roads. They give us a particular date to go to the health institution for depo injection. (A7, 24 years old, Chepang Mother, Ward 8)

It is a bit difficult during the rainy season. You must have known by now; we don't get vehicles during the rainy season and winter season. [...] We have to walk. It is difficult for them (service seekers) too. (K10, 46 years old, Sr. ANM)

Amidst the scenario where there are geographical, seasonal, and transport-related barriers to access health services, key informants mentioned that access to sexual and reproductive health services has been increasing compared to before:

Key informants explained this phenomenon as:

There are many places where they can go to take family planning services. I don't find couples who give birth early in my ward these days. All couples in my ward use family planning methods. Some use the 12-year one, some 5 years, some 3 months, and some consume pills daily. These are the most common ones. (K2, 52 years old, FCHV)

The health facility is not far away in ward 5. Back in the time when people used to come here to seek health services, they were mostly reluctant to come because they had to walk long distances. That's why now we have set up health posts in each ward. Not getting health services created many social problems such as early marriage and bearing many children. (K7, 45 years old, Ward Representative)

Likewise, one of the key informants added how federalism has contributed to increasing access to health services as now each ward has one health post.

Now the current situation is different. Before federalism this is a village municipality made up of 4 VDCs[...] Now with federalism, every ward has one health post. Previously it took about 2 to 3 hours to reach the health institution. In some places, we had to walk for even 4 hours. But now after walking for 1 and a half hours from someplace you can easily reach the nearest health institutions. But still, we are not being able to reach the health institution in half an hour according to the state policy[...]we are also trying to form a community health unit. (K6, 28 years old, Health Coordinator)

Community health units have been another major addition to the provision of health services to the Chepang people.

One of the respondents shared:

It was only Shiladhani(village) previously. Everyone had to walk up to Shiladhani. The ward office was also there. The health post was also there. I go there to submit the reports. If I leave at 6 in the morning, I will reach there around 11:30 on walking. But now we have a community health unit that is 10-15 minutes away. It is very close. The change is happening. Now it's just there in the Parewatar (village). (K2, 52 years old, FCHV)

She further added that implant camps were organized in the community health unit and that people go there to take condoms.

[...] Now in the village, we also have a community health unit. In this month of Poush (month) there is also an implant camp. There are 14-15 people who have registered for it (camp). [...] Community health units also have condoms. So if anyone wants one then they get it from the community health unit. People are using it. (K2, 52 years old, FCHV)

ii. Health barriers to using contraceptive methods

Despite the increasing awareness about the use of contraception and the willingness, participants reported that they were not able to use it because of various kinds of health consequences or some underlying health condition. One of the participants said that she used the depo injection after having a child but she faced health consequences after its use and had to stop.

[...] 6 months after my daughter was born I used depo injection once but that didn't fit me well. Watery discharge used to come out of the vagina. (A2, 18 years old, Chepang Mother, Ward 8)

Few of the participants mentioned their menstruation process stopped after using the depo injection which acted as both facilitator and barrier for its use. One of the participants explained how she was happily using depo as it stopped her menstruation:

[…] I am using needles now. I don't even have menstruation after the injection. It's been about 1 year and 6 months or 7 months. I feel comfortable using it. (A4, 25 years old, Chepang Mother, Ward 5)

I was using Sangini sui. I gave birth to a younger son by operation, thereafter I started using sangini sui (depo) every 3 months period. 1 year after using sangini sui (depo) my menstruation automatically stopped. Therefore, I am not using it for now. – (A6, 23 years old, Chepang Mother, Ward 8)

Likewise, another participant elaborated on how not having menstruation had negative consequences on her health as:

To get depo injection, sometimes I go to the bazar (market). On the 17th, they come here to give the injection, and I use it here. I used to go to a government hospital for injections previously. I told them that I did not have menstruation. When I don't have a period, I have shortness of breath. It's difficult to breathe and so, I did not use an injection. They asked me to have my period first and then, they would give me a depo injection. So, after that, I did not get the injection. Now, I have good menstruation flow, so I went back and got the injection. I got the injection due to fear of getting pregnant this time because I should not get pregnant. I have enough children, so why should I get pregnant? (A4, 25 years old, Chepang Mother, Ward 5)

Using injection as a means of contraception had a different effect on different individuals. While for some it stopped menstruation, some of the participants had excessive bleeding after its use which eventually led them to stop using it.

Participants elaborated on how they had a difficult time with the use of injection as a contraceptive means because of excessive blood flow:

When I was using the injection there used to be heavy blood flow all the time. I didn't even know the month or day. All time it used to bleed. [...] They said that I should put it again after three months. But I didn't use it because of excessive bleeding. (A9, 20 years old, Chepang Mother, Ward 8)

I didn't want to give birth again that's why I used DEPO. But when I used it I used to bleed heavily. It became very difficult. Then I thought I would rather give birth to another child than bleed this heavy. My eldest son is 7 years old. I have given birth to 4 children now and my youngest one is 1 and a half years old. [...]DEPO hurts more than abortion. (A1, 22 years old, Chepang Mother, Ward 5)

While some of the participants had health consequences after using the means of contraception, some mentioned that they had a certain underlying health condition that enacted as a barrier to contraceptive use. One of the participants shared how she couldn't use pills and Norplant due to high blood pressure.

I haven't used any family planning methods till now. This happened because of my health condition as I am using the medicine for high blood pressure. As per the doctor's advice, people with high blood pressure should not use pills or Norplant. I can only insert Copper T into the uterus. Thus, so far I have not used anything. (A3, 23 years old, Chepang Mother, Ward 5)

One of the participants mentioned how she was not able to use Norplant because of being a thin person and three months' injections not fitting in for her health.

I have also heard of the Norplant. But what to do? I am a small and thin person. I can't use that. Also, the three months injection didn't fit my health. So, I haven't used anything now. (A2, 18 years old, Chepang Mother, Ward 8)

Sterilization as a means of family planning was very less used by the participants as they said they couldn't do heavy physical work after going through the sterilization procedure.

[...]Also, there are not many who have done sterilization, especially in a hilly context. It's very few. Maybe one or two. They say that they have to work hard in the hills to survive and if they do sterilization, they won't be able to do heavy work and thus can't survive. (K4, 42 years old, FCHV)

iii. Fear of not having a child later after using contraception

Most of the respondents shared how they didn't use any contraceptives immediately after getting married, mainly due to fear of not having a child later after using the contraception.

One of the participants said that she only started using means of family planning after giving birth to a son and a daughter.

I started using DIPO injection after giving birth to a son and daughter. I used it for around a year. After that, I was again pregnant. Later after 6-7 years I again got pregnant and gave birth. (A7, 24 years old, Chepang Mother, Ward 8)

As we look into the factors affecting adolescent pregnancy, it can only be prevented if couples use any temporary means of contraception even after getting married early. This would ensure that even if they get married early they would only give birth to their child after reaching the right age.

However, among the Chepang community, people were reluctant to use any means of family planning after getting married.

Here, among the Chepang nobody uses as soon as they marry. They feel shy. [...] Implants were recently introduced here and many people came to use them. Now implants are more popular than pills and condoms here. (K3, 31 years old, FCHV)

In our Chepang community, they don't use family planning methods immediately after getting married. One person has done it. Only one person has used and others have not. That one person uses pills. (K5, 30 years old, FCHV)

Likewise, one of the key informants elaborated on this scenario as she explained the perception of the Chepang community. She mentioned that Chepangs consider it best to have a child at a young age and that no one uses temporary contraceptives right after they are married.

If someone gets married, then they don't use family planning methods until they have at least one child. That is what it is in the village sister. People resemble having a child at a young age as a seasonal harvest. So, everyone has children at a young age. We have not been able to change that practice. Immediately after getting married, I haven't seen anyone using family planning in ward 8. I haven't seen anyone using temporary contraceptives right after getting married. (K2, 52 years old, FCHV)

Fear of not having a child later after using temporary contraceptive means represented a hurdle in preventing adolescent pregnancy. This phenomenon was explained by participants as:

They don't use any means of family planning. When we counsel, the village people do not listen. They say it will be difficult to have a child later if they use contraceptives. It's a bit difficult to explain to our Chepang community. They are living in their own way. Young people listen and obey what older people say. (K5, 30 years old, FCHV)

Immediately after getting married, only a few come to use contraceptive methods, otherwise, they don't use it mostly. Mostly both husband and wife discuss and decide to have a child after getting married. They think why should they wait to have a child when they are already married? (K4, 42 years old, FCHV)

When given the advice to use contraceptive means by the health worker, the Chepang women react as if the health workers are doubting on them their capacity to give birth because they are young.

One of the key informants shared:

[...]And they think that if they use temporary devices then they will never be pregnant in the future, so they refuse to use them. We mostly advise them to use condoms, but some use depo. It is their wish. Even if we don't say some go to the medicals and use depo or get some pills. On the other hand, some give birth within 14 to 15 months of marriage and we tell them you are too young so, it will be difficult, and then advise them to visit hospitals or health posts. But they behave like we are doubting their capability to give birth. (K10, 46 years old, Sr. ANM)

iv. Contraception use is sole responsibility of women

In an idealized world, using contraception should be the equal responsibility of both husband and wife. However, the scenario is different in Chepang women where family planning and using any contraceptive means is taken as the sole responsibility of women.

Key informants mentioned how women mostly come to use family planning services.

Chepang community people do not come for the family planning services. [...] We have kept vaccination centers and various camps everywhere but sometimes even the husband does not agree to do family planning. It is like that. It is mostly used by women. (K9, 33 years old, AHW)

Contraceptive use is done by the wife rather than the husband. There may be one or two husbands, otherwise, it is usually the wife in our village. They use implant depo mostly [...] (K5, 30 years old, FCHV)

Likewise, considering the dominancy of the husband over the wife, they also express their reluctance in using permanent means of family planning like sterilization as they consider one will become weak after doing a vasectomy.

If you look at the scenario of Nepal, the role of the wife is more than the husband in terms of the use of contraception. Once the program for vasectomy was fixed and 10 males had registered their names for it. But on the day of the camp, no one came to receive the service. Later they said that doing a vasectomy will make them weak, and even the wife denied it. (K6, 28 years old, Health Coordinator)

He further added:

Males are the economic pillar of the house so they think that if they become weak after vasectomy then they could not work effectively. (K6, 28 years old, Health Coordinator)

Similarly, a participant disclosed a scenario of her close sister where she did sterilization without consulting her husband and how she is living with its consequences as:

One sister there had done sterilization without consulting with her husband while he was living in India. Now it's affecting her health and she is having some issues. But now the husband has arrived home and he doesn't take her to the hospital. He says that she did it by herself without consulting, so he doesn't care about it. We told him that maybe she was afraid she would be pregnant again, so she did it. But he doesn't listen to us. He says that if she wants to remove it, she will go by herself. [..]. She had two daughters and two sons already. She bleeds heavily after the sterilization. We bleed in a month; she bleeds every 15/16 days. (A4, 25 years old, Chepang Mother, Ward 5)

Husbands' disagreement with to use of contraceptives was also reported by some of the respondents. One of the respondents mentioned how men look for the easy way and don't agree to use condoms even if their wives take them from health institutions.

Boys, look for the ease [laughs]. Everyone wants it to be the easy way out. Some don't know how to wear it (condom) and some don't know how to use it and maybe some don't like using it. I keep on asking our sisters about the reasons for non-use. The mothers of a new child come and ask for contraceptive pills. I advise them that they can rather ask their husbands to use a condom than consume pills as their husbands go away for work mostly. To this, they reply that their husbands didn't agree to use condoms and keep them under pressure. They are not able to use depo and pills sometimes due to lack of unavailability and their husbands do not use any means, so they get pregnant most of the time. [...] (K5, 30 years old, FCHV)

One of the participants shared that she knew about family planning methods but didn't use one because of a disagreement with her husband. She added that her husband wouldn't agree to use condoms either.

I knew that using family planning methods helped to stop being pregnant but did not use it because my husband did not agree. He did not want to use it. He would say he didn't want to put on topi (condom). He said that it was not good. (A8, 21 years old, Chepang Mother, Ward 5)

Condom is one of the safe means of contraceptives that have to be used by men. However, most of the respondents mentioned that men from Chepang community

didn’t agree to use condoms and would even blame their wives if she brought it home or asked their husbands to use it.

One of the FCHV explains this as:

[...]Women tell us that their husbands don’t agree to use condoms. [...] Men don't accept it. Now, you must have visited many places. Men are dominant over women. [...] We ask women to take the condoms home and use it (condom) but they don’t agree. They say that when they take the condoms home their husbands tell them “Do you sleep with another man at home. That’s why you brought it”. However, all men are not the same. Some do use condoms. 30% are still the same. Looking at earlier, 70% seems to be good, but it is difficult to improve. (K10, 46 years old, Sr. ANM)

However, a spark of change is beginning to appear as a key informant explained how men have started to become more informed and careful regarding the use of contraceptives.

From the men’s side too, they are well informed and know that they should not be careless anymore. Only women being careful is not enough. Now all brothers talk about being careful from their side as much as possible. In most of the places but not all [...] (K8, 52 years old, Ward Representative)

A social stigma attached to the use of condoms was brought up as an FCHV mentioned how husbands used condoms but were shy and reluctant to tell it to others.

It’s a village sister. People become hesitant and shy to say that they use a condom. Among husband and wife, they use it but they are ashamed to share the information with others. But using it is a nice thing. It’s being used in my ward. (K2, 52 years old, FCHV)

v. Hesitancy and fear of the service provider

As health institutions and health access in the Chepang community had been slowly increasing, participants explained how they were hesitant to communicate with service providers despite the access.

One of the FCHV explained that even though she would be trying to counsel, people take it as reprimand and become hesitant to see them the next time.

She explained it as:

When we advise these things to them, they agree and leave. We tell them all about temporary devices during the first meet, but they go home and get pregnant before 2 years of birth spacing and because of that they even don't try to come to meet us. They say we scolded them. When we try to advise them, they take it as scolding. [...] When we try to remind them what they think is, this sister told us not to give birth early, now that I gave birth, she will scold me in the next meeting so I'm not visiting her. [...] (K10, 46 years old, Sr. ANM)

In the same context, being fearful and shy was one of the barriers for them to go and seek health services from health posts.

In Chepang caste, it must be due to fear or they are shy... They say that they feel shy and they are afraid. They feel shy to use it and do not come to the health post. They don't come for the use of family planning devices. [...] (K3, 31 years old, FCHV)

On the same line, a key informant said that Chepangs were scared to talk to outsiders and even afraid when people talked loudly to them. She said:

[….] and if you shout at them, they will be afraid. We Chepangs are the kind of people who gets scared even when people talk loudly [laughs]. Poor people, they are afraid to go in front of big people. That's the thing. That's the problem. [...] (K5, 30 years old, FCHV)

Looking deeper into this matter, one of FCHV elaborated that the Chepang community people were comfortable seeking health services from local health workers which mean someone from the same community. She shared that they were hesitant to seek health services from health workers in other communities.

Before they used to hide whenever they saw people. About coming to the health post, because I am a local, they come straight in. But when they do not see me at the health post, they turn back and go. If we ask them the reason for their visit, they never answer whether they came for this or that. If we ask why you missed the injection, then they say that it's because you were not present. And if I say others were there, then they say "Yes, they were there. They asked but I returned. (K10, 46 years old, Sr. ANM)

However, some of the respondents explained that they were content with the behavior of health workers and their counseling regarding family planning means:

I go to the Manahari Health Post to get the depo. The health workers in their counsel me well. They give me options on which method I want to use such as the 3 months injection or Norplant or the one that we insert in the uterus. They give counseling regarding all. They also say which might be the best for us and asks us to choose by ourselves. (A5, 24 years old, Chepang Mother, Ward 5)

They give us a particular date to go to the health institution for an injection. The nurse and doctor there treats us well. They ask us if a month has passed. She will counsel me and let us know whether or not I am pregnant. (A7, 24 years old, Chepang Mother, Ward 8)

5.2.2 Programmatic Aspects

Programmatic aspects refer to initiatives and strategies that aim to reduce pregnancy and early marriage among adolescents along with the barriers and facilitators in the implementation of those initiatives. The theme 'programmatic aspects' has three sub-themes: Programs and Policies to reduce child marriage and adolescent pregnancy, enforcement of laws, and role of various stakeholders.

i. Programs and Policies to reduce child marriage and adolescent pregnancy

Various efforts had been done to reduce the prevalence of child marriage and adolescent pregnancy in the Chepang community. These programs included policies at the government level to community-based awareness programs.

The birth registration policy implemented by the rural municipality is one such policy which had contributed to reducing adolescent pregnancy.

One of the respondents elaborated on this as:

[...] now those who would get married and have a child before reaching the age of 15 or 20, the birth would not be registered due to which early childbirth has been reduced somewhat. But even if such laws and policies exist they give birth early and register their child after 5 or 6 years. And when they don't have marriage and birth registration, they can't get the Rs. 5000 incentives that the ward gives them for delivering in health institutions. That's why it has stopped having a child earlier to some extent. In another way, if Rs. 5000 was given to everybody, then they might get the wrong message that early marriage and teenage pregnancy is just fine. So, to discourage that it is only given to those who get married after 20, and have their marriage registration as well as the birth registration. This has stopped early marriage and teenage pregnancy to some extent. But if we think at it the other way, those who actually need the nutrition incentives and adolescent mothers who are malnourished are also getting deprived of the incentives. (K9, 33 years old, AHW)

However, one of the health workers elaborated that many people were not aware of this provision due to a lack of relay of information.

There is less information to the people about the incentive provision. But we have been providing 5000 rupees. You can ask the ward secretary because now they are coming from the recommendation of the ward. If community people have reached a health institution they can get clear information and those who are active will find out quickly. Now those who are inactive will not know about it and this is the reason behind it. [...] Still, the information has not been circulated properly. (K6, 28 years old, Health coordinator)

On the same line, the local government built safe houses and conducted various counseling and training sessions. The local representative shared their efforts as:

After we know the case, we send a separate person to counsel the boy and a separate person to counsel the girl. We let their parents take control of the situation and counsel both boy and the girl. Not only this, we have made a policy where we build a safe house and bring those people, train them, and give them information. After that, they are aware that it is in the law. (K7, 45 years old, Ward Representative)

Timely information relay to all ward representatives definitely helps in cohering the efforts and actions. For this one of the ward representatives shared that information regarding child marriage and adolescent pregnancy has been relayed to various ward members on time.

When you reach age, boys, and girls can get married. So, after reaching the age, marriage should be done after discussion. We know marriage is done once for a person, not twice. [...] So, we tell all the ward members that marriage should be done at the right age and in the right way. And, I have provided timely information regarding this issue to all the ward representatives. (K8, 52 years old, Ward Representative)

The target group for reducing child marriage and adolescent pregnancy is adolescents. Thus, considering this, a program is conducted for school teenagers.

However, as an FCHV shared the program didn't seem to have much implication in behavior change.

We meet mothers and try to counsel them. For teenagers, there is a program once a year, and we go there and give them counseling. When we advise them there, they agree and pretend to understand but do not apply it in behavior. (K10, 46 years old, Sr. ANM)

The ward had also conducted a campaign where they could cutoff the benefits if a couple had more than two children as shared by a ward representative.

We run a campaign once saying that two children are a gift from God. If they bear more than 2 children, benefits given by the ward have been cut off. It's been some time since this program has been implemented. It is still running. (K7, 45 years old, Ward Representative)

Discontinuation of education is one of the reasons for child marriage and adolescent pregnancy and to retain students in school, various scholarship and allowance programs had been conducted. The ward representative elaborated on this as:

Before this, for the beginning of the program, an executive meeting has been conducted. For now, a daughter-in-law scholarship and then the Dalit scholarship has been generated. Similarly, for those who wish to study but are weak economically, and for those who wish to get a degree, study engineering, or medicine but do not have enough money, likewise supporting Dalit (ethnicity) to study as much as he wants, is one of our executive's plans, but it has not been started yet. However, things like these are being discussed; such as Dalit allowance, and the backward minority people scholarship so that they can study. They cannot study even though they wish to, and it is all because they are not financially strong. So, for them, 4 types of allowances have been stated in the meeting held 15/16 days ago where the executive committee sat down and passed an ordinance. (K8, 52 years old, Ward Representative)

However, despite that adolescents should be the prime target group of the interventions, one of the health workers revealed that there hadn't been any programs particularly conducted to reduce the prevalence of adolescent pregnancy and that it is and should be the priority now.

He mentioned:

[...]we have not made any program regarding adolescent pregnancy. However, we are in the process of announcing a child-friendly environment in collaboration with women's development in this matter and creating awareness of child marriage. The school curriculum consists of certain things, but apart from that, we have not done any work ourselves on it and that is what we have to do now. (K6, 28 years old, health coordinator)

Conducting programs and campaigns is not enough – what matters the most is its effectiveness. One of the ward representatives highlighted how such efforts have not been able to reduce child marriage.

Data is being collected at various places regarding child marriage. Various efforts are being done, and even the health sector is conducting various orientation and awareness programs but it has not been able to reduce child marriage. (K7, 45 years old, Ward Representative)

Likewise, few respondents mentioned that Chepang people had very low interest in attending the programs and that even if they would attend they would come with certain expectations only.

The key informants elaborated on their concerns regarding the interest of Chepangs in attending the organized programs as:

Now, if any program comes, and if we have something to say, they (Chepangs) have developed the habit of understanding that we are to going give them something. Before, while calling them for programs, we used to give them something because they had nothing to eat in their house, now it's become their habit. So, if anyone comes, they expect to get something. Look, this is the case, if they get something, there will be a flow of people. [...] (K10, 46 years old, Sr. ANM)

There are programs for them (Chepang). The ward and various organizations run programs for them. But they don't come to the program conducted for them. They do not listen[...] do not come. They are like that. (K3, 31 years old, FCHV)

Now we have been running a mother's group. Tamang (ethnic group) people come to the meetings but Chepang women don't come to mothers' group meetings. I counsel them when I see them personally during polio vitamin campaigns. However, they themselves don't come to programs and meetings. The mother's group had Chepang women. But most of them left the group later and didn't join later. (K4, 42 years old, FCHV)

In the same context, one of the health workers shared a case of the ineffectiveness of the program where 11 children eloped the next day after the conduction of the program.

Once in Simle School Raksirang 6, health education was given by an organization from outside and the next day 11 children eloped. That is the situation here. So it would be better if we could provide education and awareness targeting the particular age group. (K6, 28 years old, Health Coordinator)

ii. Enforcement of laws

Nepal government as well as the local government have made state and local policies stating the age at marriage. The following verbatim depicts the implementation of those legal policies and the barriers to effective implementation of the same.

One of the ward representatives mentioned that the local government has been monitoring the punishment system and enforcing it as per law.

A punishment system has been enforced. Also, we have made a legal condition to marry only after the appropriate age; we have been monitoring it. That's why at some rate child marriage has been reduced. (K7, 45 years old, Ward Representative)

He further added a case where legal actions were taken because of child marriage.

In case of punishment, at Khairang VDC, now ward 9, Raksirang, child marriage occurred and later from the girl's side, they filed a complaint. They were forced to get separated. Now, the boy is in jail for 13 years. [...] he is in jail because the girl was instigated by her parents and brought it as rape. Because of that, he is in jail for 13 years. Also, a girl from ward 3 and a boy from ward 5 separated themselves after we took action to punish them. After the girl reached the age of marriage, the boy took her. The boy had only one year left but the girl had 5 years left. 3 years have been completed now and 2 years are remaining. (K7, 45 years old, Ward Representative)

In the same context, one of the ward representatives shared that there were cases where actions were taken legally.

Now regarding action taken for child marriage, before my tenure, there were some cases taken into action but now, there has been none. Before me, they had even brought the girl back home from the boy and handed the girl to Maiti Nepal as well. Even though Maiti Nepal took the girl there are records of that girl running away with the same boy again. Such was the situation earlier. But now, after my tenure started, there is no such record to date. (K8, 52 years old, Ward Representative)

He further shared a case where monetary compensation was done as a legal action for the child marriage that happened 10 years ago and the complaint was filed later. He elaborated on it as:

One such case of child marriage has happened but they had been married for a minimum of 10 years by then. They were married for 10 years as they had eloped when they were 13/14 years old. When people grow up, they start aging and getting wiser in mind and heart. Otherwise, at a young age, they are not wise. Because of that, it was like fun between them, they saw and liked each other and the boy eloped with her at 12/13 years. She came with the boy and after coming she stayed with him. The boy stayed with the girl for 9 months and after 9 months he went abroad. After staying abroad for 5/6 years, he finally came back home. The girl went and stayed at her parent's house and the boy stayed outside and when this happened the boy asked her "why didn't you stay at my parents' house when I was abroad. I had gone abroad to earn money." Then after all this, they filed their case in this issue. After receiving their application, we tried to reconcile. However, the judicial reconciliation committee has not been formed. Because the reconciliation committee was not formed, they were asked to go to the rural municipality. The rural municipality tried to reconcile and sent them to the district again and the district sent them back to our ward and we finally reconciled. Now to give justice to her, if the boy does not want the girl, he should give the consolation that the girl should get. So, I made him provide the consolation of two lakh rupees and I gave it to her. The boy has flown back abroad. Such cases have come; otherwise other cases have not been seen. (K8, 52 years old, Ward Representative)

Further one of the FCHV mentioned how she took action for three of the child marriages that happened in her community.

For three of them, I myself reached out to the child helpline by calling them. I have kept one person for up to 3 years. One was a little older. The boy was 21 22 years old and the girl was 19 years old. Those two are kept for a one-year period. One is being kept for 3 years and the other for 2 years. [...] Hereafter such complaint the girl is kept at Maiti Nepal and the boy is kept at his own house. Child marriage was happening so I called them and told them. I separated 3 of them. Sometimes I do feel bad and regret that they might have fallen in love and exchanged their hearts. But at the same time, it is also my responsibility. (K2, 52 years old, FCHV)

She further added the maintenance of confidentiality while lodging the complaints had aided greatly, otherwise, she would have been socially boycotted.

She mentioned:

Previously Ram Krishna Praja was the ward chief here. Maybe you have heard it. [...]Along with him and the organization Hetauda police also came and arrested him. In the ward, they were arrested then investigations happened and they separated. The people from the child helpline do not disclose who had called them or told them the information. So no one would know who lodged the complaint. [...] Had they known this or that FCHV had called then the family and society would beat us. (K2, 52 years old, FCHV)

Taking legal action in a community where child marriage is deeply rooted certainly creates many social challenges.

This was shared by one of the health workers from the community as:

In terms of action, there is more child marriage and now I have not found any legal action in this village. In the case of pregnancy of a 13-year-old child, this is the result of early marriage. If any action is taken, then it creates a problem for the child to be born. If we think practically there are many social barriers to giving the punishment for it. [...] (K6, 28 years old, Health Coordinator)

iii. Role of various stakeholders

Various stakeholders such as the government, external agencies, local cooperatives, NGOs, etc. have a role to play in reducing adolescent pregnancy. The verbatim below represents the role of such stakeholders in stopping child marriage and adolescent pregnancy.

The local representative shared how the government at the local and ward level has been playing its role with various efforts to reduce child marriage and adolescent pregnancy. One of the ward representatives shared:

After the local government came into action child marriage has been reduced a little than the previous situation as this government can reach the doorsteps. (K7, 45 years old, Ward Representative)

He further added how the government has shifted its priority toward health and education from infrastructure development as:

We have emphasized this matter and we have put all these matters in the meeting of the executive committee for review. In every meeting of the executive committee, we have to talk about the social problems and issues related to our society, especially how to control such problems. And our representative who was 5 years ago, emphasized more on the infrastructure, because if there is no road facility which affects the lifestyle. And now, we are focusing on health, education, and people's livelihood. We have been researching how we can provide facilities as per the need of a particular community and place. [...] (K7, 45 years old, Ward Representative)

Similarly, initiatives and activities conducted by local government were shared by the participants as:

Ward conducts the meeting. We have a meeting once a month. If something emergency arises, we call all the ward committee members for a meeting. We do not want child marriage to occur as much as possible and also do not want children to elope for any reason. (K8, 52 years old, Ward Representative)

[...] to reduce child marriage by taking the initiatives from local government with the participation of local people for declaring a child-friendly community. We will also take action against those who have had child marriages, and after that, we have to increase employment opportunities so that the youths of age 20 to 22 years will not go abroad. [...] In this way, child marriage and adolescent pregnancy can be reduced. (K6, 28 years old, Health Coordinator)

One of the key informants expressed how he thinks the local government should act by implementing a punishment system and increasing awareness.

Though child marriage takes place, it should be stopped. Since our local area is Rural Municipality, it should focus on raising awareness. A punishment system should be implemented to reduce the rate of child marriage. Likewise, we should awareness of those who give birth at an earlier age. (K9, 33 years old, AHW)

People mostly demand infrastructure-related needs; however, they don't demand policy against child marriage. Considering this scenario, one of the ward representatives mentioned how the local government has realized this as their prime responsibility.

There is a lot of demand for development in this ward. But not against child marriage. It may be due to a lack of awareness. We have realized that Rural Municipality have to make a policy and implement it effectively in all wards. If people don't have a road, they will demand a road, and if they don't have drinking water, they will demand drinking water but not demand the policy. (K7, 45 years old, Ward Representative)

FCHV's are the backbone of the health system of Nepal. Their role in the provision of family planning and other health services has been incomparable at the national level. On the same note, a FCHV mentioned that few people come to take condoms with her.

I don't know about the condoms taken from the health post. I don't have any idea, about how many take or don't take from there, but 4 people take from me. 4 people come to me and I provide them (K5, 30 years old, FCHV)

One of the health workers explained how FCHV has been playing a vital role in access to sexual and reproductive health services in Chepang community as:

The role of FCHVs in our municipality is very good. Altogether there are 38 FCHVs in 9 wards. The data before 7, 8 years shows that the people here didn't want to visit the health institutions, people were afraid of using FP services and vaccination. After all, we alone also cannot go to the individuals and provide health services and information. But now FCHVs are providing all the information about our health services and awaking the people about vaccination and FP etc. They are the ones who visit the home and discuss the individual's issues. The family planning service has been promoted by conducting mother group meetings FCHVs are the backbone and they have done their roles very well. (K6, 28 years old, Health Coordinator)

However, few of the respondents mentioned that FCHV had never come to visit them for counseling or during pregnancy, delivery, or postpartum period.

FCHV has never come to visit me here during pregnancy or delivery. I don't know about that. (A10, 17 years old, Chepang Mother, Ward 8)

I have been pregnant two times already. But no one has come to visit me till now. (A4, 25 years old, Chepang Mother, Ward 5)

External agencies play a crucial role in the health system by providing support and resources to improve the quality of care and health outcomes for individuals and communities. The following verbatim represents the role of external agencies in reducing child marriage and adolescent pregnancy in Chepang community.

Few participants mentioned that people would be more receptive if new faces from other organizations would come there for counseling and awareness.

So, thinking that getting counseling from new faces, they may change, I call sisters from organizations, and take them along together. Now, they are able to come to the health post and ask and inquire and take advice in comparison to before. (K10, 46 years old, Sr. ANM)

Like in my village, these problems are due to being uneducated. The children don't understand so there is a problem and even if we cannot conduct any such programs, if we try to educate and explain to them that if we marry at an early age, we face difficulties and get weaker, and if the people outside the village explains to them they might listen. They might be more aware. (K1, 22 years old, Teacher)

Participants also explained about various external agencies, organizations, and helplines that were contributing directly or indirectly to increase awareness and access in the community.

Now in our ward 8 [...] if such a case of child marriage exists we inform Maiti Nepal and we call Child Helpline. We call them and submit those children to those organizations. Otherwise, there hasn't been child marriage by parent's arrangement now. We do see elopements by children themselves and getting married. But that too has been reduced than before (K2, 52 years old, FCHV)

Here we have an organization called Digo Bikash. Child marriage has been reduced to a great extent because of the work of that organization as well. Here is an organization called Nafan. My brother-in-law's daughter also works in that organization. When we go with that organization, we reach the nook and corners and difficult-to-reach places and give counseling. Nafan organization works in coordination with FCHV's and mobilizes us to give counseling in such areas. It has been 8 to 9 years since the Nafan organization started working here. Previously within a year of giving birth, women used to be pregnant with another child. Now changes are happening. (K2, 52 years old, FCHV)

The need for collaboration and working hand in hand with various agencies was addressed by various stakeholders. One of the FCHV mentioned:

From what I have seen, if all the organizations and health leaders come together and educate them, then changes can happen. [...] If we all walk together hand in hand and shoulders in shoulders, and all understand that health is our necessity, then reform can happen. (K10, 46 years old, Sr. ANM)

Likewise, ward representatives acknowledged the role of various associations and the need to work in collaboration

One of the ward representatives shared the need for collaboration as:

Now, regarding these issues, as soon as possible, all the representatives of the ward, neighboring rural municipalities, and the various organizations connected with the state, and people like you should come together and do monitoring in order to reduce the issues. We all should work on it to lower the occurrence so that it could be a little bit better in the days to come. We should all take part in this. For this, we should take all the organizations, representatives of the wards, rural municipality, and various legal experts so that we can reduce it and improve the situation. (K8, 52 years old, Ward Representative)

As mentioned by a ward representative that there is a lack of budget for programs and working with agencies can help resolve the issue.

Rural Municipality is making a kind of policy to create a supportive environment where different associations come together to work in the field of health and education sector and I have thought that it will be gradually controlled and it has to be done. Also, there is no sufficient budget in the relevant areas. Therefore, we should work with various organizations. Rural municipality has thought of it as our prime responsibility. (K7, 45 years old, Ward Representative)

He further added:

We have made a plan on how to reduce and control child marriage. By working hand in hand with the associations that come to work on reducing child marriage, we together are raising awareness on child marriage going to everyone's house. (K7, 45 years old, Ward Representative)

Likewise, one of the FCHV highlighted the role that leaders need to play to resolve the issues.

[...] The leaders should understand that we all need health, and the rights and needs of our women should be in action not only in words. Now there are people from different parties and now the leader in every house and you know it. Unless the leaders who are supervising us and also the party leaders are taught about health, change is difficult. This is the truth. (K10, 46 years old, Sr. ANM

5.2.3 Elopement Marriages as a thoughtful escape

Elopement marriage as a thoughtful escape refers to a situation where individuals get married without the knowledge or consent of their families or communities, often as a means of escaping an undesirable or oppressive situation. This can occur for various reasons, including cultural, social, or economic pressures that limit an individual's freedom or agency in making their own decisions about their life, including who they marry.

The theme 'elopement marriage as a thoughtful escape' has four sub-themes: elopement is the new trend, marrying against the parent's will, repercussions of media and technology, and immaturity and unfulfilled desires.

i. Elopement is the new trend

Elopement is the act of getting married secretly, often without the knowledge or approval of family or friends. Due to its high prevalence elopement has become the new trend in Chepang communities. However, it is still regarded as controversial or frowned-upon practice. The following verbatim depicts elopement as a common phenomenon in Chepang communities

Most of the respondents mentioned that they have had elopement marriages. They share their experiences as:

He (husband) knows me from before. Our house is nearby. His house was above the hill side, while mine is on the lower side. He already knew me. He used to like me since I was in class 9. He used to follow me and only when I reached grade 11 then I accepted his request. I got married. (A3, 23 years old, Chepang Mother, Ward 5)

Why should I lie right? I got married at the age of 15. I ran away from my house and got married. I got married at 15 and gave birth at the age of 16 I fell in love at that time. At that time when I used to cut grass and gather wood, I fell in love. (A1, 22 years old, Chepang Mother, Ward 5)

Likewise, one of the respondents shared how she fell in love while she went to work in Kathmandu at an early age and got married.

