

**Final Research Report on**  
**Assessment of School Health Services and Perception of**  
**School Nurses and Principals towards the Nurses' Role in**  
**School of Province 1, Nepal**

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## **DECLARATION**

We hereby declare that this study entitled “**Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurses' Role in School of Province 1, Nepal**” is bonafide work which has been prepared in cooperation and coordination of Principal Investigator **Menuka Bhandari, Lecturer** and co- Investigator **Ms. Punam Kumari Mandal, Assistant Professor**, working at Tribhuvan University, Institute of Medicine, **Biratnagar Nursing Campus, Biratnagar**.

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## ABSTRACT

**Introduction:** The health-care delivery system that operates within a school or college is referred to as school health services. The primary responsibilities of School Health Nurses are prevention, promotion, health evaluation and first aid, referral, planning for health action, coordinating, recording, and reporting.

**Methods:** A Mixed Method study was done to assess the status of school health services and the perception of nurses and principals towards the role of school health nurses of province 1. The data was collected using a self-administered questionnaire and in-depth interview using interview guide with nurses and principals. The observation checklist was used to assess the current status of School Health Services. Descriptive analysis and inferential analysis including t-test was used at 95% confidence interval to find the mean difference between the perception of nurses and principals toward nurses' roles.

**Results:** The findings showed that nearly half (47.1 %) of the nurses and two-thirds (66.7 %) of principals strongly agreed that the role of nurses was to assess the health status of the students, nearly half (43.1 %) of nurses and principals agreed that the role of nurses is to perform surveillance programs and screening programs, 43.8% nurses and nearly half (50.7%) principals agreed to evaluate the school environment for health and safety. When comparing the scores of school nurses and the principal, an independent t-test found significant differences in perceptions of some roles of school health nurses in both groups including assessing the health status of the students, providing direct medical care to the students, referring students to health problems.

**Conclusion:** The findings reflected that the nurses and principals agreed that the school nurses' role is most important for the students to assess their health status, getting immediate first aid treatment and to improve the personnel hygiene and nutritional status. The school principals reported that the school nurse program is highly effective especially for the girls' students because they can express their personal problems openly with the school nurse. Both the school principals and nurses reported that students' dropout rate is reducing, students used to leave the school because of minor abdominal pain, headache, and other causes previously. The students who are far from basic health care services are more benefited from school health nurses programs as it is cost effective and easily available, school nurses can improve the bad habits and behaviors of students because students believe more in nurses' care and their counseling services. The principals emphasized that School Nurse Program must be sustainable and permanent program of country.

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**Menuka Bhandari**

**Punam Kumari Mandal**

## **EXECUTIVE SUMMARY**

This study report was prepared based on the findings of Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurses' Role in Schools of Province 1, Nepal. A Mixed Method study design was used as a research design, both qualitative and quantitative approach were used. The target population were all school nurses and the school principals of the government school of province 1. The total number of sample was the current data of the year where the school nurses were working there. As a quantitative approach, cross sectional design was used in which data was collected in single point of time by sending google docs' form to all the Principals and school nurses via mail. Direct Observation technique was used to assess the current status of school health services. In depth interview technique was used as a qualitative method to assess the Perception of School Nurses and Principals towards the Nurses' Role in School. The report is divided into five major chapters; introduction, review of literature, research methodology, findings of the study, discussion and conclusion.

The introduction chapter begins with a broader international context to the local context and tried to find the research gap. It also describes the problem, rational for the study, objectives of the study. The second chapter was detailed description of the literature in different context of the developed and developing countries to assess of school health services and perception of school nurses and principals. The third chapter described about the detailed in research methodology. Similarly, the fourth chapter has displayed the findings of the study in table with illustration, includes Socio-demographic information of the school nurses and principals, Perception of School nurses towards the Role of School Nurses in school settings, Perception of principles towards the role of school nurses in school settings has shown. In table 5, difference in perception of Nurses and principals towards the role of school nurses and in table number 6, Assessment of School Health Services was displayed with illustration. The fifth chapter was related to the discussion, conclusion, recommendations and limitations of the study. The study concludes that both school nurses and principals agreed the nurses' various roles at school including assessing the health status of the students, performing surveillance and screening, and evaluating the school environment for health and safety.

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# **CHAPTER I**

## **INTRODUCTION**

### **1.1Background of the Study**

In the short and long term, school nurses play a critical role in the health and well-being of children and adolescents. The school nurse as the key personnel in SHS contributes to the protection, promotion and assessment of student and school staff health(Leier et al., 2003). In different nations, the job of the school nurse varies, but it is often a blend of clinical treatment and public health practice. The primary responsibilities of School Health Nurses are prevention, promotion, health evaluation and first aid, referral, planning for health action, coordinating, recording, and reporting. The health-care delivery system that operates within a school or college is referred to as school health services. These services aim to improve and preserve the health of schoolchildren in order to provide them with a healthy start in life. Furthermore, these services aim to make it possible. Furthermore, these services seek to enable children benefit optimally from their school learning experience (Cited in Kuponiyi et al., 2016).

Health evaluations, communicable disease control, record keeping, and supervision of schoolchildren's and personnel's health are all part of school health services [3, 4]. It is the part that is concerned with objectively assessing an individual's health. Health evaluations allow school officials to discover indications and symptoms of common ailments, as well as evidence of mental problems that could obstruct children's learning activities (Amoran et al., 2016).According to Shrestha et al., (2019) almost all of the key informants in this study were favorable about the SHN program's implementation in schools and the beneficial impact it has on students, schools, and communities. Improved student health and educational performance, a better school atmosphere, and increased community awareness were all beneficial outcomes. However, key informants cited many major roadblocks to the program's implementation, including a lack of coordination among stakeholders, a scarcity of resources, limited training opportunities, and concerns about the program's long-term viability.

A study conducted by Foley et al., (2004), many nurses experience role uncertainty and pressure as a result of their perceptions of the school nurse's demands. As a result, the school nurse serves as the site's healthcare representative. To achieve integrated care, it is critical to understand the function of the school nurse. There is a known link between health and learning, much as there is a link between school nurse availability, student well-being, and academic success(Allen, 2003).Previously, school nursing practice was limited to specialized activities like screening and first aid. Currently, the function is shifting toward more technical abilities and case management, as well as a higher level of multidisciplinary team collaboration proficiency(Guilday, 2000). As a result, the focus of school nursing and the school nurse's obligations have shifted periodically between curative, preventive, and instructional responsibilities. These roles are influenced by a variety of circumstances, including student needs, school health programs, community support for school health and school nursing services, and the nurses themselves(Costante, 2001).

## **1.2 Need for the Study**

School nurses can have a significant impact on the health and well-being of children and adolescents. In order to obtain a high level of education, children must be healthy. Students may be exposed to physical dangers in the classroom. The presence of school nurses in schools is vital to support students' health and academic achievement, as well as to contribute to long-term physical, mental, and social development. School nurses contribute to a healthier environment, a higher quality of life, and disease prevention at an early stage. The health of a student is directly tied to his or her ability to learn. Unmet health needs make it difficult for children to participate in the educational process. The school nurse helps students succeed by providing health care to all students in the school context through assessment, intervention, and follow-up. The school nurse helps children with their physical, mental, emotional, and social health requirements as well as their academic success.

Loads and responsibilities of school nurses are expanding as the increasing numbers of students with special needs and students without adequate health care and health insurance increase. School nurses must keep up with changing practices and

procedures, but sometimes education in the specialty of school nursing is not readily available. School nursing is the linkage of nursing services to other school health providers and community in order to form an integrated services team. In many countries, health promotion and prevention activities in schools are the role of the school nurse. This is particularly evident in secondary schools where health promotion activities target key health-related behaviours that are established in adolescence such as tobacco and alcohol use, dietary choices and physical activity.

In the year 2075 B.S.(2018), the government of Nepal's Province 3 initiated the "One School, One Nurse" program in all 13 districts of the province with the goal of providing emergency medical services to students as well as counseling female students on reproductive health and sex education(The Kathmandu Post,2021).There were 690 school nurses working in public schools across all seven provinces in Nepal by the date 2022 (Source: Nursing and Social Security Division, Nepal).The program was began in 2018/19 in Province 1 now called Koshi Province with the objective of preventive, promotive role in school. But the assessment of the school nursing program and the perceptions of school nurses and school principals regarding the role of the nurse were less understood. Hence the purpose of this study was to look at nurses' and school principals' perspectives of the school nurse's position and roles in Nepal government schools.

### **1.3 Significance of the Study**

The study would sensitize school principals and teachers about the importance of school health nurses in all government schools by raising awareness of school principals on the school nursing role to meet the physical, mental, social and emotional needs and problems of the students in school. This study might improve the understanding of the school nurses roles especially the issues related to the school students, adolescents and reproductive health, psychosocial aspects and school health environment. The qualitative part of the study might help to explore the strength, opportunities, challenges and suggestions for school nurses. These data might have important implications for the future prioritization of the healthcare needs in this population. This study would be act as the foundation for the further study in school health nurses.

## **1.4 Research Questions**

- What is the status of existing school health services?
- What is the perception of School Principals regarding the role of School Nurses?
- What is the perception of School Nurses regarding the role of School Nurses in schools?

## **1.5 Research Objectives**

The general objective of this study was to assess the current status of school health services and perception of nurses and school principals towards the roles of the school nurses in governmental schools of Province 1, Nepal.

## **1.6 Specific Objectives**

To assess the current status of school health services in Province 1.

To examine the perception of nurses to their own roles as a school nurse.

To examine the perception school principals towards the roles of the school nurses.

## **1.7 Conceptual Framework**

The roles of school nurses are to perform comprehensive & systematic health assessment, analyzes data to identify health problems, develops individualized healthcare plan and refers, develops individualized healthcare plan and refers for further follow up, manages and updates plan and communicates it to concerned personnel, provides ongoing health information to students, parents and school authorities, Plans, implements and supervises school health screening programs, directs immunization program, documents care & maintains records, reports school health data, development of plans and training staff in emergencies and disasters, maintain confidentiality in communication, appropriate delegation of care, screening: vision, hearing, posture, body mass index, etc, refer in timely manner, recognize any deviation from normal growth development and behavior, teaches children, parents, teachers, and communities about health, creates statistical reports on government agencies and other health promotion initiatives, develops a school health plan in collaboration with faculty, students, parents, and other professionals after assessing health needs, helps to create a curriculum for health education, aids in the creation of health education, serves as an example of a healthy lifestyle and acts as a bridge between the home, the community, and the school.

## **1.8 Study Variables**

In this study, the researchers have included sociodemographic variables as an independent variable which influences the role of school nurses directly and indirectly. The roles of the nurses are multidimensional including preventive, promotive and curative. And the roles of the school nurses are predetermined and standard, the roles displayed in the conceptual framework are common roles. Both the independent variables and roles of the school nurses might determine the perception of the Principals and school nurses in school. The research questionnaire was developed based on the socio-demographic variables and school nurses' role and availability of school health services. The researchers have mentioned the independent and dependent variables below and roles in the conceptual framework in figure 1.

### **Independent Variables**

Age

Sex

Marital status

Ethnicity

Religion

Education

Work Experience

Nature of Job: Contract/permanent

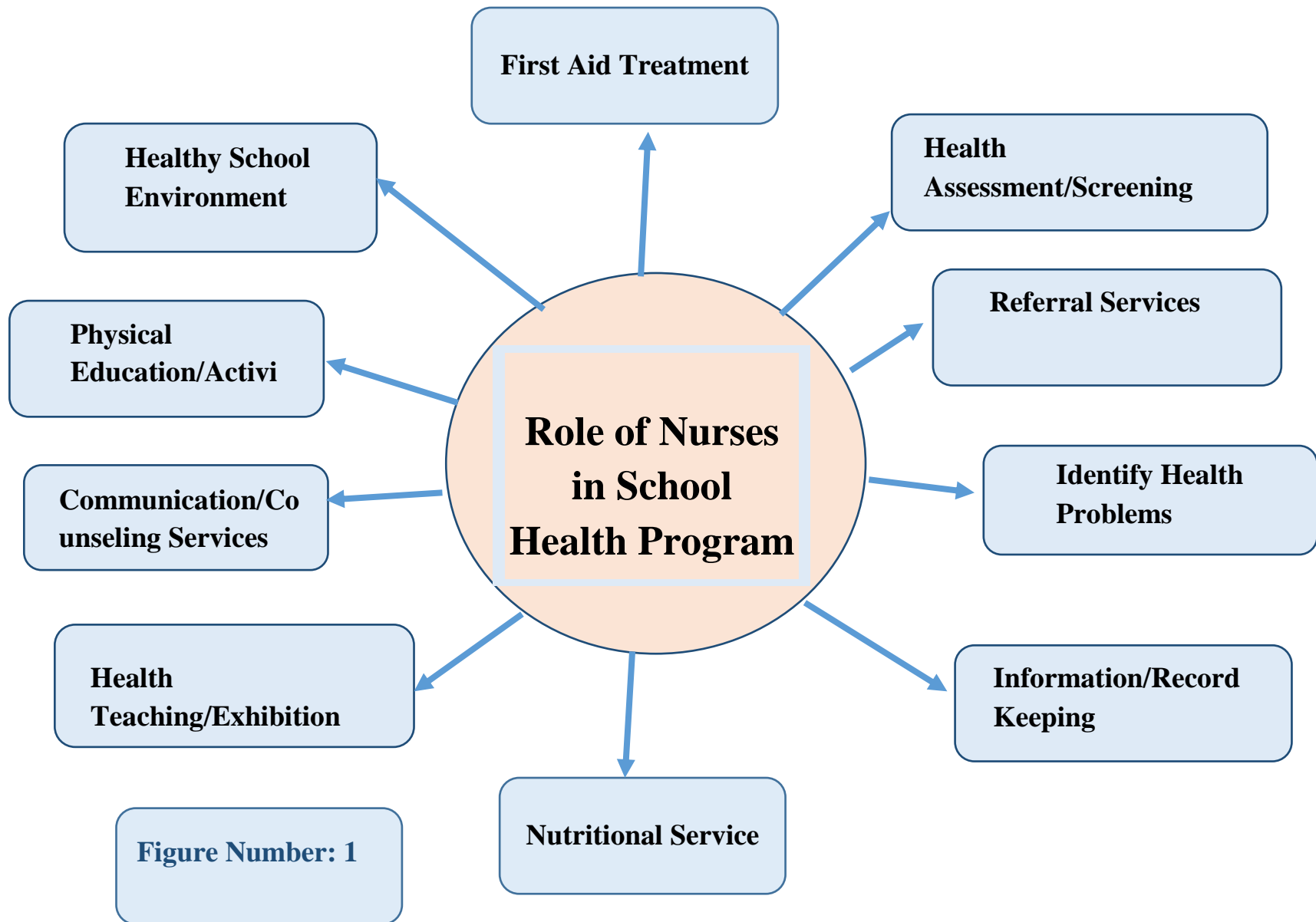
Training

School Health services

Facilities for nurses

### **Dependent Variables**

**Perception of School Nurses and Principals towards the Nurses' Role**



## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1 Review of Related Literature**

The Social Development Ministry has assigned 19 nurses to 19 government schools in the first phase. The program was started, according to the provincial administration, with the goal of providing emergency medical services to students as well as counseling female students on reproductive health and sex education. For this year, the provincial government will cover the costs of the program. Stakeholders believe that if correctly implemented, the initiative might be useful to students. "Female students are hesitant to share their personal difficulties with everyone." They may benefit from speaking with the school nurse. Nurses will also advise students on reproductive health, menstrual hygiene, good eating, nutrition, sex education, and first-aid treatment, according to Binda Ghimire, registrar of the Nepal Nursing Council (The Kathmandu Post, 2021).

School nurses' and principals' perspectives of school nurses' involvement in providing school health services were examined in this study. More than 95 percent of school nurses and administrators agreed that a school nurse's responsibilities include assessing students' health, providing first aid, referring students with health problems, monitoring immunization activities, and offering health advice to parents and teachers. Furthermore, 80% of respondents felt that one of the tasks of school nurses in a school context is to participate in educational staff meetings. In primary schools, teams are assigned to 'give first aid,' 'review hygiene in the school,' 'follow-up chronically ill kids to reduce absence,' 'offer health education for pupils and promote good health habits,' and 'participate in extracurricular activities (AL-Dahnaim et al., 2013a). A study found that 90 percent of school principals agreed with five of the health-care functions outlined. 'Provide first aid', 'evaluate hygiene in the school', 'follow-up chronically ill students to prevent absenteeism', 'provide health education for students and promote good health habits', and 'participate in

school educational staff meetings' are some of the tasks assigned to teams in elementary schools (Gross et al., 2006).

When school nurses' offices were offered on campus, students who complained of somatic problems were observed to frequent them (e.g. headaches, stomach aches, infections, dizziness, tiredness). Some issues (e.g. headache, dizziness, weariness, and unspecific complaints) were linked to stress, anxiety, poor sleep, and family and school problems (Schneider et al., 1995). (Brabin et al., 2011) investigated factors that may influence HPV vaccine uptake and concluded that school nurses require greater guidance and assistance in order to achieve high coverage rates. Despite this, Kinne & Bobo (2010) observed in an online study of school nurses' knowledge, attitudes, and beliefs that 73 percent of school nurses are more likely to believe vaccines that have been around for a lengthy. The social determinants of health, such as poverty, housing, transportation, employment, access to health insurance, and environmental health, are addressed by school nurses. Eighty percent of health problems are attributed to social variables ((“The Role of the 21st-Century School Nurse,” 2017).

In the year 2075 B.S. (2018), the government of Nepal's Province 3 initiated the "One School, One Nurse" program in all 13 districts of the province. The Social Development Ministry has assigned 20 nurses to 20 government schools in the first phase. The program was started, according to the provincial administration, with the goal of providing emergency medical services to students as well as counseling female students on reproductive health and sex education. The "One School, One Nurse Action Plan 2018" was approved by the provincial administration, paving the path for the program's implementation (Baseline Survey Report, 2018).

According to perception 96.3, 98.7, and 97.5% of principals, the most frequently encountered imagined functions of a school nurse in the school context were "follow-up of chronically ill students," "provide first aid," and "referral of students with health problems." However, "evaluating students with low academic performance," "advising/training school educational staff for the management of students with low academic performance," and "evaluating students with behavioral problems" majority of principals disagreed or strongly disagreed, with frequencies of 66, 59.1, and 46.5%, respectively. (AL-Dahnaim et al., 2013b). First aid is primarily the



responsibility of the school nurse, according to the majority of respondents (63.9%). In the event of an accident at school, teachers who stated that having a school nurse would make them feel more safe were 41 times more likely to think that the nurse would be helpful (chi square=57.125,  $p<0.001$ , OR=41) (Martinsson et al., 2021). These studies has concluded that providing first aid and assessing the health status and referring of students with health problems are main roles of school nurses. It was influenced by the quality of interactions with school nurses; and the extent to which the nurse was a member of the school team (Maughan & Adams, 2011). Teachers perceived that the presence of nurses was important because nurses provided nursing care that teachers could not. Teachers perceived nurses as maintaining good physical conditions and safety for the child who is TD (Technology-Dependent) through observing and assessing the child and then providing any necessary nursing care. Teachers believed that children perceived nurses as more familiar than teachers. (Shimizu & Katsuda, 2015)

The study revealed that majority (77%) of the school teachers had average knowledge regarding school health services, (10 %) had good knowledge & (13%) was having poor knowledge. The findings also showed that more than half of the school teachers (57%) had low participation in school health services and only (2%) had a good participation in school health services. The majority of teachers faced the problems as lack of infrastructure, improper training and knowledge i.e. 86% and 80% respectively (Khurshid,2018)

In about 95 % of the schools, the teacher carried out routine inspection of the pupils. The study concludes that the practice of the various components of school health services was poor. The health care personnel available in these schools were inadequate but the situation was generally better in the private schools. Routine inspection by teachers was the commonest form of health appraisal. This may suggest that more health personnel need to be employed to provide for the health of the school children in developing countries.(Kuponyi et al., 2016b)

When school nurses noticed that a child had mental health issues, they would send them to the children's hospital, the emergency room, or child and adolescent psychiatry so that they could be looked at further. Team meetings are crucial,

according to school nurses, partly because they provide an opportunity to violate confidentiality and partly because all involved parties, including the parents, are striving to support the child. One of the study's findings was that school nurses were required to collaborate with a wide range of experts, agencies, and parents in order to address mental health issues in students. Through crucial discussions, it was disclosed that school nurses had expertise collaborating with parents and other stakeholders, since they were all striving toward the same goal, namely, to help the child.(Dina & Pajalic, 2014).

The school nurse's position is viewed by the teaching staff as complex and significant in the team effort. The need for cooperation between the school health service and the promotion of students' well-being was underlined by the participants. The partnership ought to function without any hindrances, particularly when students have worries or issues (Gädda et al., 2023). According to the research, the competence of the school nurse team and local priorities affect how much health education school nurses can provide. The school nurses determined that in order to support them in their work, they require health education materials. School nurses and school nurse assistants may use these resources, or school nursing teams may direct schools and teachers to them. (Hoekstra et al., 2016).

Negative experiences, such as the scarcity of nurses, were highly mentioned. The research's participants contended that there is no substitute for nurses who retire, take study leaves, or quit, which exacerbates the shortage. In addition, these participants felt that due to staffing shortages and scheduling conflicts, they were unable to perform house visits and follow-up visits. The study's participants frequently reported feeling abandoned by their bosses when things get tough. The participants disclosed that because certain schools lacked running water, power, or bathrooms, they did not have the support of their supervisors. The participants observed that staff members' dedication, support, and frequent visits on behalf of management might favorably towards the delivery of quality school health services (Dibakwane & Peu, 2018).

## **2.2 Summary of Literature Review**

This study reflects the difference in the overall perception of nurses and principals towards the role of nurses where there is a statistical difference in perception between the nurses and principals towards the role of nurses in providing health services at school principals indicating a higher mean score among the principals. Various studies have concluded that providing first aid and assessing the health status and referring of students with health problems are main roles of school nurses. It was influenced by the quality of interactions with school nurses; and the extent to which the nurse was a member of the school team. Teachers perceived that the presence of nurses was important because nurses provided nursing care that teachers could not. Team meetings are crucial, according to school nurses, partly because they provide an opportunity to violate confidentiality and partly because all involved parties, including the parents, are striving to support the child. The study's nurses highlighted their significance in imparting hard skills, soft skills, and field knowledge; however, medical students did not appear to recognize the latter two as highly. While school nurses believed these to be important roles, school principals disagreed or were indifferent to the idea that school nurses should evaluate students with behavioral issues, evaluate students with poor academic performance, follow up with students who consistently miss school, and advise/train school personnel on how to manage students with low academic performance.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Designs**

A Mixed Method study design was used as a research design, both qualitative and quantitative approach were used. The target population were all school nurses and the school principals of the government school of province 1. The total number of sample was the current data of the year where the school nurses were working there. As a quantitative approach, cross sectional design was used in which data was collected in single point of time by sending google docs' form to all the Principals and school nurses via mail. Direct Observation technique was used to assess the current status of school health services. In depth interview technique was used as a qualitative method to assess the Perception of School Nurses and Principals towards the Nurses' Role in School.

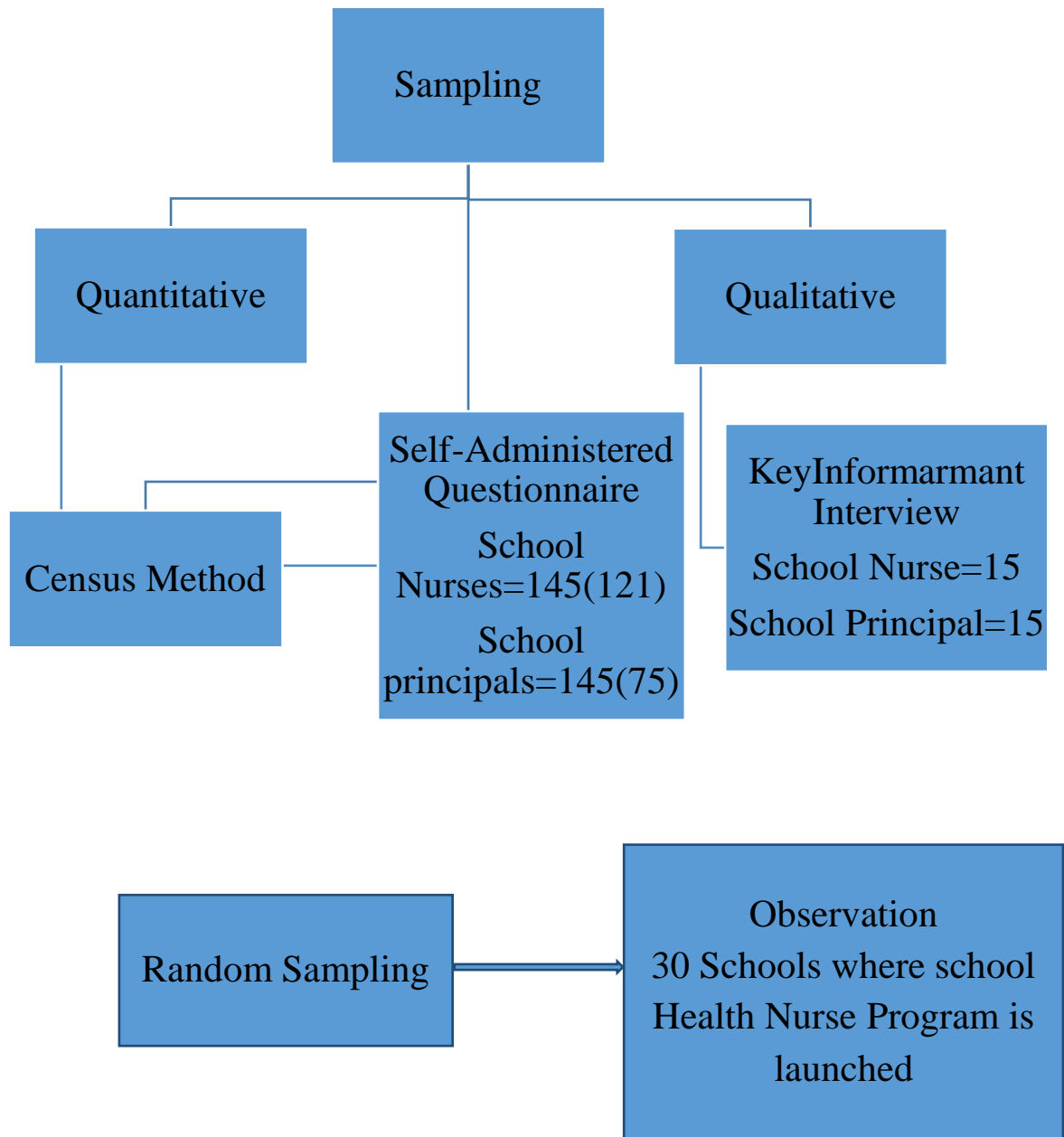
#### **3.2 Population and Setting**

The target population were all school nurses and the school principals of the government school of province 1 now called Koshi Province. There were 145 nurses working as a school nurse during the time of permission and ethical approval. The same number 145 school principals were selected. The schools were located in different geographical region as Mountain and Terai.