I had a love marriage. I ran away. After I went to Kathmandu, we got to know each other. I took the sewing tailoring training at USEF, Sanothimi. [...] After completing 7 months of training in CTEVT, I stayed in rent at Sallaghari (place). He also came to stay in rent in the same house where I am staying. We knew each other and fell in love. (A8, 21 years old, Chepang Mother, Ward 5)

A respondent mentioned that she thinks her falling in love and marrying by elopement was destiny as she said:

I ran away by myself. [...] It just happened as we kept talking. My husband lived in the same village as me. Actually, even the houses were near and even the aagan was the same. We were neighbors. Now it looks a little far as 2-3 houses were built in between our houses later. It is nearby. My husband at that time used to talk with a different person. I also used to talk with a different person. And it's all destiny. We happened to be together at the end. (A5, 24 years old, Chepang Mother, Ward 5)

The key informants also shared that elopement marriages have been the new inclination among Chepang community as compared to previous situations when arranged marriages were more common. This trend and inclination have led to child marriages.

Child marriage is very common in Chepang community. Child marriage should be decreasing compared to before but it is increasing more. Previously, it used to happen because of parents' pressure but now they do it of their own will. They fall in love after they start school, and they run away. They elope. It's not because of parents, they themselves like each other and then elope [...] (K5, 30 years old, FCHV)

Many run away before they reach 20 years old. The government says that you should not marry before 20 years. I had heard that even if they marriage with the consent of their parents' a case can be filed. But after reaching 16/17 years, they run away [...] (K1, 22 years old, Teacher)

Eloping is the main reason for child marriage. Boys and girls, they run away. They like each other but do not know each other's age, and run away. That is also due to illiteracy which results in higher child marriage (K8, 52 years old, Ward Representative)

One of the key informants added that even if arranged marriages take place, parents only make such arrangements after their children have reached the right age to marry.

Here, most of them do elopement marriages after falling in love. Here arranged marriage takes place but that is done by parents after they complete 20 years. Parents marry their children at 21, 22, and 23. Most marriages that happen after reaching age are done by the parent's arrangement. (K3, 31 years old, FCHV)

Likewise, respondents shared how children are eloping away as they were studying in school despite the health education being provided to them.

[...] child marriage is the same as it was before. Now even the children who study go to Poila (runaway) as soon as they leave school [...] Now we have been imparting all health-related education that we can, but I feel it has been difficult for them to understand. (K4, 42 years old, FCHV)

A different perspective to the exploration for reasons of elopement was added as a respondent explained that the children may have wanted to run away of the fear that their parents will not arrange their marriage with the one they love.

Maybe because they think that they might not be together later, they run away on their own. Some of the families are close to one another so, their parents do not want them to be together and don't marry them with each other. So maybe with the perception that their parents won't agree, they run way. This is what I think (K5, 30 years old, FCHV)

A participant revealed that she decided to run away as the guy had warned her he would commit suicide if she didn't run away with him. She explains:

My friends asked me to go for a walk and there I met a brother. I called him my brother. In Kathmandu when you call someone as their brother you mean it and say it out of respect. But here when I talked to him nicely as a brother, he thought he would marry me. I didn't know that he liked me. Later he started telling me that if he won't get married to me, he would commit suicide and tell others that I was the reason for it. That is how he scared me. I was afraid and I got married. He told me that he would take his life. At that time there were other people as well who gave their life so I was scared. What if he actually committed suicide? My family didn't have anything to compensate for that. So, I said okay and that's how we got married. (A9, 20 years old, Chepang Mother, Ward 8)

Likewise, some of the respondents also mentioned that they were convinced to run away by someone from the village, friends, or family. Such persuasion made them decide to run away despite not being willing to do the same.

My husband convinced me to come. I had not fallen for him. I didn't know. My elder brother-in-law liked me, he said we should not let her go far away and took me home. I told them that I wanted to study. There is no one to help my father and mother but my brother-in-law convinced me that he will take care of the rest, so he brought me home at night. My mother and father did not know at home. I used to sleep at my grandfather's house a little away from home. So, I did not run away from my parent's house but from my grandfather's. (A4, 25 years old, Chepang Mother, Ward 5)

Here, most marriages are not arranged. Most of them elope. Maybe it happens because they don't understand[...] or their family pressure or persuasion from their relatives about this guy and that guy being rich[...] (K1, 22 years old, Teacher)

ii. Marrying against parent's will

Almost all the participants mentioned that marriages were happening against the will of the parents as children were running away by themselves at a young age.

Respondents highlighted that parents don't arrange the marriage of their children at a young age as they are counseled and advised about the legal consequences.

They run away by themselves. It's not as before when parents used to arrange the marriage of their child early. Now parents are saying that their children should study, have admitted them to school but the children run away by themselves. Parents now haven't forced their children to get married. They run away by themselves. Parents don't marry their children at 12 13 14 17 18 like before. Its children who elope and it's not nice (K4, 42 years old, FCHV)

Now, no parents marry their children at an early age[...] but now what's wrong with the children, they marry themselves. The school institutions are providing education. We have been giving advice that they should not get married and even counseling the parents. The parents do not marry them away. Those kids run away from school themselves. [...] Children of 14, 15, 16, 17, 18, and 19 are all eloping. When they reach the age of 17 and 18, they get attracted to another girl/boy. [...] When they reach adolescent age, the children from 13 to below 18 years run away from school and marry themselves[...] To the parents, we keep them in fear by telling them that they should not marry their children until they turn 20, otherwise they will be punished by law and the police will take them. So, parents don't marry their children early. [...] (K10, 46 years old, Sr. ANM) (

Back in time, marriage was done by parents at a younger age without any discussions with their children. This trend was not only in Chepang community but also in other communities. Earlier marriage was forced by the parents but now marriage is done as per the wish of the children. They elope away. That is the new trend. 14, 15, 17, and 18 years aged children elope away and get married. (K9, 33 years old, AHW)

One of the respondents added that it was hard to stop child marriage as it was being done as per children's own will rather than their parents.

It is hard to stop this child marriage. If it was done by the parents, they would have been counseled to stop it. But children are eloping away themselves. Is there any solution to it? It is too difficult. (K9, 33 years old, AHW)

Respondents shared instances where their parents were not happy about them eloping away and how they shattered their dreams of them.

They (my parents) scolded me because my father and mother had a lot of desire to teach me. My brother wanted me to join nursing after I had a clear +2 but I could not fulfill their dream, I eloped away. They had the desire to teach me more, but I guess this is my fate (A3, 23 years old, Chepang Mother, Ward 5)

They (my parents) scolded me asking why I ran away. I told them that I was allured. My parents wanted me to study and not get married early. But what to do? I was allured. (A2, 18 years old, Chepang Mother, Ward 8)

In the same context, marrying someone from a different caste was one of the reasons for the parent's disapproval of her marriage as shared by a participant.

The family members were not happy...My husband belongs to Rai Sunuwar and I am from Chepang caste. So until now, they did not look at us well because of the difference in caste. It was difficult and I felt that it was better to marry with one's own caste as long as possible. It was a bit difficult to accept it. (A8, 21 years old, Chepang Mother, Ward 5)

iii. Repercussion of media and technology

Media and communication technology provide a platform for people to connect and share information with each other, which can be extremely valuable for building and maintaining relationships. However, not using it wisely can also have many repercussions. One such repercussion for Chepang community has been elopement marriages. Respondents shared how the use of communication media including mobile phones and Facebook has increased child marriage as elopement marriages.

It might be because of communication and mobile phones. That's what I think. They communicate through mobile like using Facebook. I don't know how to use Facebook. They use Facebook, that's why elopement marriages happen, I guess. They know each other from Facebook, chat and then elope (K3, 31 years old, FCHV)

Nowadays they fall in love from Facebook, but not much from TikTok. Because of Facebook, these problems are increasing. They exchange numbers from Facebook and fall in love and get married soon. [...] After using Facebook, they get contact numbers and even if they are far they can communicate and thus fall in love and finally marry. (K1, 22 years old, Teacher)

Back in time, people had to struggle to be in contact due to long distances. However, now access to mobile phones has made such communication much easier. One of the respondents explained this comparison and how access to mobile phones has led to elopement as:

I don't know why they run away like that. Maybe it's because the girl and boys fall in love and they agree to get married. Mostly they run away because of mobile contact. That is the case now. Back then people had to travel long distances and give letters to stay in touch. Now everyone has a mobile whether adults or children. They exchange numbers, talk and run away. (K2, 52 years old, FCHV)

At the same time, one of the key informants explained that people have not been using communication media to gain useful information as they were not interested in it.

These days Facebook and mobile phones provide all the information. Maybe they are not interested to learn about it. I don't know what's the matter. (K10, 46 years old, Sr. ANM)

iv. Immaturity and unfulfilled desires

Immaturity in adolescence is a common and natural part of the developmental process, as teenagers are still learning and growing emotionally, socially, and mentally.

Moreover, teenagers in marginalized communities often have to deal with unfulfilled desires due to limited resources and opportunities available to them, which can lead to feelings of frustration and hopelessness. In Chepang community, immaturity and unfulfilled desires have led to elopement by teenagers.

One of the key informants highlighted how teenagers are not wise enough by sharing an example where a girl and boy married at a young age but later when they became wiser, they filed a case in the ward.

When people grow up, they start aging and getting wiser in mind and heart. Otherwise, at a young age, they are not wise. Because of that, it was like fun between them, they saw and liked each other and the boy eloped with her at 12/13 years. She came with the boy and after coming she stayed with him. The boy stayed with the girl for 9 months and after 9 months he went abroad. After staying abroad for 5/6 years, he finally came back home. The girl went and stayed at her parents' house and the boy stayed outside and when this happened the boy asked her "why didn't you stay at my parents' house when I was abroad. I had gone abroad to earn money." Then after all these, they filed their case in this issue. (K8, 52 years old, Ward Representative)

In the same context, a FCHV elaborated the reason for elopement as unfulfilled desires such as good food and beautiful clothes as:

[...] they have desires to eat good food and wear beautiful clothes which could not be fulfilled probably due to poverty. It's also the situation of the household. The parents can't fulfill their children's wishes. I think that might be one reason and another might be their adolescent age when they are matured enough. (K10, 46 years old, Sr. ANM)

Likewise, a key informant explained that parents make their children work hard and they feel more pressurized.

Parents make their children work hard. They don't ask whether their son or daughter is studying at home. Due to their work, they get pressurized. And also, the greed of making money and easily getting into other's persuasion might also be the reason for increasing child marriage. (K1, 22 years old, Teacher)

A new perspective on the reason for elopement was added as a participant shared how she was tired of the household works she had to do at her home and decided to run away from it.

I decided to run away at the age of 15. Actually, why to lie with you? In the house there was a lot of work load and they used to always ask me to collect wood all the time. I always had to graze the goats. I thought my mom is making me do a lot of work so I would rather go to poila (run away) and have kids and stay calm. It was a different house too. So, I ran away. Why should I lie for right? That's the truth [laughs] (A1, 22 years old, Chepang Mother Ward 5)

The key informant explained how a situation of escape is created for children as they could not have even the basic of their needs fulfilled.

He explains:

This is because of poverty. Because the people of the Chepang community who don't even have food sufficiently for 6 months, 7 months, and 8 months are usually in large numbers. The government provides mid-day mean up to grades 5 and 6. After that, they have to eat Dhido or eat whatever is cooked at home. If they have to go to another school, they have to go to a school in the city that they are unable to afford. So there is a dropout. After that, there is no other option than to get married. Children are forced to elope even though parents are against the marriage[...] A situation to escape is created for the children after dropping from school. (K7, 45 years old, Ward Representative)

5.2.4 Discontinuation of education

Discontinuation of education refers to the act of ceasing one's formal education before completing a particular level or course of study. This can occur for various reasons, such as financial constraints, lack of interest or motivation, family obligations, or personal circumstances. The theme 'discontinuation of education" has five sub-themes: hurdles to access secondary level education, apathy towards learning, poverty-induced drop out from schools, schooling after marriage is a stigma, and children subjected to forced labor.

i. Hurdles to access secondary-level education

Without access to secondary education, many young people are unable to acquire the skills and knowledge necessary to pursue careers and contribute to the economic and social development of their communities. In Chepang community, secondary education is only available in a few places, leaving students with limited or no options for continuing their education. Respondents shared how students have to leave education after attaining primary level due to a lack of schools for further education.

I studied till grade 6 and left my studies. Back in the time, there were no schools in the village. The name of the school started with Shri something. I already forgot [laughs] (A6, 23 years old, Chepang Mother, Ward 8)

It might have happened as they cannot continue their education. If they were educated, they would have done something. Almost everyone has studied 4 to 5 classes. After that, there is more chance of dropping out (K9, 33 years old, AHW)

It is too far to reach school from here. Here we only teach till grade 5th. From 6th grade, they have to reach far to go to school. Some of them live near the school there and some travel from their home. If you go from home, it takes two hours. (K4, 42 years old, FCHV)

One of the key respondents explained how children now pass out primary level education at a young age and thus they are not able to go away from home to pursue secondary-level education as they are very young. He elaborates it as:

[...] there is only one secondary school in Raksirang Rural Municipality, ward no. 5 which is Pragya Jagriti Basic School. And in the upper region due to our geographical constraints, there are only primary schools. And people have to walk 3 hours of time to come to study. In the past, people used to study in class one when they are 8/9 years but now, they pass out at 9 years of age from primary school as they started to study class one at 4 years of age. As they have to come to the school down here for further study, they are not able to come due to younger age and so, they dropped out of school. (K7, 45 years old, Ward Representative)

Likewise, schools up to the primary level are not very far away as per the respondents.

As the children walk slowly to school, it takes them one hour to half an hour. There are no students who walk for 2 to 3 hours now. [...] As far as I have seen, it is similar for everyone. Here, the primary school is situated at a little height which is near my house and another school is below my house where they teach up to class 10 and again, the school where I work teaches up to 4. My house is between the two schools so; I don't find the schools far. (K1, 22 years old, Teacher)

The rainy season is one of the major challenges to going to school since the river will be big and the students cannot cross it. A student has swept away while going to school by the river as a respondent shared about the incident as:

During the rainy season, it is very difficult here. If there is heavy rainfall, the schools need to be closed. The situation leads to the closure of schools because here when there is heavy rainfall, there is a sudden rise in the river. As the students have to come crossing the river, during the rainy season the circumstance does not allow the students to reach the school. So, due to the situation, the schools are closed. One time, last year when the river was big, one of the students was swept away, but that was on Devitar side. The holiday is given for one month. It starts from Ashadh to Shrawan. (K1, 22 years old, Teacher)

In the same context, a key informant mentioned that access to primary schools is not far but the rainy season is still a hurdle for them to reach schools.

There are primary schools in some wards. They don't need to walk much. In some, it is a little far. In ward 8, students from a far distance come to study in Devitar. It takes them two or three hours. On the other hand, there in 6, it is not too far. It doesn't take more than 20 minutes or half an hour. In 8, it's a bit difficult. Last year one the way to school in Devitar, a student was swept away by the river. It is difficult here during the rainy season. They have to cross the river so it is risky. (K3, 31 years old, FCHV)

A different angle was explored to the reasons of drop put as a respondent mentioned her daughter haven't attended school after the COVID-19 lockdown.

My eldest daughter was studying in grade 3/4. Then corona lockdown happened. She came home. Thereafter she hasn't been to school (A1, 22 years old, Chepang Mother Ward 5)

As most students drop out at the primary level, they aren't able to get sexuality education as the curriculum mostly incorporates it in a higher level of education.

One of the respondents explained how she was never taught about anything related to sexuality education but now she sees her daughter studying about it.

No one ever taught me anything like that (sex education). They don't teach things like that in the village. But in the lower city market schools teaches such things as well. I heard my daughter studying her uterus, and menstruation. (A7, 24 years old, Chepang Mother, Ward 8)

Moreover, a key informant mentioned that there is a lack of teachers in schools to teach sex education. She shared:

There are not many teachers to teach that (sex education) in school. And even if they are thought, they don't understand, so it might be the reason. (K1, 22 years old, Teacher)

ii. Apathy toward learning

Apathy toward learning is a concerning issue that can negatively impact students. When students lack interest or motivation towards learning, they may struggle to engage with the material and fall behind in their studies. This can lead to a cycle of disinterest, frustration, and poor academic performance, which can have long-term consequences for their educational prospects. Respondents shared how they were not much interested in their academics and going to schools as:

I haven't studied much. I studied up to grade 4 /5. My parents encouraged me to study but I was interested in sewing so I hadn't concentrated on my study. After talking to my parents, I went to Kathmandu to learn to sew. Mostly I lived there. [...] (A8, 21 years old, Chepang Mother, Ward 5)

Honestly, I didn't have much interest. I don't know if it's because it was my destiny or that I was not able to study well. I didn't like to study. Even if my parents used to chase me away to school, I used to say that I didn't want to go to school, I rather enjoyed doing household chores and other work. (A6, 23 years old, Chepang Mother, Ward 8)

A respondent shared that her daughter didn't want to go to school and bunk school to go and watch TV at other people's houses. She explained it as:

She went to school and bunked during tiffin. Here, the teacher teaches but the children aren't interested to learn. There is a TV in that house. Once they hear the TV sound, they all run away from school to watch it. They don't want to go to school. (A4, 25 years old, Chepang Mother, Ward 5)

The key informants also added their insights on students' apathy towards learning. One of the key informants mentioned that students didn't pay much attention to their studies.

Now it is about whom to entitle as an educated. We cannot say that a person is educated in 8th grade, nor is a person educated in 7th grade. In today's context, we are considered educated only after completing a bachelor's degree. Even in school students don't pay attention to their studies rather they pay attention to playing, running, etc. Sometimes the teachers also punish the students. (K6, 28 years old, Health Coordinator)

In the same context, a key informant revealed that external agencies had been providing accommodation services to students but despite that, they were not interested to study and rather ran away.

If you go to school from home, it takes two hours. But there is an accommodation service for girls. It is well facilitated. The organization provides them with food and accommodation services but even after receiving those services they drop out and run away. I sometimes think that they are spoiled now and that's why they run away. (K4, 42 years old, FCHV)

As we further look deep down into the matter, the language barrier could be one of the probable reasons for the student's apathy towards learning as one of the respondents shared that she wasn't able to speak the Nepali language fluently.

I couldn't speak the Nepali language fluently. However, our teachers used to speak in the Nepali Language. I only knew how to speak Chepang language back then. That's why I used to have trouble understanding in school. I couldn't comprehend the subject matter. [...] The teachers were mostly Madhesi. My mother also used to speak Chepang language only. (A5, 24 years old, Chepang Mother, Ward 5)

One of the key informants shared that now Chepang people have started to speak and understand the Nepali language as compared to before.

Many didn't speak the Nepali language and didn't understand, but now they speak and understand as compared to before. (K10, 46 years old, Sr. ANM)

iii. Poverty-induced dropout from schools

Poverty-induced dropout is a significant issue in Chepang community where families struggle to provide basic necessities such as food, shelter, and healthcare, let alone education for their children. Many families living in poverty are forced to make difficult decisions about how to allocate their limited resources, and all too often, education is sacrificed in favor of immediate survival needs. For many children, dropping out of school perpetuates the cycle of poverty and makes it difficult to break out of their circumstances.

One of the respondents explained how she had to drop out of school and run away from home as they didn't have money to buy school dresses or even food. She explains:

I had studied till grade 8 and had just joined grade 6 when I ran away from my home, got married, and came here. I liked studying back then but at that time we didn't even have money to buy clothes. We didn't have money to buy school dresses or even food. (A5, 24 years old, Chepang Mother, Ward 5)

On a related note, key informants highlighted why poverty is the reason for dropout among students. They explained the phenomenon as:

Now if we look at the reason behind this, the economic status and educational status of the people are the significant reasons behind child marriage. If the family is economically stable, they can afford the education easily otherwise they cannot afford it. (K6, 28 years old, Health Coordinator)

Those who are poor and can't afford their studies, and can't pay for their fees get married early. (A9, 20 years old, Chepang Mother, Ward 8)

I think that poverty is the main cause of child marriage. Due to poverty, they convince them to get married to a rich person. So the girls get into child marriage due to that reason is what I feel. They make them realize that they are poor and that if they marry, they will get rich. So, the girls think that if they marry a rich person, they will also be rich and then get ready to elope and marry. Thus, I think it is due to poverty. Here, most of them are farmers, their earning is low. (K1, 22 years old, Teacher)

Lack of fulfillment of basic needs such as food, clothes, bags, and books was highlighted as a major reason for dropping out by most of the respondents.

Chepang people give birth early and have many children. Due to this, it becomes difficult to fulfill even the basic needs of their children such as providing them with food and clothes. Then the children elope. It is due to scarcity. Who doesn't want to eat good, ear good? But their wishes can't be fulfilled and they run away. (K10, 46 years old, Sr. ANM)

Some have dropped out of school because they could not buy a dress and they have also dropped out of school because they could not afford to buy a bag. A child's state of mind is affected when the whole class comes with a bag and he does not have a bag with him. Then later the child would continue to skip school because he could not carry the bag. (K7, 45 years old, Ward Representative)

Also, some of the students are not able to pay their academic fees, books, and copies as it is expensive to buy leading them to drop out of their studies.

Now in my ward, there is Devitar Secondary School. Girls can study there up to grade 10. Some of them also drop out of their studies. Some are not able to complete their studies. It is mainly due to poverty. The school asks for an exam fee and an admission fee. They are not able to pay those fees. Some of them have to buy books and copies. It is expensive and they aren't able to buy it. So, poverty is one of the reasons for dropout. Some of them also drop out because of falling in love. Mostly it is due to poverty. (K2, 52 years old, FCHV)

Unemployment is a significant factor that can lead to students dropping out of school. When parents or guardians are out of work, they may struggle to provide for their family's basic needs, including school fees, uniforms, and supplies. This can lead to a cycle of poverty and limited opportunities, further perpetuating the problem of unemployment.

Most of the respondents were either engaged in farming or unemployed and were earning minimal not even sufficient to fulfill their basic needs.

We don't earn much. In the month of Mangsir we earn little from Mash Ghat, around 20 to 30 thousand otherwise we don't earn much. We have a few corns and that is enough to eat for around 6 months. (A7, 24 years old, Chepang Mother, Ward 8)

I don't do anything. I am just like this the whole day. I cut grass and collect wood sometimes that's it. Otherwise, I don't do anything. (A10, 17 years old, Chepang Mother, Ward 8)

My husband used to trade goats before. Now he doesn't do anything. He just stays at home. Now there is no income from trading goats. The business is down. No one takes the goats. Actually, businessmen don't come looking after goats (boka) these days. It's a lot less in comparison to the past. It's just worth a value of 300 to 400 Rupees per kg. [...] (A5, 24 years old, Chepang Mother, Ward 5)

To improve school retention rates, it is crucial to raise the economic status of families as one of the participants shared:

Raising public awareness alone is not enough, we have to improve the economic situation of the people. If the economic situation can be improved, people will be aware of it. (K6, 28 years old, Health Coordinator)

A respondent also revealed that she had health issues and could not go to school. At the same time, she couldn't afford her operation and had to consume herbs and pray at church.

Doctors said that I had to undergo an operation. But back then we had major financial difficulties affording it. So, I used to consume herbs and medicines given by local pharmacies. I also used to pray at church. That's how my problem got reduced. In past the problem was huge. I could not reach school. It's not like that now. However, I still cannot walk a very long distance. (A5, 24 years old, Chepang Mother, Ward 5)

As we further look deep into the matter, lack of habit of saving had also perpetuated the cycle of poverty among Chepangs as a key informant shared:

Some societies do not have any idea about saving for tomorrow, especially the Chepang people. Here they just earn, eat, and enjoy. If one earns money, then they eat travel enjoy. There is no system of saving for later. Because of that, there is food insecurity. (K9, 33 years old, AHW)

The extent of the poverty was also depicted by respondents explaining how they were not able to seek basic health services due to high out-of-pocket health expenditure and lack of any health financing mechanisms like insurance.

[...] my father-in-law is also not feeling well. First, we did the treatment of brother-in-law and brought him home then, after three days, father-in-law also became sick. [...] We don't know when he fell down. He had fainted and had cut marks on his body. When we went for a checkup, blood in the brain had clotted. [...] We took him to the government hospital, if only we had money, we would have been able to treat him [...] Again, we need to buy medicine ourselves from the government too. Had we done insurance, the expenditure would be a little less but we don't have one. (A4, 25 years old, Chepang Mother, Ward 5)

My son and daughter both are weak. They had undergone eye operations. My son had undergone an eye operation earlier year. This year my daughter had the same problem so her operation is scheduled for next week Wednesday. That's why I am in tension. [...] In the old age camp, it's free. But for young people, it is paid service. And I also don't have any insurance. I paid 70k for my elder son's eye surgery last year. Even in government institutions they ask for money. For one eye it takes 30k to 35k. Yesterday my sister asked someone else for a 20k loan to give us. But she asked me to pay it within a month. I am worried about how I will pay that money back. It's a lot of trouble. We don't have any assets to sell either. (A6, 23 years old, Chepang Mother, Ward 8)

iv. Schooling after marriage is a stigma

In Chepang community, schooling after marriage is often considered a social stigma due to deeply ingrained cultural and traditional beliefs. These beliefs often prioritize a woman's role as a wife and mother over her education and personal aspirations.

Almost all respondents shared that they didn't continue their education after getting married which depicts how marriage can be a major reason for dropping out.

My parents in my house didn't use to say anything to me. But it's the people of the village. They pressurize you to get married. That's why a man from another village eloped me away when I was studying and after getting married, I didn't continue my education. (A2, 18 years old, Chepang Mother, Ward 8)

I studied till 6th. I didn't even give exams in 6th grade. While studying I got married and came here and stopped my education. [...] What should I read after getting married? Others will talk badly if I do that. [...] Its the fate of life. (A10, 17 years old, Chepang Mother, Ward 8)

It's not that I didn't want to study. I wanted to study a lot. Everyone, including mom and dad, was very willing to teach me. I got married and left my studies. [...] as soon as I got married, I became pregnant and after that, I felt that what I should study during pregnancy. I was thinking that I would continue my studies later after getting my baby, but it was not as I thought. (A3, 23 years old, Chepang Mother, Ward 5)

Respondents elaborated on their experiences and beliefs that a girl bride should not study after getting married as:

The school was nearby but I got married at a young age. I did want to study. But society will gossip about you if you study after getting married. The fate of a girl after getting married is to stay at home, cut grass and firewood and look after children. That's it. (A7, 24 years old, Chepang Mother, Ward 8)

Likewise, a respondent who had done child marriage shared how she wanted to pursue her studies even after marriage and apply for a scholarship but due to governmental policy restrictions, she was not able to do so. She explains it as:

There is a system of scholarships for daughter-in-law students, but I had a case of child marriage and after that, I am not able to get it. Everyone filled in the registration for the scholarship including my sister-in-law, relatives, and so on. I had also gone but both of us, my husband and me got married at a younger age, so I was not able to fill out the form. They look at the marriage registration. (A3, 23 years old, Chepang Mother, Ward 5)

v. Children subjected to forced labor

Access to education is a fundamental right for all individuals, yet many Chepang children faced barriers that prevent them from receiving an education. One of those significant barriers is child labor. One of the respondents shared her experience regarding how she was subjected to forced labor at the age of 12 and had extreme hardships.

At first, I studied up to grade two, and then my parents sent me to work. I was young, only 12 years old at that time. Later I came back and enrolled in 5th grade but I didn't study. [...] they sent me to work only for Rs.1500. I said I didn't want to go. I wanted to study. I even cried. I said that studying is more important than work. But then my mother warned me that if I didn't go to work, she will hit me with sisnu (plant). My father said he would beat me if I didn't go for it. (A4, 25 years old, Chepang Mother, Ward 5)

She further added:

[...] I went there when I was 12 years old and stayed there till 14 years old. I used to take care of a baby…. washing the baby's clothes and watering the flowers. I used to work very hard. My parents used to come to get money. My owner was Brahmin. I don't know which caste you are, but she was Brahmin and she was not good. She used to shout a lot. I didn't want to stay there at all. They used to call me Yani Maya. They could not pronounce my name. They used to tell me that I had to work since my parents took the money. I used to defend saying I hadn't taken the money. They gave and the father took away money. I had not seen it with my own eyes[...] That aunty used to pull my hair and beat me. That sister even asked me to wash her underwear. I used to cry and wash even her period underwear. Her husband was in Australia. (A4, 25 years old, Chepang Mother, Ward 5)

Along with labor, she added that she also had to be the victim of violence as the house owner would beat her for multiple reasons and how she is scared that now her sister is also living the same fate.

I got my menarche there. But I didn't know that such menstruation would happen. I used to ask, what blood is this when I used to wash period underwear of Sauni (boss). Then, security sister from down used to say why I was washing such period underwear and rather work with her. She used to say she will file a case for making me wash such period underwear. She shouted at Sauni once saying she was dominating a Chepang daughter so much. She did not ask me to wash her underwear after that[...] That security sister used to love me. She used to say I was an innocent, poor girl. When the uncle showed me some love, the aunty would get jealous. The aunty used to me beat me hard when the uncle went to work. She used to lock herself in the room and ask me to work. While doing work, my brother deceived me and called me home. He said you have to come anyhow. And I came back when I was 14 years old. I think my sister is living the same fate [...] (A4, 25 years old, Chepang Mother, Ward 5)

In the same context, another respondent shared her story about being subjected to labor and how she had to drop out of her studies despite being willing to continue.

She shared:

I studied up to grade 5. After that, I could not study as my father sent me to work. I went to Saau (owner) house to wash dishes. I went to Kathmandu Samakhusi and worked there for 7 years at Saauni Aama's (female owner) house. I used to wash the clothes of the mothers, wash the children's clothes, and prepare the tea. I wanted to study. When I was here, I was only enrolled up to grade 5 but I couldn't complete it. In my village, I had studied up to grade 4 and they said that I could also study in Kathmandu while working. When I went there and said I wanted to study they told me that my mother and father asks for money. They told me whether to give money to my parents or enroll me in my studies. I didn't know anything. I said okay let it be. I won't study. I studied tuition for around 3 months in their house. A sir used to come to their house to teach tuition to their children and I also joined them. That's how I studied for 3 months. For the other 3 months, I also went to a school named Pariwartan. Then they couldn't pay my fees and told me I couldn't study. They told me that my parents were asking for money from them. They told me whether to pay my fees or send money to my father and mother. Then I thought okay maybe they need money too and I said okay. (A9, 20 years old, Chepang Mother, Ward 8)

5.2.5 Knowledge and understanding of marriage, pregnancy, and childbirth

Having knowledge and understanding of marriage, pregnancy, and childbirth means having accurate and comprehensive information about these topics. It includes knowing the legal and social aspects of marriage, understanding the biological processes of pregnancy, and being aware of the stages of childbirth. Having this knowledge is crucial for making informed decisions and navigating these experiences with confidence, and can contribute to improved health outcomes for individuals and families.

This theme includes five sub-themes: Knowledge and understanding about early marriage, Knowledge and understanding of contraception, Knowledge and Understanding of adolescent pregnancy and childbirth, Unplanned pregnancy and Awareness is the key.

i. Knowledge and understanding of early marriage

Knowledge and understanding play a crucial role in shaping cultural attitudes towards child marriage, especially in communities where early marriage is perceived as a social norm or even a necessity. Most of the participants revealed that Chepangs had a lack of knowledge and understanding about the right age for marriage and the consequences for having getting married early and being pregnant at an adolescent age.

Participants revealed:

Those who are not aware of anything and don't have any knowledge are the ones who get married early. Some are also studying up to grades 12 13 14 15 and they are not getting married early. (A9, 20 years old, Chepang Mother, Ward 8)

I think the reason for getting pregnant early might be because of not knowing, not understanding, and not being uneducated or because of fear. I think these are the reasons for marrying early and getting pregnant early. (K3, 31 years old, FCHV)

Here, most marriages are not arranged. Most of them elope. Maybe it happens because they don't understand that they should get married only when they reach the right age and get mature enough. Maybe it is because they are uneducated. I am a little educated, a little knowledgeable and I know that I shouldn't get married now because this will bring me trouble. (K1, 22 years old, Teacher)

One of the key informants also added that if one is educated then he/she will have the knowledge regarding legal policies and regulations regarding child marriage and wouldn't attempt to do so.

The reason for that goes this way. It is also due to illiteracy. If one is educated, he/she knows all the rules and regulations, and policies and wouldn't do child marriage. Boys or girls must be 20 years old at the age of marriage. If they were educated, they would know that they should marry after reaching their age. Therefore, it is also because of illiteracy and because they do not understand that, they got married suddenly. (K8, 52 years old, Ward Representative)

Time and age bring wisdom as participants explained how they didn't know such things when they were young and now as they think about it, they feel like they did not make the right decision back then. This was elaborated by participants as they shared:

Now when I think about it, it seems like it was early. I didn't know much at that time. Now when I think of it was definitely really early. It was not an age to get married. But what to say now? It's just fine now. I already have 3 children at the age of 23. Now I just think about my children. I counsel them and teach them so that they don't face life difficulties and suffer like me. (A5, 24 years old, Chepang Mother, Ward 5)

I don't know. Now people say it is also okay to have a child at the age of 25-26. At that time, I didn't know when to have a child and get married. I didn't know anything at that time [laughs]. Now people say that we shouldn't get married at a young age as child marriage is legally punishable. At that time, we didn't know that was an issue. We would get married and come and live at husband's house. (A7, 24 years old, Chepang Mother, Ward 8)

We have so many children. If we had knowledge and wisdom, then we wouldn't have many children. We married early. If we had married after 20 years then we would not have many children. (A4, 25 years old, Chepang Mother, Ward 5)

Giving an example of a recent case where a 13-year-old girl married, one of the participants elaborated that it is mainly due to a lack of counseling, education, and parents being unable to teach their children.

Parents aren't being able to teach their children well. In our village, there are a lot of elopement marriages before the age of 20. Even in my husband's village such a marriage happened recently. The girl was just 13 years old and the boy was 18 years old. I think it's because we have not counseled and taught them properly. Most of them get married before the age of 20. However, there are few who stay even after 20. They are mostly the ones who have continued their education. (A6, 23 years old, Chepang Mother, Ward 8)

From a new perspective, one of the key informants gave the insight that children mostly do marriages for romantic relationships and they do not understand that it is a lot more than that.

Child marriage is not good. It is because they do not understand it. Both parents of the girl and the boy should understand this. Child marriage is done for a romantic relationship is what they understand. It's just for the fun is what the boy and girl understand. But if the girl had understood that such a thing will make her life difficult later, she would not have done it. They are doing it because they don't understand. (K8, 52 years old, Ward Representative)

As most of the participants shared that lack of education was the major cause of not having adequate knowledge and understanding regarding child marriage, few participants shared that even the educated ones were eloping away. This highlights the matter that being educated is not the only means of increasing knowledge and understanding.

The ones who are studying up to grades 12 and 13 are also eloping now. So this is not all about being uneducated. I don't know what is wrong with people here. (K3, 31 years old, FCHV)

If we say it's due to lack of education, they are studying. There is also nursing in school now. (K10, 46 years old, Sr. ANM)

One of the key informants mentioned that those who do child marriage face many hardships and sufferings in life later which is why he wishes to not be happy in any cases of child marriage in his ward.

Many people who got married before reaching their age are suffering now. They are facing problems now. They got married at a young age and got children at a young age, now they are having problems with how to raise their children, what to feed them, and what to give them. That's why we wish this should not happen in our ward as much as possible and it should be good. (K8, 52 years old, Ward Representative)

As participants themselves were married at a young age, they didn't want their children to live the same fate. The verbatim below depicts such a scenario where a participant shared that she wanted her children to study and marry only after reaching the right age.

I want my children to study. That's why I keep shouting at them. I even scare them sometimes telling them I will leave if they don't study. I counsel them to study, otherwise later in life, they will face a lot of hardships. I tell them that my mother used to tell me the same but I got married early and faced many hardships in life. I tell them they should not get married early. They should at least cut off the age of 20. (A6, 23 years old, Chepang Mother, Ward 8)

ii. Knowledge and understanding of contraception

Knowledge and understanding of contraceptives are crucial elements in reducing child marriage because they can provide girls with the tools they need to make informed decisions about their reproductive health, avoid unintended pregnancies, and improve their well-being and opportunities for the future.

Participants expressed how they did not have any knowledge of family planning means after they were married.

I didn't even know anything about contraception at that time. I heard the name of injection but I didn't know much about it and how it worked. We couldn't go much to the markets. We just used to be in the village and that's why didn't know about anything. I used nothing at home. (A9, 20 years old, Chepang Mother, Ward 8)

I didn't know about family planning at that time. Had I known I would have used it. Later after giving birth to this little one the sisters in the health institution told me about it and then only I knew. (A10, 17 years old, Chepang Mother, Ward 8)

On the same perspective, the key informants further elaborated the scenario. They shared that Chepangs have a lack of knowledge and understanding of the use of means of contraception.

The use of contraceptives is very low. Maybe it is due to a lack of understanding. Maybe they don't know about it but its use is very less even though there are health posts[...] I think it's because they don't know and don't have an idea of why they should use it. They are not knowledgeable enough. (K1, 22 years old, Teacher)

They don't have much awareness. They haven't understood the importance of using temporary means of contraception after getting married. They don't come to us for any advice. They don't even understand or try to understand the things that we teach. I have been trying to teach them but they don't understand. They have not been able to understand why they are living in pain. (K4, 42 years old, FCHV)

Taking a more in-depth look into the matter unfolded their perception and understanding of contraceptive use. They shared that they have the fear of not having a child later after using contraception and that their uterus will get damaged.

I didn't know anything about contraception at that time but everyone in the village used to say that if we use such contraceptives, we won't have children later (A2, 18 years old, Chepang Mother, Ward 8)

I didn't know much about family planning when I was young. I knew there was something like an injection. But people used to say that if we use injections at a young age, the uterus will get damaged. That's why I didn't use it at that time. (A7, 24 years old, Chepang Mother, Ward 8)

Likewise, a participant unveiled her fear of using contraception despite knowing about it.

I was afraid to use it. I knew about that. But exactly I did not know what kind of injection it was. I knew about it later only. (A4, 25 years old, Chepang Mother, Ward 5)

She further gave an example of a similar instance where her maternal aunt was fearful of using contraception and rather preferred to have an abortion than use depo.

My maternal aunt who lives there had aborted many children. She already had enough children and did not want any more. She had 3 sons and 3 daughters. She wouldn't take the depo injection but kept aborting the baby and so, she had a uterus problem. She wouldn't agree to use the injection. Maybe she threw 4 or 5 babies. We used to advise her a lot to use the injection like us and that there is nothing to be afraid of, it hurts for a while and then, it doesn't hurt. But she fears using it thinking that it might pain. (A4, 25 years old, Chepang Mother, Ward 5)

One of the participants expressed how she was scolded and reprimanded by her husband as she took the condom home and asked her husband to use it.

Once I took that condom to my home and my husband asked me what the oily [tel] thing inside of it was. He scolded me saying what did I bring it for. I told him that it is to be worn when sleeping together. But he told me to just take the oily thing away from him [laughs]. He asked me to throw it immediately. He blamed me that I used it during my teen years with others. He called me a prostitute woman [besya] [bhaluni]. He called me a paturni bhaluni. That's why I threw it away [laughs]. I even brought such means for my man at my home. Actually, other people had suggested I use that as I had already given many births. I used DEPO but it didn't suit me. My husband didn't agree to use it. One of my female sisters had given it to me. She gave it to me and asked me to give it to bhena while sleeping. I brought it home but that's what my husband told me. He was even almost about to beat me. That's why I threw it away. (A1, 22 years old, Chepang Mother, Ward 5)

People in the village had the understanding that after doing permanent sterilization they wouldn't be able to do physical work as a participant mentioned:

I have heard about it but there is no one in this village who has done permanent sterilization. Most of the people in the village do heavy physical work and people say that one cannot carry heavy things after the operation. So, we just use injection. (A7, 24 years old, Chepang Mother, Ward 8)

One of the participants shared how people were now more aware and the use of contraception had been increasing than before.

Regarding family planning, it is increasing now than before. Because firstly, there are Sangini sui (three months' injection), and other methods of contraception. Previously, when sangini sui was introduced, women were not interested but now they are aware of it. (K8, 52 years old, Ward Representative)

iii. Knowledge and Understanding of adolescent pregnancy and childbirth

Knowledge and understanding of adolescent pregnancy can play an important role in reducing its prevalence and improving the health and well-being of young people and their communities.

As the participants were asked about what they think is the right age to have a child, some of the participants expressed that having a child before the age of 20 is the right time as after that the women will be older and not able to give birth. Some of them also said that if they give birth early then the child will already be grown up while they are still young.

If one gets a child at a younger age, he/she would grow up quickly. I think that 17/18/ 19 is the right age to have a child. I mean, if we gave birth between the ages of 18 and 20, the child would grow up quickly. Sons and daughters would have already grown up when their parents are still young. (A8, 21 years old, Chepang Mother, Ward 5)

One of the participants revealed why she gave birth early and why it is right to give birth at a young age as she shared:

Giving birth after 20 is really difficult. That's the truth. If you give birth at 17-18 you will also be young when your child has already grown up. That's why I gave birth early. (A1, 22 years old, Chepang Mother, Ward 5)

She further adds:

A woman at the age of 25 and 26 is already too old [chippeko] to give birth. She won't be able to give birth at age of 25. But if she is pregnant at the age of 15, then she can give birth. I think so. Here women easily give birth at age of 15 and 16 at their homes. (A1, 22 years old, Chepang Mother, Ward 5)

Giving birth is the reason for a woman's existence is what one of the participants felt as she expressed:

At that time, I thought that I was able to give birth. I felt that my reason for existence was to give birth. What to do? I hadn't studied. I didn't have any work either. I was sure I won't be able to find a job. All I could do was farming. So, I gave birth and did farming. That's it. Now my children would be grown up at a young age. (A7, 24 years old, Chepang Mother, Ward 8)

One of the participants unveiled the in-depth of this matter as she disclosed how people perceive an old girl as a withered flower who is unable to give birth.

They say that a girl is like a withered flower when they turn old, so they should have children from 18 to 20 years old. Otherwise, a girl becomes old like a withered flower. The young boys will marry a young girl and who is going to marry an old-aged girl? They have such conversations. (K10, 46 years old, Sr. ANM)

Some of the participants expressed that giving birth after the age of 20 is right and the girl will be more mature at that time.

I think 20 to 22 years is the right age to have a child. At that time, you are also more mature and your brain also would have grown. I think it's better to marry at that time and have a child. (A6, 23 years old, Chepang Mother, Ward 8)

I think that 25 to 26 years is the right age to have children. It is better to have children after getting more mature and knowing about things. It is better to have a child after you are engaged in work or have some skills. (A9, 20 years old, Chepang Mother, Ward 8)

In my opinion, it is better not to get married soon. I think it is better to have a child after the age of 20 and before 25(K10, 46 years old, Sr. ANM)

On a similar perspective, one of the participants elaborated that despite having given birth at a young age herself, she now thinks that giving birth at the age of 20 is the right age.

Now when I think of it. I gave birth at the age of 16-17 which was a little early. It was like I myself didn't know how I gave birth. At that time that was the norm and it seems to be fine. But now I feel giving birth after the right age is good. We will know what is happening. We will understand labor pain, difficulties, and problems that our child may face, we will know it all. When we give birth at a young age, we would not know what to do. We wouldn't know what is happening to us. Now I feel it's better if we give birth after the age of 20. (A5, 24 years old, Chepang Mother, Ward 5)

A FCHV revealed that there are many girls who give birth before the age of 20 and no matter how much counseling they are given they don't change their norms and behavior. She explained:

There are many who give birth before the age of 20. We teach them that they should only give birth after the age of 20, they should not give birth right after getting married under the pressure of family, rather they should wait until they reach 20 22 23 years old. But some of them give birth within a year of getting married. Some don't even take a year of the birth interval. We tell them it's wrong. But it's very difficult to change their behavior. Some of them say that it is difficult to give birth and raise a child after the age of 20. That's why they gave birth early. I tell them that it's a wrong perception and it will be easier to raise a child once they are more mature as well as both mother and child will be healthy[...] no matter how much we teach and shout, they are still not aware. (K4, 42 years old, FCHV)

One should not have a child in their teen years as they may face health consequences later as shared by some of the participants.

I have heard that if someone has a baby at a young age, she might later have uterus-related problems. But that was not the case for me even if I had a baby at a young age. (A7, 24 years old, Chepang Mother, Ward 8)

I think if one gets married at a young age and has a child early when they are not mature enough, the child dies and becomes weak. This is what I have seen. (K1, 22 years old, Teacher)

In my opinion, it is not good to bear a child before 20. It is better to give birth after 20 for the health of both mother and child. I feel like people are still doing child marriage due to a lack of understanding and education. I did not do a runaway marriage; my parents did my arranged marriage at the age of 16, and I had a child only at the age of 24. I think birth should be given after 20. (K3, 31 years old, FCHV)

iv. Unplanned pregnancy

Unplanned pregnancy is one of the significant causes of adolescent pregnancy as most of the participants shared that they did not plan their pregnancy and childbirth.

Participants shared how they give birth to their children without any planning as:

I became pregnant 6 months after marriage [...] When the child is already inside you, you give birth. I don't know about planning. (A7, 24 years old, Chepang Mother, Ward 8)

At that time, in the beginning, I didn't know about family planning methods. We thought okay the baby is already in the womb and both me and my husband discussed it and decided that it was our first baby that's why we shouldn't abort it. It's just a matter of time- a little early or a little late. We have to give birth at one time anyways. (A6, 23 years old, Chepang Mother, Ward 8)

Most of the participants mentioned that they did not know they were pregnant until 3 to 4 months of pregnancy which clearly highlights, they didn't have any intent or planning to have a child.

I happened to be pregnant one month after getting married already but I didn't know about it. I didn't know I was pregnant at that time. I only knew 3 months after that I was pregnant [...] my menstruation stopped but I didn't know that menstruation stops when you are pregnant. I used to have nausea and vomiting then I told my mother-in-law. She told me that I might be pregnant and then we went to the health institution below for a pregnancy test. They said that I was pregnant. (A10, 17 years old, Chepang Mother, Ward 8)

I didn't have any plans to give birth at the age of 16. I don't know how I felt. I was not wise. I only knew after ¾ months that I was pregnant. My mother-in-law used to say maybe I was pregnant. That's when I knew. (A4, 25 years old, Chepang Mother, Ward 5)

Delving deeper into the issue one of the participants unveiled how she thought she had her menstruation gone to her mother's house due to societal beliefs and did not know she was pregnant until 3 to 4 months of pregnancy.

I knew that I was pregnant in around 3 4 months. [...] I came to know so late because of a misconception. In our Chepang community, there is a belief that some of us are not on regular periods and it may stop for 2 to 5 months. They said that menstruation goes to maiti. I also thought the same and believed it. I thought my menstruation had also gone to maiti. But later I knew I conceived a baby [Laughs]. And the symptoms that occur in pregnant women started to appear. I loved to eat various foods. I felt nauseous when I saw eggs. And I told my mother about the symptoms. I also had a slight stomach ache. I felt like there was something in the right abdomen…. When I first found out that I was pregnant, I was so scared and I came home from the hospital crying. (A3, 23 years old, Chepang Mother, Ward 5)

However, some of the participants shared that they had planned to give birth at an early age as it was the societal norm at the time.

Yes, it was planned. We decided to give birth early and then settle early. The norms were like that among husband and wife. The custom was giving birth early and then staying young even in older age. My husband and I discussed it and planned to give birth early. (A6, 23 years old, Chepang Mother, Ward 8)

Yes, it was planned. The child was in my womb. I couldn't abort it. Therefore, I wanted to give birth. In our house, there were no female household members. I gave birth to a girl child for the first time. Everyone was happy and loved me. There was no girl child of my mother-in-law and even in our family, I gave birth to a girl child for the first time. Everyone was happy and enjoying. (A5, 24 years old, Chepang Mother, Ward 5)

v. Awareness is the key

Raising awareness and providing health education can be important strategies in reducing child marriage by addressing the root causes of the practice and empowering girls to make informed decisions about their future as most of the participants shared that awareness is the key to the solution.

One of the key informants shared that we have to conduct programs gradually and scale them up so that we can increase the understanding of Chepang people on child marriage and adolescent pregnancy.

Now, to reduce it, we have to give education to the women in different places of different villages. [...] Due to illiteracy, they don't know anything else and they only want children. They want to have 10 or 15 children but giving birth is not enough, they should be able to raise them, to feed them. So, education is necessary. In the village, there are many women and men, it might be difficult to gather them at once. In the initial stage, we can gather 10 people then next time there will be 20 people. In this way, if we can spread education, they will be able to understand child marriage. (K8, 52 years old, Ward Representative)

Likewise, FCHV mentioned that health education should be provided to the mother's group and they should be made aware of the consequences they can face later by giving proper counseling.

I think more health education should be given in such mothers' groups and [...] there should be more improvements in village home clinics, and health education should also be given in such programs when they visit the village. [...] There should be education programs with the message that we should not have a child early as it may later cause problems of uterine prolapse. Education as such should be provided. (K3, 31 years old, FCHV)

One of the ward representatives mentioned that the key to solving the issue is raising awareness and the municipality is working ahead with this understanding.

We (rural municipality) have made a policy that every health institution should have an awareness program because people are having more child marriages due to poverty and because of that the maternal death rate is more along with infant death rate. In the same way, after having more children, there is more malnourishment, etc. That's why even the rural municipality has realized that we cannot control it without raising awareness. (K7, 45 years old, Ward Representative)

He further added:

So, the rural municipality has planned to raise awareness by going house to house or community to community as it is our responsibility. Rural municipality has been moving ahead under the policy that infrastructure development is not everything- focusing on increasing awareness is equally important for overall development. (K7, 45 years old, Ward Representative)

Likewise, FCHV mentioned that health education should be provided to the mother's group and they should be made aware of the consequences they can face later by giving proper counseling.

I think more health education should be given in such mothers' groups and [...] there should be more improvements in village home clinics, and health education should also be given in such programs when they visit the village. [...] There should be education programs with the message that we should not have a child early as it may later cause problems of uterine prolapse. Education as such should be provided. (K3, 31 years old, FCHV)

The problem here is existent mainly due to a lack of understanding. We can explain and make them understand. People like you and me should go and counsel them and make them understand. Then the problems will decrease. (K5, 30 years old, FCHV)

The rural municipality has a vital role to play in raising awareness as shared by one of the health workers.

Child marriage should be stopped. The local level government that is the rural municipality should focus on raising awareness among those who give birth at an early age (K9, 33 years old, AHW)

5.2.6 Socio-cultural beliefs and norms on marriage, pregnancy and childbirth

Socio-cultural beliefs and norms on marriage, pregnancy and childbirth refer to the values, customs, and expectations that shape how individuals and communities view and approach these experiences. These beliefs and norms can vary widely depending on factors such as culture, religion, geography, and social class. The theme includes six sub-themes: Early marriage is a common practice, Norms regarding pregnancy and childbirth Societal, family and peer pressure, Role of Parents, Women's position in society, and Reluctance to change.

i. Early marriage is a common practice

Early marriage refers to a marriage where one or both partners are married before the age of 18. Early marriage has been a commonly accepted social practice in Chepang community.

Participants shared how they got married in their childhood as:

I got married at the age of 16/17. After I had finished my tailoring training, they gave me a sewing job but the salary was not good, so I went into the garment industry to earn. I got married from that acquaintance. (A8, 21 years old, Chepang Mother, Ward 5)

It happened 12 years ago. I was 14 years old at that time. I was a child. My sister married when she was 13 years older. (A4, 25 years old, Chepang Mother, Ward 5)

I came back when I was 14. I worked there for 6 years. and exactly got married at 14 and a half years old. So basically, I got married at 14 years old. (A9, 20 years old, Chepang Mother, Ward 8)

Why should I lie right? I got married at the age of 15. I ran away from my house and got married. Why should I lie? I got married at 15 and gave birth at the age of 16. (A1, 22 years old, Chepang Mother Ward 5)

A participant revealed that once you have eloped away and married, society will say bad if you return back.

When someone elopes you away then you cannot return back. Once you have someone's sindur, you are theirs. Also, society will say bad if you leave after that. (A2, 18 years old, Chepang Mother, Ward 8)

Upon further questioning, the participants mostly revealed that their husbands were also in their adolescence when they were married.

My husband is younger than me. I belong to 2056 B.S but he was from 2058 B.S. He is two years younger than me. [...] My husband was 14 years old when we got married. (A6, 23 years old, Chepang Mother, Ward 8)

My husband and I are the same age. We both were 14 years old when we got married. (A4, 25 years old, Chepang Mother, Ward 5)

My husband is two years older than me. He was also very young when we got married then. [...]He was also just 18 years old. (A5, 24 years old, Chepang Mother, Ward 5)

A key informant highlighted this problem as he mentioned still there are instances where 13 years old girl gets married and pregnant. He shares it as:

This place is a little backward economically and socially. There is a majority of Chepang community which is 42% of the total 25000 people. A lot of child marriage exists here. Exact data about this have not been reported, but if we see the behavior then eloping, doing love marriage at the age of 15, 16, and 17 years can be seen frequently. Also sometimes we can hear the news of a 13-year-old girl from Chepang community getting pregnant which can also show that still, more child marriage exists in this community. (K6, 28 years old, Health Coordinator)

The rate of child marriage is relatively higher among Chepang community in comparison with the Tamang community of Raksirang Rural Municipality as one of the key informants shared:

Here there is a high influence of child marriage. As far as I have known there have been child marriages of 2 to 3 lately. In my ward, it is seen higher among Chepangs. It is relatively lower among Tamang community. (K3, 31 years old, FCHV)

However, one of the key informants expressed that despite the unwillingness of Chepangs to listen and understand, child marriage has been slightly reduced than before.

Child marriage is happening a lot, but when we try to teach them the ways to reduce it, it seems like they do not understand and don't listen. They do not wish to listen. However, compared to previous days, these days it is reducing. I feel it is lower than before. (K1, 22 years old, Teacher)

ii. Norms regarding pregnancy and childbirth

Societal norms for age at pregnancy refer to the general expectations or standards that a particular society or culture has regarding the age at which women should have children. These norms can influence a woman's decisions about when to start a family and can also have an impact on how she is perceived and treated by others in her community.

Most of the participants disclosed that giving birth before the age of 20 is the norm in society as almost everyone used to have a child before the age of 20.

I have given birth to a daughter already. Here in the village, everyone is like that. Everyone gives birth at the age of 15 to 16 years old. (A2, 18 years old, Chepang Mother, Ward 8)

All my best friends got married. Some of them even already have a child. They have reached some other places. We haven't met for a long time now. Here I don't have any friends. (A10, 17 years old, Chepang Mother, Ward 8)

My best friends were pregnant 1 or 2 years later than me. All of my friends had given birth before the age of 18. (A7, 24 years old, Chepang Mother, Ward 8)

Here back in time, everyone used to get married at the age of 15-16-17. Back then girls even used to get married at the age of 13. But now the situation has changed. Everyone used to run away before. Even her small sister ran away at the age of 13 and gave birth at 14. (A1, 22 years old, Chepang Mother Ward 5)

One of the participants shared that they decided to give birth at an early age and there was no point in doing an abortion as they had to give birth to a child at one point in their lives.

At that time, in the beginning, I didn't know about family planning methods. We thought okay the baby is already in the womb and both me and my husband discussed it and decided that it was our first baby that's why we shouldn't abort it. It's just a matter of time- a little early or a little late. We had to give birth at one time anyways. (A6, 23 years old, Chepang Mother, Ward 8)

In the same context, a key informant mentioned that marriage in Chepang community doesn't just happen for them to live together but rather to have children also.

Couples here marry mainly to have a child. They don't get married just to live together but also to have children. (K8, 52 years old, Ward Representative)

Participants also disclosed their mother's age at first pregnancy. Most of them mentioned that their mothers got married and had their first child at a very young age.

My mother got married at the age of 16 17 years. It's like that in the village, especially in older times. My mother eloped away too. And she faced many hardships in life. So she used to tell me to not make the same mistake. But now what to do? Its every person's fate I guess. (A2, 18 years old, Chepang Mother, Ward 8)

My mother got married at the age of 11 years old. [...] Maybe she got her eldest son at 14 years of age. She is still young. (A4, 25 years old, Chepang Mother, Ward 5)

I don't know about my mothers. But I think it was really early. My mother and mother-in-law both got married at a very young age. So, I guess they gave birth really early as well. (A5, 24 years old, Chepang Mother, Ward 5)

In the Chepang community, having many children is often seen as a sign of wealth and prosperity. Additionally, traditional gender roles and expectations place pressure on women to bear children and prioritize their families over their own personal goals and aspirations. With the perception that they have to give birth to many children later, they become pregnant at an early age.

Participants already had two to three children despite that the inclusion criteria of the study were only Chepang women up to 25 years of age. This gives the insight that they became pregnant at an early age and gave birth simultaneously.

I gave birth to my eldest daughter at 16 years old, at 17/18 years, I gave birth to the second one, and at 19/20 years, I gave birth to the third daughter and at 23 years I gave birth to this son. That's all. (A4, 25 years old, Chepang Mother, Ward 5)

I have three children- two sons and one daughter. Including me and my husband its 5 of us. My eldest son is 6 years old and my daughter will be 5 years old in this Baishakh. That is why I am 23 years old. (A6, 23 years old, Chepang Mother, Ward 8)

I have not been able to see the exact fertility rate in the census. On average I think there are 3 to 4 children to a couple. Also, some couples have a football team with 11, 12 13 children too. (K6, 28 years old, Health Coordinator)

A 20-year-old participant shared that she soon wants to have another child as everyone said one daughter and one son are the most.

I think I should have another child as well. Everyone says so. They say we need one daughter and one son. So I think I will have one more child. (A9, 20 years old, Chepang Mother, Ward 8)

A key informant shared that on average. a Chepang woman gives birth to 4-6 children as she mentioned:

On average, a woman gives birth to like 4, 5, or 6 children. Some say having more children is easier[...] when there are many children, one will surely look after them is what they say. (K1, 22 years old, Teacher)

Another key informant said that some of them have 5 to 8 children as he shared how a woman of 32 years gave birth to 6 children.

Here, someone has 5, 6, 7, 8. It's not exactly sure. A few times ago someone from Chepang community gave 6 births and when asked about the age of the mother- she was 32 years old. (K9, 33 years old, AHW)

However, some of the participants revealed that they didn't want any more children due to many reasons.

They expressed:

I don't have plans to give birth to any more children. What do I give birth for? When I look at others no matter how many births, they give they don't get any support from their children. Their sons are just staying at home doing nothing. Here most of them don't study much and they will just stay at home and give trouble. That's what I feel after looking at others. That's why I don't want to give any more births. (A1, 22 years old, Chepang Mother, Ward 5)

I don't want any more children. My husband doesn't care. I haven't studied. I am worried about how to raise her already. I don't want any more children. (A10, 17 years old, Chepang Mother, Ward 8)

Upon questioning the differences in the number of children as compared to previous times, a key informant shared that it has been decreasing than before.

We find a couple giving birth to about 6 children now. There have up to 6/7 children. When we hear from the old couple, they used to have 12, 13, and 14 children but now they give birth to 7-8 children at most. But they all may not survive; the children may die in some cases. (K5, 30 years old, FCHV)

iii. Societal, family, and peer pressure

Societal pressure to have a child at a young age refers to the influence that broader cultural or social norms can have on an individual's decision to start a family early in life.

One of the participants shared how she was lured by people from the village to run away.

It's the people of the village. They pressurize you to get married. That's why a man from another village eloped me away when I was studying. I didn't run away by my own will. The people of the village lured me to run away. I had gone to a marriage function and they took me away from there. Then later I thought now that I have already come, I shouldn't go back. It's like that in the village. (A2, 18 years old, Chepang Mother, Ward 8)

Likewise, family members can influence an individual's decision to start a family early in life. This pressure can take various forms, such as direct requests or expectations from parents or grandparents, or indirect pressure due to the perceived cultural or social norms within the family.

As the participants were questioned if they had to go through any form of family pressure to have a child, some of them participants explained such scenarios.

One of the participants expressed how she gave birth with the influence of her in-laws despite not wanting a child by herself.

My mother-in-law and father-in-law wanted a child. I didn't want to give birth at that time but my in-laws used to say what is the point of not having a child after being married. Then my husband and I discussed and thought that if we have a child at a young age then we can raise them when we are young. (A2, 18 years old, Chepang Mother, Ward 8)

Not having a child after marriage is stigmatized by family and society as one of the participants shared a story of her sister. She expressed it as:

In my sister's case, they used to say that had she been a goat, they would cut and eat. She was fat than us. She didn't have a child. They used to call her woman goat because she did not get pregnant for 3 years and they used to yell at her. Her husband used to shout. Even society used to talk badly about her. (A4, 25 years old, Chepang Mother, Ward 5)

In the same context, a key informant also highlighted that after getting married, the family pressurizes women to have a child which is why they don't use any forms of contraceptives.

After they get married, their family pressures them to have a child and that's why they don't use any contraceptive means. (K9, 33 years old, AHW)

However, some of the participants mentioned that they never got any kind of pressure from their families to have children.

I have no pressure from my family to have children. My mother-in-law is the one who loves me the most in this family. Even my mother and father do not love like that. My husband doesn't love me, that's right but my mother-in-law and father-in-law love me a lot. (A3, 23 years old, Chepang Mother, Ward 5)

I never get any kind of pressure from my family regarding childbirth. Even now, I am doing this work after getting married. It has been so many years that I am doing this work. (K3, 31 years old, FCHV)

One of the key informants explained a case about a young girl who was convinced to get married by her grandmother.

A younger sister is living there. She is now living in Chitwan after marriage is what I have heard. I don't know exactly where she is now. She was studying in 4th grade and one grandmother married her to a rich boy from Chitwan. The boy was mature but the girl was a small child. She didn't know many things and was studying. The grandmother convinced her to get married. -(K1, 22 years old, Teacher)

Family members can also have an influence on an individual's decision to get married early in life as one of the participants explained her story of not wanting to get married but being forced to do it through her family's persuasion.

I didn't want to get married at that time. My brother told me to do it. I lived with my grandmother. My father died at a young age. And after that, my mother went abroad when I was young, and I and my brother lived with my grandmother. People from somewhere brought a marriage proposal for me with my brother and that's how it happened. I didn't want to do it. My brother forced me to get married. He said if I didn't marry, I am almost dead to him, and what to do then? and I said okay I will get married. (A10, 17 years old, Chepang Mother, Ward 8)

The behavior and attitudes of friends and acquaintances can have an impact on an individual's decision to start a family early in life.

Such cases of influence by their peers were unveiled by the participants as:

My friends use to tell me to give birth soon. They used to say earlier the birth, the earlier they would grow up. They used to say women don't look good when they get pregnant at an older age, so getting pregnant at an early age is good. (A4, 25 years old, Chepang Mother, Ward 5)

Here everyone gets married early. Friends also say that at some point you have to give birth and raise a child. And we also agree to it and keep on giving birth. In our village girls get married at the age of 16 17 even now. (A9, 20 years old, Chepang Mother, Ward 8)

iv. Role of Parents

The role of parents in preventing child marriage and adolescent pregnancy is significant. Parents have a responsibility to protect their children and ensure that they have access to education, healthcare, and other opportunities that will enable them to reach their full potential.

Despite that arranged marriages were not a common practice in the Chepang community and the trend was shifting towards elopement marriage, some of the participants still had a marriage at an early age by arrangement from their parents.

Participants shared:

I was the eldest daughter in my family. So my mother had to do a lot of household tasks by herself. My sisters were small and younger than me. My marriage was arranged by the family. And that's why I left my studies. I had arranged marriage. It was done all by the arrangements from parents. I was 16 years old. At that time someone came to ask for my hand. Then I said okay. The guy also said okay. At that time, they said okay let's arrange a marriage (magani), and that's how I got married. (A6, 23 years old, Chepang Mother, Ward 8)

I had arranged marriage. At that time my mother father and brother gave me away saying that my husband's family had a farm and it won't be much of a struggle to survive. I had to get married. (A7, 24 years old, Chepang Mother, Ward 8)

Upon a deeper view into the issue, parents would immediately fix the marriage of their children if someone comes with a proposal and the date of marriage is not delayed as expressed by one of the participants.

Another reason why early marriages are happening in our Chepang community is that if someone tells the parents that his son like the other person's daughter, then they will start arranging marriages (magani). Then they will start fixing the date of marriage. I think it's also the weakness of parents. I think if the parents want, then they can delay the marriage of their children. The parents don't think the way that no matter who comes to ask their son or daughter they have to wait for a few years before marrying their children. Rather they ask when the other party would come for magani and start fixing the date of marriage and after magani the parents try to fix the marriage of the children as early as possible. Sometimes even after magani is done, the girl or boy may run away with someone else coming into any other influence or pressure. So the parents try to fix the date of marriage as early as possible after magani is done. (A6, 23 years old, Chepang Mother, Ward 8)

Some of the participants expressed that children eloping away at a young age is also because of the negligence and weakness of the parents.

They shared:

I think that is it due to negligence and weakness of parents. Parents aren't being able to teach their children well. In our village, there are a lot of elopement marriages before the age of 20. Even in my husband's village such a marriage happened recently. The girl was just 13 years old and the boy was 18 years old. I think it's because we haven't counseled and taught them properly. (A6, 23 years old, Chepang Mother, Ward 8)

The guardians have the most important role. If parents teach their children that they should not do such things, then they would not do it. It is due to the weakness of the parents. Sometimes, I feel like saying these things to the parents right to their face, but with the fear that they will later say bad about me, I don't tell anything. (K5, 30 years old, FCHV)

Alcohol consumption and domestic violence among parents can have major consequences on children's health. A participant unveiled her story of domestic violence, quarrel, and search for escape as she shared:

My parents used to consume alcohol (jaad). My mother and father are always drunk They quarrel all the time. So, I ran away. They did not let us stay at home. We had to sleep here and there in the village. Mummy used to cry as my father used to beat her. We used to shout that this man is killing our mother. He would throw us from the window or beat us with a stick. And he used to pull our hair together with mummy and put us in one place. Then, mummy used to cry out loud and shout that he is going to kill us. But he still used to beat mummy and we just kept crying. We couldn't go and separate them as he would beat us. So, we just had to watch and she would keep crying. (A4, 25 years old, Chepang Mother, Ward 5)

Likewise, some of the participants who got married and had a child at a young age did not have any form of guidance from their parents, the reasons being passing away or parents being abroad.

My mother-in-law passed away when I was so young. My father-in-law also passed away. The villagers here say that he poisoned himself to death. They say he had kapat [unclear]. My father also passed away when I was young. My father was a leader. My brothers are now in Hetauda. (A1, 22 years old, Chepang Mother, Ward 5)

I had a conversation with her (mother) on the phone. She knows everything but she doesn't say anything. She hasn't come from abroad yet. It's been more than 15 years but she told me that she would come soon and visit me here. That's it. She doesn't say anything else. (A10, 17 years old, Chepang Mother, Ward 8)

A teacher expressed her experience with the role of parents in children's education as he mentioned parents showed less interest in their children's academics.

Unlike in previous days, parents now say that they should study and should be more knowledgeable. However, at the end of the day, I don't think that they pay that much attention to whether their son or daughter reads or not. Had they shown interest in their children's study at home, the children would have been a little more talented. I think they would be good at their studies and this would make it a bit easier for the teacher. (K1, 22 years old, Teacher)

However, some of the participants shared that their parents had always encouraged them to study and they married away by their own will.

From early times my father used to encourage me to study. My mother and father used to tell me that I should study and that I was really small at my age back then and shouldn't be running away from home. They also used to tell me that I would face hurdles in life if I ran away. But who knows about a girl's fate right? They used to tell to me to focus on my studies as I already had health complications. (A5, 24 years old, Chepang Mother, Ward 5)

Taking a more in-depth look into the matter, a key informant revealed that parents don't want their children to return after elopement and also believe that their children can survive and earn by themselves once they are married.

They elope away and after eloping away, an objection is raised from their father and mother [...] I tried to separate a 15-year-old girl and a 19-year-old boy. We told them that they had to face legal consequences if not separated. But the parents told them to do something like "Supari Gadchu" to anyone who separated their children. They even warn us saying they would commit suicide sometimes. That's how low their awareness level is. Parents lack awareness. After eloping away, they think that their daughter will not be married again when she comes back. (K7, 45 years old, Ward Representative)

He further adds:

Even parents think that once their children have eloped and married, now they can survive and earn and live on their own. (K7, 45 years old, Ward Representative)

Respondents also revealed that their parents never spoke to them about sexuality education and that they didn't speak on these matters.

My parents never spoke anything about sexuality education. They don't speak about these matters. (A2, 18 years old, Chepang Mother, Ward 8)

Parents don't teach anything as such. Mother and father don't know anything. When I was small I still remember my mother didn't even know to put cloth pads while menstruating. She didn't use anything. Even when we knew they were like that. Now they have started to get to know a bit. (A9, 20 years old, Chepang Mother, Ward 8)

v. Women's position in society

The status of women and girls in society refers to their social, economic, and political standing within that society including their decision-making power.

Violence against women refers to any act of gender-based violence that results in or is likely to result in, physical, sexual, or psychological harm or suffering to women.

A participant shared how she was dominated by her in-laws as they used to call her bad and reprimand her even when she went to the market sometimes.

My in-laws dominate me so much [...] When I went to bazar, they used to say what long (lamo) have you been searching, you bitch (randi, kukurni). I used to tolerate it. I was not mature at that time. [...] My parents-in-law always used to shout at me Even when I went out for work, they used to say, what are you looking for? When I went to fetch water, they used to say, that I went in search of man. Even when I went looking for grass and wood, they said I went looking for a husband or that I went to bazar looking for a man (lamo). [...] I used to bear a lot and did not speak back. They used to say, if I spoke back they would curse me. (A4, 25 years old, Chepang Mother, Ward 5)

The participant also added that her father used to beat her mother every night and that she had to go here and there all night to escape.

He used to come home in the evening. Father always used to go out… He used to be with other women outside and would get angry with his wife at home. He used to beat mummy saying that she is walking with some other man. He always came to beat at night. We used to hide and run here and there all night. (A4, 25 years old, Chepang Mother, Ward 5)

Further, in regard to violence against women, a participant disclosed that her husband used to beat her by being drunk as she had multiple miscarriages and was not able to give birth to a child.

The husband punished me at that time saying that I couldn't able to give a baby. He used to get drunk and beat me. Now, I have two children. After I got one, he stopped beating me. Otherwise, in previous days he used to come home drinking alcohol and beat me for my miscarriage. (A8, 21 years old, Chepang Mother, Ward 5)

However, some of the key informants mentioned that violence against women is rare in Chepang community.

In my ward, violence against women used to happen before. But now we are running a health mothers group. Some banks also come here and teach the organizations that take a loan from finance once a month. We FCHV also conduct a mother's health group gathering at least once a month. Earlier it was a group of only mothers but now young people and senior citizens can also join. Our group also incorporates pregnant women, and golden 1000 days' mothers and we conduct a mother's group meeting. That's why violence against women and domestic violence is rare in my ward. (K2, 52 years old, FCHV)

I have never seen or even heard of it (domestic violence). [...] I go to the village monthly during fieldwork. Sometimes, I go to the health post during vaccination. At those times I meet other friends and had such an incident happened then, I would have known. Even though some people may hide, we hear it somehow. But, till now I haven't heard or known any. (K5, 30 years old, FCHV)

The Chepang community also had a cultural or societal bias towards male children over female children which is son preference. This preference was usually based on the belief that males are more valuable or desirable than females.