#### **3.3 Sampling**

Total enumerative sampling (Census) was done to collect quantitative data from 145 school nurses and school principals currently working in the government school of Koshi Province were taken as sample. Twenty percent sample of school was selected for observation and 10% school nurses and principals were selected for in-depth-interview.

### 3.4 Sample Size Calculation



**Figure Number: 2**

### **3.5 Ethical Consideration**

Ethical Approval was obtained from the Ethical Review Board (ERB) of Nepal Health Research Council (NHRC). Informed consent was taken from the school principals and school nurses before data collection. The purpose of the study was explained to the school principals and school nurses.

### **3.6 Instrument**

The first part was demographic information, and the second part was 19-likert type scaled items. These items are statements related to the school nurse's role that was rated by school principals and school nurses on a five point scale from strongly agree to strongly disagree. Each of the following roles of the school nurse in school setting: direct health care, preventive care, school health education and health promotion, and collaboration with parents and educational staff were assessed by questionnaire. The third part was observation checklist for the assessment of school health services that consisted of 22 items (Yes/No) which was used to assess the current status of school health services. These items related to quality of school standard, written policies and procedures, uses of consultative services etc. In-depth Interview (IDI) was conducted for qualitative data regarding the role perception of School Health Nurses and school principals using the interview guidelines in which role of school nurses experienced by them, opportunities as a school nurse, and challenges of the school nurses and the suggestions from both school nurses and principals

### **3.7 Data Collection Procedure**

Permission for the study was taken from the Ministry of Health, Province 1. Ethical Approval was taken from the Ethical Review Board (ERB) of Nepal Health Research Council (NHRC). Written Permission and informed consent was taken from the school principals and school nurses of the respective School. The objectives of the study was explained to all Principals and School Health Nurses separately by virtual method. All Principals and School Nurses email id was collected before data collection. The Self-administered questionnaire was mailed to all Principals and School Nurses via Google Docs. Among 10% (15 Principals and 15 Nurses, In-depth Interview (IDI) was conducted regarding the role perception of School Health Nurses using the interview guidelines based on preventive, promotive roles of school nurse,

opportunities as a school nurses, challenges, suggestions and recommendations. The interview was audio recorded after taking the consent from participants. Among 20 % (At least 30) school, School Health Services was assessed by direct observation using the standard checklist. For high return of mail questionnaire, supervision and monitoring and follow up was done in between. The Google Docs Questionnaire was mailed frequently for recall along with phone call, messages and virtual plan form. If there was any difficulty to fill questionnaire or mail questionnaire, the researcher or the enumerator was there to collect the data physically.

### **3.8 Data analysis**

Data was analyzed based on research objectives. The collected data was checked for completeness. The Google Docs data in the Excel Spreadsheet was transferred into the SPSS version 16. Then the data were coded and analyzed, and both descriptive and inferential statistics were calculated. Descriptive statistics i.e. frequency, percentage, mean, standard deviation, and inferential statistics (t-test) were used to compare the mean of perception between school principals and school nurses. A p-value  $<0.05$  was considered to be statistically significant. Qualitative data was transcribed and analyzed thematically.

## **CHAPTER IV**

### **FINDINGS OF THE STUDY**

#### **4.1 Introduction**

The data was displayed in academic tables from table number 1 to table number 8. In table 1, shows the Sociodemographic information of the School Nurses including age group, religion, and occupation of parents, types of family and place of residence. In table 2, Perception of School nurses towards the Role of School Nurses in school settings was demonstrated. In table 3 Socio-demographic information of the School Principal, table 4 Perception of principles towards the role of school nurses in school settings has shown. In table 5, difference in perception of Nurses and principals towards the role of nurses in the p- value  $<0.05$  level of significance and in table 6, findings of assessment of school health services has been displayed with illustration. For qualitative analysis, collected data was recorded, noted down, and later transcribed in detail. Transcripts were then repeatedly read and coded for the content and some of the important themes were developed. Data analysis was done manually by coding, sorting, and summarizing the information into common themes such as care providing /First Aid role, health promotive/education roles/counseling role, major opportunities as a school nurse, major challenges of the school nurse, and Suggestions from School Nurses and Principals.



**Table 1 Sociodemographic Information of the School Nurses** n= 121

Variable	Frequency	Percentage
<b>Age</b>		
<b>20-25</b>	<b>51</b>	<b>42.1</b>
26-30	40	39.72
31-35	20	16.5
35-40	2	1.7
<b>Mean age <math>\pm</math> SD: 27.11 <math>\pm</math> 3.73</b>		
<b>Sex</b>		
Female	121	100
<b>Ethnicity</b>		
Dalits	18	14.9
Janajatis	65	53.8
Muslim	2	1.6
Brahmin/Chetri	36	29.8
<b>Religion</b>		
Hindu	91	75.2
Christian	18	14.9
Budhdist	10	8.3
Muslim	2	1.7
<b>Educational level</b>		
<b>PCL</b>	<b>84</b>	<b>69.4</b>
BNS/BSc	35	28.9
MN/MSc	2	1.7
<b>Marital status</b>		
Married	63	52.1
Unmarried	58	47.9
<b>Type of family</b>		
Nuclear	40	38.0
Joint	73	60.3
Extended	2	1.7
<b>Work experience</b>		
<b>1-5 years</b>	<b>108</b>	<b>89.3</b>
6-10 years	13	10.7

Table 1 illustrates the distribution of socio-demographic characteristics of respondents in which the overall mean and standard deviation of the age of the respondents was 27.11  $\pm$  3.73. On the basis of ethnicity, one-third of the respondents (36.4%) were relatively advantaged Janajati, 29.8% was Brahmin /Chetri, 53.8% Janajati, 0.8 % were religious minorities, 14.9 % were Dalit. Regarding religion 75.2% were Hindu, 52.1% were married, and 70.3% were from joint families. With regards to work experience, 89.3% have work experience of less than 5 years.

**Table 2 Perception of School nurses towards the Role of School Nurses  
in school**

Role of school nurse	n=121				
	strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
	F (%)	F (%)	F (%)	F (%)	F (%)
Assess the health status of the students	57(47.1)	44(36.4)	5(4.1)	-	15(12.4)
Provide direct medical care to the students	27(22.3)	42(34.7)	13(10.7)	19(15.7)	20(16.5)
Follow-up of chronically ill students	44(36.4)	49(40.5)	9(7.4)	4(3.3)	15(12.4)
Provide first aid	68(56.2)	31(25.6)	4(3.3)	2(1.7)	16(13.2)
Evaluate students with behavioral problems	34(28.1)	56(46.3)	15(12.4)	3(2.5)	13(10.7)
Evaluate students with low academic performances	23(19.0)	59(48.8)	16(13.2)	9(7.4)	14(11.6)
Evaluate cases of persistent absenteeism	25(20.7)	53(43.8)	18(14.9)	13(10.7)	12(9.9)
Manage students with special needs	25(20.7)	59(48.8)	14(11.6)	11(9.1)	12(9.9)
Refer students with health problems	53(43.8)	46(38.0)	8(6.6)	-	14(11.6)
Perform surveillance program	48(39.7)	50(41.3)	7(5.8)	1(0.8)	15(12.4)
Perform screening program	48(39.7)	50(41.3)	6(5.0)	3(2.5)	14(11.6)
Monitor immunization activities	37(30.6)	49(40.5)	17(14.0)	4(3.3)	14(11.6)
Evaluate the school environment for health and safety	45(37.2)	53(43.8)	7(5.8)	4(3.3)	12(9.9)
Provide health education for students and promote good health habits	65(53.7)	35(28.9)	5(4.1)	1(0.8)	15(12.4)
Participate in school educational staff meetings	38(31.4)	53(43.8)	15(12.4)	2(1.7)	13(10.7)
Advise parents and teachers on health topics	46(38.0)	48(39.7)	9(7.4)	1(0.8)	17(14.0)
Advice/train school educational staff for the management of students with chronic illness	31(25.6)	52(43.0)	12(9.9)	10(8.3)	16(13.2)
Advice/train school educational staff for the management of students with behavioral problems	23(19.0)	56(46.3)	22(18.2)	6(5.0)	14(11.5)
Advice/train school educational staff for the management of students with low academic performances	21(17.4)	52(43.0)	14(11.6)	24(19.8)	10(8.3)

Table 2 shows the Perception of School nurses towards the role of School Nurses in school in which nearly half (47.1 %) of the respondents strongly agreed that the role of nurses was to assess the health status of the students Whereas one-third (34.7 %) of respondents agreed that the role of nurses is to provide direct medical care to the student. “Follow-up of chronically ill students” on this statement, more than one-third (40.5 %) of the respondents agreed while very few (3.3%) disagreed. Likewise, more than half (56.2%) of the respondents strongly agreed that providing first aid is the role of nurses and nearly half (46.2 %) of the respondents agreed that evaluating students with behavioral problems is the role of nurses. Similarly, nearly half of the respondents (48.8%) agreed that the role of school health nurses is to evaluate students with low academic performances, 43.8 % agreed to evaluate cases of persistent absenteeism, and 48.8% agreed to manage students with special needs. Likewise, nearly half (43.8 %) strongly agreed that referring students with health problems whereas 11.6 % of the respondents strongly disagreed on it. Meanwhile, nearly half (43.1 %) of the respondents agreed that the role of nurses is to perform surveillance programs and screening programs, 40.5% agreed that monitor immunization activities, 43.8% agreed to evaluate the school environment for health and safety while 9.9% strongly disagreed on it.

“Provide health education for students and promote good health habits” this statement, more than half (53.7 %) strongly agreed whereas 12.4% strongly disagreed. Similarly, 43.8% % of the respondents agreed that the role of school health nurses is to participate in school educational staff meetings. Likewise, more than one-third (39.7 %) of the respondents agreed to advise parents and teachers on health topics, while 14% strongly disagreed with it. Regarding advice/train school educational staff for the management of students with chronic illness settings less than half (43%) agreed while 11.5% strongly disagreed with advice/train school educational staff for the management of students with behavioral problems. Similarly, less than half (43%) of the respondents agreed the role of nurses is to advice/train school educational staff for the management of students with low academic performances whereas 8.3% strongly disagreed.

**Table 3 Socio-demographic Information of the School Principals n=75**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
30-40	8	10.7
41-50	16	21.3
<b>51-60</b>	<b>51</b>	<b>68</b>
Mean age : 51.48±6.07		
<b>Sex</b>		
Male	75	100
<b>Ethnicity</b>		
Dalits	2	2.7
Janajatis	33	44
<b>Brahmin/Chettri</b>	<b>40</b>	<b>53.3</b>
<b>Religion</b>		
Hindu	54	72.0
Christian	16	21.33
Budhdist	4	5.3
Muslim	1	1.3
<b>Educational level</b>		
Intermediate	5	6.7
Bachelor	21	28
<b>Master</b>	<b>49</b>	<b>65.3</b>
<b>Marital status</b>		
Married	75	100
<b>Type of family</b>		
Nuclear	34	45.3
Joint	40	53.3
Extended	1	1.3
<b>Work experience</b>		
≤10	8	10.7
11-20	12	16.0
<b>21-30</b>	<b>34</b>	<b>45.3</b>
≥31	21	28.0

Table 3 illustrates the distribution of socio-demographic characteristics of principles in which the overall mean and standard deviation of the age was 51.48±6.07. On the basis of ethnicity, more than half of the respondents (53.3%) were Brahmin/Chettri, 44% were Janajati, and 2.7 % were Dalit. Regarding religion, 72% were Hindu, all (100%) were married, and 53.3% were from joint families. With regards to work experience, 45.3% have work experience of less than 21-30 years.