A participant shared her story of wanting a son after having three daughters. She expressed how she prayed to have a son as she said:

I thought of getting depo. We had three daughters. But my father-in-law, mother-in-law, and my husband always used to pressurize me saying they needed a son. In-laws used to say they don't know how long they were going to survive and needed to see a grandson before death. And even people in the village used to talk behind my back as I didn't have a son. My in-laws asked me to go to church and make prayers [prarthana] and I went. The pastor told us that we had daughters only in our fate- 5 daughters and he told me that it might not be possible to carry a son. It might be due to the pastor's faith prayer; I got a son. (A4, 25 years old, Chepang Mother, Ward 5)

She further added how her in-laws wanted two sons and used to pressurize her for the same.

These people from the previous generation say they need 2 sons when we die; one, at the bottom and the other at the top to carry us, 2 brothers. [...] I used to say 'go give birth yourself, why do you want many". They used to say we cannot be sure of one son as he may die later. So we need two. I used to be angry and told her that if anything wrong happens then it was because of her perception. (A4, 25 years old, Chepang Mother, Ward 5)

She further disclosed that she had wished that her child would die and she didn't even breastfeed her thinking it was a daughter. She explained her story as:

This youngest son died as soon as he was born. He had eaten something. Then, a senior doctor came. I thought I gave birth to a daughter. If that was a daughter, I wished she died. As I had so many daughters already, I didn't want any more. Thinking it was a daughter I asked others to not show me her face and I did not pick her up either. I told them that if it's a daughter I don't want the child and whoever wants to adopt can adopt. I did not have any love or emotion. But everyone scolded me saying whether it's daughter or son it doesn't matter and the son might not even look after me later and the daughter will look after me. Some of them said they will adopt her. I did not breastfeed her even till I reached Manahari. I asked to take her away from my sight. Then, my parent in laws convinced me. My sister also yelled at me in the phone call and said that if I did not her then she would adopt her. I said if she wants her, she could come and take her. Everyone shouted at me so I had to breastfeed her unwillingly. Otherwise, she would have died. I didn't care if she lived or died. And then only asked if it was a son or daughter. They shouted at me saying the baby was dying and I need to know son or daughter. Then, later I knew it was a son, and then I wanted him to survive. I thought he was a daughter so did not care whether he survived or not. But it's a son. I asked the doctors to save him anyhow. The nurses also feared that the child may not survive and were saying that should not have let me deliver there and should have sent me to Bharatpur. After that, they called a senior doctor. Finally, he survived. He had eaten all the feces, I think. (A4, 25 years old, Chepang Mother, Ward 5)

On a similar note, a key informant unveiled that people are happier with the birth of a son child rather than a daughter.

Now, no matter what we say, as I have worked and seen practically when a child is born, if it is a boy, then a person seems to be happier than with the birth of baby girls. There is still some difference between sons and daughters. The belief in the preference for the son is decreasing than previously but deep inside everyone wants to have a son. (K6, 28 years old, Health Coordinator)

At the same time, key informants shared that the preference for a son child is slowly decreasing among Chepang community.

Giving birth to 3/4 children in want of a son is also good. It makes them weak but some are giving birth to babies with that thought. They have only one son and still want another son and give birth to many children to fulfill that aspiration but it makes the woman physically weak which is not good. I also advise them, be it be son or daughter, the problem is the same. So it is not necessary to have a son. They are slowly changing. (K1, 22 years old, Teacher)

I have not much seen of the scenario of son preference. At an earlier time, some women had given birth to a dozen daughters because they wanted a son. However, sex-based abortion is not prevalent. (K7, 45 years old, Ward Representative)

Gender inequality and patriarchal norms often lead to girls being considered inferior to boys and being denied their right to education and other opportunities. As a result, they are more likely to be married off early.

One of the participants shared that she thought being a female she had to get married one time anyway which is why she agreed to get married despite not being willing.

Then I thought I am a female and I have to go to poila one time or another that's why I agreed. But I myself didn't have the desire. (A9, 20 years old, Chepang Mother, Ward 8)

Another respondent shared her story of not being allowed to go out as her mother-in-law would reprimand her.

I feel bored but what to do? I don't have any friends here. My mother-in-law doesn't let me go out of the house. Even when sometimes when I go out for a little while she will scold me and say bitter things. That's why I just stay at home like this. [... [life is different after you get married. Maybe this is the fate of married women. (A10, 17 years old, Chepang Mother, Ward 8)

Lack of property rights to daughter is one of the reasons why girls get married at a young age as shared by one of the participants:

At that time my mother father and brother gave me away saying that my husband's family had a farm and it won't be much of a struggle to survive. I had to go. [...] there was a farm in my mother's house (maiti). But who gives maiti's property to a daughter? (A7, 24 years old, Chepang Mother, Ward 8)

Further participants shared that continuing education after marriage is a social stigma and the fate of a girl after getting married is to do household chores.

[...]society will gossip about you if you study after getting married. The fate of a girl after getting married is to stay at home, cut grass and firewood and look after children. That's it. (A7, 24 years old, Chepang Mother, Ward 8)

Some of the participants also explained how their husbands didn't care about them and highlighted that men change after marriage.

My husband is working in Chitwan in machinery work. He visits us sometimes. [...] He doesn't care much. People in the village say he's with someone else. I don't know what the real thing is. If I ask him, he will scold me and reprimand me. That's what men are like. After getting married they become a different person (A2, 18 years old, Chepang Mother, Ward 8)

I think he is 3 years older than me. I don't know. I myself haven't even asked that until now. Even when he comes home, he is busy talking with someone else or texting someone else, and sometimes when I look at his phone, I see those messages but I don't say anything. (A10, 17 years old, Chepang Mother, Ward 8)

However, amongst these scenarios, a key informant highlighted that there is no dowry system and menstrual restrictions in Chepang community.

There is not much discrimination between sons and daughters here. The dowry system is also not prevalent. There are no menstrual restrictions either. The son preference is also rare. (K1, 22 years old, Teacher)

Alcohol consumption does not directly lead to child marriage and adolescent pregnancy, but it can contribute to a range of social and economic factors that increase the risk of child marriage and adolescent pregnancy.

One of the key informants shared that some Chepang people used to come to check up on being intoxicated with alcohol.

Some of the Chepang people consume alcohol. They drink and come even for checkups… If we say anything then they threaten back saying, they drank with their own money and it's none of our business. (K3, 31 years old, FCHV)

However, most of the participants revealed that Chepangs don't consume alcohol as almost all of them have converted to Christianity.

It's very rare. Few people use it. Women don't consume but men do. And here, Chepang people are mostly Christian. They say that Christians don't consume alcohol but some of them consume by hiding. They use cigarettes, bidi, and alcohol by hiding. And I thought that after becoming a Christian and taking baksis, they don't consume such products but they do. (K1, 22 years old, Teacher)

Here mostly the residents are from Chepang community. We don't have other marginalized tribes here (janajati). You know about Christianity. Here most of us follow the Christian religion. So the consumption of alcohol, cigarettes, bidi is minimal. [...] One following Christianity should not consume alcohol, cigarettes, and things as such. But the ones who still follow old traditions still consume. However, they are very less in number. (K2, 52 years old, FCHV)

The consumption of alcohol is very low. It is better because almost 90% of Chepang become Christians. That's why their religion taught them that they shouldn't drink alcohol. But drinks like coke and dew are very popular, especially in Chepang communities. (K9, 33 years old, AHW)

vi. Reluctance to change

Reluctance to change refers to resistance or hesitation to embrace or accept new ideas, methods, or ways of thinking. Key informants shared that behavior change among Chepangs is extremely difficult as she elaborated how they tend to agree to things during counseling but don't apply it in their behavior.

When we advise these things to them, they agree and leave. We tell them all about temporary devices during the first meet, but they go home and get pregnant before 2 years of birth spacing. [...] For teenagers, there is a program once a year, and we go there and give them counseling. When we advise them there, they agree and pretend to understand but do not apply it in their behavior. (K10, 46 years old, Sr. ANM)

One of the ward representatives mentioned that those who provide education themselves were being indulged in child marriage and polygamy which indicated that they have been reluctant to change despite having the knowledge.

A committee is made by an organization against child marriage and polygamy but sometimes the people of the same committee eloped away. Sometimes even the president of the committee runs away. So, it is difficult to control it. They consider themselves matured enough at the age of 15 and 16 and run away. No one can't get into anyone's mind. The person who gives education themselves even eloped away. (K7, 45 years old, Ward Representative)

Change is a slow process especially changes in child marriage and adolescent pregnancy as explained by one of the health workers.

They are listening but they don't apply it in their behavior. Such changes don't happen all at once. It's a slow process. Especially changes in these matters happen slowly. (K9, 33 years old, AHW)

According to the scenario here, it will take another 10-15 years for change to happen regarding child marriage and adolescent pregnancy. (K6, 28 years old, Health Coordinator)

Differences in ethnicity were also highlighted by some of the respondents as they mentioned that it is relatively difficult to make the Chepang people understand and they are usually the ones who are left behind as compared to Tamang caste people.

My birth home is another there in ward 6. There is no Chepang caste there. And the Tamang people there understand a little more and are more developed. They go to the health post and also use family planning but where there are many Chepangs, they fall behind. It's difficult to make Chepangs understand. They are so one-sided and don't follow and do anything we say. (K3, 31 years old, FCHV)

It's hard to work here. It's not that hard to make Tamangs understand. It's hard to explain to Chepang. I feel like they have a hard time comprehending the things we teach. (K4, 42 years old, FCHV)

Likewise, the stubborn nature of Chepang people is also one of the barriers to change as key informants said:

Child marriage is happening a lot, but when we try to teach them the ways to reduce it, it seems like they do not understand and don't listen. They do not wish to listen so, due to this child marriage is increasing. (K1, 22 years old, Teacher)

The solution to the problem of child marriage and adolescent pregnancy is firstly internalization and realization of the issues by the people themselves.

Regarding solutions, until they understand themselves, there's no point in our counseling, advising, or shouting. There is no point. (K10, 46 years old, Sr. ANM)

5.3 Health Consequences among Chepang Adolescent Mothers

Table 21: Themes and codes generated to explore health consequences among Chepang adolescent mothers

Initial codes	Refined codes	Themes
Incentives provision, lack of relay of information on incentives	ANC check ups	Antenatal care
Fear of baby size due to iron tablets consumption	Iron tablets consumption	
Birth spacing	Birth spacing	Pregnancy and delivery experiences
Care by mother during pregnancy and delivery	Pregnancy and postpartum care	
Customs during delivery, purification practice	Practices and customs during delivery	
Ease to give birth, fear of giving birth, delivery experiences, difference in ethnicity, uncomfortable to not work after delivery	Childbirth experience	
Negligence, lack of knowledge, preference of home delivery, visiting health institution only after complication	Giving birth to child at home	Home delivery
Fear of being touched, gear and shy to go health institution, FCHV not visiting	Communication with service provider	
Generational belief on home delivery	Older adult perspective on home delivery	
Incentives provision, lack of relay of information on incentives	Incentive provision	
Long distance to health facility, seasonal difficulty, delivery on road, availability of birthing centers, out of pocket health expenditure, geographical constraints, lack of carrier, lack of transportation	Access to health facility	
Health consequences during pregnancy	Health consequences during pregnancy	Health problems during pregnancy and childbirth
Health consequences during delivery	Health consequences during delivery	
Maternal neonate death, maternal death	Maternal and neonatal death	
Constraints for PNC	Health consequence after childbirth	
Health consequences after delivery, health problems among children, malnutrition		
Abortion	Prevalence of abortion	Abortion
Poor not able to seek abortion service, , access to health facility for abortion	Seeking medical abortion	
Miscarriage due to physical work, not knowing about being pregnant	Miscarriage	

5.3.1 Antenatal Care

Antenatal care refers to the care and support provided to pregnant women by family and healthcare professionals, typically during their pregnancy. It includes two codes: ANC checkups and Iron tablet consumption.

i. ANC checkups

ANC checkups, or antenatal care checkups, refer to the regular medical checkups and appointments that pregnant women have with healthcare professionals during their pregnancy. Antenatal care check-up is important because it plays a crucial role in ensuring the health of the pregnant woman and her unborn child. Participants stated that one of the reasons for them to not go for ANC checkups was because they didn't know about it.

I didn't even know that we should go for a checkup during pregnancy at that time. Villagers used to say that if one wasn't able to give birth at home, then only she should be taken to the hospital. At that time, I didn't know that any checkup during pregnancy exists or why it was necessary to be done. (A5, 24 years old, Chepang Mother, Ward 5)

I didn't go for ANC checkups while I was pregnant with my eldest daughter. No one used to go at that time. There was Manahari health post but no one used to go at the time. During our mother's generation, no one knew about it. (A7, 24 years old, Chepang Mother, Ward 8)

One of the participants shared how she didn't go for an ANC checkup while being pregnant with her three elder children but did go in time for the youngest one because she was scared of COVID-19 and the consequences it may bring.

I didn't consume while delivering the other 3 children. At the time when I was pregnant with my youngest, there was a different kind of disease such as COVID so I got scared and consumed it. I was scared that anything would happen to the child. I also took two injections. During the pregnancy with the other 3 children, I didn't even know about such checkups. (A7, 24 years old, Chepang Mother, Ward 8)

Similarly, another participant highlighted that she didn't go for ANC checkups for elder children but went when she was pregnant with the younger ones. This explains that women are acquainted with more understanding and knowledge about the importance of ANC as well as its access with time.

I didn't go for ANC checkups when I was pregnant with my elder children. I did go for a health check when I was at Manahari. When I was pregnant with my younger daughter, I even did a video x-ray 3 times. I lived in comfort and in the end, had to do an operation for delivery. I almost died at the end. (A5, 24 years old, Chepang Mother, Ward 5)

She further added:

But when I had given birth in the village, at that time I should have gone for an ANC checkup in the health post. I didn't go at that time. That was a mistake. (A5, 24 years old, Chepang Mother, Ward 5)

However, one of the participants revealed that she went for an ANC check-up with her father-in-law and took the iron capsules and injections as provided by the health institution.

I did go for ANC checkups. My father-in-law used to take me to the health post for checkups. My husband didn't care about anything. In the health post, they gave iron capsules and injections. (A10, 17 years old, Chepang Mother, Ward 8)

ii. Iron tablets consumption

Iron deficiency is a common problem during pregnancy, and it can lead to anemia, which is characterized by low levels of hemoglobin in the blood. Anemia during pregnancy can increase the risk of premature birth, low birth weight, and maternal and fetal mortality. Iron tablets are a common supplement prescribed during pregnancy to help prevent iron deficiency and anemia.

However, most of the participants mentioned that they didn't consume iron capsules as they had the fear that the child will be big and they will not be able to give birth.

Participants unveiled their fear as:

I went for ANC checkups but I didn't consume all the iron capsules. I took it only for a month because it was very difficult for me to deliver my elder son as he became very big. I consumed iron till 7 months and he became 3.5 kg. Also, others told me not to consume it as it makes the baby grow big. So, I didn't consume it at the time of my younger son. He was only 3 kg. (A8, 21 years old, Chepang Mother, Ward 5)

I went for ANC checkups. They give me iron pills and two injections. But I didn't consume iron pills much. I only consumed a few but I didn't consume all. The people in the village used to say that if we consume it the baby will be big and it will be difficult to give birth. That's what they used to say and I didn't consume it. (A2, 18 years old, Chepang Mother, Ward 8)

On the same perspective, key informants also stated that most of the Chepang women restrain from consuming iron as they believe that after consuming the iron the baby will be bigger and it will cause difficulty during delivery.

Those who regularly visit the health institution take iron tablets. But for those who live far away and only visit sometimes, we cannot advise and meet them often. They think that the baby will grow bigger and it will cause difficulty during delivery if they consume iron tablets so, they restrain from consuming them. There are many such women. We advise them to consume calcium as it will be good for the baby but they refuse to consume saying that the baby will get bigger [...] (K5, 30 years old, FCHV)

There is a service of ANC checks ups but regarding the consumption of iron. We give them and ask them to consume it but they don't consume it. They keep it and throw it away. It is mainly because they don't understand the role of iron and calcium tablets. They haven't understood it. The mothers in the village are illiterate. They just listen to whatever the villagers and neighbors say. They believe that if they consume iron the child would be big and they won't be able to give birth. They also believe that their stomach will also be big. So they just throw it away. (K2, 52 years old, FCHV)

5.3.2 Pregnancy and Delivery Experiences

Pregnancy and delivery experiences refer to the unique physical, emotional, and social experiences that women go through during pregnancy and childbirth. This theme includes four codes: Birth spacing, Pregnancy and postpartum care, Practices and customs during delivery, and Childbirth experiences.

i. Birth Spacing

Birth spacing is important for both the health of the mother and the newborn. Adequate birth spacing can help ensure that the mother has enough time to recover from the physical and emotional demands of childbirth before becoming pregnant again. It can also help reduce the risk of pregnancy-related complications, such as preterm birth, low birth weight, and maternal mortality. The World Health Organization (WHO) recommends a minimum birth spacing of 24 months between pregnancies to reduce the risk of these complications.

Key informants revealed that Chepang were now keeping a birth spacing of at least 9 to 12 months as they shared:

There are some couples who keep a gap after getting married. But if you get married and give birth to a child before one year, people take it negatively. When you get married in Magh month and if you give birth to a child before the 3rd or 4th of the next Magh, people take it negatively. They doubted if they had relation before their marriage. (K1, 22 years old, Teacher)

[...]. I haven't seen anyone not keeping a birth spacing of at least 9 months. Because the child needs to be well-breastfed for at least 2 years. We give counseling accordingly to them. So that has also helped. Therefore, after a child is born, they maintain a birth gap of at least 1 year or 2 years, or 5 years. (K2, 52 years old, FCHV)

ii. Pregnancy and postpartum care

Pregnancy and postpartum care are critical for the health and well-being of both the mother and baby. Regular care during these times can help prevent complications,

improve birth outcomes, and provide new parents with the education and support they need to care for their newborns.

One of the participants shared her experience of delivery at home, being cared for by her family members, and how she used to feel uncomfortable doing no work after 4 to 5 days of delivery. She stated:

My mother *kept her hand on my abdomen and then I pushed and gave birth myself at home. They use to care well. They used to give me food. When I gave birth to my eldest son, my husband was not at home. He had gone to the city for employment. Then when I gave birth to my daughter, my husband was also at home. He used to do the household chores at that time for the 12-13 days of delivery. After 4 5 days of delivery, I also assisted in minor household work. I myself used to feel uncomfortable to just sit and watching my husband work. So when I could walk a little I would do work like light a fire to cook. (A6, 23 years old, Chepang Mother, Ward 8)*

Mothers were not timely fed after delivery as a health worker shared her experience of working in the field.

During our visit after childbirth, when we ask them if they have eaten anything. They say that they haven't eaten anything as their husband hadn't returned from the jungle. It was already 4 clock, but they had not eaten anything. (K10, 46 years old, Sr. ANM)

Most of the participants mentioned that their mothers used to take care of them during and after childbirth.

My Mother-in-law used to take care of me. My husband was not here when I have birth. My mother-in-law used to take proper care of me. She used to give me good food and maintain my hygiene. (K2, 52 years old, FCHV)

I used to get good care. My mother used to look after me. They used to maintain my hygiene. They massaged my daughter and me with oil separately. They faced many pain and difficulties after giving birth. That is why they didn't want us to experience the same. (A5, 24 years old, Chepang Mother, Ward 5)

While home delivery is a common and accepted practice among Chepang community, a key informant added a new perspective to the matter as she mentioned it is difficult to give birth at home and the mothers don't get adequate care.

It is difficult to deliver at home. Giving birth at home is very tough. They do not get enough care and it is not safe for them either. They do not have any idea about caring and do not get proper care, and are not safe. Later they might get health problems when they give birth at home. (K3, 31 years old, FCHV)

iii. Practices and customs during delivery

Practices and customs during childbirth refer to the various cultural, religious, and traditional beliefs, behaviors, and rituals that are observed during the birthing process. These practices and customs can have a significant impact on the birthing experience for both the mother and her family.

One of the participants unveiled that there are no restrictions to go to the kitchen or work after delivery for mothers.

No there aren't any such practices during menstruation or childbirth. We used to go to the kitchen and work. In-laws also used to consume such food. It is normal for us. We are told that we shouldn't work at that time as it might be difficult for us physically and they will cook vegetables. (A7, 24 years old, Chepang Mother, Ward 8)

However, a key informant shared that Chepangs have purification practices and perform purification rituals from 3-7 days after childbirth.

Here, they purify them (postpartum mothers) on the 7th day and then they can cook and eat themselves. It is a compulsion for them or because they have no one to take care of them. We go and visit them on the 7th day, but we find them alone. In Tamang, some perform purification rituals on the 7th day and some on the 9th day. In our Chepangs, we do it on the 7th day whereas some do it in 3-4 days. [...] (K10, 46 years old, Sr. ANM)

iv. Childbirth experiences

Childbirth experiences refer to the physical, emotional, and psychological experiences that women go through during labor, delivery, and postpartum.

A participant shared her experience of childbirth at home and being able to bear the pain is the vital thing during delivery.

[...] if I get pregnant, I will give birth at home easily. The child is just this big- this small size of the head, and little body. There will be labor pain and then you have to bear it, hold like this, and push and the baby will just be easily born. It's not that hard. [...] The main thing is you should be able to bear the labor pain. At that time boil and drink hot water and bear the pain. (A1, 22 years old, Chepang Mother Ward 5)

She further added that it is easier to give birth to a big child than the smaller one as she elaborated:

When I was pregnant for the first time, I took a support holding there and when giving birth I shouted. I shouted and the labor started. My child was small that's why it was difficult. It is easier to give birth to a big child than a small one. My other daughter was big and so white. She is still white. When giving birth I stayed in this position and held a person and pushed. Then I gave birth. 3 long breathes are required for a big child but for a small child even after 10 long breathings it is difficult to give birth. (A1, 22 years old, Chepang Mother Ward 5)

On the same note, a FCHV mentioned that Chepangs give birth relatively easier as compared to a woman from Tamang caste. She explained the child-birthing process among these communities as:

I don't know about those who gave birth at home but I can speak for those who delivered in the health post. Even at the age of 14/15, they are giving birth easily. Chepangs are very strong. I feel that way myself. They can bear pain in any situation even during labor. Among Tamangs they start screaming and shouting during labor (aaiya aaiya aama baba) but Chepangs easily give birth at the age of 14/15. I myself get amazed sometimes [...] (K5, 30 years old, FCHV)

When a woman is not aware of the pregnancy and delivery process and experience, the sudden change and getting into the process of motherhood can be scary for her. Similar was the experience of a participant who shared how she was scared to give birth when she first knew she was pregnant.

I was really scared at first when I knew that I was pregnant. I told my husband to abort it. But my husband told me that since we have to give birth at one time anyways we should give birth. After that, both of us agreed and gave birth to a child. (A3, 23 years old, Chepang Mother, Ward 5)

Looking deeper into this matter, a new insight came through as a participant explained that if a woman stays in comfort without any physical work, then it causes complications later. She justified this as she shared her experience.

As far as I have seen one shouldn't just relax in comfort during pregnancy. Back then we used to work (jhanta pitne) saying that if we don't work the child inside us will get big. We used to cut grass and collect firewood. Otherwise, the child will be big and it will be difficult to give birth. If you work during pregnancy, then you can give birth. So previously it was easier. The same happened to the sister in that house. While living in the village, people easily give birth to two or three children at a young age. Now people are seeking more comfort and doing nothing during pregnancy that's why they are having to do an operation. (A7, 24 years old, Chepang Mother, Ward 8)

She further stated that she was told to work 5-7 days after the delivery when the child was sleeping.

I started doing household work in 5 to 7 days after delivery. I was living with my mother-in-law and father-in-law at that time. I was told that I could work when the child was sleeping. If I did not work, I was scolded. I had to eat sisnu (plant). (A7, 24 years old, Chepang Mother, Ward 8)

5.3.3 Home delivery

Home delivery refers to the practice of giving birth to a baby outside of a hospital or medical facility, typically in the mother's home. The theme 'home delivery' has five codes: Giving birth to child at home, Communication with the service provider, Older adult perspective on home delivery, and Incentive provision.

i. Giving birth to child at home

Home delivery was a commonly accepted practice among Chepangs as most of them mentioned that they had given birth to their child at home.

I did not go to the hospital for delivery. I went for an ANC checkup but I gave birth to both of my daughters at home [...]. (A4, 25 years old, Chepang Mother, Ward 5)

Now, women from wards 5 and 8 mostly give birth at home. About half of them in ward 5 come to the health post. The Chepang dwelling is at the bottom and most of them deliver at home and talking about 8 most of them give birth at home. Only some, one or two people only go to the health post otherwise everyone does delivery at home. (K3, 31 years old, FCHV)

A health worker from Raksirang Rural Municipality unveiled the data on institutional delivery which was only 32-33%.

Talking about the data 32-33% of institutional delivery occurs here. [...] If we look at our ratio, the proportion is almost the same for above and below 20 years old [...] we don't have data for home delivery. (K6, 28 years old, Health Coordinator)

Upon deeper investigation, participants mentioned that they were young and able to deliver at home. Had there been any complications or had they been old then they would have gone to health facilities for delivery.

I gave birth at my home in Naya basti. Everyone use to say that I was young and was able to give birth. So, I delivered at home. Had I not been able to give birth at home, I would have gone to a health institution. But I was able to give birth at home. So I didn't have to go to a health institution. (A2, 18 years old, Chepang Mother, Ward 8)

I gave birth to 3 of them at my house and one at a health institution as I was already chippeko (old) while giving birth to the youngest one. So I thought I couldn't deliver at the house. Here in the village people say that you can't deliver well once you are old. That's why I was scared and went to a health institution. When I gave birth at age of 25-26 I went to health post while I delivered at home at the age of 16 and 17. That's what people here do. (A7, 24 years old, Chepang Mother, Ward 8)

Chepang women only seek health services or went to health institutions during childbirth if they have any complications while delivering at home as one of the participants unveiled her experience.

This time I went to the hospital for delivery, otherwise, I had delivered the earlier three children at home. While delivering the younger one, at first I tried to deliver at home but the placenta did not come out. Then I was rushed to Chainpur hospital. (A4, 25 years old, Chepang Mother, Ward 5)

However, only one participant mentioned that her father-in-law told her she was too young to give birth which is why she went to a health institution for delivery.

I went down to the health institution to give birth. My father-in-law had told me earlier that since I was young it might be difficult to give birth at home. So, we had planned to go to a health institution to deliver the child. (A10, 17 years old, Chepang Mother, Ward 8)

A participant revealed how she had to go to a health facility for delivery due to high blood pressure. She proclaimed that she had to go a cesarean section procedure because she had just rested and hadn't done any physical work during the pregnancy period. She explains it as:

I gave birth to two of them in the house in the village. I stayed in the village and lived here during the entire pregnancy and delivery when giving birth to one son and one daughter. Then when I was pregnant with my younger daughter, I stayed at Manahari. I did no work, just rested at home. Then I had to undergo an operation for delivery because of high pressure. (A5, 24 years old, Chepang Mother, Ward 5)

Upon asking whether the participant thought giving birth in the village or at home is better, some of them stated that giving birth in the village is good.

A verbatim by a participant is depicted below:

I think giving birth in the village is good. In the village, we work and walk. There will be many household works. We will be walking up and down the village. But when we go to live in cities, that won't happen. There will not be any physical work. I just rested in Manahari, ate meat and rice, and then at the end faced so much pain[...]. (A5, 24 years old, Chepang Mother, Ward 5)

A story of negligence was also shared by a FCHV as she explained an instance of maternal death as:

[...] it's been three years since this incident happened. The husband was the office assistant of the school, and she was the sister-in-law of FCHV so she might have received a lot of information from her sister-in-law but it seems like she did not believe it and delivered it at home. That is also the reason for death. She died due to her husband's mistake. She was innocent and agreed to her husband, and her parents were a little poor [...] (K10, 46 years old, Sr. ANM)

ii. Communication with service provider

Most of the participants shared that they feared going to health institutions for the fear of being touched by others.

They explained:

I feel ashamed for going to the hospital to give birth. That's why I stay at home. [...] I gave birth to all of my children at home. Nothing happened. I didn't ever go to the hospital. What should I lie for? In the hospitals, they will insert this much of their hands and that makes me scared. That's why I don't go [laughs]. (A1, 22 years old, Chepang Mother Ward 5)

Even though I was young at that time, I delivered at home without any complications. The people in the village used to tell me that one should not go to bazar to deliver as they will be shameless. Now, what do I know right? They use to scare me. A girl from there was taken to hospital for delivery and the villagers talked so many bad things about her that she was touched here and there by other men. That's why I got scared and decided to deliver at home. [...]It was 6 p.m. when my labor started. I could not sleep the whole night but even then they didn't take me to the hospital. They said that I should give birth at home then, so I agreed to give birth at home and delivered the baby after 6 in the morning. (A4, 25 years old, Chepang Mother, Ward 5)

The key informants also provided their insights and experience on this matter as they revealed women feared some other men entering their hands inside their vagina and uterus which made them uncomfortable.

The lack of public awareness is the main reason and they feel ashamed and hear negative things regarding birth delivery such as the health workers will put their hands here and there. So they don't come here. (K9, 33 years old, AHW)

They go to the health post very less for delivery. Now, those who understand say that they should be taken to the health post and they go too. But those who don't understand, they are afraid and don't want to go to the health post. They say that they fear going to the health post. So, due to the fear, they might not have gone to the health post. (K1, 22 years old, Teacher)

There are some hard-to-reach areas where people are not aware and lack knowledge. As I mentioned earlier the Nafan organization is focusing on those areas. So that's why home delivery is now relatively less. When we go there, they are still having home delivery and when we ask them to go to the hospital for delivery they would reject it. They say they feel ashamed to go to the hospital for delivery and show it to others. They say they are even ashamed to show to their husbands so let alone be another man. They say how can they show it to so many other people in the hospital. Due to that stubbornness, they don't go to the institution. That ashamedness brings them closer to death and health risks. (K2, 52 years old, FCHV)

As I told you before, it's because of shame and fear. They say that if they go to the health post to deliver, the health workers will put their hands in the uterus and these actions make them feel shy. So it's actually due to shame and fear. (K3, 31 years old, FCHV)

A FCHV provided an in-depth perspective as she explained Chepang people felt more comfortable visiting health institutions when there is the presence of local health worker

Before they used to hide whenever they saw people. About coming to the health post, because I am a local, they come straight in. But when they do not see me at the health post, they turn back and go [...] (K10, 46 years old, Sr. ANM)

She further added that the election and party system had created problems in the effective roles of FCHV as she shared with hesitancy:

We have to do a lot of work -vaccination, run gaaughar clinic, etc. we don't have time to only look after the postpartum mothers. Now, what to talk about FCHV, everyone is a leader. They say these many postpartum mothers have been found, these numbers came for a Vitamin supplement, and we gave iron capsules to this number of pregnant women and bring their report. They do bring the report but we would not know if it is actual or a false one. Before everything was in uniformity, but after the election, they all started following party [...] (K10, 46 years old, Sr. ANM)

One of the FCHV also expressed her dissatisfaction with the amount of work versus the remuneration they were being provided despite their extensive contribution to the health section

So far we have done quite well. When there were no FCHV neonates and mothers had death risks but now as we FCHV have started working, we haven't seen such complications and risk sister. That is good. Both pregnant and golden thousand days' mothers are doing good. But the work we do is just for free. When we want something there is nothing for us. Being a FCHV meant that we promised to work as a volunteer. We didn't know that. (K2, 52 years old, FCHV)

iii. Older adult perspective on home delivery

Most of the senior citizens had a perspective that home delivery is fine and safe as they had undergone the same experience. The key informants elaborate on this matter as:

People from the previous generation say that they safely gave birth to many children at home without any consequences. But I feel that giving birth at home is not as good as going to the hospital. Going to the hospital is much safer but people here only go to hospitals after they face problems. (K1, 22 years old, Teacher)

The other main is the stereotypical conservative tradition. Women from the previous generation say that during their times they got so many children at home. So why do people of today have to go and show their vaginas to others? They say these are shameless people who go and show it to others. (K10, 46 years old, Sr. ANM)

Old mothers say that easily gave birth at home. So why do people now have to go to the health post for delivery? They say it's all drama. That is the problem in the village and such problems keep on occurring. (K5, 30 years old, FCHV)

iii. Incentives

A health worker mentioned that the municipality had been providing Rs 5000 as a nutrition incentive for the mothers who had delivered in the institution along with ANC visits. This program had been playing a positive role in increasing ANC visits and delivery in the institution.

Firstly, there are only four birthing centers in this municipality with no ambulance services. Secondly, the geographical disparities here are the barrier to decreasing the ANC visit. Also, the people from rural geography did not have enough information about health services too. We have been providing Rs.5000 for institutional delivery and as a poshan vatta (nutrition incentive) to the women who are playing a positive role. [...] Those who belong to educated family are aware of their expected date of delivery and comes to visit health institution on their own. (K6, 28 years old, Health Coordinator)

He further added:

This provision is implemented from last two years. In the first year it took time to implement after that slowly the information was circulated and now we have spent around 7000 and the budget of 10 to 12 lakhs is separated for this provision. (K6, 28 years old, Health Coordinator)

Other key informants had also highlighted the incentive provision that was being provided by the municipality as they explained:

We provide sutkeri (delivery) allowance in the health institution. Now, it depends on how many times they came for the checkup. If they completed their checkup, they get Rs.2800, and those who didn't complete get Rs.2000. (K5, 30 years old, FCHV)

The government has made a policy. Even our rural municipality has made a policy. If she goes to a health institution when the child is born, she gets incentives. If she goes for 4 ANC visits and delivers a baby in the health institution, then 5000 rupees will be given from the ward side [...] in my ward now 10, 12 applications have come so far. The rural municipality gives it from its internal revenue. After the request is submitted by the ward, the rural municipality transfers the money to our account and the ward disburses the request. [...] (K7, 45 years old, Ward Representative)

iv. Access to health facility

Geographical barriers, lack of money, lack of transportation, and lack of ambulance services were the most common reasons for home delivery as stated by participants.

Now we have a birthing center here. It will be difficult if people from ward 8 have to go to Manhari, as the ward is big. Our ward 8 is as big [...] The houses are scattered. You must have seen that. It takes a person two to two and a half hour to reach the endpoint of ward 8 from Pangbung and that is for those who walk fast. For some, it takes a whole day. I saw on Facebook that a village home clinic has been established in Pangbung. (K10, 46 years old, Sr. ANM)

There is a health facility and it is 20 to 30 minutes away from my house but there is no birthing center there. Reaching the health post with the birthing center from here will take more than three hours. It is so far and that is also one of the reasons why they don't agree to go to a health institution. (K4, 42 years old, FCHV)

I think home delivery is more in Ward 8 than in Ward 5. Though ward 5 has birthing centers, institutional delivery is very low due to geographical constraints, no ambulance facilities, and poor road conditions. Sometimes when a mother is in labor pain and tries to come to a health institution, there have been instances when they deliver on road. An ambulance was brought but it is not in the working phase due to the poorness of the road. For someone living at the top of the hill, it is very difficult to come to a health institution for delivery. It is also difficult to bring them by carrying. However, we do tell them that they could come and stay 3 to 4 days before the date of delivery in the health institution. The rate of institutional delivery is found to be above 90 in ward 3. It is somewhat good in ward 2 also. It is almost 60 above but in ward 7 almost 90% of home delivery is found. It is very difficult. (K9, 33 years old, AHW)

In a similar context, a key informant shared how delivering at home is the only option they are left with even if they want to go to the health institution for delivery.