**Table 4 Perception of principals towards the Role of School Nurses in School Settingsn=75**

Role of school nurse	strongly Agree F (%)	Agree F (%)	Neutral F (%)	Disagree F (%)	Strongly Disagree F (%)
Assess the health status of the students	50(66.7)	18(24.0)	2(2.7)	1(1.3)	4(5.3)
Provide direct medical care to the students	26(34.7)	35(46.7)	7(9.3)	4(5.3)	3(4.0)
Follow-up of chronically ill students	32(42.7)	29(38.7)	5(6.7)	5(6.7)	4(5.3)
Provide first aid	50(66.7)	16(21.3)	3(4.0)	1(1.3)	5(6.7)
Evaluate students with behavioral problem	22(29.3)	36(48.0)	9(12.0)	5(6.7)	3(4.0)
Evaluate students with low academic performances	23(30.7)	26(34.7)	12(16.0)	6(8.0)	8(10.7)
Evaluate cases of persistent absenteeism	19(25.3)	29(38.7)	17(22.7)	7(9.3)	3(4.0)
Manage students with special needs	25(33.3)	28(37.3)	16(21.3)	4(5.3)	2(2.7)
Refer students with health problems	44(58.7)	23(30.7)	4(5.3)	-	4(5.3)
Perform surveillance program	33(44.0)	34(45.3)	2(2.7)	2(2.7)	4(5.3)
Perform screening program	29(38.7)	36(48.0)	2(2.7)	5(6.7)	3(4.0)
Monitor immunization activities	27(36.0)	34(45.3)	6(8.0)	4(5.3)	4(5.3)
Evaluate the school environment for health and safety	30(40.0)	38(50.7)	4(5.3)	2(2.7)	1(1.3)
Provide health education for students and promote good health habits	48(64.0)	19(25.3)	4(5.3)	1(1.3)	3(4.0)
Participate in school educational staff meetings	38(50.7)	29(38.7)	4(5.3)	-	4(5.3)
Advise parents and teachers on health topics	32(42.7)	33(44.0)	5(6.7)	2(2.7)	3(4.0)
Advice/train school educational staff for the management of students with chronic illness	20(26.7)	39(52.0)	4(5.3)	5(6.7)	7(9.3)
Advice/train school educational staff for the management of students with behavioral problems	18(24.0)	40(53.3)	7(9.3)	6(8.0)	4(5.3)
Advice/train school educational staff for the management of students with low academic performances	15(20.0)	36(48.0)	6(8.0)	13(17.3)	5(6.7)

Table 4 shows perceptions of principles towards the role of school nurses in school settings in which two-thirds (66.7 %) of the respondents strongly agreed that the role of nurses was to assess the health status of the students whereas nearly half (46.7 %) of

respondents agreed that the role of nurses is to provide direct medical care to the student. “Follow-up of chronically ill students” on this statement, one-third (38.7 %) of the respondents agreed while very few (5.3%) disagreed. Likewise, two-thirds (66.7%) of the respondents strongly agreed that providing first aid is the role of nurses and nearly half (48 %) of the respondents agreed that evaluating students with behavioral problems is the role of nurses. Similarly, one-third of the respondents (34.7%) agreed that the role of school health nurses is to evaluate students with low academic performances, 38.7 % agreed to evaluate cases of persistent absenteeism, and 37.3% agreed to manage students with special needs. Likewise, more than half (58.7 %) strongly agreed with referring students with health problems whereas 5.3 % of the respondents strongly disagreed with it. Meanwhile, nearly half (45.3 %) of the respondents agreed that the role of nurses is to perform surveillance programs and 48% screening programs, 45.3% agreed to monitor immunization activities, nearly half (50.7%) agreed to evaluate the school environment for health and safety while 1.3 % strongly disagreed on it.

“Provide health education for students and promote good health habits” in this statement, nearly two-thirds (64 %) strongly agreed whereas 1.3% disagreed. Similarly, half of the respondents (50.7%) strongly agreed that the role of school health nurses is to participate in school educational staff meetings. Likewise, more than one-third (44%) of the respondents agreed to advise parents and teachers on health topics, while 4% strongly disagreed with it. Regarding advice/train school educational staff for the management of students with chronic illness settings, more than half (52%) agreed while 5.3 % strongly disagreed with advice/train school educational staff for the management of students with behavioral problems. Similarly, nearly half (48%) of the respondents agreed the role of nurses is to advise/train school educational staff for the management of students with low academic performances whereas 6.7 % strongly disagreed.

**Table 5: Difference in perception of Nurses and Principals towards the Role of Nurses**

Role of school nurse	Nurses	Principals	
	Mean $\pm$ SD	Mean $\pm$ SD	p-value
Assess the health status of the students	4.06 (1.28)	4.45(1.01)	0.024 *
direct Provide medical care to the students	3.31(1.40)	4.03(1.01)	<0.001 *
Follow-up of chronically ill students	3.85(1.29)	4.07(1.11)	0.235
Provide first aid	4.10(1.36)	4.40(1.10)	0.109
Evaluate students with behavioral problem	3.79(1.19)	3.92(1.02)	0.420
Evaluate students with low academic performances	3.56(1.21)	3.67(1.28)	0.568
Evaluate cases of persistent absenteeism	3.55(1.21)	3.72(1.07)	0.309
Manage students with special needs	3.61(1.20)	3.93(1.00)	0.054
Refer students with health problems	4.02(1.24)	4.37(0.99)	0.042*
Perform surveillance program	3.95(1.27)	4.20(1.01)	0.151
Perform screening program	3.95(1.26)	4.11(1.02)	0.368
Monitor immunization activities	3.75(1.25)	4.01(1.07)	0.122
Evaluate the school environment for health and safety	3.95(1.21)	4.25(0.79)	0.035 *
Provide health education for students and promote good health habits	4.11(1.31)	4.44(0.96)	0.043 *
Participate in school educational staff meetings	3.83(1.20)	4.29(0.98)	0.006 *
Advise parents and teachers on health topics	3.87(1.32)	4.19(0.96)	0.054
Advice/train school educational staff for the management of students with chronic illness	3.60(1.31)	3.80(1.18)	0.272
Advice/train school educational staff for the management of students with behavioral problems	3.56(1.19)	3.83(1.05)	0.117
Advice/train school educational staff for the management of students with low academic performances	3.41(1.22)	3.57(1.18)	0.369

Note: \* Significant  $p < 0.05$

Table no 5 depicts the differences in the perception of Nurses and principles towards the role of nurses when comparing the scores of school nurses and the principal an independent t-test found significant differences in perceptions of some roles of school health nurses in both groups including assessing the health status of the students, providing direct medical care to the students, referring students to health problems, evaluate the school environment for health and safety, provide health education for students and promote good health habits, participate in school educational staff meetings with higher mean score among the principal. However, the mean differences in perception of other roles are not statistically significant.

**Table 6: Assessment of School Health Services n=30**

Statements	Yes	No
Does the school meet nurse student ratio(School nurse/student ratio 1/500)	9(30.0)	21(70.0)
The purpose and scope of the school health program have been defined by written policies and procedures	26(86.7)	4(13.3)
Specific written procedures are available for example delegation health care plans and substitute plans.	22(73.3)	8(26.7)
Uses consultative services (physician, health and agency of education, experts)	14(46.7)	16(53.3)
Health personnel are certified in First aid and CPR	11(36.7)	19(63.3)
Cumulative health records are maintained and kept following rules and school procedures	30(100)	-
The school service program undergoes an annual evaluation	28(93.3)	2(6.7)
Have protocols for annually updating student health information	25(83.3)	5(16.7)
Provide student-cantered staff meeting input on students with health medical issues	19(63.3)	11(36.7)
Provide input on educational support teams	26(86.7)	4(13.3)
Provide input on the interagency team meeting	22(73.3)	8(26.7)
There is a written job description for the school nurse	24(80.0)	6(20.0)
There is the job description for health service assistive health personnel	6(20.0)	24(80.0)
A school health nurse or supervisor is available for consultation	28(93.3)	2(6.7)
Screening is conducted as described in the standard of practice	29(96.7)	1(3.3)
Students with specific health needs such as students with disabilities or those managing chronic illness are identified and Have individual health care plans	28(93.3)	2(6.7)
Scholl nurse is responsible for participating in the appropriate placement of the students with health needs	27(90.0)	3(10.0)
School health office/workplace provides for confidential treatment and record keeping, appropriate infection control measures, and is accessible to every student	30(100)	-
Selected data is collected and entered into the school survey	25(83.3)	5(16.7)
School health nurse participates in a coordinated school health team	30(100)	-
Acts as a health education resource and a liaison to the school community on health and medical issues	30(100)	-
There are facilities for good hand hygiene and a computer available to the nurse	27(90.0)	3(10.0)

Table number 6 shows the findings of assessment the status of school health services by using the observation checklist. The findings showed that two-thirds (70%) of schools do not meet school nurse-to-student ratio. Likewise, the purpose and scope of the school health program have been defined by written policies and procedures in 86.7 % of



schools, Specific written procedures are available for example delegation health care plans and substitute plans in the third quarter (73.3%) of schools and more than half (53.3%) of schools do not use consultative services (physician, health, and agency of education, experts). With regard to Health personnel who are certified in First aid and CPR nearly two-thirds of the schools (63.3%) do not have certified personnel. Meanwhile, almost all schools maintained cumulative health records and kept following rules and school procedures and the school service program underwent an annual evaluation in most of the schools (93.3%). Similarly, 83.3% of schools have protocols for annually updating student health information, and nearly two-thirds 63.3% of schools provide student-centered staff meeting input on students with health /medical issues whereas one-third of schools 36.7% do not have such facilities. Likewise, 86.7% of schools provide input on educational support teams, and nearly a third quarter (73.3%) provide input on the interagency team meeting. Regarding the job description, 80% of schools have a written job description for the school nurse whereas 80% of schools don't have a job description for health service assistive health personnel.

A school health nurse or supervisor is available for consultation in most of the schools (93.3%) and Screening is conducted as described in the standard of practice in (97.6%) of schools. Likewise, in most schools (93.3%) students with specific health needs such as students with disabilities or those managing chronic illness are identified and have individual healthcare plans. Meanwhile, the school nurse is responsible for participating in the appropriate placement of students with health needs in the majority of schools (90%). All the schools have a school health office/workplace that provides for confidential treatment and record keeping, appropriate infection control measures, and is accessible to every student. In more than two-thirds of schools (83.3%) selected data is collected and entered into the school survey. School health nurse participates in a coordinated school health team in all schools and Acts as a health education resource and a liaison to the school community on health and medical issues. In the majority of schools, there are facilities for good hand hygiene and a computer available to the nurse whereas few (10%) schools don't have such facilities.

## **Perception of Principals and School Nurses: Qualitative Findings**

The researchers have conducted in-depth interviews with 15 school principals and 15 school nurses. The same interview guidelines were used to conduct the interview regarding the major roles of school nurses, opportunities for the school nurses, challenges of school nurses, and suggestions for the improvement of the school nurses program. Four major themes were identified from the analysis;

1. Care Providing /First Aid Role
2. Health Promotive/Education roles/Counseling role
3. Opportunities as a school nurse
4. Challenges of school nurse
5. Suggestions from School Nurses and Principals

### **1. Care Providing Role**

School nurses discussed the various roles in their school during the interview session. They have to take care of children from nursery to 12 class and the aged 3 to 19 years. They have to conduct health assessments of school children, take anthropometric measurements to assess the nutritional status, and assess of environmental sanitation of the school. They have to work in teams with teachers and staff of the school and also work as the liaison between the school and the community. So school nurses have diverse responsibilities.

*"In my school, many children come to school with Poor personal hygiene long nails, and dirty clothing, I have told them many times about bathing, cleanliness, and nail cutting, and even I have provided bathing facilities to some students in school."* (Interview, School Nurse 1)

Another nurse said *"In my school, Students used to come without food, faint in the prayer line, students in the lower class come from Poverty and labor background."*(Interview, School Nurse 2)

*"Girls students very much hesitated to tell their period and demand pads in the beginning but are now open to sharing their personal problems."*(Interview, School Nurse 3)

All school nurses agreed that *"student dropout rate decreased, most of the girls students hesitated to come to school during periods because of pain abdomen, the need of pads, and disposal problem, now they used to come and ask me without hesitation, they take*

*rest in my office, sometimes 20 to 25 students take rest, lying in the floor of my office"*(Interview, School Nurse 6)

The school principals also have their own perceptions regarding the care-providing role; most of the Principals agreed that the School nurses program is effective for the students to improve their personal hygiene, menstrual hygiene, and nutritional status. According to Principals, the counseling service provided by nurses has reduced the absenteeism and dropout rate of students, especially girls. Other benefits are students are open to expressing their personal and behavioral problems to school nurses other than the teachers.