Here, those who live far away give birth at home. Those who live near bazar go to the health institution for delivery. But those who live in the village, give birth at home. When we ask why they gave birth at home, they say there was no one there to carry them and take them to the health post. Now what to do, we know this place and we know the problem. (K5, 30 years old, FCHV)

She further adds:

Even if they know that they shouldn't deliver at home, it is difficult for those who are living in the upper hills to go to a health institution. It is because of the difficult road and because their house is too far. They know they need to come during labor but they cannot travel to health institutions as they have to be carried and they don't even have friends. So they are forced to deliver at home. (K5, 30 years old, FCHV)

A key informant also disclosed that the women feared delivering on the road if they have a short labor period as there had been instances of delivering on road previously.

[...]Chepang people have no money. They have to call a carrier and take food which becomes expensive as it is a long way. They say that they give their earlier births at home and even they were born at home by their parents. So why should they go to a health institution for delivery? Some of them walk slowly and also reach health institutions. However, some of them who have short labor pain also cannot go. Some of them will give birth on road. They are scared and tell us that it will be more troublesome if they give birth on the road while traveling to a health institution. (K4, 42 years old, FCHV)

There were 3to 4 women who had delivered on the road while being carried to the key institution as unveiled by one of the key informants.

There are ¾ people who have given birth on their way. And after giving birth they were carried to a health institution. If they go with me and by chance happen to deliver on road, I will ensure that they reach to health institution thereafter. However, if they go without me and happen to deliver on road, they come back home. (K4, 42 years old, FCHV)

With no proper transportation means, it is difficult for women to reach health institutions on time. One of the participants shared her experience of challenges with means of transportation during childbirth:

I delivered at home. I had labor pain for 3 hours and gave birth in 5 hours. I delivered at home because I didn't have the money to go to the hospital. The hospital was far away. There was no vehicle at that time. If had to reserve one, I had to pay 10 12 thousand and we didn't have that much amount of money. That's why even if I survived or died I only had the option to deliver at home. The hospital was far away and I would have been sick along the way when traveling. There would be expenses. I had no money. I couldn't go on walking. If we had asked someone else to carry, then we also had to give them money and lunch. If we had asked for the vehicle we had to give 10 12 thousand for reservation. (A9, 20 years old, Chepang Mother, Ward 8)

In the rainy season, the geographical barriers are increased with decreased means of transport and landslides damaging the roads.

It is a bit difficult during the rainy season. You must have known by now; we don't get vehicles during the rainy season and winter season. [...] We have to walk. It is difficult for them (service seekers) too. (K10, 46 years old, Sr. ANM)

5.3.4 Health problems during pregnancy and childbirth

Health problems during pregnancy and childbirth refer to any medical conditions or complications that may occur during pregnancy, labor, delivery, and postpartum. This theme has four sub-themes: Health consequences during pregnancy, Health consequences during delivery, Maternal and neonatal death, and Health consequence after childbirth.

i. Health consequences during pregnancy

Only a few adolescent mothers had faced health problems during pregnancy, the common ones being high blood pressure, pain in the lower part of the stomach, dizziness, and breast infection.

Participants stated their health problems during pregnancy as:

I have a different story after this child came into the womb; I had many health problems since 7 months of my pregnancy. My blood pressure became very high 7 months after my pregnancy. The blood pressure was 150/110 in the beginning and after that, he said to consult a doctor once if your blood pressure is very high during pregnancy. It can be dangerous for both mother and child. Then, I went to Bharatpur after consulting the people of the house, but my pressure is not under control. [...] Before pregnancy I didn't have the issue of high blood pressure. (A3, 23 years old, Chepang Mother, Ward 5)

It is definitely hard to give birth but I had a normal delivery. Everything was fine. Before delivery, I used to have a hard time due to pain in my lower stomach, dizziness, and vomiting but now it's good. (A10, 17 years old, Chepang Mother, Ward 8)

There were no significant health problems. But I did have a breast infection at the time. Later I went to the hospital and the infection was removed and I became fine. (A7, 24 years old, Chepang Mother, Ward 8)

Most of the participants revealed that they hadn't faced any health problems during pregnancy.

I have heard that if someone has a baby at a young age, she might later have uterus-related problems. But that was not the case for me even if I had a baby at a young age. (A7, 24 years old, Chepang Mother, Ward 8)

ii. Health consequences during delivery

Most of the participants stated that they didn't face any complications during the delivery and childbirth process.

It wasn't difficult at the time of giving birth. I had labor pain in the morning and I gave birth at night. (A2, 18 years old, Chepang Mother, Ward 8)

A health worker also shared his experience as he had not seen many health complications among teenage mothers but rather the increment in complications with age.

I have not seen health complications among teenage mothers. Rather what I have seen is that compared to women who give birth before 20 years, those who give birth after the age of 28 or 30 years have higher cases of stillbirth, infertility, and miscarriage. [...] In my friend circle when I see mostly many of our friends find it difficult to conceive and have a baby, they undergo infertility tests and treatments. Regarding adolescent mothers, such problems aren't commonly seen. But there are definitely a few rare cases. (K9, 33 years old, AHW)

However, cases of high blood pressure and having to undergo cesarean section procedures were disclosed by some of the participants.

I had high blood pressure. I was unconscious because of it and then I had an operation. In the first two children I had no health issues, whereas, in the younger one, I faced a lot of hardships. (A6, 23 years old, Chepang Mother, Ward 8)

I was suddenly struck by high pressure and had to go to Bharatpur at night in an emergency. I don't even know what happened then. Had I given birth to a son I would have died. The nurse said I gave birth to a daughter which is why my daughter and I could survive. Then the operation happened. It was difficult. There was no chance of survival. (A5, 24 years old, Chepang Mother, Ward 5)

On a similar note, a participant explained the health problems among the newborn as her son was low birth weight during birth.

I fainted due to pressure and after that, I had to undergo an operation before my expected date of delivery. The expected date of delivery was at the end of Ashwin but I had to undergo an operation on the 14th of Bhadra to give birth to my son. My son was also very small. He was only 1kg 500 grams at that time. And his heartbeat was fast and after that, both mother and son were in ICU. (A3, 23 years old, Chepang Mother, Ward 5)

Likewise, due to retainment of the placenta a participant unveiled that she was rushed to hospital.

I gave birth at home. But my placenta was not discharged so take took me to the hospital. The health workers scolded me for giving birth to so many daughters. I didn't say anything. (A4, 25 years old, Chepang Mother, Ward 5)

Most of the participants mentioned that they had normal delivery while delivering the child in their adolescence but had to undergo operations in their latter children.

I gave normal delivery to my elder son and daughter at home. I gave birth to the younger son with the thought that two sons are needed for parents. But I had to deliver the younger son by operation. Now I think I was led to an operation while wanting a second son child. Therefore, now I don't want more. I am happy. (A6, 23 years old, Chepang Mother, Ward 8)

A health worker stated that tears and bleeding during delivery were more common among adolescent mothers but the mothers were reckless about their health.

The health problems I have seen among teenage mothers during the stage of labor are the frequent occurrence of tears and more bleeding. Later they say that their stomach hurt but they walk easily. When there is a tear and they have stitches, they are asked to stand up slowly, but they don't care and walk carefree and even do not feel pain. They come to health post walking, deliver their babies, and start walking carefree even if we advise that the stitches might come out. For some, there is bleeding, and we tell them that they should not ask and someone should carry them but they don't care. May b it is because they eat organic spinach. Now, I feel they have become a little weaker. There is a shop everywhere and we ask them to not drink cold drinks like dew but they don't agree. In some cases, the babies are underweight[...]. (K10, 46 years old, Sr. ANM)

One of the participants mentioned that when she had delivered in the village, it was safe and normal whereas when she stayed in the city area and ate a lot of diets, she had to undergo operation procedures.

Nothing had happened to me during pregnancy. Everything was fine. I could even climb trees, and go to the jungle to search for tarul. I could carry wood. But later when giving birth to a younger one, I stayed at manahari did nothing, just ate meat and rice, and ultimately had to face more pain as I went through an operation to give birth. (A5, 24 years old, Chepang Mother, Ward 5)

iii. Health consequences after childbirth

Most of the participants stated that the Chepang adolescent mothers didn't face any complications or health consequences after childbirth.

I haven't seen both adolescent mother and child face any such bad complications so far. (K9, 33 years old, AHW)

The belief in Jesus and his willingness for her and her daughter to survive was explained by one of the participants as:

Nothing happened. Neither to my daughter nor to me. Maybe it was Jesus's wish for us to survive after all those difficulties. Maybe it was gods will to increase our life years so that we can work and live. (A5, 24 years old, Chepang Mother, Ward 5)

However, some of the participants mentioned that they had high blood pressure after childbirth and had to consume medications.

When I gave birth at that time, I had high blood pressure. Then I consumed medicine regularly for 2 months and then I left. Since then, I haven't faced such health issues. (A6, 23 years old, Chepang Mother, Ward 8)

On the same line, a participant revealed that she had to undertake medications for high blood pressure and that probably she would have to consume them for a lifetime.

I have to take medicine for blood pressure until I die now and also, and I have asthma. I feel worried to bear another son. I feel uneasy living with only one child also. It is very difficult to have another child. I didn't have an issue with high blood pressure before delivering the child. Now, I have to take medicine. My blood pressure is not under control and I have increased the dose according to the doctor's advice. (A3, 23 years old, Chepang Mother, Ward 5)

She further adds:

I wanted to have a normal delivery. But what to do? It's not as we think. By doing cesarean section delivery, my son's weight is also less. I was admitted at CMC Hospital for about a month [...] (A3, 23 years old, Chepang Mother, Ward 5)

A mother unveiled how she felt extreme pain in the lower part of her stomach and got medicines after consultation with the doctor.

I had aborted two babies before but nothing happened in the first one. At the turn of the second one, I felt extreme pain in the lower stomach up to two weeks after eating. I discussed with my mother about my problem and she told me to ask my husband to get medicine. Then he went and consulted with the doctor and I took it after he had bought it. Now it doesn't hurt anymore. (A8, 21 years old, Chepang Mother, Ward 5)

A FCHV revealed that Chepang women think the responsibility of care is over after the child is separated from the mother which acts as a constraint for postnatal care.

[...]and what they often think is that it is over after the child is delivered. It is over after the two lives; the woman and child are separated. [...] (K10, 46 years old, Sr. ANM)

However, a FCHV further provided a new insight with her statement that despite the high prevalence of adolescent pregnancy, the prevalence of malnutrition was rare among Chepangs.

She explained it as:

It is said that malnutrition is mostly in the Chepang community, but in my ward, malnutrition is not seen in Chepang, it is seen in the Dalit people. Now, malnutrition is prevalent in the Dalit community. It used to be seen in Chepang, but now, it is not. Wherever I visit, I look at the children of Chepang. I visit during the time of vaccination. The children come there but they don't look that malnourished. [...] they grow lots of spinach and sisnu. During the blooming season, people go there to pick them. The babies who eat such food are very healthy. (K5, 30 years old, FCHV)

iv. Maternal and Neonatal death

A FCHV shared that in her 13 years of experience, no mothers had died in her ward but there had been 3 deaths in ward 7. She elaborates on the incident of one of the death as:

I came and worked here for 13 years, but I haven't found any such deaths here in my ward. In ward 7, 3 of the mothers have died. Because from Dhirang health post, it takes about 8 hours to reach here. And here I got the call, the baby was delivered yesterday but the placenta was not delivered. If the placenta was not delivered, then calling her to the health post was useless so I asked them to take her to the nearby Chitwan. However, on their way she died due to excessive bleeding. (K10, 46 years old, Sr. ANM)

She further explains another incident of maternal death how a mother died due to heavy blood loss.

It's been about 6-7 years down there, a baby was born, but there were some complications during delivery. When they were about to take her to the hospital due to heavy blood loss she died. (K10, 46 years old, Sr. ANM)

She adds to the issue by explaining another case of maternal death as:

Likewise, in ward 6, here during the first day of a month, it was during the rainy season, she was the sister-in-law of our fellow FCHV, I asked to bring her up to the health post but the labor started during the night. As her labor began, our health post was not too far, they could reach in 1 hour. I told her not to give birth at home and what happened is that she had already had two abortions and then she again got pregnant. They wanted to give birth at home, so thinking that if his sister-in-law finds out, she will ask him to take her to the health post, he did not go to her. He went to his mother and called her and the daughter-in-law started giving birth. After a long time, the mother-in-law said that we should call the elder daughter-in-law and he went to receive her. People have different thoughts. Her husband was even the office assistant at the school, but he felt difficult to call others to help him carry her. Some people have different feelings. When FCHV came, the baby had already come out, and also the placenta. All people together laid her on the bed inside, then suddenly there was a sound of falling. My fellow FCHV was cleaning all the discharge outside when the sudden sound of falling came. She was bleeding heavily, and I got the call. When my fellow FCHV called me, she had already fainted. I asked her to bring her to the health post and I would give her saline and then take her down but she did not bring her. I wondered why he didn't bring her so, I called him to ask and got information that they discussed and took her down but on the way she died. (K10, 46 years old, Sr. ANM)

A key informant highlighted that only one incident of maternal death had happened which too was five years ago.

One incident of the death of a mother happened 5 years ago. Otherwise, I haven't seen or known about any mother's death before or after that incident. (K4, 42 years old, FCHV)

On the same note, some key informants mentioned that there had been no maternal deaths in the wards.

I have not seen any such cases of maternal or neonatal death. I have neither seen nor heard about that. So, why should I talk about a thing which I have never seen or heard, right? Had I seen or heard, I could tell you. (K5, 30 years old, FCHV)

However, four to five neonatal deaths had been reported as per an official from Municipality.

I have been living here for 7 years now and I have not seen maternal mortality death in the community. I have not even heard about child mortality. But there was neonatal mortality. In this period of 8 years 2 died in the first year and after that 1 died. About 4-5 neonatal deaths occurred altogether in these years. (K6, 28 years old, Health Coordinator)

5.3.5 Abortion

Abortion refers to the deliberate termination of a pregnancy before the fetus can survive outside the womb or the spontaneous loss of a pregnancy before the 20th week of gestation.

Abortion is a complex and intensely personal issue, and its impact on Chepang community is a crucial aspect of the conversation. Chepang communities are disproportionately affected by the lack of access to safe abortion services due to a range of factors such as poverty, discrimination, limited healthcare access, and poor sexual education.

i. Prevalence of abortion

Respondents explained that abortion was a common phenomenon in Raksirang and those who seek abortion care were mostly under the age of 20 years.

People here in Raksirang become pregnant and abort it normally. I get amazed by their guts and willpower. (A8, 21 years old, Chepang Mother, Ward 5)

Here the matter of abortion is a bit secret. The one who is in the need of service also did not want to visit the health institution. The data shows that the women from the Raksirang have been involved in more abortions. The data from Manahari hospital shows that those women who seek abortion care are under the age of 20 years. We opened a medical abortion center and it has been running for one and a half years, and in that time, we have had 25 people come for abortion services. (K6, 28 years old, Health Coordinator)

One of the participants shared a story of her maternal aunt who had aborted 4 to 5 children. She explained that her aunt preferred having an abortion to using other means of contraceptives.

My maternal aunt who lives there had aborted many children. She already had enough children and did not want any more. She had 3 sons and 3 daughters. She wouldn't take the depo injection but kept aborting the baby and so, she had a uterus problem. She wouldn't agree to use the injection. Maybe she threw 4 or 5 babies. We used to advise her a lot to use the injection like us [...] (A4, 25 years old, Chepang Mother, Ward 5)

On the same line, a participant mentioned that the use of depo was more hurtful than the use of contraceptives.

I had an abortion once in between. I had medicine and aborted my child. That too on my own will. My husband also asked me to go for an abortion. DEPO hurts more than abortion. That's why I would rather be pregnant with a child and abort it later. What should I lie for? (A8, 21 years old, Chepang Mother, Ward 5)

Another participant revealed that she became pregnant again after 6 to 7 months of abortion and then decided to not undergo abortion again.

I got pregnant after 6 7 months of aborting the child. Then we thought how many children to abort? That's why we decided to give birth. The health worker in the health post also scolded us for getting pregnant again soon after the abortion. (A10, 17 years old, Chepang Mother, Ward 8)

ii. Seeking medical abortion

Chepang young women sought abortion services for many reasons. One of the reasons as shared by a participant being too young to give birth. With the perception that giving birth at a young age is difficult, a participant shared that she decided to have an abortion.

I was scared. I didn't know anything. I didn't know how I got pregnant. My husband had told me that we should have the child but my father-in-law said that I was too young to give birth and it will be difficult for me to give birth. That's why I aborted the child [...] he said that I was small and young and couldn't give birth. (A10, 17 years old, Chepang Mother, Ward 8)

A key informant shared another reason for Chepang women to seek abortion as she mentioned that sometimes the baby grows smaller and sometimes, they become pregnant without their own will which is why they seek abortion services.

[...] there are women who abort on their will. In some cases, the baby starts growing smaller and in some, they get pregnant when they do not want [...] if they had discussed this with me I send them to Manhari for free abortion. And those who do not discuss with us, I don't know where they go -maybe medical. (K5, 30 years old, FCHV)

On a different exploration, a participant disclosed that she wanted to abort the child but with the hope that she will give birth to a daughter, she didn't take the step of abortion.

[...]at that time, I forgot to use DEPO and that's when I got pregnant. I wanted to abort it but everyone advised me not to abort it as it might be a daughter and even my mother told me to give birth to this baby. So, I gave birth but it was a son though I needed a daughter. (A8, 21 years old, Chepang Mother, Ward 5)

The ones who are smart and have access to abortion services seek medical abortion timely whereas the innocent ones only seek services after 4 to 5 months of pregnancy.

There are people who do abortions. They should not bear a child, and they should use temporary devices rather than aborting is what I say but it's only in words. After they get pregnant, they go to medical and get aborted without informing. Later when they bleed, they come and explain these happened only after the problem arises. They know that they should not give birth early without spacing, and we also give them advice. However, the clever ones get abortions quickly. Others who are innocent and don't have money, come to the health post after months saying they wish to abort, but that is not possible after 4/5 months. [...] (K10, 46 years old, Sr. ANM)

As safe abortion services take money that people cannot afford, they tend to opt for unsafe abortion as revealed by one of the key informants.

I didn't know about this before working as a FCHV. I had also taken sudeni (birth attendant) training. I happen to work as a FCHV while I was working as a sudeni. There were some cases of abortion on self-will and uterine prolapse problems. [...] If a woman here wants an abortion service then some of them go to the private clinic in the city below and accordingly take abortion pills. Most of them go to Sunaulo Pariwar in Hetauda. In the end, it's all about money. Those who have the money go for a safe abortion. Those who don't have money pay 1000 1200 and up to 7 weeks of pregnancy are aborted. So they go there and buy the abortion pill. Safe abortion takes a lot of money. Those who don't have money take the medicine and abort. The ones who have the money go to a safe delivery site. (K2, 52 years old, FCHV)

iii. Miscarriage

Miscarriage is particularly challenging for individuals from Chepang communities due to a variety of factors, including limited healthcare access, societal stigma, and discrimination.

A health worker mentioned that there are not many cases of miscarriage. However recurrent miscarriages were common among few.

There are not many such health problems, even if it is a teenage mother. Miscarriage cases are very low. Some of them have recurrent miscarriages. (K9, 33 years old, AHW)

A participant shared her story of miscarriage as she mentioned:

I had a miscarriage-the one previous to my younger son. It was a miscarriage. I hadn't taken any medication for abortion. Actually, what had happened was that my younger sister was in labor pain and then I had to take her to Bharatpur hospital in an ambulance. At that time, I vomited. I went to take care of my sister. But I myself vomited and I became so sick. I felt like I was going to die. I don't know what I ate. I saw blood stains. Then when I reached home, I started wondering what happened to me today. I ate a little forcefully, then after pieces of blood clots (chokta chokta) were seen. I don't know what exactly it was. It fell down in the toilet. I didn't see it. I didn't do anything. It was a miscarriage on its own. Then later I went to the hospital. The doctors told that the daughter had already come out but the placenta was still there. So, then I had to take it out. (A6, 23 years old, Chepang Mother, Ward 8)

Likewise, another participant shared how she did not know she was pregnant and kept rubbing stones in her stomach which led to a miscarriage.

After that I was again pregnant with the second child then I didn't know I was pregnant and I thought I had some problem in my stomach and I kept rubbing stones (dhunga gobeko). That is how I got a miscarriage. I didn't know. Wherever there was sul chadeko there I rubbed with the stone (gobarna). That was the place where the child was inside me. Then after two hours, I had a miscarriage. I didn't know. Dhunga gobeko (rubbing by stone) means you put that stone in the fire and make it hot and put it on clothes and put it on his stomach. I was suffering from a cold (sul chareko). That's why I did it. (A9, 20 years old, Chepang Mother, Ward 8)

She further added that she had another miscarriage while working on a poultry farm as she had to do extreme physical work.

I have two miscarriages. When I was pregnant with my first child I used to work in poultry farming. Most of the work was a bit hard and had to work full-time to pick up the grains. It was physically draining. When you do someone else's work you have to do whatever they say. I slipped one of the days during work and that's how I had a miscarriage. It went by itself. (A9, 20 years old, Chepang Mother, Ward 8)

In the same context, a participant unveiled how she didn't know she was pregnant and kept doing extreme physical work which led to the miscarriage.

I had a miscarriage once. When I was 3 months pregnant at the age of 16. At that time, I did not know that I was pregnant. I used to do heavy household work in the village. Then after 3 months, it went out after heavy bleeding itself. I was scared at that time as I didn't know what had happened. Then later I knew I was pregnant and had a miscarriage. (A5, 24 years old, Chepang Mother, Ward 5)

Being discriminated against and facing stigma due to miscarriage can have a significant impact on adolescent mothers. A participant shared her similar experience as:

I got married on the 5th /6th of Baisakh. I had menstruation at the end of Baisakh then I got pregnant but it was miscarriages in 3-4 months. Again I conceived after 8/9 months and it was also a miscarriage. My in-laws told me that I was infertile at that time. They asked my husband to bring another wife. At that time, I was very young [...] (A8, 21 years old, Chepang Mother, Ward 5)

A health worker mentioned that there are not many cases of miscarriage. However recurrent miscarriages were common among few.

There are not many such health problems, even if it is a teenage mother. Miscarriage cases are very low. Some of them have recurrent miscarriages. (K9, 33 years old, AHW)

5.4 Summary of Qualitative Findings

A total of 20 interviews (10 IDI and 10 KII) were taken during the qualitative study. The prevalence of adolescent pregnancy was found to be reducing at a very slow rate during an interview with the participants. From qualitative analysis, six main themes emerged for factors affecting adolescent pregnancy: (i) access and use of sexual and reproductive health services (ii) programmatic aspects (iii) elopement marriage as a thoughtful escape (iv) discontinuation of education (v)knowledge and understanding of marriage, pregnancy, and childbirth (vi) socio-cultural beliefs and norms. on marriage, pregnancy, and childbirth.

Similarly, five main themes emerged for health consequences: (i) antenatal care (ii) pregnancy and delivery experiences (iii) home delivery (iv)health problems during pregnancy and childbirth (v)abortion

The factors affecting adolescent pregnancy were identified as lack of access and use of sexual and reproductive health services, programs, and policies, elopement marriages, discontinuation of education, poor knowledge and understanding of marriage, pregnancy, and childbirth, and existing socio-cultural beliefs and norms. Likewise, adolescent mothers mostly opted for home delivery, had a miscarriage, sought abortion care due to unwanted pregnancy, and feared consuming iron tablets during pregnancy. However, health consequences during childbirth and pregnancy were not reported by most adolescent mothers.

Chapter VI : Mixed Method Results

Data triangulation is the practice of using multiple sources of data or multiple approaches to analyze data to increase the credibility of the research study. [104] Here we have used the data from the quantitative and qualitative study to identify and validate the factors associated with adolescent pregnancy and its health consequences among Chepang women of Raksirang Rural Municipality.

6.1 Area of Convergence

Early marriage, unplanned pregnancy, knowledge of adolescent pregnancy, sex education, contraceptives use, abortion, home delivery, and health problems during pregnancy, childbirth, and postpartum were identified as the areas of convergence in our study.

a. Early Marriage

In the quantitative study, a large proportion of respondents (72.73%) were married before the age of 18 years. Also, child marriage had a significant association with adolescent pregnancy. This was similar to the findings from the qualitative study where the respondents expressed concerns about child marriage prevalence and its link with adolescent pregnancy. It is shown by verbatim below:

I came back when I was 14. I worked there for 6 years. and exactly got married at 14 and a half years old. So basically I got married at 14 years old. (A9, 20 years old, Chepang Mother, Ward 8)

b. Unplanned pregnancy

Around two-fifths (39.4%) of the respondents had planned pregnancies while sixty percent of respondents had unplanned pregnancies. In our study, those who had an unplanned pregnancy were more likely to have adolescent pregnancy than those who had a planned pregnancy. Unplanned pregnancy was identified as a major reason for adolescent pregnancy during qualitative interviews as most of the participants shared that they did not plan their pregnancy and childbirth.

I happened to be pregnant one month after getting married already but I didn't know about it. I didn't know I was pregnant at that time. I only knew 3 months after that I was pregnant [...] my menstruation stopped but I didn't know that menstruation stops when you are pregnant. I used to have nausea and vomiting then I told my mother-in-law. She told me that I might be pregnant and then we went to the health institution below for a pregnancy test. They said that I was pregnant. (A10, 17 years old, Chepang Mother, Ward 8)

I knew that I was pregnant in around 3 4 months. [...] I came to know so late because of a misconception. In our Chepang community, there is a belief that some of us are not on regular periods and it may stop for 2 to 5 months. They said that menstruation goes to Maiti (mothers house). I also thought the same and believed it. I thought my menstruation had also gone to Maiti. But later I knew I conceived a baby. (A3, 23 years old, Chepang Mother, Ward 5)

c. Knowledge of adolescent pregnancy

Around two-fifths of the respondents (39.4%) had poor knowledge regarding adolescent pregnancy followed by average knowledge (31.2%) and good knowledge (29.4%). Likewise, those who had poor knowledge scores were more likely to have adolescent pregnancy in comparison to those who had good knowledge scores after controlling for other variables in the quantitative study. This finding was also validated by qualitative exploration as participants shared having a child below the age of 20 is beneficial for both mother and child.

Giving birth after 20 is difficult. That's the truth. If you give birth at 17-18 you will also be young when your child has already grown up. That's why I gave birth early. (A1, 22 years old, Chepang Mother, Ward 5)

They say that a girl is like a withered flower when they turn old, so they should have children from 18 to 20 years old. Otherwise, a girl becomes old like a withered flower. The young boys will marry a young girl and who is going to marry an old-aged girl? They have such conversations. (K10, 46 years old, Sr. ANM)

d. Sex education

Almost two-thirds of the participants hadn't received sex education in our study. Furthermore, those participants who didn't receive sex education were more likely to be pregnant in their adolescence than those who received sex education. This finding was in alignment with the finding from the qualitative study. As most students drop out at the primary level, they weren't able to get sexuality education as the curriculum mostly incorporates it in a higher level of education.

No one ever taught me anything like that (sex education). They don't teach things like that in the village. But in the lower city market schools teaches such things as well. I heard my daughter studying uterus, and menstruation. People from Bharatpur hospital also come there to teach students. (A7, 24 years old, Chepang Mother, Ward 8)

f. Contraceptive use

The majority of the participants didn't use any means of contraception immediately after marriage in the quantitative study. A similar finding was reported from a qualitative study which revealed that Chepang men and women didn't use any form of contraception after marriage which led to being pregnant at an early age.

In our Chepang community, they don't use family planning methods immediately after getting married. One person has done it. Only one person has used and others have not. That one person uses pills. (K5, 30 years old, FCHV)

e. Abortion

Just under one-fifth (21.8%) of the adolescents had an abortion or miscarriage. Adolescent mothers during qualitative interviews shared their experience of seeking an abortion due to unwanted pregnancy, being young or their stories of miscarriage due to heavy physical work and unknown causes.

The verbatim below depicts such experiences:

My maternal aunt who lives there had aborted many children. She already had enough children and did not want any more. She had 3 sons and 3 daughters. She wouldn't take the depo injection but kept aborting the baby and so, she had a uterus problem. She wouldn't agree to use the injection. Maybe she threw 4 or 5 babies. We used to advise her a lot to use the injection like us [...] (A4, 25 years old, Chepang Mother, Ward 5)

I have two miscarriages. When I was pregnant with my first child I used to work in poultry farming. Most of the work was a bit hard and had to work full-time to pick up the grains. It was physically draining. When you do someone else's work you have to do whatever they say. I slipped one of the days during work and that's how I had a miscarriage. It went by itself. (A9, 20 years old, Chepang Mother, Ward 8)

f. Home delivery

In regards to the place of delivery, more than seven out of ten adolescent mothers had home delivery in the quantitative study. Such finding was also validated by the findings from the qualitative study as mothers shared why one should deliver at home as a participant mentioned:

I gave birth at my home in naya basti. Everyone use to say that I was young and was able to give birth. So I delivered at home. Had I not been able to give birth at home, I would have gone to a health institution. But I was able to give birth at home. So I didn't have to health institution. (A2, 18 years old, Chepang Mother, Ward 8)

g. Heath problems during pregnancy, childbirth, and postpartum

In addition, slightly less than one-fourth (24.8%) of respondents had experienced health problems during pregnancy, just under a third of respondents (29.1%) had health problems or complications during delivery, and just over a fifth of respondents (22.4%) had health problems during the postpartum period.

In the qualitative study, most of the adolescent mothers mentioned that they didn't face any complications during pregnancy, childbirth, and the postpartum period. This was supported by the findings from the qualitative study.

I have heard that if someone has a baby at a young age, she might later have uterus-related problems. But that was not the case for me even if I had a baby at a young age. (A7, 24 years old, Chepang Mother, Ward 8)

I haven't seen both adolescent mother and child face any such bad complications so far. (K9, 33 years old, AHW)

6.2 Area of Divergence

Elopement, education level, distance to the health facility, societal, family and peer pressure, and socioeconomic status were identified as areas of divergence.

a. Elopement

Love marriage didn't have a significant association with adolescent pregnancy in the study. However, it was contradicted by the findings from a qualitative study that identified elopement as a major predictor for adolescent pregnancy. During qualitative interviews, it was explored that elopement was the new trend in Chepang community. Adolescent girls who ran away from their families due to elopement marriages often didn't have access to proper sex education. This lack of knowledge led to unwanted pregnancies. It was also explored that elopement marriages often left adolescents without the support of their families or communities.

Back in time, marriage was done by parents at a younger age without any discussions with their children. This trend was not only in Chepang community but also in other communities. Earlier marriage was forced by the parents but now marriage is done as per the wish of the children. They elope away. That is the new trend. 14, 15, 17, and 18 years aged children elope away and get married. (K9, 33 years old, AHW)

b. Education level

There was no significant association between education level and adolescent pregnancy in the quantitative study. However, low levels of completed education and early dropout contributed to adolescent pregnancy through several factors, including

lack of knowledge and information, social and cultural norms, and economic factors as explored by qualitative study.

The reason for that goes this way. It is also due to illiteracy. If one is educated, he/she knows all the rules and regulations, and policies and wouldn't do child marriage. Boys or girls must be 20 years old at the age of marriage. If they were educated, they would know that they should marry after reaching their age. Therefore, it is also because of illiteracy and because they do not understand that, they got married suddenly. (K8, 52 years old, Ward Representative)

c. Distance to the health facility

Distance to health facilities was not a significant predictor of adolescent pregnancy in the quantitative study. This was in contrast with the findings from the qualitative study as participants shared how it is challenging for those who live far away to access family planning services, including contraceptives, and did not have access to comprehensive sexuality education and information on how to prevent unintended pregnancies and also limited the availability of prenatal care, safe delivery services, and postnatal care, leading to complications for both the adolescent mother and the baby.

[...]Chepang people have no money. They have to call a carrier and take food which becomes expensive as it is a long way. They say that they give their earlier births at home and even they were born at home by their parents. So why should they go to a health institution for delivery? Some of them walk slowly and also reach health institutions. However, some of them who have short labor pain also cannot go. Some of them will give birth on road. They are scared and tell us that it will be more troublesome if they give birth on the road while traveling to a health institution. (K4, 42 years old, FCHV)

d. Societal, family, and peer pressure

There was no significant association between family and peer pressure with adolescent pregnancy in the quantitative survey. However, it was identified as a key factor influencing adolescent pregnancy in qualitative interviews. Societal pressure

which included the norms and cultural practices, parents' expectations and values as well as conforming to peers' behavior to fit in acted as a facilitator for adolescent pregnancy among Chepangs.

My mother-in-law and father-in-law wanted a child. I myself didn't want to give birth at that time but my in-laws used to say what is the point of not having a child after being married. Then my husband and I discussed and thought that if we have a child at a young age then we can raise them when we are young. (A2, 18 years old, Chepang Mother, Ward 8)

e. Socioeconomic status

Socioeconomic status didn't have a significant association with adolescent pregnancy in the quantitative study. However, upon qualitative exploration poverty was recognized as a leading factor that contributed to adolescent pregnancy. As poverty was high in Chepang community, education was often limited, and there were limited job opportunities to help families earn a good income. As a result, teenagers lacked access to quality education, healthcare, and social services, which led to a lack of knowledge about reproductive health.

Some have dropped out of school because they could not buy a dress and they have also dropped out of school because they could not afford to buy a bag. A child's state of mind is affected when the whole class comes with a bag and he does not have a bag with him. Then later the child would continue to skip school because he could not carry the bag. (K7, 45 years old, Ward Representative)

6.3 Area of expansion

a. Women's position in society

The low social status of women and gender-based violence limited Chepang women's access to education and reproductive health services, increased the risk of early marriage, and contributed to cultural norms that view adolescent pregnancy as acceptable.

My in-laws dominate me so much [...] When I went to bazar, they used to say what long (lamo) have you been searching, you bitch (randi, kukurni). I used to tolerate it. I was not mature at that time. [...] My parents-in-law always used to shout at me Even when I went out for work, they used to say, what are you looking for? When I went to fetch water, they used to say, that I went in search of man. Even when I went looking for grass and wood, they said I went looking for a husband or that I went to bazar looking for a man (lamo). [...] I used to bear a lot and did not speak back. They used to say, if I spoke back they would curse me. (A4, 25 years old, Chepang Mother, Ward 5)

b. Role of men in FP

The reluctance and hesitance of men in using family planning methods contributed to adolescent pregnancy by limiting contraceptive options, access to contraceptives, communication about family planning, and cultural norms that viewed family planning as a woman's responsibility.

[...] women tell us that their husbands don't agree to use condoms. [...] Men don't accept it. Now, you must have visited many places. Men are dominant over women. [...] We ask women to take the condoms home and use them but they don't agree. They say that when they take the condoms home their husbands tell them "do you sleep with another man at home. That's why you brought it. (K10, 46 years old, Sr. ANM)

c. Health consequences of using FP

The negative side effects of contraceptives contributed to adolescent pregnancy by reducing the use and access to effective contraceptives, reducing confidence in their effectiveness, and increasing reliance on less effective methods.