*"In my point of view, the school nurse program is highly effective especially for the girls' students because they can express their personal problems openly with the school nurse. The school nurse is providing first aid management to senior students and teachers. Because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes."*(Interview, School Principal 1 and 7)

*"The people and students who are far from basic health care services are more benefited from school health nurses programs. Because of the SHN program, the students' dropout rate has been reduced, from an economic point of view, the program is also cost-effective".*"(Interview, School Principal 2)

*"The good aspect of school Nurses is to provide referral services for needy cases/children. School nurses can improve the bad habits and behaviors of students because students believe more in nurses. School nurses work with students by motivating them to continue education for girls' students, reducing the drop rates by treating minor injuries, and providing treatment and care to girls with period abdominal pain".*(Interview, School Principal 3)

*"School nurses are providing services for adolescents' health, awareness creating in menstrual hygiene, the importance of iron and folic acid, and screening program which are very good aspects of the school nurse, and this program should be continued."*  
(Interview, School Principal 6)

*"The school nurse program is a highly effective and appropriate program for the school, it is liked by students and parents. Parents believed that their children get proper health care and treatment if become sick in school. We have linked the school nurse with nutrition programs, sports, sanitary pads, and menstrual hygiene."* (Interview, School Principal 12)

## **2. Health Promotive/Education roles/Counseling role**

School nurses were providing health education in various topics on the basis of needs assessment of children, school and the community. They have conducted health exhibitions and demonstrated healthy practices, good habits, good touch and bad touch. The health teaching and education, counseling service provided by school nurses seems effective in changing the habits of students.

*"I have been giving health education in menstrual hygiene, stress/anxiety reduction, good and bad touch, the importance of iron/folic acid, and hand hygiene."(Interview, School Nurse 4)*

*"We have to call a minimum of 10 - 12 guardians daily for their children, they may get minor injuries and trauma, and we need balance for them. We have provided counseling services to students with behavioral problems but we need training to provide special counseling services." (Interview, School Nurse 6, 9 and 13)*

*"In my school, she has created awareness among students regarding the harmful effects of junk food, provided first-aid treatment to students and teachers, and also taught about first-aid management to senior students and teachers. Because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes."*

*(Interview, School Principal 1)*

*"School nurses identify the students with special needs and provide counseling services, also coordinate with family. The school health nurses have provided most of the services mentioned in the checklists." (Interview, School Principal 3)*

*"A daytime meal in school is attractive for the students in school and reduces the dropout rate and improves their health also. School nurses provide counseling services in sanitation and personnel hygiene, so it is one of the most important and essential programs in school, and it should be continued".(Interview, School Principal 4)*

*"We are very much comfortable working with school nurses because they can manage the students' problems immediately and can provide emotional and psychological support, students can tell their private and confidential issues to school nurses. Sometimes they have conducted a health exhibition program which is very effective for both students and teacher". (Interview, School Principal 15)*

### 3. Opportunities as a School Nurse

The majority of school nurses reported and expressed that they are satisfied with the services provided in government schools because they feel successful in reducing the dropout rate of students, especially girls. Their communication and counseling services make the students open to expressing their personal and family problems which helped them to identify actual problems and abuse. The student's personal hygiene was improved, children's nutritional status has been improved. Those children who have chronic problems or special needs were advised to refer services to a better center. Similarly, the school principals were very happy with the school nurses working together because the service is cost-effective. The school principals have appreciated nurses' work as being a female they can provide compassionate care, students freely express their problems and believe more than other teachers. The majority of Principals feel comfortable when the school has sports functions, extracurricular activities, and scout programs because the school nurse is there to manage minor trauma and first aid treatments.

*"I think because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes"*(Interview, School Principal 1)

*"The people and students who are far from basic health care services are more benefited from school health nurses programs. Because of the SHN program, the students' dropout rate has been reduced, from an economic point of view, the program is also cost-effective".* (Interview, School Principal 2)

*"The services provided by the school nurses are more cost-effective than the other medical personnel. Their nature of caring for the children and counseling is different from others e.g. teachers".* (Interview, School Principal 15)

*"I have done as many things as I can, there is improvement in reducing junk food, students' dropout rate is reduced, and they are happy with the school nurse. I think this is my opportunity that I can change my children".* (Interview, School Nurse 2)

*"I have also conducted a health exhibition program emphasizing local food promotion and prohibiting junk food. We also celebrate different health days like World's Tobacco Day, National and International Day, World's Environmental Day, etc. I feel proud to do these activities as a single school nurse."* (Interview, School Nurse 3)

#### 4. Challenges of School Nurses

Despite the various roles of school nurses, they are also facing challenges from inside and outside the health care delivery systems. The main challenges faced by school nurses were lack of coordination, supervision, and monitoring from superiors, education, and training opportunities. The major challenges reported by some of the Principals were turnover of the school nurses, communication and coordination problems with the Province and local level, and lack of adequate supervision and monitoring and lack of transfer facilities. Here, the researchers have presented the verbatim given by the School Nurses and Principals during Interview.

*"I faced the communication gap between the province, local government, health office, and school, we became sufferers. We need an adequate supply of equipment/medicine".* (Interview, School Nurse 2)

*"The main challenges faced in school are lack of training, coordination, and adequate and quality supply".* (Interview, School Nurse 3)

*"I think the main challenges of school nurses are inadequate supply of equipment and medicine e.g. sanitary pads, basic medicine, autoscope, etc. There is a gap in communication and supervision between authority and health offices. Adequate training is also needed."* (Interview, School Nurse 4)

*"There is discrimination at school regarding our role. The schools expect us should take the classes. For us, there is not enough practical exposure to enhance our skills as we have to provide first Aid according to the need. We are not involved in the program conducted by Palika. In response to the question of why drop out is there, there is no provision for leave, no allowances than basic salary, feelings of loneliness, adjustment problems, and a monotonous job."* (Interview, School Nurse 5)

*"In my school, there are 3700 students. According to the standard, there should be 1: 500, so at least 2 school nurses are needed. We have to call a minimum of 10 - 12 guardians daily for their children, they may get minor injuries and trauma, and we need balance for them"*(Interview, School Nurse 6)

*"The main challenges are lack of job security, adequate facilities as per the government, and provision of sick leave. There is a problem of coordination and communication among the province, local government office, and school principal that may cause role confusion, without formal communication and information, we have to attend the*

*program with service, and school principals ask the justification to us."* (Interview, School Nurse 7)

*"In my school, there are already 3 school nurses left so they didn't believe fully in me because of the high turnover rate. The school principal told me that there is instability among school nurses and it is difficult to expense, I have a problem sharing my problems with other personnel. There is an inadequate supply of equipment, and medicine, less emphasis on school nurse programs, inadequate management of the budget, and lack of coordination among the province, health, health offices, and school. The health office told me to serve other schools not only one school."* (Interview, School Nurse 8)

*"Along with this, some challenges are there like, lack of experience, lack of training, budget allocation is not sufficient, and the room needs renovation as there is a lack of privacy in the room where services are provided. Along with this printers and laptops are not available for reporting and recording, lack of equipment and medicine to provide First Aid. No allowance for those who worked in remote areas. Lack of capacity-building training".* (Interview, School Nurse 12)

*"The district health office sometimes tells us that this program is under the provincial government, and we can't supply sufficient medicine and others. We also working on deworming and iron/folic acid supply program, because of a large number of students. I am very busy with my work, our job should be secure for the long term, for that job should be permanent."*(Interview, School Nurse 13)

*"The provided area is small to establish the setup. There is a lack of follow-up on the information and "Timely Sunwai nai Hudaina". There is no provision for leave if we get sick. There is no facility for transfer. There is role confusion about where we get all the facilities. There is no clear job description which creates role confusion at school. Because of all this, if the nurses get better opportunities, they leave the job or apply to go abroad."* (Interview, School Nurse 14)

*During COVID-19 pandemics, school nurses were mobilized without coordination with school principals that should not be then and now.* (Interview, School Principal 6)

*The aspects is there is no monitoring service for school nurse program.* (Interview, School Principal 7)

*In our school, students were very attracted and attached with school nurse, but she left after some time. Then we went to ministry of health, it was very complex to Ministry of health, it was very complex to fulfil another nurse in vacant place and impossible to recruit from waiting list.* (Interview, School Principal 11)

*Government budget is not sufficient for school nurse program so minimum amount of fund should be managed from school own. (Interview, School Principal 14)*

## **5. Suggestions from School Nurses and Principals**

The majority of School Principals suggested/recommended that the school nurses should be permanently recruited, provision transfer facilities, and adequate training skills, and should be supported by the local health office and local Government.

*"In my opinion, to sustain the school nurses program, professional security should be guaranteed, the job should be permanent with adequate facilities, they should be awarded, and praised, and the provision of necessary training, and coordination should be provided." (Interview, School Principal 1)*

*"In my opinion, if it is handed to the school, some benefits can be added and the feeling of belongingness would be more for the school nurse and school. There should be the provision of an appreciation letter for the best school nurse. It should be sustainable and permanent." (Interview, School Principal 7)*

*"In my opinion, there should be permanent recruitment of school health nurses. In addition, there should be good coordination among the Ministry of Health, the health office, and school Principals, there should be seriousness and sensitivity to fulfill the post, the permanent job makes the transfer possible and the exchange would be. Therefore the school nurse program is highly effective." (Interview, School Principal 11)*

*"I think the services provided by the school nurses are more cost-effective than the other medical personnel. Their nature of caring for the children and counseling is different from others e.g. teachers. So, the school nurses program should be continued and sustainable." (Interview, School Principal 15)*

*We have needed job security, permanent job, adequate incentives and facilities. The school principal and teachers are very much supportive. (Interview, School Nurse 6)*

*The principal has told it would be possible to manage all things if school nurse is permanent otherwise it is impossible because of high turnover rate. I have needed the counseling training on mental health. I am trying to make adolescence friendly school, there is lack of budget, there was separated 30,000 budget but I could not use it.(School Nurse 8 & 9)*



## **CHAPTER V**

### **DISCUSSION, CONCLUSION AND RECOMMENDATION**

#### **5.1 Discussion**

This study has shown the Perception of School nurses towards the role of School Nurses in school in which nearly half (47.1 %) of the respondents strongly agreed that the role of nurses was to assess the health status of the students, more than half (56.2%) of the respondents strongly agreed that providing first aid is the main role of nurses and 46.2 % of the respondents agreed that evaluating students with behavioral problems is the role of nurses. Similarly, nearly half of the respondents (48.8%) agreed that the role of school health nurses is to evaluate students with low academic performances, 43.8 % agreed to evaluate cases of persistent absenteeism, and 48.8% agreed to manage students with special needs. Likewise, nearly half (43.8 %) strongly agreed that referring students with health problems, and 43.8% agreed to evaluate the school environment for health and safety. These findings are in line with the study showed that 12.5, 22.6, and 15.7% of school nurses disagreed or strongly disagreed that the roles of a school nurse were to evaluate students with behavioral problems, evaluate students with low academic performance, and advise/train school educational staff for the management of students with low academic performance (AL-Dahnaim et al., 2013). Findings of this study showed that more than half of nurses (53.7 %) strongly agreed to provide health education for students and promote good health habits. Similarly, 43.8% % of the respondents agreed that the role of school health nurses is to participate in school educational staff meetings which corresponds to the study's findings showing that school nurses are well-positioned to monitor symptoms, ensure medication adherence, impart health knowledge, and reinforce positive attitudes and behaviors daily (Schainker et al., 2005). A study conducted in England showed the role of school nurses' is very diverse in school including health education, prioritization of workload and activities, and community work. The role in health education is primarily to advise and support schools, rather than to directly deliver education (Hoekstra et al., 2016b).

## **Perception of Principals towards the Role of School Nurses**

With regards perception of principals towards the role of nurses, two-thirds (66.7 %) of the respondents strongly agreed that the role of nurses was to assess the health status of the students whereas nearly half (46.7 %) of respondents agreed that the role of nurses is to provide direct medical care to the student. Follow-up of chronically ill students on this statement, one-third (38.7 %) of the respondents agreed. Likewise, two-thirds (66.7%) of the respondents strongly agreed that providing first aid is the role of nurses and nearly half (48 %) of the respondents agreed that evaluating students with behavioural problems is the role of nurses. Regarding advice/training school educational staff for the management of students with chronic illness settings, more than half (52%) agreed. These findings are consistent with the study showed the role of nurses was to follow upon chronically ill students, 'provide first aid', and 'referral of students with health problems', these were the most encountered perceived roles of a school nurse in the school setting, representing 96.3, 98.7, and 97.5% of principals, respectively(**Al-Dahnaim et al., 2013**). Similarly another study concluded that providing first aid assessing the health status and referring students with health problems are the main roles of school nurses. It was influenced by the quality of interactions with school nurses; and the extent to which the nurse was a member of the school team (**Maughan & Adams, 2011**). In this study nearly half (48%) of the respondents agreed the role of nurses is to advise/train school educational staff for the management of students with low academic performances which is consistent with the study showed evaluating students with low academic performance, advising/training school educational staff for the management of students with low academic performance, and evaluating students with behavioral problems majority of principals disagreed or strongly disagreed, with frequencies of 66, 59.1, and 46.5%, respectively(**AL-Dahnaim et al., 2013**). Whereas, the findings were incoherent with a study that showed according to the perception of principals (96.3, 98.7, and 97.5%), the most frequently encountered imagined functions of a school nurse in the school context were a follow-up of chronically ill students, providing the first aid, and referral of students with health problems. First aid is primarily the responsibility of the school nurse, according to the majority of respondents (63.9%). In the event of an accident at school, teachers who stated that having a school nurse would make them feel safer were 41 times more likely to think that the nurse would be helpful (chi square=57.125,  $p<0.001$ , OR=41) (**Martinsson et al., 2021**).

## **Difference in the Perception of Nurses and Principals towards the Role of Nurses**

When comparing the scores of school nurses and the principal, there were significant differences in perceptions of some roles of school health nurses in both groups including assessing the health status of the students, providing direct medical care to the students, referring students to health problems, evaluate the school environment for health and safety, provide health education for students and promote good health habits, participate in school educational staff meetings with higher mean score among the principal. These findings were similar to the study which showed statistically significant relations including providing health education for students and promoting good health habits, assessing health status of students, providing direct medical care to students, follow-up of chronically ill students, providing first aid, evaluating cases of persistent absenteeism, conduct surveillance programs, evaluate the school environment for health and safety. While school nurses believe these to be important roles, school principals have different views that school nurses should evaluate students with behavioral issues, evaluate students with poor academic performance, follow up with students who consistently miss school, and advise/train school personnel on how to manage students with low academic performance (AL-Dahnaim et al., 2013).

## **Perception of Principals and School Nurses: Qualitative Findings**

### **Care Providing Role**

School nurses discussed the various roles in their school during the interview. They have to take care of children from nursery to 12 class and the aged 3 to 19 years, conduct health assessments of school children, take anthropometric measurements to assess the nutritional status, and assess of environmental sanitation of the school. They have to work in teams with teachers and staff of the school and also work as the liaison between the school and the community. So, school nurses have diverse responsibilities. The two most popular nutrition-related activities carried out in schools were giving individual counseling on eating habits and special diets and advising other staff members or parents on nutrition. These findings correspond with a study that showed over 94% of school nurses felt that diet was very important for optimal health, indicating that they had positive attitudes toward the value of nutrition. More than half said they were very

comfortable advising others about eating well. According to this study, school nurses feel comfortable and they offer a range of nutritional services (Sneller et al., 1997).

The school principals reported that the school nurse program is highly effective especially for the girls' students because they can express their problems openly with the school nurse. The school nurse is providing first aid management to senior students and teachers. Because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes, The people and students who are far from basic health care services are more benefited from school health nurses programs, School nurses can improve the bad habits and behaviors of students because students believe more in nurses, School nurses are providing services for adolescents' health, awareness creating in menstrual hygiene, the importance of iron and folic acid, and screening program which are excellent aspects of the school nurse. Parents believed their children get proper health care and treatment if they become sick in school. The study findings are consistent with another study where the majority of teachers at all levels stated that they carried out initiatives such as waste disposal pits in schools, classrooms, and restroom buildings, safe drinking water access, restroom and hand washing facilities improvement, and more. They said that the aforementioned initiatives enhanced the learning environment in schools. The School Health Nursing program was successful in raising students' general health and nutrition awareness. Additionally, the program improved the pupils' life skills, cleanliness habits, and nutritional behaviors (Shimizu & Katsuda, 2015a). School health nurse program is very effective in providing comprehensive care to the children and uplift their health status.

### **Educational roles/Counseling role**

School nurses were providing health education in various topics on the basis of needs assessment of children, school and the community. They have conducted health exhibitions and demonstrated healthy practices, good habits, good touch and bad touch. The health teaching and education, counseling service provided by school nurses seems effective in changing the habits of students. While interviewing with school nurses regarding educational and counseling role, they have reported that they have been giving health education in menstrual hygiene, stress/anxiety reduction, good and bad touch, the

importance of iron/folic acid, and hand hygiene, they have provided counseling services to students with behavioral problems but we need training to provide special counseling services. They have also conducted an exhibition program on healthy nutrition, and environmental sanitation. When school nurses noticed that a child had mental health issues, they would send them to the children's hospital, the emergency room, or child and adolescent psychiatry so that they could be looked at further. A study has suggested that team meetings are crucial, one of the study's findings was that school nurses were required to collaborate with a wide range of experts, agencies, and parents in order to address mental health issues in students. Through crucial discussions, it was disclosed that school nurses had expertise collaborating with parents and other stakeholders, since they were all striving toward the same goal, namely, to help the child **(Dina & Pajalic, 2014)**.

The school principals told us during interview session that Because of school nurse activity, the student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes. School nurses identify the students with special needs and provide counseling services, also coordinate with family. It was affected by how well students got along with school nurses and how much of a team player they were on the campus **(Maughan & Adams, 2011)**.

The school health nurses have provided most of the services mentioned in the checklists. School nurses provide counseling services in sanitation and personnel hygiene, so it is one of the most important and essential programs in school, and it should be continued, some of the principals told us that they felt very comfortable working with school nurses because they can manage the students' problems immediately and can provide emotional and psychological support, students can tell their private and confidential issues to school nurses. According to the survey, nurses regularly assist in the instruction of medical students; yet, opinions on how this function is carried out methodically still differ. The study's nurses and medical trainees concurred that instruction and process participation opportunities were frequently customized to the learner's level. The study's nurses highlighted their significance in imparting hard skills, soft skills, and field knowledge; however, medical students did not appear to recognize the latter two as highly **(Doja et al., 2020)**.

## Opportunities as a School Nurse

The majority of school nurses reported and expressed that they are satisfied with the services provided in government schools because they feel successful in reducing the dropout rate of students, especially girls. Their communication and counseling services make the students open to expressing their personal and family problems which helped them to identify actual problems and abuse. The student's personal hygiene was improved, children's nutritional status has been improved. Those children who have chronic problems or special needs were advised to refer services to a better center. They also reported that students were very close to school nurses which makes school nurses happy and feel acknowledged. A study findings highlighted school nurse's position is viewed by the teaching staff as complex and significant in the team effort. The need for cooperation between the school health service and the promotion of students' well-being was underlined by the participants. The partnership ought to function without any hindrances, particularly when students have worries or issues (**Gädda et al., 2023**). According to the research, the competence of the school nurse team and local priorities affect how much health education school nurses can provide. The school nurses determined that in order to support them in their work, they require health education materials. School nurses and school nurse assistants may use these resources, or school nursing teams may direct schools and teachers to them (**Hoekstra et al., 2016**).

Similarly, the school principals were very happy with the school nurses working together because the service is cost-effective. They appreciate nurses' work as being a female they can provide compassionate care, students freely express their problems and believe more than other teachers. The majority of Principals feel comfortable when the school has sports functions, extracurricular activities, and scout programs. Teachers perceived that the presence of nurses was important because nurses provided nursing care that teachers could not. Teachers perceived nurses as maintaining good physical conditions and safety for the child who is TD (Technology-Dependent) through observing and assessing the child and then providing any necessary nursing care. Teachers believed that children perceived nurses as more familiar than teachers (**Shimizu & Katsuda, 2015**). The services provided by the school nurses are more cost-effective than the other medical personnel. Their nature of caring for the children and counseling is different from others e.g. teachers. Because of school nurse activity, the student dropout rate is reducing, in the

past, students used to leave the school because of minor abdominal pain, headache, and other causes. The findings of the study is comparable to this statement that school nurses are in a good position to regularly evaluate symptoms, make sure that medicine is taken as prescribed, provide health education, and support healthy attitudes and behaviors. Pediatric doctors have the chance to incorporate recommendations for school nursing services into the treatment regimens of their patients (**Schainker et al., 2005**).

The body of research acknowledges the rising number of students seeking mental health services from school nurses. It's critical to identify and address the factors that help or impede school nurses from attending to students' mental health needs in light of the rising number of mental health concerns that they face. According to research, school nurses regard themselves as dependable members of the school community. Practice suggestions include guaranteeing community access to school nurses and offering evidence-based training to school nurses on handling students' mental health issues(**Kaskoun & McCabe, 2022**).The Motivation of School Nurses School nurses and parents evaluated the interviewing performances and thought they were important and family-centered. After the meeting, they felt inspired and equipped to support their kids' healthy behaviors(**Moberg et al., 2022**).

### **Challenges of the school nurses**

Despite the various positive roles of school nurses, they are also facing challenges from inside and outside the health care delivery systems. The main challenges faced by school nurses were lack of coordination, supervision, and monitoring from superiors, education, and training opportunities. The major challenges reported by some of the Principals were turnover of the school nurses, communication and coordination problems with the Province and local level, and lack of adequate supervision and monitoring. In some school they have to look after 3700 or more students, according to the standard, there should be 1: 500, so at least 2 school nurses are needed. One of the school nurse told me that there were already 3 school nurses left so they didn't believe fully in me because of the high turnover rate and the health office told me to serve other schools not only one school. Negative experiences, such as the scarcity of nurses, were highly mentioned. The research's participants contended that there is no substitute for nurses who retire, take study leaves, or quit, which exacerbates the shortage. In addition, these participants felt

that due to staffing shortages and scheduling conflicts, they were unable to perform house visits and follow-up visits. The study's participants frequently reported feeling abandoned by their bosses when things get tough. The participants disclosed that because certain schools lacked running water, power, or bathrooms, they did not have the support of their supervisors. The participants observed that staff members' dedication, support, and frequent visits on behalf of management might favorably towards the delivery of quality school health services (**Dibakwane & Peu, 2018**).

Similarly, the school principals complained to us the high turnover rate of school nurse despite good service, there was lack of communication, coordination and supervision from the Province and related authority. Also there was limited supply of medicine and Equipments. The salary for the school nurse was disbursed by the Province, it would be best if it is handed to the school authority, we can also add some allowance with salary and there might be the feeling of belongingness with school. According to the survey, the majority of medical issues that come up at school can be appropriately handled by the nurse because they are either self-limited or covered by current care plans. It could also be a sign of inadequate care coordination. Care coordination across multiple contexts is hampered by a number of issues, such as inadequate mechanisms of communication between providers, logistics, and confidentiality(**Schainker et al., 2005**).According to the school nurses, in order to support teenagers' mental health at school, they require additional resources, including time. They believed that supporting mental health was an essential aspect of their profession, but because it is not always evident, there isn't enough time for it. Additionally, they stated that additional resources were needed to foster professional collaboration and involve parents in the care of adolescents(**Anttila et al., 2020**).

The major challenges faced by school nurses in this study were the communication gap between the province, local government, health office, and school, lack of training, coordination, inadequate supply of equipment and medicine e.g. sanitary pads, basic medicine, autoscope, lack of supervision between authority and health offices. There is no provision for leave, lack of job security, no allowances than basic salary, feelings of loneliness, adjustment problems, and a monotonous job so turnover was also high. There was no clear job description which creates role confusion at school. Because of all this, if the nurses get better opportunities, they leave the job or apply to go abroad. Individual



schools and not the government are responsible for the provision of accommodation and material resources required for school health services. In fact, establishment of school health programme is based on request by individual schools and upon provision of material resources (Akpabio et al., 2005). These include: inadequate equipment, insufficient funds, transportation, and poor health seeking behaviour of students, inadequate accommodation and insufficient manpower. This finding could be attributed to poor participation of parents and other community stakeholders such as health and social service personnel, insurers, opinion leaders, traditional leaders, business and political leaders (CDC, 1998; American Academy of Pediatrics, 2001).

### **Suggestions from School Nurses and Principals**

The majority of School Principals suggested/recommended that the school nurses should be permanently recruited, provision transfer facilities, and adequate training skills, and should be supported by the local health office and local Government. There should be the provision of an appreciation letter for the best school nurse. It should be sustainable and permanent. In addition, there should be good coordination among the Ministry of Health, the health office, and school Principals, there should be seriousness and sensitivity to fulfill the post, the permanent job makes the transfer possible and the exchange would be. Therefore the school nurse program is highly effective. The school nurses emphasized in the need of job security, permanent jobs, adequate incentives, and facilities. The school principal and teachers should be very much supportive. Due to their various responsibilities and limited resources, school nurses may find it difficult to communicate effectively about student health with the administration, parents, physicians, pharmacists, and other health care organizations. Maintaining and updating student health records is the duty of school nurses. This is a difficult task that can take a lot of time, preventing them from fulfilling their intended duties, which are to care for students and communities. When providing care for students in a school setting, school nurses have to deal with conflicting interests and points of view. In rare cases, school administrators may wish to keep a student in class rather than attending to their healthcare requirements, even if nurses would advise that a child's health be prioritized. They won't be able to rely on their colleagues' counsel or assistance anymore. School nurses can serve as the only medical personnel on campus, which can lead to feelings of isolation and loneliness (<https://www.eduhealthsystem.com/..>, July 23, 2020).