I didn't want to give birth again that's why I used DEPO. But when I used it I used to bleed heavily. Then I thought I would rather give birth to another child than bleed this heavy [...]DEPO hurts more than abortion. That's why I would rather be pregnant with a child and abort it later. What should I lie for? (A1, 22 years old, Chepang Mother, Ward 5)

d. Fear of not having a child later using contraception

The fear of not being able to have a child later in life after using contraception among Chepang women was one of the reasons for adolescent pregnancy. Young women avoided using contraception because they worried that it may affect their ability to have children in the future. They were further engaged in sexual activity without using any form of protection and thus at a higher risk of unintended pregnancy, which occurred during their teenage years.

They don't use any means of family planning. When we counsel, the village people do not listen. They say it will be difficult to have a child later if they use contraceptives. It's a bit difficult to explain to our Chepang community. They are living in their own way. Young people listen and obey what older people say. (K5, 30 years old, FCHV)

e. Hesitancy and fear of the service provider

Adolescents were reluctant to seek out health services, including reproductive health services, as they feared or mistrusted health workers. This limited their access to information and services related to family planning and contraception, as well as other aspects of reproductive health.

In Chepang caste, it must be due to fear or they are shy... They say that they feel shy and they are afraid. They feel shy to use it and do not come to the health post. They don't come for the use of family planning devices. [...] (K3, 31 years old, FCHV)

f. Programs and Policies

Various programs and policies were being implemented at the community, ward, and municipal levels including the birth registration policy, enforcement of laws, community awareness campaigns, and incentive provision. Such programs facilitated reducing adolescent pregnancy to some extent but there were barriers to the effective implementation of such programs and policies.

[...] now those who would get married and have a child before reaching the age of 15 or 20, the birth would not be registered due to which early childbirth has been reduced somewhat. But even if such laws and policies exist they give birth early and register their child after 5 or 6 years. And when they don't have marriage and birth registration, they can't get the 5000 incentives that the ward gives them for delivering in a health institution. That's why it has stopped having a child earlier to some extent. [...] K9, 33 years old, AHW)

g. Repercussion of media and technology

Access to mobile phones and social media networks like Facebook increased communication and contact between young teenagers. This led to an increment in elopement among adolescents as they fell in love with each other through these mediums.

It might be because of communication and mobile phones. That's what I think. They communicate through mobile like using Facebook. I don't know how to use Facebook. They use Facebook, that's why elopement marriages happen I guess. They know each other from Facebook, chat and then elope. (K3, 31 years old, FCHV)

h. Immaturity and unfilled desires

Chepang adolescents had unfulfilled desires related to their basic needs, such as good food, shelter, books, and clothes. This made them more vulnerable to exploitation or coercion by older partners or peers or being allured.

Likewise, as adolescents lacked the emotional maturity or the knowledge about contraception and family planning to make informed decisions about their sexual health, they were not able to fully understand the potential consequences of being pregnant or getting married at an early age.

[...] they have desires to eat good food and wear beautiful clothes which could not be fulfilled probably due to poverty. It's also the situation of the household. The parents can't fulfill their children's wishes. I think that might be one reason and another might be their adolescent age when they are mature enough. (K10, 46 years old, Sr. ANM)

i. Schooling after marriage is a stigma

In Chepang community continuing education after marriage was considered a social stigma. Thus, girls were forced to drop out of school, often due to traditional gender roles or cultural beliefs, and they lacked access to information and resources related to sexual and reproductive health. This made them more vulnerable to unintended pregnancy and adolescent pregnancy. Furthermore, without education or access to economic opportunities, women felt that early marriage and childbearing are their only options for securing their future.

The school was nearby but I got married at a young age. I did want to study. But society will gossip about you if you study after getting married. The fate of a girl after getting married is to stay at home, cut grass and firewood and look after children. That's it. (A7, 24 years old, Chepang Mother, Ward 8)

j. Children subjected to forced labor

Chepang children due to poverty and low socio-economic status in the household were working at an early age. Working at a young age contributed to adolescent pregnancy in several ways. Children who were forced to work had limited access to education and health services, including information about sexual and reproductive health, and were more inclined towards elopement and early marriage.

At first, I studied up to grade two, and then my parents sent me to work. I was young, only 12 years old at that time. Later I came back and enrolled in 5th grade but I didn't study. [...] they sent me to work only for Rs.1500. I said I didn't want to go. I wanted to study. I even cried. I said that studying is more important than work. But then my mother warned me that if I didn't go to work, she will hit me with sisnu. My father said he would beat me if I didn't go for it. (A4, 25 years old, Chepang Mother, Ward 5)

k. Iron tablets consumption

The fear of consuming iron tablets as the child will grow big was a common misconception among Chepang community. Most people believed that consuming

iron tablets during pregnancy will make the child grow too big, leading to complications during delivery and that it will be very difficult to give birth.

I went for ANC checkups. They give me iron pills and two injections. But I didn't consume iron pills much. I only consumed a few but I didn't consume all. The people in the village used to say that if we consume it the baby will be big and it will be difficult to give birth. That's what they used to say and I didn't consume it. (A2, 18 years old, Chepang Mother, Ward 8)

6.4 Summary of Mixed Methods Findings

Table 22: Triangulation of Findings from Qualitative and Quantitative Study

Convergent Findings	Early Marriage, Unplanned Pregnancy, Knowledge of Adolescent Pregnancy, Sex Education, Abortion, Contraceptive Use, Home Delivery, and Health Problems during Pregnancy, Childbirth, and Postpartum
Divergent Findings	Elopement, Education Level, Distance to the health facility, Societal, Family, and Peer Pressure, Socioeconomic Status
Expansion Findings	Women's Position in Society, Role of men in FP, Health Consequences of using FP, Fear of not having a child later using contraception, Hesitancy and Fear with the service provider, Programs and Policies, Repercussions of Media And Technology, Immaturity and Unfilled desires, Schooling after marriage is a stigma, Children subjected to forced labor, Iron tablets consumption

The triangulation of the data from qualitative and quantitative studies validated that early marriage, unplanned pregnancy, knowledge of adolescent pregnancy, sex education, and contraceptive use were the factors influencing adolescent pregnancy. The area of divergence identified during triangulation was elopement marriages, education level, distance to the health facility, societal, family and peer pressure, and socioeconomic status, where qualitative findings contradict quantitative findings. The area of expansion identified as women's position in society, the role of men in FP,

health consequences of using FP, fear of not having a child later using contraception, hesitancy and fear with service providers, programs and policies, repercussions of media and technology, immaturity and unfilled desires, schooling after marriage as a stigma, children subjected to forced labor and fear to consume iron tablets.

Chapter VII : Discussion

This chapter compares and contrasts the findings of this study with the findings from other studies, and attempts to explain the underlying meaning of the findings. The findings of this study are discussed in four parts: prevalence of adolescent pregnancy, factors associated with adolescent pregnancy, reasons for adolescent pregnancy, and health consequences among adolescent mothers. This chapter ends with the strengths and limitations of the study.

7.1 Prevalence of adolescent pregnancy

According to this study, the prevalence of adolescent pregnancy among Chepang women was 71.4% [CI 65.14-77.16]. The prevalence from our study among Chepang was almost five times higher when compared to the NDHS 2022 data which indicates a 14% prevalence of adolescent pregnancy. Even when compared with the disaggregated provincial statistics, the prevalence from our study was 3 times higher than Karnali Province (21%) and almost 9 times higher than Bagmati Province (8%).[23]

Likewise, the prevalence was also significantly higher in comparison to a meta-analysis of teenage pregnancy in Nepal from 2000-2020, which showed the prevalence of teenage pregnancy as 13.2%.[35] In the same context, the prevalence was higher in contrast to studies conducted in other districts of Nepal.[51,38]

At the global level around 14% of teenage girls and young women worldwide reported having a baby before the age of 18 which is a lot less than the prevalence from this study.[28] Compared with the prevalence of adolescent pregnancy among women aged 15-19 in India (7.9%), the prevalence from our study was significantly higher.[33] However, it was closer to the prevalence of pregnancy among adolescent girls in Bangladesh, with 66% of women under the age of 18 reporting a first birth.[34]

As we further look into the context-specific and ethnicity-specific studies from Nepal, the prevalence of our study is closer to the findings from these studies. A descriptive research design among Chepang women in Korak VDC in Chitwan showed 58.1% gave their first childbirth at the age of 17-19 years which is closer to the results obtained

from the study.[29] Likewise, another study conducted among 217 married women of Dalit ethnic groups, showed that 42.9% of married women gave birth to their first child during their teenage years which suggests that the prevalence of adolescent pregnancy is higher among specific ethnicities.[37] This can also be justified by findings of an observational study in 12 hospitals in Nepal for a period of 12 months which showed that women from the disadvantaged ethnic group have a higher likelihood of being adolescent mothers compared to the advantaged ethnic group.[46]

Overall, the findings from our study suggest that the prevalence of adolescent pregnancy is higher among Chepang women in Raksirang Rural Municipality than in other parts of Nepal or globally. The significant difference in the prevalence of adolescent pregnancy indicates disparity and it may be because Chepang is one of the highly marginalized and disadvantageous ethnic groups in Nepal as compared to the national average. It may be attributed to the multiple structural, social, and cultural factors that limit their access to education, healthcare, and other resources.

7.2 Factors associated with adolescent pregnancy

Early marriage was significantly associated with adolescent pregnancy in this study. A report by UNFPA has highlighted that 90% of births to adolescents take place within the context of marriage as child brides are more likely to experience early pregnancies than girls who marry later.[49] A systematic review for a comprehensive understanding of factors related to adolescent pregnancy also revealed that early marriage increased the hazards of adolescent pregnancy.[29] Other studies in Nepal have also identified early marriage as a significant predictor of adolescent pregnancy. [39, 100, 105] Likewise, studies conducted in Bangladesh found early marriage to be associated with adolescent pregnancy.[106, 107] Such findings are justified as marriage in Nepalese society is attached to the social expectation for a woman to enter into reproductive life and thus give birth immediately after marriage.

Likewise, unplanned pregnancy was identified as a convergent finding in this study. This is in alignment with a study drawn from NDHS data where more than two-fifth of the pregnant women reported unintended pregnancy and the likelihood of

unintended pregnancy decreased as women's age at first marriage increased.[51] Our study finding is supported by global level evidence which depicted that among 21 million adolescent girls who become pregnant in developing countries, 10 million of these pregnancies are unplanned.[25] The pilot study conducted for this research also showed unplanned pregnancy as a significant predictor of adolescent pregnancy.[100]

In our study, lack of sex education was found to be a significant predictor of adolescent pregnancy in both qualitative and quantitative studies. This finding is in alignment with the finding from a systematic review to find the determinants of adolescent pregnancy in Sub-saharan Africa which identified a lack of comprehensive sexuality education as a major determinant.[57] Likewise, our study finding is further supported by a comprehensive analysis of 64 studies, involving more than 87,000 young individuals, which depicted the positive outcomes of sex education programs implemented in schools.[58] The finding from our study was validated by another study to explore the impact of sex education on teenage pregnancy in basic schools in Ghana which showed that concealing sex education and sex knowledge from the youth made them more curious and vulnerable.[59] In addition, several studies have associated sex education with reduced teen birth rates which are in alignment with the findings from our study.[60, 61, 100] In contrast, finding from another study indicated teenagers who were exposed to school-based sex education experienced slightly higher pregnancy rates than those who were not exposed while some studies concluded that sex education had no significant effect on adolescent pregnancy.[62, 63]

Poor knowledge of adolescent pregnancy was another convergent risk factor identified in our study. Another descriptive study was conducted to find out contributing factors of teenage pregnancy among 102 pregnant teenagers at selected health facilities of Sunsari district which depicted inadequate knowledge about teenage pregnancy as a significant factor.[45]

In our study around two-fifths of the respondents (39.4%) had poor knowledge regarding adolescent pregnancy followed by average knowledge (31.2%) and good knowledge (29.4%). The proportion of poor knowledge was slightly more than a study conducted in Gorkha which indicated that around 30% of the participants had inadequate knowledge of adolescent pregnancy.[52] Similarly as compared to a study

conducted in India the proportion of poor knowledge was similar.[54]Another study at selected government junior colleges in India depicted that 25% had inadequate knowledge which was slightly lower than the proportion of poor knowledge in our study.[53]

In this study, the family type had no significant association with adolescent pregnancy. This was in contrast with the findings from another study which depicted that a higher proportion of adolescent pregnant women (67%) were found to be part of an extended family.[48]

Moreover, family pressure and peer pressure had no significant association with adolescent pregnancy in our quantitative study. In contrast, a study conducted in 3 medical hospitals in Nepal showed that a majority of respondents perceived family problems, in-law pressure, and cultural prospects as aggravating factors leading to adolescent pregnancy.[42]

The education level of participants didn't have any significant association with adolescent pregnancy in our quantitative study. This was in contrast with several other studies conducted in Nepal which showed that adolescent pregnancy increased with a decrease in education level.[16, 23, 39-41, 43]

Elopement wasn't found to have a significant association with adolescent pregnancy in the quantitative study. This was in contrast to the findings from a case-control study where adolescent pregnant women were more likely to have love marriages as compared to the other group.[41]

7.3 Reasons for Adolescent Pregnancy

Marriage by elopement was a divergent finding from this study as the qualitative study revealed that adolescent pregnancies were more common by elopement. This was in alignment with another qualitative study that explored the perception of teenage mothers. The findings revealed that a majority of them perceived love marriage as an aggravating factor leading to adolescent pregnancy .[42]

Poverty was revealed as a factor influencing adolescent pregnancy in our qualitative study. This was supported by a qualitative study that explored the perception of

teenage mothers which showed that a majority of them perceived poverty as an aggravating factor leading to teenage pregnancy.[42] Likewise, inadequate financial independence, economic hardships, and living in poverty were identified as major factors influencing adolescent pregnancy by other exploratory studies.[64, 65, 67, 77]

Lack of access to sexual and reproductive health services was identified as a facilitator of adolescent pregnancy in our study. This is in alignment with a qualitative study conducted in Tanzania which showed that many health facilities did not have skilled service providers who could provide adequate care related to sexual and reproductive health rights and most services were inaccessible due to lack of privacy, confidentiality, equipment, and negative attitudes from service providers.[74] Another qualitative study in rural Lao also revealed limited access to relevant services as a factor contributing to adolescent pregnancy.[66]

From our qualitative study, we explored that participants had a misconception about contraception and inadequate knowledge of the use of contraception. Similar findings have been reported by qualitative studies exploring the factors affecting adolescent pregnancy.[69, 72, 75] Perception of Contraceptive use was identified as a reason for adolescent pregnancy by exploration from our qualitative study. A qualitative study conducted among adolescents also reported similar findings where a major barrier to contraceptive use was fear of side effects and perceived health risks of using contraceptive methods.[108] In Nepal, an insufficient understanding of sexual and reproductive health, as well as the limited availability of sexual health services, have compelled young people to participate in risky sexual behaviors.[109]

Looking in-depth into the issue, in our study male partners who were abusive were reluctant to use family planning means including condoms. This result is in alignment with a study conducted among 53 sexually active adolescent females who reported that male partners who were abusive were often interested in impregnating their partners at a young age. These partners would manipulate condom use, interfere with the use of birth control, and express their desire for young women to become pregnant.[68] Further in our study, it was found that male participants were embarrassed about using condoms as a means of contraception. A similar finding was

reported by a study in England which showed that fear of embarrassment and concern about how they are perceived by others can constrain young people's ability to engage in protective behavior and seek information and advice.[76]

A qualitative study conducted in Eastern Uganda to investigate the perceived determinants of teenage pregnancies revealed that cultural beliefs that promote early marriage and childbearing are an influencing factor.[75] Similar finding was reported from our qualitative exploration as Chepang community had accepted early marriage as a social norm.

Parents had a significant role to play in adolescent pregnancy as per the qualitative findings from our study. Participants revealed that there was no conversation between parents and daughters/sons that impart sexuality education in our study. This was in alignment with research conducted in Ghana, which showed the primary reasons for the high rates of early adolescent pregnancy in the community were identified as the absence of effective communication between parents and daughters, and societal stigmatization of sex-related conversations within households.[64] Likewise, being neglected by parents and fragmented family relationships were unveiled as factors contributing to adolescent pregnancy.[75]

Alcohol consumption by parents and the associated negligence was revealed as a reason for adolescent pregnancy in our study. In the same context, a qualitative study conducted in South Africa showed that substance abuse, particularly alcohol either by the teenager or her parents were found to have a critical influence on adolescent pregnancy.[77]

Societal and family pressure for marriage, pregnancy, and childbirth was a key area explored in our study which influenced adolescent pregnancy. This result is in alignment with other exploratory studies which have reported societal and family pressure to get married or be pregnant.[69, 75] In addition, results from our study showed that schooling after marriage was a major challenge for Chepang women which led to dropouts. A qualitative study conducted from a phenomenological perspective,

revealed similar findings as adolescents faced several dominant societal challenges, one among them being the challenge of returning to school after delivery.[78]

Another factor that contributed to adolescent pregnancy was revealed as an inadequate understanding of sexual and reproductive health in our study. Studies have reported similar findings that influenced adolescent pregnancy including the readiness for childbearing. [67, 70]

7.4 Health consequences

In our study, 21.8% of adolescent mothers had an abortion (spontaneous or induced) which was more than the findings from a systematic review and meta-analysis in Nepal that reported abortion in 11.1% of teenage pregnancies.[35] However as compared to global data which showed that 55% of unintended pregnancies among adolescent girls aged 15–19 years end in abortions, the proportion of abortions among adolescent mothers in our study is relatively lower.[25] Our study finding showed slightly higher results from a study conducted among the Chepang community in Chitwan District which revealed that 18.2% had a history of miscarriage.[110] The slightly higher rate may be because in our study we have included both induced abortion and miscarriage cases.

73.3% of adolescent mothers had delivered their first child at home in our study. This was significantly higher as compared to NDHS 2022 which showed 21% of home delivery.[23] The finding from our study was lower in comparison to another study conducted in the Chepang community which reported that 99.3% had delivered at home.[110]

In our study, 95.2% of adolescent mothers had vaginal delivery which was higher in comparison to the finding from a meta-analysis in Nepal that indicated 75.4% of adolescent pregnancies at vaginal delivery.[35] According to the results of our study, prolonged labor was the most common health problem among adolescent mothers during delivery. This result was in alignment with another study conducted in 12 hospitals in Nepal.[46]

Studies conducted in Nepal reported significant tears as a maternal complication.[35, 47] As our study is self-reported, participants didn't mention significant tears as complications in quantitative interviews. However, during qualitative data collection in our study, a health worker revealed that adolescent mothers had more tears during delivery.

Hypertension was a complication during pregnancy, childbirth, and postpartum as reported by participants in both qualitative and quantitative interviews. On a similar note, a systematic review on complications in adolescent pregnancy identified hypertensive disorders of pregnancy as a major complication.[111]

7.5 Strengths and Limitations of the Study

Triangulation of study findings using a mixed method approach provided a more comprehensive and nuanced understanding of factors associated with adolescent pregnancy and its health consequences among Chepang women by combining the strengths of both qualitative and quantitative methods. It further provides a more complete picture of the phenomenon being studied, by capturing both the subjective experiences and perspectives of the participants (qualitative) and the prevalence and associations of the phenomenon (quantitative). The use of simple random sampling for selecting participants increased the representativeness of the sample and reduced the risk of selection bias. However, wards 5 and 8 were chosen purposively which limits the generalizability of the findings outside the wards.

Likewise, by focusing on a specific population (Chepang women in selected wards of Raksirang Rural Municipality), the study provides a valuable insight into an understudied and marginalized group. However, the study's findings may not be generalizable to other populations or contexts, as it is focused on a specific geographic area and population.

Multivariate logistic regression allowed for the identification of factors associated with adolescent pregnancy while controlling for potential confounding factors. The use of such statistical modeling increased the precision and accuracy of the findings,

as it accounted for random error and provided estimates of effect size and statistical significance.

Judgmental sampling was done to choose participants for qualitative study as the population of interest was small or difficult to access, and it allowed for the selection of participants who were deemed most relevant or knowledgeable about the topic under investigation. However, the use of judgmental sampling may have introduced selection bias and limited the generalizability of the findings, as the selected participants may not have been representative of the larger population or may have unique experiences or perspectives that are not shared by others.

To enhance the transparency and credibility of the study, by acknowledging and addressing the potential biases and assumptions of the researchers, the researcher's reflexivity was reported. Moreover, the use of intercoder percentage agreement and participant checking helped enhance the validity and reliability of the findings, by reducing the risk of researcher bias and ensuring that the data are accurately and consistently coded and interpreted. However, the subjectivity may not have been avoided completely during qualitative data analysis and interpretation.

As the study relies on self-reported data, there may have been issues with recall bias, social desirability bias, and underreporting of sensitive information. In regards to specific variables such as the mother's age at first pregnancy and the sister's age at first pregnancy, participants were not able to recall the information. Moreover, the inclusion criteria of the study were participants up to the age of 25 years and most of them had their first pregnancy from 14 to 19 years of age. Thus having to recall 5 to 10 years back information created a recall bias in the study.

The health consequences among Chepang adolescent mothers were assessed descriptively which only provided a summary of the data and no statistical inference or hypothesis testing was done. Therefore, it is not possible to make inferences about the relationship between adolescent pregnancy and health consequences.

Chapter VIII : Conclusion, Recommendations, and Areas of Further Research

8.1 Conclusion

The study employed the mixed-method approach to identify the factors associated with adolescent pregnancy and its health consequences among Chepang women which is an indigenous ethnic group in Nepal. Adolescent pregnancy was found to be a prevalent issue among Chepang women in Ward 5 and 8 of Raksirang Rural Municipality as approximately 7 out of 10 respondents had been pregnant during their adolescence (10-19 years). Likewise, a large proportion of respondents were married before the age of 18 years.

In our study, early age at marriage, poor knowledge of adolescent pregnancy, unplanned pregnancy, and lack of sex education were significantly associated with adolescent pregnancy. The research revealed that participants who were married before the age of 18 were more likely to be pregnant in their adolescence as compared to those who were married after the age of 18. Moreover, those who had unplanned pregnancies were more likely to have adolescent pregnancies than those who had planned pregnancies. Further, it was observed that those who had poor knowledge scores and those who had average knowledge scores were more likely to have adolescent pregnancy in comparison to those who had good knowledge scores after controlling for other variables. In addition, those participants who didn't receive sex education were more likely to be pregnant in their adolescence than those who received sex education.

Around one-fifth of the respondents reported having an abortion or miscarriage and almost seven out of ten respondents had delivered their first child at home. The most commonly reported health problems during pregnancy were headaches, body aches, and severe pain in the lower part of the stomach. Likewise, prolonged labor and excessive bleeding was the most commonly reported health complication during delivery. During postpartum, participants mostly reported excessive bleeding, fever, and foul discharge from the vagina as their health problems.

From qualitative analysis, six main themes emerged for factors affecting adolescent pregnancy: (i) access and use of sexual and reproductive health services (ii) programmatic aspects (iii) elopement marriage as a thoughtful escape (iv) discontinuation of education (v)knowledge and understanding of marriage, pregnancy, and childbirth (vi) socio-cultural beliefs and norms on marriage, pregnancy, and childbirth. Similarly, five main themes emerged for health consequences: (i) antenatal care (ii) pregnancy and delivery experiences (iii) home delivery (iv)health problems during pregnancy and childbirth (v)abortion.

The factors affecting adolescent pregnancy were identified as lack of access and use of sexual and reproductive health services, programs and policies, elopement marriages, discontinuation of education, poor knowledge and understanding of marriage, pregnancy and childbirth, and existing socio-cultural beliefs and norms. Likewise, adolescent mothers mostly opted for home delivery, had a miscarriage, sought abortion care due to unwanted pregnancy, and feared consuming iron tablets during pregnancy. However, health consequences during childbirth and pregnancy were not reported by most adolescent mothers.

The triangulation of the data from qualitative and quantitative study validated that early marriage, unplanned pregnancy, knowledge of adolescent pregnancy, and sex education were the factors influencing adolescent pregnancy. The areas of divergence identified during triangulation were elopement marriages, education level, distance to the health facility, societal family and peer pressure, socioeconomic status, and contraceptive use, where qualitative findings contradict quantitative findings. The areas of expansion identified were women's position in society, the role of men in FP, health consequences of using FP, fear of not having a child later using contraception, hesitancy and fear with the service provider, programs, and policies, repercussions of media and technology, immaturity and unfilled desires, schooling after marriage as a stigma, children subjected to forced labor and fear to consume iron tablets.

To effectively address this problem, a comprehensive and integrated approach is needed that addresses the root causes of adolescent pregnancy, including poverty, gender inequality, and limited access to sexual and reproductive health services.

8.2 Recommendations

Based on the findings of our study, it is strongly recommended that appropriate measures should be taken to address the issue of adolescent pregnancy considering its high prevalence. As early marriage was found to be a significant predictor in this study, it is utmost to encourage girls to stay in school and pursue their education, which can help to delay marriage and reduce the risk of adolescent pregnancy.

In addition, it is necessary to advocate for policy changes that support the rights and well-being of young people, including strict implementation of laws that set minimum age requirements for marriage. The key is to promote the importance of delaying marriage until young people are ready to handle the responsibilities of parenthood, while also providing them with the tools and resources they need to make informed decisions about their reproductive health.

Lack of sex education was another significant predictor of adolescent pregnancy. Thus it is necessary to empower young people with knowledge of the consequences of early pregnancy and providing them with access to comprehensive and age-appropriate sex education is essential.

According to this study, most couples did not use contraceptives immediately after marriage and men were mostly reluctant to use any means of family planning. Thus it is necessary to educate both men and women about the importance of contraception and how it can benefit them, as well as address any misconceptions they may have about contraception. It is also essential to encourage men to take an active role in family planning by involving them in the decision-making process and encouraging them to use contraception. This can be done by targeting men through male-focused health campaigns and counseling. One of the facilitators to adolescent pregnancy was the lack of access to SRHR services. Therefore, policymakers should implement initiatives that make quality sexual and reproductive health services more accessible and affordable to adolescents.

Further to reduce unplanned pregnancies, educating adolescents about the use of contraceptives and providing them with options for preventing unintended pregnancy

should be a priority. Additionally, the social stigma associated with adolescent pregnancy must be tackled by involving all relevant stakeholders to ensure that every adolescent has the opportunity to reach their full potential.

From the qualitative study, the low status of women in society was explored as one of the reasons for adolescent pregnancy. Hence efforts should be made to promote economic empowerment among young people, particularly girls, through vocational training, entrepreneurship programs, and other initiatives that provide them with the skills and resources they need to support themselves and their families.

In addition, adolescent mothers should be educated about the risks of abortion and the importance of contraception to prevent unwanted pregnancy. Healthcare services should be improved to provide better reproductive health services to adolescent mothers, including pre and post-abortion care, counseling, and support. Women and families should be educated about the importance of skilled birth attendance and the risks associated with home deliveries. Efforts should be made to provide affordable transportation options, such as community-based transport systems, to help women access health facilities.

In conclusion, this study provides crucial evidence of the factors contributing to adolescent pregnancy and its health consequences among Chepang women, and the recommendations stated above can help address this critical issue. Urgent steps must be taken to provide the necessary resources and support to enable young people to make informed decisions and prevent adolescent pregnancy.

8.3 Areas of Further Research

As this study was conducted at one point in time and participants had to remember the past events of their lives, it created recall bias. Thus future research could be conducted on a longitudinal basis that is to follow up with the same cohort of adolescents over a period of time (e.g., several months or years) to examine how their pregnancy risk status changes, what factors contribute to their contraceptive use behavior, and how their social and emotional development impacts their reproductive health outcomes. This type of study design in future research can help better capture

the dynamic nature of adolescent pregnancy and provide more robust evidence for causal inference.

Likewise, the findings of the study open up the prospects of conducting comparative research in the future. The prevalence and determinants of adolescent pregnancy between Chepang communities of different areas can be compared to identify the similarities and differences in reproductive health behaviors, norms, and policies. This type of study can provide insights into how context-specific interventions can be designed and implemented to reduce adolescent pregnancy.

This study showed that poor knowledge level, lack of sex education, and unplanned pregnancy were predictors of adolescent pregnancy. Thus in the future intervention research can be designed to test the effectiveness of interventions that aim to improve reproductive health knowledge, skills, and behaviors among adolescents. These interventions can be school-based, community-based, or healthcare-based, and may involve various components such as counseling, peer support, comprehensive sexuality education, or increased access to sexual and reproductive health services. Evaluating the impact of these interventions on reducing unplanned pregnancies and improving other reproductive health outcomes can inform evidence-based policy and practice.

Likewise, as participants expressed their fear and hesitancy with health workers, future research can also explore the role of healthcare providers and their attitudes and practices in addressing adolescent pregnancy.

Considering the high prevalence of home delivery, further research is needed to investigate the factors that influence adolescent mothers' decision to opt for home delivery and their outcomes to improve maternal and child health care services.

This study only assessed health consequences among adolescent mothers descriptively. Thus more robust study design and analysis should be conducted in the future to establish a causal inference for adolescent pregnancy and its health consequences.

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Appendices

Appendix I: Work Plan

SN	Activities	Time duration												
		April 2022	May 2022	June 2022	July 2022	Aug 2022	Sep 2022	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	April 2023
1	Topic selection													
2	Literature review													
3	Protocol preparation													
4	Protocol presentation													
5	Tool development and validation													
6	IRC submission and review													
7	Field work													
8	Data entry and analysis													
9	Draft thesis preparation													
10	Thesis defense and presentation													
11	Thesis final report editing and submission													

Appendix II: Budget

SN	Particulars	Quantity	Unit cost NRs	Subtotal NRs
1.	Tool development and printing	231 sets (7 pages)+ 15 sets (2 pages) +10 sets (2 pages)	3	5500
2.	Stationary (diaries, pen, highlighter & pencil)	1 set	2000	2000
3.	Travel Cost	Lumpsum	5000	5000
4.	Food and accommodation cost for researcher	1 Person (60 days)	200	12000
5.	Thesis printing and binding	5(100 pages+ binding)	1500	7500
6.	IRC Ethical Approval Fee	Lumpsum	5000	5000
7.	Miscellaneous (unseen, justifiable, max. 10% of aggregate subtotal)	1 (lumpsum)	3000	3000
Total NRs				40, 000

Total budget: Forty Thousand Rupees only

Appendix III : Model Validation-Sociodemographic with Outcome Variable

1. Fitted Model I

```
Call:
glm(formula = newdependent ~ orderbedu + orderfammem + orderAhusedu +
    orderrecodeSES, family = binomial(logit), data = Dataset)
```

```
    Null deviance: 276.40  on 230  degrees of freedom
Residual deviance: 247.99  on 224  degrees of freedom
AIC: 261.99
```

a. Pseudo R-square

Pseudo R square = 1- Residual Deviance/ Null Deviance

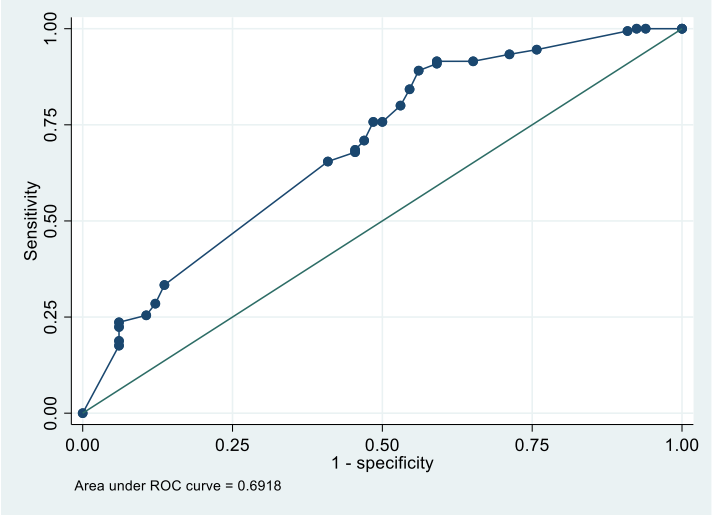
= 1- 247.99/276.40

= 10.27%

Only 10.27% variation in the outcome variable was explained by socio-demographic variables.