Because education and health are linked, and because health services are necessary to protect students' health and stop the spread of diseases, there is a need for a clear and firm government policy as well as involvement in school health programs in order to increase coverage and encourage participation of more public and private schools. The government should set aside a specific amount of money in its budget to support school health services and initiatives. There should be constant and open communication between parents, teachers, kids, and the school health staff. The community, through the parents/teachers association, and the federal, state, and local governments should contribute to the school health program in order to guarantee that there is an appropriate supply of labor and materials. This is necessary because good health promotes learning and excellent academic performance of the students who are the future leaders of this country (Akpabio et al., 2005).

School nurses require an infrastructure that allows them to perform at their highest level in order to support them in their duties. Since school nurses are actively involved in student healthcare and may offer knowledgeable recommendations for enhancing the community's health, they should play a key role in the development and revision of school healthcare policies. To make sure that students' health is given the attention it deserves, school nurses must collaborate with the faculty and administration of the school. The teaching community must also be made aware of the risks involved with ignoring odd behavior patterns and health issues among students, as well as the reasons these issues must be taken seriously for the students' general wellbeing(<https://www.eduhealthsystem.com/>..July 23, 2020).

Professional direction and leadership is required to enable school nurses to provide the critical link between health and strengthening student learning. Advantages of this model include: improved professional development, standardization and consistency of care, and professional career pathway opportunities(Kool et al., 2008). For more effectiveness of the school nurses program, there is the need for the provision of sufficient human resources and facilities (Sanni et al., 2022).

Keeping on board qualified school nurses benefits students as well as schools. Staff continuity in nursing guarantees that students develop a rapport of trust with their nurse,

which can improve communication and motivate students to seek medical attention when needed. Furthermore, seasoned nurses are better able to manage medical crises, identify possible health issues early on, and work well with educators, parents, and other healthcare professionals. Sufficient Staffing: Maintaining a suitable nurse-to-student ratio is crucial for the efficient provision of medical treatment. Professional Development: Offering chances for ongoing education and professional development can improve the morale and job satisfaction of nurses. Competitive Compensation: Qualified school nurses can be recruited and retained by providing competitive salary and benefits. Benefits like flexible work schedules, which can assist offset budget constraints, shouldn't be undervalued, Recognition and Appreciation: Acknowledging the vital role of school nurses through public recognition and appreciation can boost morale. (<https://www.frontlineeducation.com/>©2024 Frontline Technologies Group LLC)

### **Assessment of School Health Services**

Observation checklists were used to assess the status of school services. The findings showed that two-thirds (70%) of schools do not meet quality standards (full-time school nurse-to-student ratio 1/500). More than half (53.3%) of schools do not use consultative services (physician, health, and agency of education, experts). With regard to Health personnel who are certified in First aid and CPR nearly two-thirds of the schools (63.3%) do not have certified personnel. Meanwhile, almost all schools maintained cumulative health records and kept following rules and school procedures and the school service program underwent an annual evaluation in most of the schools (93.3%). Schools that aim to be health-promoting institutions will concentrate on creating health-promoting programs, going beyond health knowledge and skills to include the school's physical and social environment, and fostering relationships with the local community. The comprehensive goals of many of the contemporary school health promotion programs, including all health promoting schools projects, are to avoid sickness and to promote the health and well-being of children, staff, and even parents. This means that the severity of the issues or illnesses cannot be the only factor used to determine their impact (*E88185.Pdf, n.d.*).

Similarly, 83.3% of schools have protocols for annually updating student health information, and nearly two-thirds 63.3% of schools provide student-cantered staff

meeting input on students with health /medical issues whereas one-third of schools 36.7% do not have such facilities. Likewise, 86.7% of schools provide input on educational support teams, and nearly a third quarter (73.3%) provide input on the interagency team meeting. Regarding the job description, 80% of schools have a written job description for the school nurse whereas 80% of schools don't have a job description for health service assistive health personnel. A school health nurse or supervisor is available for consultation in most of the schools (93.3%) and Screening is conducted as described in the standard of practice in (97.6%) of schools. Likewise, in most schools (93.3%) students with specific health needs such as students with disabilities or those managing chronic illness are identified and have individual healthcare plans. Meanwhile, the school nurse is responsible for participating in the appropriate placement of students with health needs in the majority of schools (90%). In about 95 % of the schools, the teacher carried out routine inspection of the pupils. The study concludes that the practice of the various components of school health services was poor. The health care personnel available in these schools were inadequate but the situation was generally better in the private schools. Routine inspection by teachers was the commonest form of health appraisal. This may suggest that more health personnel need to be employed to provide for the health of the school children in developing countries **(Kuponiyi et al., 2016b)**.

Majority of the schools have a school health office/workplace that provides for confidential treatment and record keeping, appropriate infection control measures, and is accessible to every student. In more than two-thirds of schools (83.3%) selected data is collected and entered into the school survey. In the majority of schools, there are facilities for good hand hygiene and a computer available to the nurse whereas few (10%) schools don't have such facilities. The study revealed that majority (77%) of the school teachers had average knowledge regarding school health services, (10 %) had good knowledge & (13%) was having poor knowledge. The findings also showed that more than half of the school teachers (57%) had low participation in school health services and only (2%) had a good participation in school health services. The majority of teachers faced the problems as lack of infrastructure, improper training and knowledge i.e. 86% and 80% respectively **(Khurshid,2018)**. If school health services are to truly improve the health of children and adolescents, they must comprehensively address the most pressing problems of this population. In order for policy makers and leaders in school health to make evidence-based recommendations on which services should be available in schools, who should

deliver them, and how should they be delivered, more Systematic Reviews studies must be done. These Systematic Reviews must assess routine, multi-component school health services and the characteristics that make them effective, with special attention to content, quality, intensity, method of delivery, and cost(Levinson et al., 2019).

One of the study conducted in Nepal on School health and nutrition program implementation in schools; the positive impact included improved students' health and education outcomes, improved school environment, and enhanced community awareness. However, key informants also identified key impediments in implementing the program: there was a lack of coordination between stakeholders, lack of resources, limited training opportunities, and doubts regarding the sustainability of the program. The four major challenges identified by the stakeholders were lack of coordination between stakeholders, lack of resources, lack of training opportunities, and low sustainability of the program. Despite these challenges, all the stakeholders acknowledged that the SHN program had positive effects on students, schools, and communities (Shrestha et al., 2019b).

## **5.2 CONCLUSION**

The study concluded that the school nurse is responsible for participating in the appropriate placement of students with health needs, all the schools should have a school health office/workplace that provides for confidential treatment and record keeping, and appropriate infection control measures, and is accessible to every student. Nurses are providing care to the students despite the inadequate school health facilities. The study concludes that both school nurses and principals agreed that the nurses are playing most important roles at school including first aid treatment and management of minor trauma and injuries, assessing the health status of the students, providing health teaching on nutrition, personnel hygiene, drug abuse and its prevention etc, conducting health exhibition time to time, performing screening. The school principals reported that the school nurse program is highly effective especially for the girls' students because they can express their personal problems openly with the school nurse. The student dropout rate is reducing, in the past, students used to leave the school because of minor abdominal pain, headache, and other causes. The people and students who are far from basic health care services are more benefited from school health nurses programs, School nurses can improve the bad habits and behaviors of students because students believe more in nurses.

The majority of Principals feel comfortable when the school has sports functions, extracurricular activities, and scout programs because the school nurse is there to manage minor trauma and first aid treatments. The main challenges faced by school nurses were lack of coordination, supervision, and monitoring from superiors, education, and training opportunities. The major challenges reported by some of the Principals were turnover of the school nurses, communication and coordination problems with the Province and local level, and lack of adequate supervision and monitoring. Similarly, the school principals complained to us the high turnover rate of school nurse despite good service, there was lack of communication, coordination and supervision from the Province and related authority. The school nurses should be permanently recruited, provision transfer facilities, and adequate training skills, and should be supported by the local health office and local Government. There should be the provision of an appreciation letter for the best school nurse. It should be sustainable and permanent.

### **5.3RECOMMENDATION**

According to school nurses, there should be the Provision of In-service Training on mental health and counseling skill, first aid management and others time to time for school nurses. There is need of Coordination and cooperation among Province Gov., local Gov. and school Nurse to bridge the communication gap. The school health service status should be improved in the schools. There should be the Provision of further education and carrier opportunities, transfers facilities for school nurses for the sustainability of the programs. Similar studies should be conducted among teachers and students regarding the nurses' role in all Provinces of Nepal.

### **5.4 IMPLICATION OF THE STUDY**

The study findings might provide baseline data to assess the effectiveness of the school nurse program. This study may provide feedbacks and suggestions to policy makers and implementers of Provincial Government to redesign the program. The dissemination of the findings of the study to the target group, policy maker, school principals and school nurses might help to improve the existing condition of school health services and improve the roles of school nurses.

### **5.4LIMITATION OF THE STUDY**

Because of turnover rate of school nurses, around 24 School Nurse left the Job, the target sample for data collection could not met. During the permission time of the study, 145 School Nurses were working. The principal's non-response rate was high around 38%, as the quantitative data was collected through online survey via Google Docs.

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Appendices

Research Tools for Data Collection

त्रिभुवन विश्वविद्यालय

चिकित्सा शास्त्र अध्ययन संस्थान

विराटनगर नर्सिङ क्याम्पस विराटनगर

**Title: Assessment of School Health Services and Perception of School  
Nurses and Principals towards the Nurse's Role in School**

**"बिद्यालय स्वास्थ्य सेवाको परीक्षण तथा बिद्यालय नर्सको भूमिका प्रति  
प्रधानअध्यापक र स्वयं स्कुल नर्सको धारणा"**

विद्यालयको नाम/ठेगाना:

तथ्याङ्क संकलनको मिति:

कोडनम्बर:

**मुख्य र सह-अनुसन्धानकर्ताको परिचय:**

नमस्कार मेरो नाम मेनुका भण्डारी, म त्रिबि चिकित्सा शास्त्र अध्ययन संस्थान अन्तर्गत विराटनगर नर्सिङ क्याम्पसमा कार्यरतछु। मलगायत मेरा सहकर्मी श्री पुनम मण्डल मिलेर “Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse's Role in School” बिषयमा अनुसन्धान गर्ने गरिरहेकाछौ।

निर्देशन: कृपया खाली ठाउँमा उपयुक्त शब्द भर्नुहोला वा आवश्यक भनाईहरूमा आफ्नो सहमतिअनुसार टिक (✓) लगाउनुहोला। पहिलो भागमा सामाजिक आर्थिक विवरण हुनेछ भने दोश्रो भागमा बिद्यालयनर्सको भूमिका प्रति प्रधानअध्यापक र स्वयं स्कुल नर्सको धारणा र बुझाई कस्तो/कतिछ भन्ने कुराहुनेछ, तपाईंले उक्त बिवरणहरूमा आफ्नो धारणा इमान्दार पुर्वक भर्न अनुरोध गर्दछौ। तेश्रो भागमा बिद्यालय स्वास्थ्य सेवाका र्यक्रमको

परीक्षण अवलोकन सूची प्रयोगगरी स्वयं अनुसन्धानकर्ताले विवरण लिनेछ। प्राप्त विवरणहरुलाई गोप्य राखिनेछ र अनुसन्धान प्रयोजनका लागि मात्र प्रयोग गरिनेछ।

### भाग १ : सामाजिक आर्थिक विवरण

क्र. .स	प्रश्नहरु	विकल्पहरु
१.	तपाईंको उमेर कति हो ?	
२.	लिंग	१. महिला २. पुरुष
३.	जातियता (थरको आधारमा )	१. दलित २. बिपन्नजनजाती ३. सुविधाप्राप्तजनजाती ४. अन्यसामाजिकबहिष्कृत ५. धार्मिकअल्पसंख्यकहरु ६. बाहुन/क्षेत्री
४.	तपाईं कुन धर्म मान्नुहुन्छ ?	१. हिन्दु २. बुद्धिष्ट ३. मुस्लिम ४. किरात ५. क्रिश्चियन ६. अन्य
५.	बैवाहिक अवस्था	१. बैवाहित २. अबैवाहित
६.	शैक्षिकलेभल	

७.	कार्यअनुभववर्ष	
८.	परिवारकोप्रकार	१. एकल २. संयुक्त ३. बृहत

**भाग२: बिद्यालय नर्सको काम/कर्तव्य प्रति तपाईंको के/कस्तो धारणा छ ? तल दिएका भनाईहरुमा आफूलाई मिल्दोमा टिक (✓) गर्नुहोला।**