2. ROC Curve

Area under the curve = 0.692 [95% CI 0.615 - 0.769]



3. Accuracy of the model = 75.32%

4. AIC = 261.99

5. Checking Multicollinearity

```
> vif(GLM.37)
                    GVIF Df GVIF^(1/(2*Df))
orderbedu       1.300839  2        1.067962
orderfammem     1.040563  1        1.020080
orderAhusedu    1.827864  2        1.162749
orderrecodeSES  1.495824  1        1.223039
```

Appendix IV: Model Validation- Marriage and Pregnancy with Outcome Variable

2. Fitted Model II

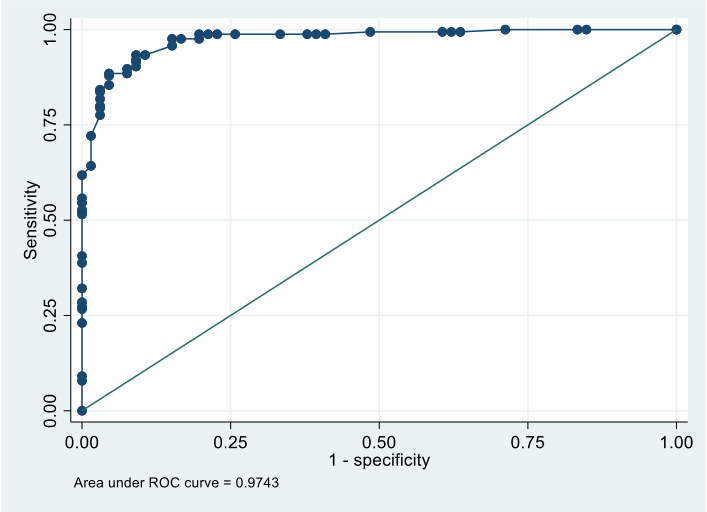
```
Call:
glm(formula = newdependent ~ orderage + orderhusb + orderknow +
    ordermarry + orderplan + orderplan, family = binomial(logit),
    data = Dataset)

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 276.401  on 230  degrees of freedom
Residual deviance:  83.583  on 223  degrees of freedom
AIC: 99.583
```

a. Pseuso R square = 1- Residual Deviance/ Null Deviance
= 1- 83.993/276.401
= 69.61%
69.6% variation in the outcome variable was explained by marriage and pregnancy related variables.

b. ROC Curve



Area under the curve = 0.976 [95% CI 0.959 - 0.993]

c. Accuracy of the model = 92.64%

d. AIC =99.583

e. Checking Multicollinearity

```
> vif(GLM.23)
                          GVIF Df GVIF^(1/(2*Df))
orderknowledge        1.680205  2        1.138520
orderageatmarry       1.621149  1        1.273244
orderhusbageatmarriage 1.143372  1        1.069286
orderwant             1.260934  1        1.122913
orderplan             1.235574  1        1.111564
ordermarriagetype     1.188134  1        1.090016
```

Appendix V: Model Validation- Contraception and access with Outcome Variable

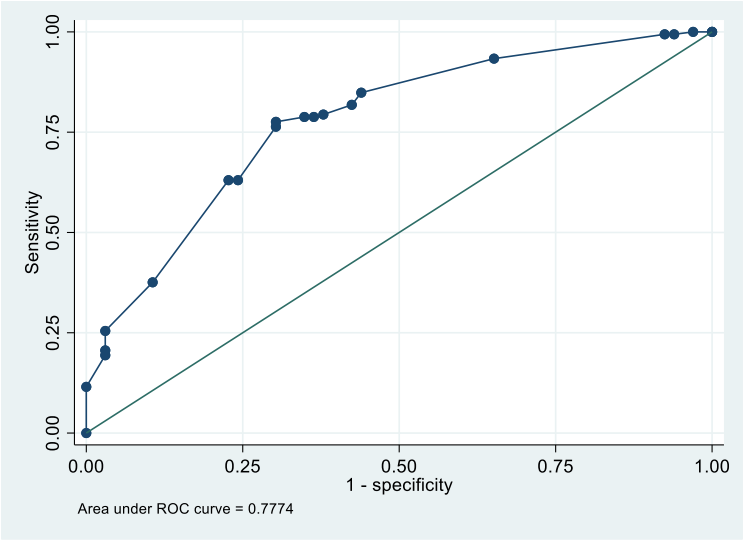
3. Fitted Model III

```
Call:
glm(formula = newdependent ~ orderable + orderdecision + orderdist +
    ordersex + orderuse, family = binomial(logit), data = Dataset)

    Null deviance: 276.40  on 230  degrees of freedom
Residual deviance: 225.78  on 225  degrees of freedom
AIC: 237.78
```

a. Pseudo R square = 1- Residual Deviance/ Null Deviance
= 1- 225.78/276.40
= 18.31%
18.31% variation in the outcome variable was explained by socio-demographic variable.

b. ROC Curve
Area under the curve = 0.777[95% CI 0.712 - 0.843]



c. Accuracy of the model = 76.62%

d. AIC = 237.78

e. Checking Multicollinearity

```
> vif(GLM.3)
   orderable orderdecision     orderdist      ordersex      orderuse
    1.139454      1.017500      1.092522      1.050782      1.017560
```

Appendix VI: Final Model Validation

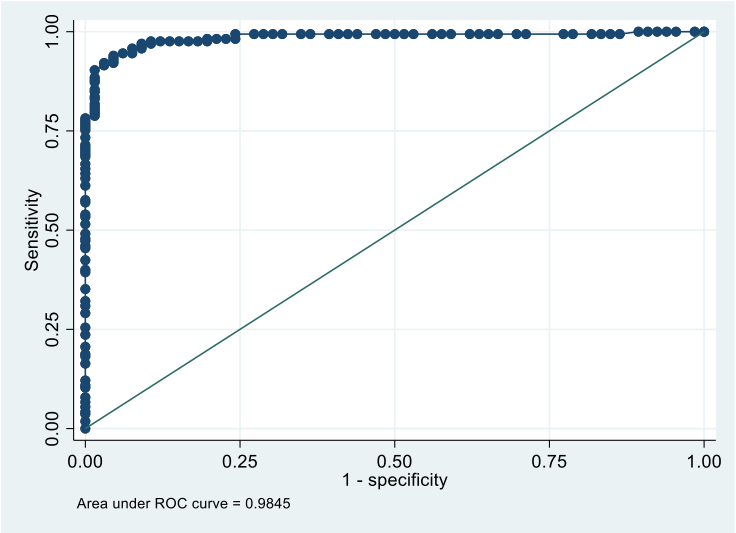
4. Fitted Model IV

```
Call:
glm(formula = newdependent ~ orderage + orderdecision + orderfamily +
    orderhusb + orderknow + orderplan + ordersex + ordertype +
    orderuse, family = binomial(logit), data = Dataset)

    Null deviance: 276.401  on 230  degrees of freedom
Residual deviance:  68.186  on 219  degrees of freedom
AIC: 92.186
```

a. Pseudo R square = 1- Residual Deviance/ Null Deviance
= 1- 68.186/276.401
= 75.33%
75.33% variation in the outcome variable was explained by all variable.

b. ROC Curve
Area under the curve 0.984 [95% CI 0.971 - 0.998]



c. Accuracy of the model = 95.24% (correctly classified)

d. AIC = 92.186

e. Checking Multicollinearity

```
> vif(GLM.5)
                   GVIF Df GVIF^(1/(2*Df))
orderage       2.059561  1        1.435117
orderdecision  1.508292  1        1.228125
orderfamily    1.205036  1        1.097741
orderhusb      1.669676  2        1.136732
orderknow      1.432810  2        1.094075
orderplan      1.270996  1        1.127385
ordersex       1.218663  1        1.103931
ordertype      1.189626  1        1.090700
orderuse       1.314535  1        1.146532
```

Appendix VII: Sampling Frame for Quantitative Study

Ward 5

Study Area	Total Number of Chepang mothers meeting inclusion criteria	Number of Chepang Mothers randomly selected
Sikhardada	11	9
Incharan	7	4
Churedada	5	5
Kutasing	4	3
Rakash	9	9
Thade	3	2
Thadichuri	8	7
Chainpur	27	23
Botbari	18	17
Sachak	5	4
Bangkim	15	12
Ranibang	13	12
Tangarang	12	10
Jirkhe dada	15	10
Total	152	127

Ward 8

Study Area	Total Number of Chepang mothers meeting inclusion criteria	Number of Chepang Mothers randomly selected
Devitar	12	8
Maisirang	9	7
Lobhuda	3	3
Chamanti	4	4
Karta	3	3
Gotdada	8	8
Pampung	13	10
Gadhidada	4	2
Bangarang	6	5
Pangthali	8	8
Sidam	4	4
Bujhrang	4	4
Rajarang	5	5
Makaldamar	8	6
Aiparang	9	7
Shilinge	14	12
Dhusrang	4	4
Kadase	1	1
Khadkande	2	2
Jhyapsitar	3	1
Total	124	104

Appendix VIII: Inter-coder Agreement (ICA)

S.N.	Coder I	Coder II	Codes Agreed
1	Women mostly use contraceptives	Contraceptives mostly used by females	Matched
2	Husbands disagreement to use family planning method	Husband's rejection to FP method use	Matched
3	Early Marriage	Early marriage	Matched
4	No system of scholarship for child marriage		Unmatched
5	Access to health facility for abortion	Availability of medical abortion center	Matched
6	Purification practice	Purification practice	Matched
7		Early birth helps in early settlement	Unmatched
8	Contraception use immediately after marriage	Not using contraception after marriage	Matched
9	High blood pressure- consequence	High blood pressure forced operation for delivery	Matched
10	Work at early age	Work at an early age	Matched
11	Perception regarding age at marriage	Understanding on age at marriage	Matched
12	Behavior change		Unmatched
13		Unable to explore means for treatment	Unmatched
14	Expectations from programs		Unmatched
15	Care from family during delivery	Familial support during home delivery	Matched
16	Facebook is a cause of elopement		Unmatched
17	Difficult in transportation	Lack of transportation	Matched
18	Availability of birthing centers	Availability of birthing centers	Matched
19	Seasonal difficulty	Seasonal difficulty	Matched
20	Uncomfortable to not work after delivery	Willingness to work as early as possible	Matched
21	Falling in love causes early marriage	Being in relationship provokes early marriage	Matched
22	Studying after marriage not accepted	Discontinue education after marriage	Matched
23	Out of pocket health expenditure	Financial burden to treat eye surgery	Matched
24	Lack of knowledge on use of FP	Unknown about how FP device works	Matched
25	Unfulfilled desires	Desire for a good life	Matched
26	Health consequence after delivery	Health problems after pregnancy	Matched
27	Perception regarding pregnancy and childbirth	Perception of giving birth to small or big child	Matched
28	School drop out	School drop-out at young age	Matched
29	Unavailability of FP device	Unavailability of FP device	Matched
30	Perception that child marriage causes suffering	Fear of life challenges due to early marriage	Matched
31	Giving birth at old age is difficult	Age matters for marriage and pregnancy	Matched
32	Unemployment	Unemployment	Matched
33	Peer influence		Unmatched
34	Visiting health institution only after complication	Only complications drive health facility visit	Matched
35	Household work burden	Burden of household chores	Matched
36	Education	Education is key	Matched
37	Monetary compensation		Unmatched
38	Role of leaders	Leaders should come upfront	Matched
39		No support from children in the future	Unmatched
40	Not wanting to listen	Not interested to listen	Matched
41	Poverty	Poverty	Matched
42	Fear of giving birth	Fear of giving birth	Matched
43	Fear and shy to go health institution	Fear of embarrassment to go health facility for birth	Matched
44	Family pressure to have child	Pressure by family to give birth	Matched
45	Lack of relay of information	Inadequate information regarding the use of iron tablets	Matched
46	Religious values and norms	Religious belief for mother/child health	Matched
47	Societal pressure		Unmatched
48	Easy to give birth in young age	Young age easy for childbirth	Matched
49	Reluctance to use condoms by husband	Condom not accepted by husband, rather it is a blame for women	Matched
50	Fear of not being married by parents	Fear of getting separated by family members	Matched
51	Lack of sex education	No sex education in schools	Matched
52	Delivery experiences	Experience of pregnancy and delivery	Matched
53	Not knowing about being pregnant	Thought of stomach pain rather than being pregnant	Matched

S.N.	Coder I	Coder II	Codes Agreed
54	Fear of baby size due to iron tablet consumption	Fear of baby size due to iron tablet consumption	Matched
55	Immaturity		Unmatched
56	Scared of talking to outsiders		Unmatched
57	Abortion	Abortion	Matched
58	Giving birth is the reason of existence		Unmatched
59	Role of external agencies	External organization contribution to reduce child marriage	Matched
60	Generational belief in home delivery	Beliefs regarding home delivery	Matched
61	Delivery on road	Delivery on road	Matched
62	Counseling from new faces	Counselling from new faces facilitates FP method use	Matched
63	Parents pressure	Parental force	Matched
64	Fear of using contraception	Fear of seeking family planning services	Matched
65	Stubborn nature	Not accepting the change	Matched
66	Lack of transportation	Lack of transportation	Matched
67	Ease to give birth	Chepangs stronger than others to give birth at younger age	Matched
68	Teenage pregnancy is the norm	Early pregnancy is the preference	Matched
69	Husbands age at marriage		Unmatched
70	More comfortable with local health worker		Unmatched
71	Geographical constraints	Geographical access to health institution	Matched
72	Customs during delivery	Practices during delivery	Matched
73	Care by mother during pregnancy and delivery	Mother's support after delivery	Matched
74	Maternal and neonatal death	Maternal and neonatal mortality	Matched
75	Norms regarding age at marriage	Societal norms and values	Matched
76	Excessive bleeding after using DEPO	Bleeding due to injection	Matched
77	Negligence		Unmatched
78	Giving birth at young age is beneficial	Childbirth at young age keeps her young	Matched
79	Lack of parental guidance	Lack of parental support for education	Matched
80	Alcohol consumption	Less alcohol consumption due to religion	Matched
81	No habit of saving		Unmatched
82	Fear of society	Fear of society	Matched
83	Financial crisis	Economic instability	Matched
84	Fear of being touched	Fear of awkward delivery procedures	Matched
85		Parental experience of pain and difficulties	Unmatched
86	Lack of carrier	Lack of carrier	Matched
87	Birth spacing	Taking a gap between birth	Matched
88	Unplanned pregnancy	Not planning pregnancy	Matched
89	Mothers age at pregnancy		Unmatched
90	Lack of education	Lack of education	Matched
91	Maintaining confidentialy for legal action		Unmatched
92	Elopement is the new trend	Shifting from parental influence to self-will to marry	Matched
93	Abortion better than contraceptive use	Want for abortion rather than using FP	Matched
94		Lack of social support	Unmatched
95	Seasonal difficulty	Transportation difficulty in rainy season	Matched
96	Change over time		Unmatched
97	Health consequence during pregnancy		Unmatched
98		Busy at home	Unmatched
99	Lack of secondary schools	Lack of access to schools	Matched
100	Access to media and technology		Unmatched
101	Long distance to health facility	Distant health facility	Matched
102	Lack of relay of information on incentives	Lack of provision of information regarding incentives	Matched
103	Norms regarding age at pregnancy	Societal norms and values	Matched
104	Getting spoiled		Unmatched
105	Awareness is important	Awareness is key to solution	Matched
106	Poor not able to seek abortion service	Poor women delay abortion	Matched
107	Child friendly community	Child friendly society	Matched
108	Ineffectiveness of programs	Programs not able to reduce child marriage	Matched
109	Role of local government	Support from local government	Matched
110	Stop of menstrual flow after use of contraception	FP prevents menstruation	Matched
111	Negligence from parents		Unmatched
112	Sisters age at marriage		Unmatched

S.N.	Coder I	Coder II	Codes Agreed
113	Scholarship and allowances program for education	Scholarship for education	Matched
114	Marriage against parents will	Parents don't marry their children	Matched
115	Perception regarding age at pregnancy	Knowledge on right age at pregnancy	Matched
116		Creating fear in the relationship	Unmatched
117	Reluctance to change	Poor acceptance of information	Matched
118	Child labor	Work at an early age	Matched
119		Rural settlements	Unmatched
120	Rare use of condoms	Condom use is rare	Matched
121	Lack of money for education	Lack of money for education	Matched
122	Health problems among children	Health problems in children	Matched
123	Legal action	Lack of legal action	Matched
124	Change is a slow process	Change takes time	Matched
125	Miscarriage due to physical work	Heavy household chores result miscarriage	Matched
126	Health consequences by use of family planning means	Complication due to FP method	Matched
127	Preference of home delivery	Home delivery is easy and comfortable	Matched
128	Lack of legal action	Lack of legal action	Matched
129	Low interest in studies	Not interested to study	Matched
130	Status of women and girls	Womens position in society	Matched
131	Not knowing about ANC check ups	Lack of knowledge for ANC visit	Matched
132	Malnutrition		Unmatched
133	Willingness to marry	Self-interest in early marriage	Matched
134		Delay in reaching health facility	Unmatched
135	Collaborative efforts	Role from all responsible people	Matched
136	Long distance to health facility	Distance to health facility still large	Matched
137	Having child at young age is a seasonal harvest	Childbirth at young age keeps her young	Matched
138	Violence against women		Unmatched
139	Fear of not having a child later after using contraception	FP device permanently stops pregnancy	Matched
140	Differences in ethnicity	Chepangs stronger than others to give birth at younger age	Matched
141	Son preference	Parental wish of son preference	Matched
142	Incentives Provision	Incentives provision for delivery and nutrition	Matched
143	Out of pocket health expenditure	Stress to repay the loan	Matched
144	Lack of support from husband	Poor husband support	Matched
145	Persuasion to marry		Unmatched
146	FCHV not visiting	Blame to FCHV	Matched
147	Being weak after sterilization	Fear of being weak due to vasectomy	Matched
148	Health consequences during delivery		Unmatched
149	Language barrier	Trouble in understanding Nepali language	Matched

Total number of codes by coder I = 140

Total number of codes by coder II = 123

Total number of matched odes = 114

Present in coder I but absent in coder II = 26

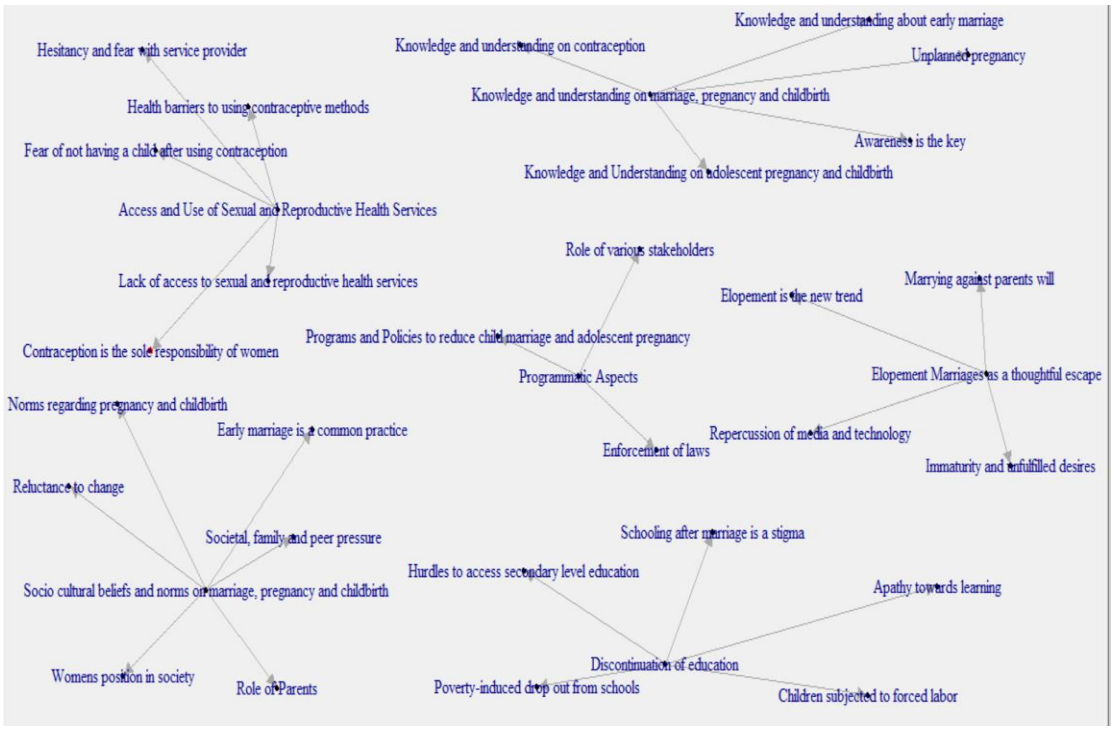
Present in coder II but absent in coder I =9

Inter-coder Positive Percent Agreement (ICA) = 114/(114+26+9) =76.51%

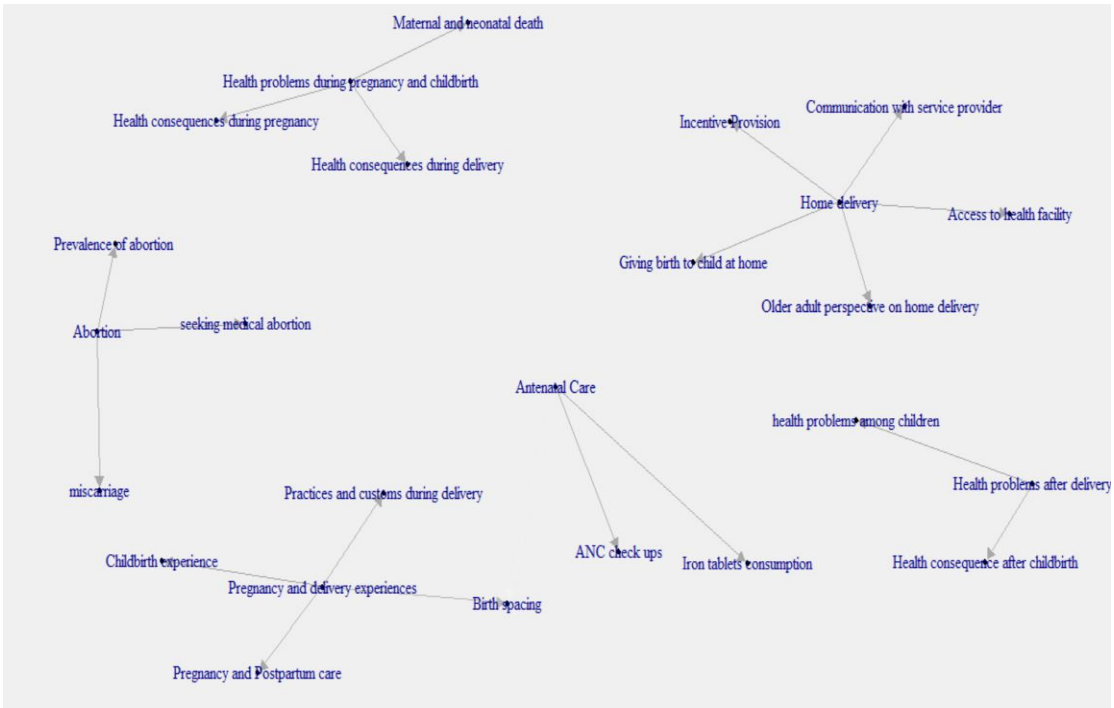
Therefore, Inter-coder Positive Percent Agreement was obtained to be 76.51%.

Appendix IX: Thematic Analysis using RQDA

a. Factors associated with adolescent pregnancy



b. Health consequences among adolescent mothers



Appendix X: Information sheet - Nepali

Research title: "Factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang rural municipality, Makwanpur district: A mixed method study"

अनुसन्धान क्षेत्र: राक्सिरांग गाउपालिका

अनुसन्धानकर्ता: कुसुमशीला भट्ट

नमस्ते, मेरो नाम कुसुमशीला भट्ट हो। म पाटन स्वास्थ्य विज्ञान प्रतिष्ठान, ललितपुरमा जनस्वास्थ्य विषयमा स्नातकोत्तर तहमा अध्ययन गर्दछु ।तपाईको गाउँपालिकाका चेपांग किशोरीहरूमा किशोरावस्थामा नै गर्भावस्था सम्बन्धित कारकहरू र त्यसको स्वास्थ्य परिणाम पत्ता लगाउने उद्देश्यले गरिएको अनुसन्धान अध्ययनमा भाग लिन तपाईंलाई आग्रह गर्दछु। यस अनुसन्धानमा भाग लिनु अघि कृपया मेरो कुरा ध्यान दिएर सुन्नु होला र केहि प्रश्न भएमा सोध्नु होला ।

अध्ययनको उद्देश्य: तपाईको गाउँपालिकाका चेपांग किशोरी आमाहरूमा किशोरावस्थामा नै गर्भावस्था सम्बन्धित कारकहरू र त्यसको स्वास्थ्य परिणाम अनुसन्धान गर्नेयस अनुसन्धानको उदश्य हो ।

प्रक्रिया: यदि तपाइँ अध्ययनमा भाग लिन सहमत हुनुहुन्छ भने, म तपाइँसँग 20 देखि 30 मिनेटको अन्तर्वार्ता लिनेछु। अन्तर्वार्तामा तपाइँको सामान्य जानकारी, गर्भावस्था, स्वास्थ्य र शिक्षाको पहुँच, व्यवहार र स्वास्थ्य परिणामहरु संग सम्बन्धित प्रश्नहरु समावेश हुनेछ।

गोपनीयता: तपाईंले प्रदान गर्नुभएको जानकारी गोप्य रूपमा राखिनेछ र अध्ययन उद्देश्यको लागि मात्र प्रयोग गरिनेछ। तपाईको व्यक्तिगत परिचय खुलाउने खालको जानकारीहरु समावेश गरिने छैन।

जोखिम/लाभ: तपाइले अनुसन्धानमा भाग लिए बापत केहि हानीनोक्सानी हुने छैन र तत्काल केहि फाइदा पनि हुने छैन ।

स्वैच्छिक सहभागिता: यस अनुसन्धानमा तपाईको सहभागीता पूर्ण रुपमा स्वेच्छीक रहेको छ । तपाईलाई असहज लागेका प्रश्नहरुलाई तपाई छाड्न सक्नुहुनेछ,र तपाइलाईं अनुसन्धानमाभागलिन मन नलागेमा बिचमा जुनसुकै बेला छाड्न सक्नुहुनेछ। तपाईले अन्तर्वार्ता रोक्दा भविष्यमा कसैसँग पनि तपाईको सम्बन्धमा असर पर्ने छैन ।

प्रश्न : यस विषयमा तपाइलाई कुनै जिज्ञासा भए अहिले वा अन्तर्वार्ताको अन्त्यमा सोध्न सक्नुहुन्छ ।

के तपाईलाई अनुसन्धानसंग सम्बन्धित केहि प्रश्नहरु छन् ?

के तपाई अनुसन्धानमा सहभागीहुनलाई मन्जुर हुनुहुन्छ?

- छु
- छैन (छैन भने यहिँ रोकिने)

Appendix XI: Information Sheet - English

Research title: "Factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang rural municipality, Makwanpur district: A mixed method study"

Research Site: Raksirang Rural Municipality
Researcher: Kusumsheela Bhatta

Namaste, my name is Kusumsheela Bhatta. I am a student of Masters in Public Health at Patan Academy of Health Sciences, Lalitpur.

You are being asked to take part in a research study aiming to determine and explore factors associated with adolescent pregnancy and its health consequences among Chepang women in selected wards of Raksirang Rural Municipality of Makwanpur District. This study will be conducted among Chepang women of 10 to 25 years of age who have had a birth. Please listen carefully and ask question if any before agreeing to take part in the study.

Purpose of study: To determine and explore factors associated with adolescent pregnancy and its health consequences among Chepang in selected wards of Raksirang rural municipality.

Procedure: If you agree to take part in the study, I will conduct interview with you which will be of 20 to 30 minutes. Interview will include questions related to your general information followed by questions relating to your pregnancy, contraception, access, behavior, and consequences.

Confidentiality: The information provided by you will be kept privately and only used for the study purpose. Any information that makes your identification known will not be included.

Risk/Benefit: There is no risk in participating in the study nor does it provide any immediate benefit.

Voluntary Participation: Your participation in the study is completely voluntary. You can skip any question if you do not feel easy to give an answer and you can stop the interview if you wish to. Your refusal will not affect your future relationship with anyone related to the study.

Queries: If you have any questions or queries regarding this research, you can ask me now or at the end of the interview.

Do you have any queries regarding the study?

If you are ready, can we start the interview?

- Yes (if yes, continue)

No (if no, do not continue)

Appendix XII: Certificate of Consent - Nepali

<u>सहमतिको प्रमाणपत्र (उत्तरदाता)</u>

म । मेरा ..... लाई अनुसन्धानमा सहभागी हुन मन्जुरीनामा दिएको छु । मलाई अनुसन्धानबारे जानकारी गराईएको छ । चाहेको बखत अनुसन्धानमा भाग लिने नलिने अधिकार म मा नैक रहेको व्यहोरा मलाई थाहा छ ।

दाँया बाँया	सही ..... **नाम** ..... **नाता** ..... **ठेगाना** ..... **मिति**	साक्षी सही ..... नाम ..... मिति .....

Appendix XIII: Certificate of Consent - English

I hereby give my voluntary consent for myself / Mr / Ms …….. to participate in the research. I have been fully informed about the nature, risks, and benefits of participation. I am aware that I have the right to accept/withdraw from participating in the above-mentioned research whenever I wish to do so.

Rt thumb Lt thumb	Signature..... Participant (preferred) …….. Guardian…… Relation……. Contact number…….. Date……..	Signature.…….. Witness name …….. Date……..

Appendix XIV: Quantitative Data Collection Tool -Nepali

Quantitative Data Collection Tool (Nepali)

सामान्य जानकारी	Identification No:
S.N: …….	वडा नं …….
अन्तर्वार्ताको मिति (DD/MM/YY) ……..	

	प्रश्नहरू	जवाफको वर्गिकरण	स्किप
	सामाजिक तथा आर्थिक अवस्थाको बारे विवरण		
1.	उत्तरदाताको उमेर *(पूर्ण भएको उमेर)*	…… वर्ष	
2.	तपाईंले पूरा गर्नुभएको शिक्षाको उच्चतम स्तर कुन हो*?* *(STEPS 2019)*	1. लेखपढ गर्न नजान्ने 2. प्राथमिक शिक्षा 3. माध्यमिक शिक्षा 4. माध्यमिक शिक्षा र सो भन्दा माथि	
3.	परिवारको प्रकार *(NDHS 2016)*	1. एकल 2. संयुक्त	
4.	परिवारका जम्मा सदस्य	…… सदस्य	
5.	श्रीमानको शिक्षा स्तर *(STEPS 2019)*	1. लेखपढ गर्न नजान्ने 2. प्राथमिक शिक्षा 3. माध्यमिक शिक्षा 4. माध्यमिक शिक्षा र सो भन्दा माथि	
6.	आमाको शिक्षा स्तर *(STEPS 2019)*	1. लेखपढ गर्न नजान्ने 2. प्राथमिक शिक्षा 3. माध्यमिक शिक्षा 4. माध्यमिक शिक्षा र सो भन्दा माथि	
7.	पेशा *(Kuppuswamy Scale)*	1. प्रोफेसनल 2. अर्ध प्रोफेसनल 3. क्लेरिकल/पसलधनी/कृषक 4. दक्षकर्मी 5. अर्ध- दक्षकर्मी 6. अदक्षकर्मी 7. बेरोजगार	
8.	श्रीमानको पेशा *(Kuppuswamy Scale)*	1. प्रोफेसनल 2. अर्ध प्रोफेसनल 3. क्लेरिकल/पसलधनी/कृषक 4. दक्षकर्मी 5. अर्ध- दक्षकर्मी 6. अदक्षकर्मी 7. बेरोजगार	
	सामाजिक तथा आर्थिक अवस्थाको बारे विवरण		
9.	घरमुलीको शिक्षा स्तर *(Kuppuswamy Scale)*	1. प्रोफेसनल…….*7* 2. स्नातक वा स्नातकोत्तर….*6* 3. उच्च माध्यमिक तह*..5* 4. माध्यमिक तह ….*4* 5. निम्न माध्यमिक तह *…3* 6. प्राथमिक तह वा साक्षर…..*2* 7. निरक्षर……*1*	
10.	घरमुलीको पेशा *(Kuppuswamy Scale)*	1. प्रोफेसनल. . . . . *10* 2. अर्ध प्रोफेसनल……..*6* 3. क्लेरिकल/पसलधनी/कृषक……..*5* 4. दक्षकर्मी……*4*	

		5. अर्ध– दक्षकर्मी.....*3* 6. अदक्षकर्मी.....*2* 7. बेरोजगार.....*1*	
11.	परिवारको औसत मासिक आय *(Kuppuswamy Scale)*	1. ≤ 4850.....*1* 2. 4851-14550.....*2* 3. 14551-24350.....*3* 4. 24351-36550.....*4* 5. 36551-48750.....*6* 6. 48751-97450.....*10* 7. ≥ 97451.....*12*	
गर्भावस्था र बिहे सम्बन्धि जानकारी			
12.	पहिलो विवाहको उमेर	.... वर्ष	
13.	श्रीमानको पहिलो विवाहको उमेर	.... वर्ष	
14.	के तपाई आफै बिहे गर्न चाहनुहुन्थ्यो *?*	1. चाहन्थे 2. चाहन्थिन	
15.	विवाहको प्रकार	1. मार्गी विवाह 2. प्रेम विवाह	
16.	पहिलो गर्भावस्थामा उमेर	..... वर्ष	
17.	के गर्भावस्था पहिले नै योजना गरिएको थियो*?*	1. थियो 2. थिएन	
18.	उत्तरदाताको आमाको पहिलो गर्भावस्थाको उमेर	. . . . . वर्ष	
19.	तपाईंको जेठी दिदीको पहिलो गर्भावस्थामा उमेर कति थियो*?* (उत्तरदाताको जेठी दिदी छ भने मात्र सोध्ने)	. . . . . वर्ष	आफ्नो उमेर संग सबै भन्दा नजिक जेठी दिदीको लिने
20.	के तपाइँको परिवारले तपाइँलाई त्यस समयमा बच्चा जन्माउन कुनै पनि तरिकामा प्रभाव पार्नुभएको थियो*?*	1. थियो 2. थिएन	
21.	के तपाइँको साथीले तपाइँलाई त्यस समयमा बच्चा जन्माउन कुनै पनि तरिकामा प्रभाव पार्नुभएको थियो*?*	1. थियो 2. थिएन	
गर्भनिरोधक सम्बन्धि जानकारी			
22.	के तपाईले परिवार नियोजनका लागि प्रयोग गर्न सकिने गर्भनिरोधक यन्त्रहरूको बारेमा सुन्नुभएको छ*?*	1. छु 2. छैन	यदि छैन भने, *25* मा जानुहोस्
a.	यदि सुन्नु भएको छ भने, कृपया तपाईलाई थाहा भएको गर्भनिरोधक उपकरणहरू उल्लेख गर्नुहोस् *?* *(NDHS 2016)*	1. महिला बन्ध्याकरण 2. पुरुष बन्ध्याकरण 3. आइ यु सी डी/ कपरटी 4. इन्जेक्शन./ डिपो/ संगिनी/ तीन महिने सुई 5. नरप्लाण्ट/इम्प्लान्ट 6. पिल्स 7. कण्डम 8. महिला कण्डम 9. डायफ्राम 10. फोमजेली 11. गर्भ रहन सक्ने समयमा संभोग नगर्ने 12. वीर्य बाहिर खसाल्ने 13. अन्य *(*खुलाउने) _____	
23.	बच्चा ढिलो पाउन वा बच्चा नहोस् भन्नाको लागि ..... वर्षको उमेरमा (पहिलो पटक गर्भवती भएको उमेर) तपाँई वा तपाँईको श्रीमानले कुनै साधनरतरीका अपनाई रहनु भएको थियो *?*	1. थिए 2. थिएन	यदि थिएन भने, *25.b* मा जानुहोस्

24.	कसले विधि प्रयोग गर्ने निर्णय गर्छ?	1. स्वयम् मात्र 2. साझेदारि 3. बुढाले मात्र 4. अन्य ((खुलाउने))		
किशोरावस्थामा गर्भावस्था सम्बन्धि ज्ञान				
25.	**वाक्य**	ठिक	बेठिक	मलाई थाहा छैन
1-	किशोरी बेलामा नै गर्भावस्थाले नचाहिएको गर्भधारण गराउँछ।			
2-	किशोरी बेलामा नै गर्भावस्थाले गर्भपात बढाउँछ।			
3-	कम उमेरमा विवाहले गर्भावस्था बीचको अन्तर कम गर्दछ।			
4-	कम उमेरमा विवाहले गर्भधारणको संख्या बढाउँछ । .			
5-	२० वर्ष भन्दा कम उमेरमा गर्भावस्थाले गर्भावस्था र बच्चा जन्माउने जटिलताहरू निम्त्याउँछ। (बढ्दो रक्तचाप, रक्तस्राव र संक्रमण र...)			
6-	२० वर्षभन्दा कम उमेरमा (गर्भावस्था र बच्चा जन्माउने जटिलताका कारण) गर्भवती हुँदा किशोरी आमाको मृत्युदर बढ्छ।			
7-	२० वर्ष नपुग्दै बच्चा जन्माउँदा शिशु र पाँच वर्ष मुनिका बालबालिकाको मृत्यु हुने सम्भावना बढ्छ ।			
8-	२० वर्षको उमेर अघि गर्भावस्था र बच्चा जन्माउँदा पोस्टपार्टम डिप्रेसन जस्ता मानसिक समस्याहरु बढ्छ।			
9-	२० वर्ष नपुग्दै गर्भावस्था र सुत्केरी हुँदा किशोरीहरूमा क्याल्सियम र आइरनको कमी हुन्छ।			
यौन तथा प्रजनन स्वास्थ्य सम्बन्धी सेवा र जानकारीमा पहुँच				
26.	यहाँ परिवार नियोजनको विधि प्राप्त गर्ने कुनै ठाउँ छ?	1. छ 2. छैन		यदि छैन भने, *30* मा जानुहोस्
a.	यदि छ भने, तपाईंले परिवार नियोजनको विधि कहाँबाट प्राप्त गर्न सक्नुहुन्छ?	1. स्वास्थ्य चौकी 2. क्लिनिक 3. अस्पताल 4. महिला स्यस्थ्य स्वयम सेविका 5. अन्य (खुलाउने)_____		
27.	के तपाईंले आवश्यकता अनुसार गर्भनिरोधकहरू प्राप्त गर्न सक्नुभयो?	1. सके 2. सकिन		
28.	सबै भन्दा नजिकको स्वास्थ्य संस्थाको दूरी	.....मिनेट		
29.	के तपाईंले विद्यालयमा यौन शिक्षा प्राप्त गर्नुभएको थियो? (यदि औपचारिक शिक्षा छ भने)	1. थिए 2. थिएन		
प्रसवपूर्व, सुत्केरी र प्रसवपछि किशोरावस्थामा आमाहरूमा हुने स्वास्थ्य परिणामहरू				
30.	के तपाईं किशोरावस्था (*10-19* वर्ष) मा गर्भवती हुँदा कहिल्यै गर्भपात भएको थियो?	1. थियो 2. थिएन		
31.	(नाम) तपाइको गर्भ मा हुँदा के तपाँईलाई स्वास्थ्य समस्या देखिएको थियो?	1. थियो 2. थिएन 3. याद भएन/थाहा छैन		यदि थिएन भने, 34 मा जानुहोस्

a.	स्वास्थ्य समस्या देखिएकोभए के के समस्या भएको थियो*?* *बहुउत्तर	1. रगत बगेको 2. दृष्टि धमिलो भएको 3. खुट्टा/जिउ सुन्निएको 4. योनीबाट सेतो/गन्हाउने पानी बगेको 5. उच्च रक्तचाप देखिएको (प्रेसर 6. रक्तअल्पता (रगतको कमीभएको) 7. मधुमेह (चिनी रोग) 8. मोटोपन 9. जीउ दुखेको 10. टाउको दुखेको 11. पेटको तल्लो भाग अत्यधिक दुख्ने 12. अन्य *(*खुलाउने) _____	
32.	*(*बच्चाको नाम) लाई तपाइले कहाँ जन्माउनु भएको हो?	1. घरमा 2. बर्थिंग सेन्टर (हेल्थ पोस्ट) 3. BEONC (प्राथमिक स्वास्थ्य केन्द्र) 4. CEONC (जिल्ला अस्पताल) 5. अन्य सरकारी स्वास्थ्य संस्था 6. निजि अस्पताल 7. अन्य	
33.	तपाइले (*(*बच्चाको नाम) लाई जन्माउँदा कुन विधिबाट जन्माउनु भयो?	1. सामान्य प्रसुती 2. उपकरणको सहायताले गरिएको प्रसुती 3. सल्यकृयाद्वारा गरिएको प्रसुती	
34.	*(*बच्चाको नाम) लाई जन्माउँदा हुने बेलामा कुनै किसिमको जटिलता वा समस्या भएको थियो *?*	1. थियो 2. थिएन 3. थाहा भएन	यदि थिएन भने, 37 मा छोड्नुहोस्
a.	*(*बच्चाको नाम*)* लाई जन्म दिंदा कुनै जटिलता भयो भने कस्तो जटिलता थियो *?* *बहुउत्तर	1. लामो प्रसव अवस्था (८ घण्टा भन्दा लामो सुत्केरी व्यथा लागेमा) 2. अत्याधिक रक्तस्राव 3. असामान्य भ्रूण प्रस्तुति 4. समायवधि अगावै व्यथा लाग्नु 5. उच्च रक्तचाप 6. बेहोस भएको 7. उल्टो बच्चा 8. घाँटी वरिपरि सालनाल बेरिएको 9. नवजात शिशुको जन्म भएको ३० मिनेट भित्र सालनाल निष्कासन नहुनु 10. अन्य (खुलाउनुहोस) _____	
35.	जन्म दिएपछि तपाइलाई सुत्केरी समयमा कुनै स्वास्थ्य समस्या वा जटिलता भएको थियो*?*	1. थियो 2. थिएन 3. थाहा छैन	यदि थिएन भने, अन्त्य गर्ने
a.	यदि कुनै जटिलता देखियो भने कस्तो जटिलता थियो *?* *बहुउत्तर	1. अत्याधिक रगत बगेको 2. योनी बाट गन्हाउने पानि बगेको 3. ज्वरो आएको 4. अत्याधिक तल्लो पेट दुखेको 5. अत्याधिक थकान वा सास फेर्न गारो 6. हात/खुट्टा/अनुहार सुन्निएको 7. अत्याधिक टाउको दुख्ने 8. दृष्टि धमिलो हुने 9. स्तन सुन्निने/स्तनमा केहि संक्रमणले पिप जम्नु 10. घाउको वरपर संक्रमण हुनु 11. योनी वरिपरिको भागमा दुखाईहुनु वा संक्रमण हुनु 12. डिप्रेसन (उदासीनता) वा आत्महत्याको सोच आउनु 13. अन्य (खुलाउनुहोस) _____	

तपाईंको समयको लागि धन्यवाद।

Appendix XV: Qualitative In-depth Interview Guide- Nepali

<u>किशोरी अमाहरुसंग लिने अन्तर्वार्ता निर्देशिका</u>

अन्तर्वार्ताको पृष्ठभूमि						
अन्तर्वार्ताको लागि अनुमति लिइएको		छ			छैन	
मिति (dd/mm/yy):	दिन		महिना		साल	
उमेर (पुरा भएको):						
शिक्षाको तह:						
बसोबास स्थल:						
अन्तर्वार्ता सुरु समय:						
अन्तर्वार्ता समाप्त समय:						
उत्तरदाता ID:						

विषय	**मुख्य प्रश्नहरु**	**सहायक प्रतिप्रश्नाहरु**	**थप खोज**
विवाह	.... वर्षको उमेरमा बिहे गर्ने निर्णयमा तपाई कसरी आउनुभयो?	के तपाईंले आफैंले विवाह गर्ने निर्णय गर्नुभयो?	
		यदि हो भने, तपाइँ त्यो निर्णय गर्नुको कारण के हो?	शिक्षा स्तर, सामाजिक मापदण्ड, सामाजिक आर्थिक स्थिति, सम्बन्ध स्थिति
		यदि होइन भने, यो निर्णय कसले कसरी लिईयो?	
		के तपाई यो निर्णयमा खुसी हुनुहुन्थ्यो?	
पारिवारिक मुल्यमन्यताहरु	तपाइको परिवारमा किशोरी गर्भावस्था सम्बन्धि के कस्ता विश्वास र मूल्यमान्यताहरु चल्दै आएका छन्?	तपाईको परिवारका सदस्यहरू (आमा, सासु अन्य) कुन उमेरमा गर्भवती भए?	
		तपाइँको विचारमा कुन कारकहरूले त्यो उमेरमा गर्भवती हुने निर्णयलाई असर गरेको हुनसक्छ ?	
		उनीहरुका कति सन्तान थिए ?	
		तपाईको परिवारमा गर्भावस्था र बच्चा जन्माउने मापदण्डमा के कस्ता परिवर्तनहरु भएका छन् ?	बच्चाहरूको संख्या, जन्मको दूरी, गर्भावस्थाको उमेर
किशोर गर्भावस्थालाई असर गर्ने कारकहरू	तपाईलाई के कारणले गर्दा ....वर्षको उमेरमा बच्चा जन्माउने निर्णय गर्नुभयो ..?	तपाईंको निर्णयमा तपाईंको परिवार र साथीहरूलको कस्तो प्रभाव परेको थियो?	परामर्श, दबाब
		यो निर्णयमा तपाईं र तपाईंको श्रीमानको कस्तो भूमिका थियो?	गर्भवती सम्बन्धि निर्णय, गर्भनिरोधक प्रयोग गर्ने निर्णय, निर्णय प्रक्रियामा प्रमुख भूमिका
		तपाईको बिचारमा तपाई किशोर अवस्थामा गर्भवती हुनमा कुन कारकले भूमिका खेलेको थियो?	शिक्षा, विद्यालय उपलब्धता, , आय, पेशा, महिलाको स्थिति, पदार्थको प्रयोग, मिडिया एक्सपोजर
परिवार नियोजन	परिवार नियोजन सेवाहरू र	तपाइँ वा तपाइँको श्रीमानले गर्भनिरोधकका के कस्ता माध्यम प्रयोग गर्नुभयको थियो?	

	गर्भनिरोधकहरू बारे तपाईंलाई के थाहा छ?	तपाइले त्यहि गर्भनिरोधक किन प्रयोग गर्नु भएको ?	
		यदि थिएन भने, किन केहि प्रयोग गर्नु भएको थिएन ?	
		तपाईंको समुदायमा, तपाईंजस्ता किशोरी आमाहरूले परिवार नियोजन सेवा र जानकारी लिन कहाँ जान सक्छन्?	स्वास्थ्य संस्था, विद्यालय, महिला स्वास्थ्य स्वयम् सेविका
		तपाइको बिचारमा परिवार नियोजनको सेवा वा जानकारी खोज्न लिन के कस्ता बाधाहरू छन् ?	
		यदि आज तपाईलाई परिवार नियोजनको जानकारी लिन चाहनु हुन्छ भने तपाई कहाँ जानु हुन्छ र किन ?	तपाइँ त्यहाँ के जानकारी वा सेवाहरू प्राप्त गर्न सक्नुहुन्छ?
धारणा/ ज्ञान	तपाईको विचारमा सन्तान जन्माउने उपयुक्त उमेर कुन हो ??	किन यस्तो लाग्छ ?	
		के तपाई सानै उमेरमा आमा बन्नुको कुनै सकारात्मक/नकारात्मक नतिजा हुन्छ जस्तो लाग्छ? यदि त्यसो हो भने, परिणामहरू के हुन्छ जस्तो लाग्छ?	
सामाजिक मूल्यमान्यताहरु	तपाइको समाजमा किशोरी गर्भावस्था सम्बन्धि के कस्ता विश्वास र मूल्यमान्यताहरु चल्दै आएका छन्?	कुनै लिङ्गलाई प्राथमिकता दिने खालका के कस्ता चलनहरु अवस्थित छन्?	
		किशोरावस्थाको गर्भावस्थाको सम्बन्धमा समाजको मान्यताबाट तपाई कत्तिको खुसी हुनुहुन्छ?	
स्वास्थ्य संस्था र स्वास्थ्य जाँच	तपाईंले आफ्नो गर्भावस्था कस्ता स्वास्थ्य सेवाहरू खोज्नुभयो/ लिनुभयो?	तपाईंले गर्भावस्था को समयमा के स्वास्थ्य सेवाहरू (ANC सेवाहरू) लिनुभयो?	रक्तचाप, तौल र भ्रूणको मुटुको दर अनुगमन, IEC र BCC, टिटानस टक्सोइड र डिप्थेरिया (टीडी) खोप, आइरन फोलिक एसिड ट्याब्लेट र जुकाको ट्याब्लेटको प्रावधान।
		तपाईंले आफ्नो बच्चालाई कहाँ डेलिभर गर्नुभयो?	किन?
		त्यो ठाउँमा बच्चा डेलिभर गर्दाको तपाइको अनुभव कस्तो भयो?	
स्वास्थ्य असरहरु	सानै उमेरमा गर्भवती भएको कारणले तपाईलाई स्वास्थ्यमा कस्तो असर पर्‌यो?	गर्भावस्थाको समयमा स्वास्थ्य स्थिति कस्तो थियो?	रगत बगेको, दृष्टि धमिलो भएको खुट्टा/जिउ सुन्निएको, योनीबाट सेतो/गन्हाउने पानी बगेको, उच्च रक्तचाप देखिएको (प्रेसर रक्तअल्पता (रगतको कमीभएको), मधुमेह (चिनी रोग), मोटोपन, जीउ दुखेको
		बच्चा जन्माउँदा स्वास्थ्य स्थिति कस्तो थियो?	लामो प्रसव अवस्था, अत्याधिक रक्तस्राव, असामान्य भ्रूण प्रस्तुति, समायवधि अगावै व्यथा लाग्नु, उच्च रक्तचाप,

			बेहोस भएको, उल्टो बच्चा, घाँटी वरिपरि सालनाल बेरिएको
		बच्चा जन्मेपछि स्वास्थ्य स्थिति कस्तो थियो?	अत्याधिक रगत बगेको, योनी बाट गन्हाउने पानि बगेको , ज्वरो आएको, अत्याधिक तल्लो पेट दुखेको, अत्याधिक थकान वा सास फेर्न गारो, हात/खुट्टा/अनुहार सुन्निएको, अत्याधिक टाउको दुख्ने , दृष्टि धमिलो हुने
अन्त्य	तपाईको विचारमा किशोरावस्थाको गर्भावस्थाको कारकहरूको बारेमा छलफल गर्दा हामीले छलफल नगरेको कुनै महत्वपूर्ण विषयवस्तुहरु छन् ?		

तपाईंको समयको लागि धन्यवाद।

Appendix XVI: Qualitative KII Guide-Nepali

<u>प्रमुख सूचनादाताहरुसंग लिइने अन्तर्वार्ता निर्देशिका</u>

अन्तर्वार्ताको पृष्ठभूमि						
अन्तर्वार्ताको लागि अनुमति लिइएको		छ			छैन	
मिति (dd/mm/yy):	दिन		महिना		साल	
अन्तर्वार्ता सुरु समय:						
अन्तर्वार्ता समाप्त समय:						
उत्तरदाता ID:						
उमेर (पूरा वर्ष):						
हाल काम गरिरहेको वडा र स्वास्थ्य संस्था:						
पद:						
सेवा गरेको वर्ष:						

विषय	**मुख्य प्रश्नहरु**	**सहायक प्रतिप्रश्नाहरु**	**थप खोज**
विवाह	चेपांग समुदायमा बाल बिबाहको अवस्था कस्तो छ ?	दर समयक्रमसँगै बढ्दै गइरहेको छ कि घटिरहेको छ ?	किन?
		चेपांग समुदायमा बालविवाहको कारणहरु के होलान?	शिक्षा स्तर, सामाजिक मापदण्ड, सामाजिक आर्थिक स्थिति, सम्बन्ध स्थिति
		विवाहको निर्णय मुख्य रूपमा कसले गर्छ?	
गर्भावस्था मूल्यमान्यता	के तपाईं मलाई गर्भावस्था र बच्चाको जन्म इतिहास/मानदहरू बारे बताउन सक्नुहुन्छ जुन चेपांग.समुदायहरूमा अवस्थित छ ?	के किशोरावस्थामा गर्भावस्थाको दर चेपांग समुदायमा समयसँगै घट्दै छ वा बढ्दै गएको छ? किन?	
		गर्भावस्था र बच्चा जन्माउने मापदण्डहरूमा तपाइको .समुदायमा के कस्ता परिवर्तन भएका छन्?	बच्चाहरूको संख्या, जन्म स्थान, लिङ्ग प्राथमिकता
कारकहरू	तपाईँको बिचारमा चेपांग समुदायमा किशोरावस्थामा गर्भावस्थालाई असर गर्ने कारकहरू के हुन्?	चेपांग समुदायमा कस्ता परिवार नियोजन सेवाहरू उपलब्ध छन्?	गर्भनिरोधक, आईईसी, परामर्श
		किशोरी आमाहरूले परिवार नियोजन सेवा र जानकारी लिन कहाँ जान सक्छन्?	
		परिवार नियोजन सेवा वा जानकारी प्रदान गर्न कुनै बाधाहरू छन्?	गर्भनिरोधक प्रति समुदायको व्यवहार
		के श्रीमान र श्रीमतीको निर्णयमा समान भूमिका हुन्छ?	गर्भवती भएको निर्णय, गर्भनिरोधक प्रयोग गर्ने निर्णय
		कुन सामाजिक-आर्थिक र सांस्कृतिक कारकहरूले चेपांग समुदायमा किशोरावस्थामा गर्भावस्था हुने गरेको छ?	शिक्षा, विद्यालय उपलब्धता, छाड्ने, आय, पेशा, जीविकोपार्जन, महिलाको स्थिति, पदार्थको प्रयोग, मिडिया एक्सपोजर
स्वास्थ्य असरहरु	किशोरावस्थाको गर्भावस्थाका कारण चेपाङ महिला वा उनीहरुको बच्चाको स्वास्थ्यमा कस्तो असर देख्नुभएको छ ?	तपाईँको समुदायमा गर्भावस्थाको समयमा चेपाङ किशोरी आमाहरुमा कस्तो स्वास्थ्य समस्या देखिन्छ?	गर्भपात, मातृ मृत्यु
		किशोरी आमाहरूले प्रायः आफ्नो बच्चा कहाँ र किन जन्माउँछन्?	होम डेलिभरी, स्वास्थ्य संस्था
		प्रसूतिको समयमा चेपाङ किशोरी आमाहरूमा के कस्ता स्वास्थ्य समस्याहरू देखा पर्छन्?	समयपूर्व प्रसव, रक्तस्राव
		चेपाङ किशोरी आमाहरु र उनीहरुका बच्चाहरु लाई सुत्केरीको समयमा के कस्ता स्वास्थ्य समस्याहरु देखा पर्छन् ?	रक्तस्राव
अन्त्य	तपाईको विचारमा किशोरावस्थाको गर्भावस्थाको कारककहरूको बारेमा छलफल गर्दा हामीले छलफल नगरेको कुनै महत्वपूर्ण विषयवस्तुहरु छन् ?		

तपाईंको समयको लागि धन्यवाद।

Appendix XVII: Quantitative Data Collection Tool - English

General Information	Identification No:
S.N: …….	Ward No: ……..
Date of Interview (DD/MM/YY……..	

S.N.	Questions	Response Categories	Skip to
Socio-demographic Characteristics			
1.	How old are you?	…… in completed years	
2.	What is the highest level of education you have completed? *(STEPS 2019)*	1. No Education 2. Primary 3. Secondary 4. More than secondary	
3.	What type of family do you currently live in? *(NDHS 2016)*	1. Nuclear 2. Joint	
4.	How many members are there in your family?	…….members	
5.	What is the highest level of education your husband has completed? *(STEPS 2019)*	1. No Education 2. Primary 3. Secondary 4. More than secondary	
6.	What is the highest level of education your mother has completed? *(STEPS 2019)*	1. No Education 2. Primary 3. Secondary 4. More than secondary	
7.	What is your occupation i.e., what kind of work do you mainly do? *(Kuppuswamy)*	1. Profession 2. Semi-profession 3. Clerical, shop owner, farmer 4. Skilled worker 5. Semi-skilled worker 6. Unskilled worker 7. Unemployment	
8.	What is your husband's occupation i.e., what kind of work does he mainly do? *(Kuppuswamy)*	1. Profession 2. Semi-profession 3. Clerical, shop owner, farmer 4. Skilled worker 5. Semi-skilled worker 6. Unskilled worker 7. Unemployment	
Socio-economic Status (Modified Kuppuswamy SES Scale in context of Nepal)			
9.	Please mention the education of household head.	1. Professional or Honors…….7 2. Graduate or Post graduate….6 3. Intermediate or post-high school diploma..5 4. High school certificate….4 5. Middle school certificate …3 6. Primary school or literate…..2 7. Illiterate……1	
10.	What is the occupation of household head?	1. Profession……10	

		2. Semi-profession……6 3. Clerical, shop owner, farmer……..5 4. Skilled worker……4 5. Semi-skilled worker……..3 6. Unskilled worker……..2 7. Unemployment……..1	
11.	How much is your family's average monthly income? (NPR) (Kuppuswamy Scale)	1.≤ 4850……1 2.4851-14550…….2 3.14551-24350…….3 4.24351-36550…….4 5.36551-48750…….6 6.48751-97450…….10 7.≥ 97451……..12	
Pregnancy and Marriage Related Information			
12.	At what age, did you get pregnant for the first time?	……years	
13.	At what age did your husband get married for the first time?	……years	
14.	Did you yourselves wanted to get married?	1. Yes 2. No	
15.	What was your marriage type?	1. Arranged Marriage 2. Love Marriage	
16.	At what age, did you get pregnant for the first time?	…….years	
17.	Was the pregnancy planned?	1. Yes 2. No	
18.	What was your mother's age at her first pregnancy?	……..years	
19.	What was your immediate older sister's age at her first pregnancy? (only ask if the respondent has an older sister)	……..years	
20.	Did your family influence you in any way to give birth at the time?	1. Yes 2. No	
21.	Did your peers influence you in any way to give birth at the time?	1. Yes 2. No	
Contraceptives Related Information			
22.	Have you heard about the contraceptive devices that can be used for family planning?	1. Yes 2. No	If no, skip to 25
a.	*If yes, please mention contraceptive devices you know of?* *(NDHS 2016)*	1. Female Sterilization 2. Male sterilization 3. IUCD 4. Injectable 5. Implants 6. Pill 7. Condom 8. Emergency contraception 9. Lactational amenorrhea method 10. Rhythm method 11. Withdrawal 12. Other modern method (specify)…… 13. Other traditional method (specify)…….	
23.	Were you or your partner using something or using any method to delay or avoid	1. Yes 2. No	If no, skip to 25.b

	getting pregnant while being pregnant at the age of …. (age at first pregnancy)?			
24.	Who decides to use the method?	1. Self only 2. Both partner and self 3. Partner only 4. Other (specify).....		
Knowledge on Adolescent Pregnancy				
25.	**Items**	**Correct**	**Wrong**	**I do not know**
1-	Early pregnancy causes unwanted pregnancy.			
2-	Early pregnancy increases abortion.			
3-	Early marriage reduces the distance between pregnancies.			
4-	Early marriage increases the number of pregnancies.			
5-	Pregnancy at the age of less than 20 years causes complications of pregnancy and childbirth. (Increased blood pressure, bleeding and infection)			
6-	Pregnancy at the age of less than 20 years (due to pregnancy and childbirth complications) increases adolescent mothers' death.			
7-	Childbirth before the age of 20 will increase the probability of death of infants and children under five years old.			
8-	Pregnancy and childbirth before the age of 20 increase mental disorders such as postpartum depression.			
9-	Pregnancy and childbirth before the age of 20 cause iron deficiency in adolescent girls.			
Access to Sexual and Reproductive health related services and information				
26.	Is there a place from where you can obtain a method of family planning?	1. Yes 2. No		If no, skip to 30
a.	*If yes, from where can you obtain a method of family planning?*	1. Health Post 2. Clinic 3. Hospital 4. FCHV 5. Others(specify)……		
27.	Were you able to get contraceptives as and when required?	1. Yes 2. No		
28.	Distance to nearest health facility	……minutes		
29.	Have ever received sex education in your school?(if she has formal education)	1. Yes 2. No		
Health Consequences among adolescent mothers during antepartum, childbirth and postpartum				
30.	Did you ever have any miscarriage/ spontaneous abortions while you were pregnant in your adolescence (10-19 years)?	1. Yes 2. No		
31.	Did you have any health problems while you were pregnant with your child ?	1. Yes 2. No 3. Don't know/Don't remember		If no, skip to 34
a.	*If yes, what health issues were there?* **Multiple Responses*	1. Vaginal Bleeding 2. Blurred vision 3. Swollen feet/body		

		4. White/smelly discharge from the vagina 5. High blood pressure 6. Anemia 7. Diabetes 8. Excessive weight gain 9. Body ache 10. Headache 11. Severe pain in lower part of stomach 12. Others (Specify)……	
32.	Where did you deliver your child?	1. Home delivery 2. Birthing Center (HP) 3. BEONC (PHCC) 4. CEONC (District Hospital) 5. Other government health facility 6. Private Hospital 7. Other	
33.	By what method did you deliver your child?	1. Spontaneous Vaginal delivery 2. Assisted Vaginal delivery 3. Cesarean Section	
34.	While giving birth was there any problem or complication?	1. Yes 2. No 3. Don't know	If no, skip to 37
a.	*If there was any complication while giving birth, what kind of complication it was? *Multiple Responses*	1. Prolonged labor (Labor for longer than 8 hours) 2. Abnormal fetal presentation 3. Excessive Bleeding 4. Pre-term labor 5. High Blood Pressure 6. Unconsciousness 7. Reverse Baby 8. Wrapped umbilical cord around the neck 9. Retained placenta 10. Others (specify)……	
35.	After giving birth was there any problem or complication?	1. Yes 2. No 3. Don't know	If no, end the interview
a.	*If there was any complication after giving birth, what kind of complication was it? *Multiple Responses*	1. Excessive bleeding 2. Foul discharge from vagina 3. Fever 4. Lower abdominal pain 5. Excessive tiredness or difficulty in Breathing 6. Swelling of feet/hand/face 7. Excessive headache 8. Blurred vision 9. Breast engorgement/ Breast abscess 10. Infection in the area of wound 11. Increased pain or infection in the perineum 12. Depression or suicidal behavior or thought 13. Others (specify)……	

THANKYOU FOR YOUR TIME.

Appendix XVIII: Qualitative In-depth Interview Guide -English

In-depth Interview Guideline with Adolescent Mothers

Basic Information				
Consent Given		Yes		No
Date (dd/mm/yy):				
Age (completed years):				
Age at first pregnancy:				
Education Level:				
Place of residence:				
Interview start time:				
Interview end time:				
Respondent ID:				

Topic	Main Question	Follow up Question	Probes
Marriage	How did you come to the decision of marriage at the age of….?	Did you decide to get married on your own?	
		If yes, what was the reason behind the decision?	Education level, Societal norms, socioeconomic status, relationship status
		If no, how was the decision made?	
		Were you happy with it?	
Family norms	Can you tell me about the pregnancy and childbirth history/norms that are existing in your family?	At what age did your family members (mothers, in-laws, others) get pregnant for the first time?	
		What factors do you think influenced their decision to get pregnant at that age?	
		How many children did they have?	
		What changes have occurred in pregnancy and child birth norms across generations in your family?	Number of children, Birth spacing, Age at pregnancy
Factors affecting teenage pregnancy	What led you to the decision of having a baby at the age of ..?	What influences did your family and peer play in your decision?	Counseling, Pressure
		What role did you and your husband had in the decision-making?	The decision about being pregnant, Decision on using contraception Dominant role in decision making
		What factors played role in your pregnancy?	Education, School availability, Drop Out, Income, Occupation, Livelihood, Women's status, Substance use, media exposure
Family Planning	What do you know about family	What means of contraception did you or your partner use?	

	planning services and contraceptives?	Why did you use particular means of contraception?	
		If no, why didn't you use any means of contraception?	
		In your community, where can teen mothers like yourselves go to get family planning services and information?	Health institution, school, FCHV
		What barriers are there to seeking family planning services or information?	
		If today you wanted to get information on family planning where would you go and why?	What information or services can you get there?
Perception	What do you think is the right age to have a child?	Why do you think so?	
		What do you think are the consequences of being a mother at a young age?	
Societal norms	What societal norms exist regarding teenage pregnancy and childbirth in your community?	What norms exist regarding preference for the gender of a child?	
		How happy are you with the norms of society regarding teenage pregnancy?	
Health Care Seeking	What health care services did you seek in your first pregnancy journey?	What health services did you seek during your first pregnancy (ANC Services)?	Blood pressure, weight and fetal heart rate monitoring, IEC and BCC, Provision of tetanus toxoid and diphtheria (Td) immunization, iron folic acid tablets, and deworming tablets
		Did you deliver your first child at home or institution?	Why did you do so?
		How was your experience of delivering your first child at home/institution?	
Health Consequences	Do you think that being pregnant at an early age induced any health complications for you?	What were the health consequences during pregnancy?	Vaginal bleeding, Blurred vision, High blood pressure, Swollen body/feet, White/smelly discharge from vagina
		What were the health consequences during childbirth?	Prolonged labor, abnormal fetal presentation, excessive bleeding, pre-term labor, high blood pressure, unconsciousness
		What were the health consequences after childbirth?	Stillbirth, Hemorrhage
Closing	Is there anything else that we didn't discuss that you think is important to know when discussing determinants of teenage pregnancy?		

THANK YOU FOR YOUR TIME!

Appendix XIX: Qualitative KII Guide -English

Key-Informant Interview Guideline

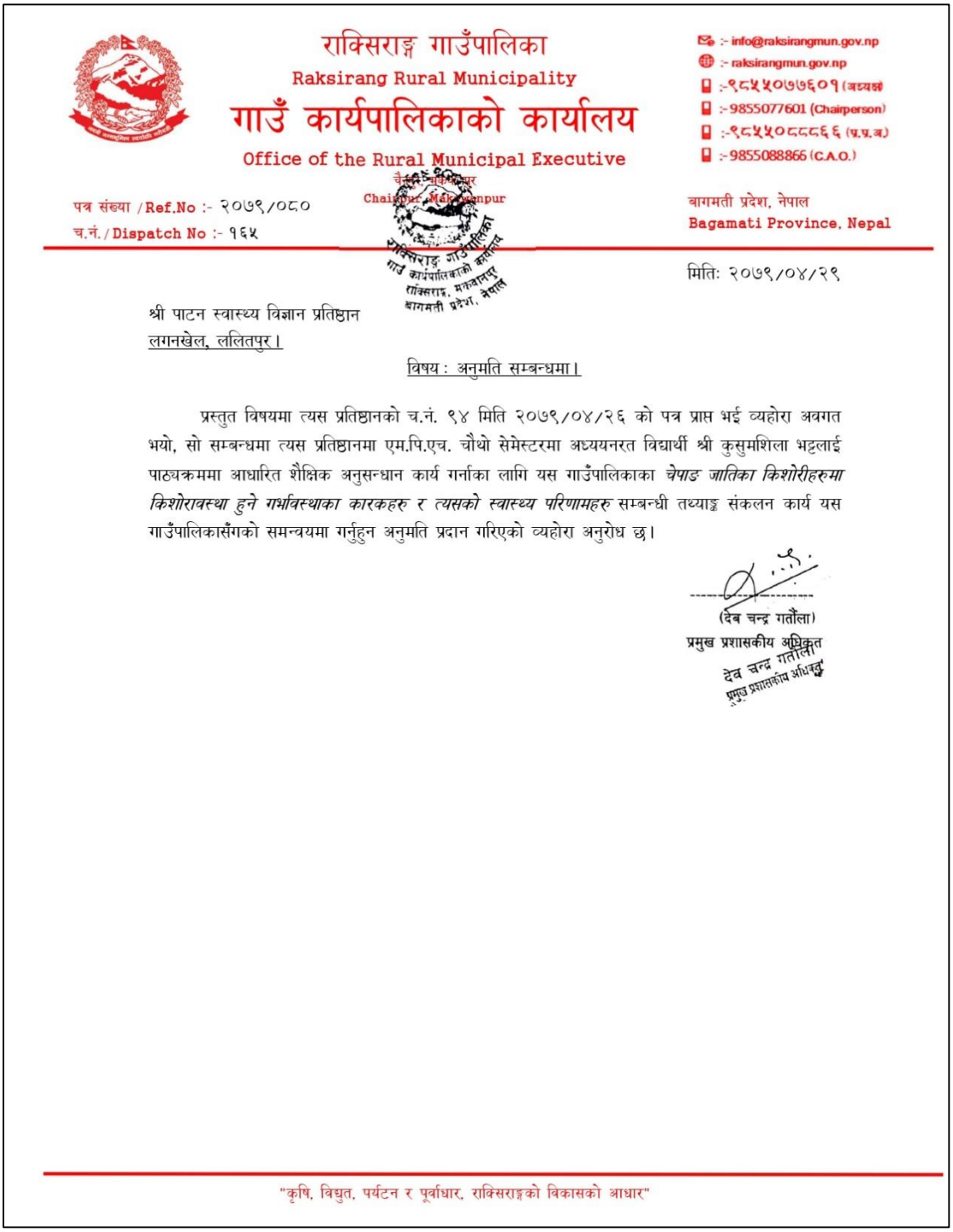
Background Information							
Consent Given		Yes				No	
Date (dd/mm/yy):	Day		Month		Year		
Interview start time:							
Interview end time:							
Respondent ID:							
Age (completed years):							
Working ward and facility:							
Sanctioned Post:							
Years of Serving:							

Topic	Main Question	Follow up Question	Probes
Marriage	What is the status of child marriage in Chepang community?	Is the child marriage rate increasing or decreasing over time among Chepang community?	Why?
		What factors cause child marriage in Chepang community?	Education level, Societal norms, socioeconomic status, relationship status
		Who primarily makes marriage decisions in families among Chepang communities?	
Pregnancy and Childbirth norms	Can you tell me about the pregnancy and childbirth history/norms that exist in Chepang communities?	Is the teenage pregnancy prevalence in Chepang communities decreasing or increasing over time?	Why?
		Have there been changes in pregnancy and childbirth norms across generations among Chepang communities?	Number of children, Birth spacing, Gender Preference
Factors	What do you think are the factors affecting teenage pregnancy among Chepang communities?	What family planning services exist in Chepang community?	Contraceptives, IEC, Counseling
		Where can teen mothers go to get family planning services and information?	
		Are there any barriers to providing family planning services or information?	Attitude of Chepang community towards contraception
		Do husband and wife have an equal role in the decision-making?	Decision about being pregnant, Decision on using contraception
		What socio-economic and cultural factors affect teenage pregnancy in Chepang communities?	Education, School availability, Drop Out, Income, Occupation, Livelihood, Women's status, Substance use, media exposure

Health consequences	What health consequences have you seen among Chepang women or their child due to pregnancy at an early age?	What health problems among Chepang adolescent mothers during pregnancy are commonly seen in your community?	Miscarriage, Maternal death
		Where do teenage mothers mostly deliver their child and why?	Home delivery, health institution
		What health complications among Chepang adolescent mothers during delivery are commonly seen?	Preterm labor, hemorrhage
		What health complications among Chepang adolescent mothers and their children during postpartum are commonly seen?	Stillbirth, Hemorrhage
Closing	Would you like to tell me anything or suggest anything that you think I have left or is important?		

THANK YOU FOR YOUR TIME!

Appendix XX: Approval Letter from Raksirang Rural Municipality



राक्सिराङ्ग गाउँपालिका
Raksirang Rural Municipality
गाउँ कार्यपालिकाको कार्यालय
Office of the Rural Municipal Executive

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:-९८५५०७७६०१ (अध्यक्ष)
:-9855077601 (Chairperson)
:-९८५५०८८८६६ (प.प.अ)
:-9855088866 (C.A.O.)

पत्र संख्या /Ref.No :- २०७९/०८०
च.नं./Dispatch No :- १६५

बागमती प्रदेश, नेपाल
Bagamati Province, Nepal

मितिः २०७९/०४/२९

श्री पाटन स्वास्थ्य विज्ञान प्रतिष्ठान
लगनखेल, ललितपुर।

विषय : अनुमति सम्बन्धमा।

प्रस्तुत विषयमा त्यस प्रतिष्ठानको च.नं. ९४ मिति २०७९/०४/२६ को पत्र प्राप्त भई व्यहोरा अवगत भयो, सो सम्बन्धमा त्यस प्रतिष्ठानमा एम.पि.एच. चौथो सेमेस्टरमा अध्ययनरत विद्यार्थी श्री कुसुमशिला भट्टलाई पाठ्यक्रममा आधारित शैक्षिक अनुसन्धान कार्य गर्नाका लागि यस गाउँपालिकाका *चेपाङ जातिका किशोरीहरुमा किशोरावस्था हुने गर्भावस्थाका कारकहरु र त्यसको स्वास्थ्य परिणामहरु* सम्बन्धी तथ्याङ्क संकलन कार्य यस गाउँपालिकासँगको समन्वयमा गर्नुहुन अनुमति प्रदान गरिएको व्यहोरा अनुरोध छ।

(देव चन्द्र गर्तौला)
प्रमुख प्रशासकीय अधिकृत

"कृषि, विद्युत, पर्यटन र पूर्वाधार, राक्सिराङ्गको विकासको आधार"

Appendix XXI: Grant Approval Letter from NHRC

Government of Nepal

Nepal Health Research Council (NHRC)

Estd. 1991

Ref. No.: 2144

Date: 16th March, 2023

Ms. Kusumsheela Bhatta
Master's in Public Health
School of Public Health
PAHS

Subject: Approval letter for Grant

Dear Ms. Kusumsheela Bhatta,

We would like to express our congratulations on the approval of the Postgraduate Research Grant FY 2079/080 offered by Nepal Health Research Council (NHRC). Our approved amount is Nrs 40,000 for the purpose of your research entitled **"Factors associated with adolescent pregnancy and its health consequences among Chepang women of Raksirang rural municipality, Makwanpur district: a mixed method study"**. Please proceed further with the ethical approval process.

We hope that your research is a success and results in benefitting the entire society.

If any further discussion is needed in regard to this matter, please do not hesitate to contact Capacity Building Section.

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Dr. Pradeep Gyanwali
Member-Secretory (Executive Chief)
NHRC

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Website: http://www.nhrc.gov.np, E-mail: nhrc@nhrc.gov.np

Appendix XXII: Pictures from the field