क्र . .सं	बिद्यालय स्वास्थ्य सेवीको भूमिका	पूर्णसह मत	सहम त	तटस्थ	अस हमत	पूर्णअ सहमत
१.	बिद्यार्थीको स्वास्थ्य अवस्था जाँचगर्नु					
२.	प्रत्यक्ष चिकित्सकीय हेरचाह प्रदानगर्नु					
३.	गम्भीर स्वास्थ्य समस्या भएका बिद्यार्थीको नियमित अनुगमनगर्नु					
४.	प्राथमिक उपचार प्रदानगर्नु					
५.	आचरणगत समस्या भएका बिद्यार्थीको मूल्याङ्कन गर्नु					
६.	न्यून शैक्षिक क्षमता भएका बिद्यार्थीको मूल्याङ्कन गर्नु					
७.	बिद्यार्थी अनुपस्थिति घटनाको मूल्याङ्कन गर्नु					
८.	बिशेष आवश्यकता भएका बिद्यार्थीहरुको ब्यबस्थापन गर्नु					
९.	स्वास्थ्य समस्या भएका बिद्यार्थीलाई सम्बन्धित ठाँउमा लैजान सिफारिस गर्नु					
१०.	चेकजाँच कार्यक्रमगर्नु					
११.	परीक्षणका कार्यक्रमगर्नु					

१२.	खोपका र्यक्रमहरुको अनुगमनगर्नु					
१३.	स्वास्थ्य र सुरक्षाको निम्ति बिद्यालय वातावरणको मूल्याङ्कन गर्नु					
१४	बिद्यार्थीलाई स्वास्थ्य शिक्षा प्रदान गर्नु र उनीहरुमा स्वस्थ बानीको बिकासगर्नु					
१५	बिद्यालयका शैक्षिक कर्मचारीहरुको बैठकमा सहभागीहुनु					
१६	स्वास्थ्य सम्बन्धि बिषयमा अभिभावक र शिक्षकलाई परामर्षदिनु					
१७	गम्भिर स्वास्थ्य समस्या भएका बिद्यार्थीहरुको ब्यबस्थापनका लागिबिद्यालयका शैक्षिक कर्मचारीलाई परामर्षतालिमदि/ नु					
१८.	आचरणगत समस्या भएका बिद्यार्थीहरुको व्यबस्थापनका निम्ति बिद्यालयका शैक्षिक कर्मचारीहरुलाई परामर्षतालिमदिनु/					
१९.	न्यून शैक्षिक क्षमता प्रदर्शनगरेका बिद्यार्थीहरुको व्यवस्थापनका निम्ति बिद्यालयका शैक्षिक कर्मचारीहरुलाई परामर्षतालिमदिनु/					

**त्रिभुवन विश्वविद्यालय**

# **चिकित्सा शास्त्र अध्ययन संस्थान विराटनगर नर्सिङ क्याम्पस विराटनगर**

**Title: Assessment of School Health Services and Perception of School**

**Nurses and Principals towards the Nurse's Role in School**

**“बिद्यालय स्वास्थ्य सेवाको परीक्षण तथा बिद्यालय नर्सको भूमिका प्रति  
प्रधानअध्यापक र स्वयं स्कुलनर्सको धारणा”**

विद्यालयको नाम/ठेगाना:

तथ्याङ्क संकलनको मिति:

कोडनम्बर:

**मुख्य र सह-अनुसन्धान कर्ताको परिचय:**

नमस्कार मेरो नाम मेनुका भण्डारी, म त्रिबि चिकित्सा शास्त्र अध्ययन संस्थान अन्तर्गत विराटनगर नर्सिङ क्याम्पसमा कार्यरतछु मलगायत मेरा सहकर्मी श्री पुनम मण्डल मिलेर “Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse's Role in School” बिषयमा अनुसन्धान गर्ने गईरहेकाछौ।

निर्देशन: कृपया खाली ठाउँमा उपयुक्त शब्द भर्नुहोला वा आवश्यक बनाईहरुमा आफ्नो सहमतिअनुसार टिक (✓) लगाउनुहोला । पहिलो भागमा सामाजिक आर्थिक विवरण हुनेछ भने दोश्रो भागमा बिद्यालयनर्सको भूमिका प्रति प्रधानअध्यापक र स्वयं स्कुल नर्सको धारणा र बुझाई कस्तो/कति छ भन्ने कुरा हुनेछ, तपाईंले उक्त विवरणहरुमा आफ्नो धारणा इमान्दार पुर्वक भर्न अनुरोध गर्दछौ। तेश्रो भागमा बिद्यालय स्वास्थ्यसेवाका र्यक्रमको परीक्षण अवलोकन सूची प्रयोगगरी अनुसन्धानकर्ताले विवरण लिनेछ। प्राप्त विवरणहरुलाई गोप्य राखिनेछ र अनुसन्धान प्रयोजनका लागि मात्र प्रयोग गरिनेछ।

**भाग ३ : बिद्यालयस्वास्थ्यसेवाकार्यक्रमकोपरीक्षणअवलोकनसूची।**

SN	Statements	Yes	No
1	Does the school meet quality standard (full-time school nurse to student ratio 1/500) तपाईंको स्कुलले गुणस्तर कायम गरेको छ ?		
2	The purpose and scope of the school health program have been defined by written policies and procedures बिद्यालय स्वास्थ्य कार्यक्रमको उद्देश्य र क्षेत्र लिखित नीति र प्रक्रियाको रुपमा परिभाषित गरिएको छ।		
3	Specific written procedures are available for example delegation health care plans and substitute plans. विशेष लिखित प्रक्रियाहरु उपलब्ध भएको जस्तै स्वास्थ्य सेवाका योजनाहरु र अन्य योजनाहरु।		
4	Uses consultative services (physician, health and agency of education, experts) परामर्श दाताका सेवाहरु जस्तै फिजिसियन, शैक्षिक र अन्य विशेष सेवाको प्रयोग भएको।		
5	Health personnel are certified in First aid and CPR स्वास्थ्य सेवा प्रदायकहरू प्राथमिक उपचारमा तालिम प्राप्त छन्।		
6	Cumulative health records are maintained and kept following rules and school procedures स्वास्थ्य सेवा प्रदान गरिएका समग्र रेकर्डहरु नियमपूर्वक राखिन्छ।		
7	The school service program undergoes an annual evaluation बिद्यालय स्वास्थ्य सेवा कार्यक्रमलाई वार्षिक मुल्याङ्कन गरिन्छ।		
8	Have protocols for annually updating student health information विद्यार्थीका स्वास्थ्य सम्बन्धि जानकारी/सुझावलाई अध्यावधिक गर्ने व्यवस्था।		



9	Provide student-centered staff meeting input on students with health /medical issues बिद्यार्थी केन्द्रित स्टाफ मिटिङ्ग गर्ने जहाँ स्वास्थ्य र मेडिकल समस्याको समधान हुन्छ।		
10	Provide input on educational support teams शैक्षिक सपोर्ट टिमलाई समर्थन गर्ने।		
11	Provide input on the interagency team meeting विभिन्न टिमहरुको बीचमा मिटिङ्ग गर्ने।		
12	There is a written job description for the school nurse बिद्यालय नर्सको काम/कर्तव्य लिखित रुपमा राखिएको छ।		
13	There is the job description for health service assistive health personnel अन्य स्वास्थ्यकर्मीहरुको कार्य विवरण राखिएको छ।		
14	A school health nurse or supervisor is available for consultation परामर्शका लागि बिद्यालय नर्स वा पर्यवेक्षक उपलब्ध हुन्छ।		
15	Screening is conducted as described in the standard of practice स्वास्थ्य बिद्यार्थीहरुको समस्या/रोग पहिचान गर्न बेलाबेलामा जाच गरिन्छ ।		
16	Students with specific health needs such as students with disabilities or those managing chronic illness are identified and Have individual health care plans विशेषस्वास्थ्य समस्या भएका बिद्यार्थीहरुलाई पहिचान गर्ने र ब्यक्तिगत सेवाको योजना बनाउने।		
17	School nurse is responsible for participating in the appropriate placement of the students with health needs बिद्यालय नर्स कुन स्वास्थ्य समस्या/आवश्यकता भएको विद्यार्थीलाई उपयुक्त ठाउमा राख्ने हो भन्ने कुरामा जिम्मेबार हुन्छ।		
18	School health office/workplace provides for confidential treatment		

	and record keeping, appropriate infection control measures, and is accessible to every student बिद्यालय स्वास्थ्य कार्यालयले बिद्यार्थीहरुको रेकर्डलाई आवश्यकता अनुसार गोप्य राख्न सक्छन, सक्रमण नियन्त्रण, हरेक बिद्यार्थीले भेट्नसक्ने वातावरण सिर्जना गर्ने।		
19	Selected data is collected and entered into the school survey आवश्यक तथाङ्गक सकलन गर्ने र स्कुल सर्भेमा रेकर्ड राख्ने।		
20	School health nurse participates in a coordinated school health team बिद्यालय नर्स स्कुल स्वास्थ्य टिममा सहभागी भएर कामगर्ने।		
21	Acts as a health education resource and a liaison to the school community on health and medical issues स्वास्थ्य शिक्षा श्रोतको रुपमा काम गर्ने र स्कुल र समुदायलाई जोड्ने कामगर्ने।		
22	There are facilities for good hand hygiene and a computer available to the nurse राम्रो हात सफाईको लागि सुबिधा (धारा,पानी,साबुन) तथा नर्सलाई काम गर्नका लागि कम्प्युटरको व्यवस्था हुनुपर्ने।		

### **Biratnagar Nursing Campus, Tribhuvan University, IOM**

**Study Title:**Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurses' Role in School of Province 1, Nepal

#### **In-depth interview guidelines (IDI) - Principals**

##### **1. Role of School health nurse**

- a. Can you provide some idea about the role of a school health nurse at your school?  
[Probe: *population of the school, type of services, the different roles of the school nurse, who are the people who have received services, and who are the people who are still not interested in taking the services*]

- b. Can you provide details about the school health services? [*Probe: number of rooms, availability of equipment and supplies, timing, reporting and recording process, etc.*]
  - c. Why students are hesitant about taking services? [*probe: are there any population subgroup*]
- 2. What are the Opportunities for school and for the school nurse in your school?**
  - a. What are the opportunities as a school health nurse? *Probe: experiences, encouragement, motivation, reward system, social benefit, educational opportunity?*
- 3. What are the major challenges of a school health nurse in school?**
  - a. Are there any challenges as a school health nurse? [*probe: are there any difficulties, experiences, career ladder, reasons to dropout, job satisfaction*]
  - b. What are the common problems school health nurses faced at your school? [*Probe: personal problems, family-related, job-related, administration-related, management-related*] According to you, which one is the major barrier?
- 4. Based on your experience are there any suggestions that can improve the school health program? Please elaborate with examples.**

## **Biratnagar Nursing Campus, Tribhuvan University, IOM**

**Study Title:** Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurses' Role in School of Province 1, Nepal

### **In-depth interview guidelines (IDI) - School Health Nurse**

#### **1. Role of School health nurse**

- a. Can you provide some idea about the role of a school health nurse at your school?  
[Probe: population of the school, type of services, the different roles of the school nurse, who are the people who have received services, and who are the people who are still not interested in taking the services]
- b. Can you provide details about the school health services? [probe: number of rooms, availability of equipment and supplies, timing, reporting and recording process, etc.]
- c. Why students are hesitant about taking services? [probe: are there any population subgroup]

#### **2. Opportunities and challenges as a school health nurse**

What are the opportunities as a school health nurse? Probe: experiences, encouragement, motivation, reward system, social benefit, educational opportunity?

#### **3. What are the major challenges of a school health nurse in school?**

- a. Are there any challenges as a school health nurse? [probe: are there any difficulties, experiences, career ladder, reasons to dropout, job satisfaction]
- b. What are the common problems school health nurses faced at your school?  
[Probe: personal problems, family-related, job-related, administration-related, management-related] According to you, which one is the major barrier?

#### **4. Based on your experience are there any suggestions that can improve the school health program? Please elaborate with examples.**

**त्रिभुवन विश्वविद्यालय**  
**चिकित्सा शास्त्र अध्ययन सस्थान**  
**विराटनगर नर्सिङ क्याम्पस, विराटनगर**

**सुचितसहमतिपत्र**

**मुख्य र सह-अनुसन्धानकर्ताको परिचय:**

**नमस्कार मेरो नाम मेनुका भण्डारी, म त्रिभि चिकित्सा शास्त्र अध्ययन सस्थान अन्तर्गत**

**विराटनगर नर्सिङ क्याम्पसमा कार्यरत छु मलगायत मेरा सहकर्मी श्री पुनम मण्डल मिलेर “ Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse’s Role in School” बिषयमा अनुसन्धान गर्ने गईरहेकाछौ।**

म तपाईंलाई हाम्रो अनुसन्धान अध्ययनको बारेमा जानकारी दिनगइरहेकोछु र तपाईंलाई यसमा भागलिन आमन्त्रित गरिरहेकोछु। तपाईं यस अनुसन्धानमा सहभागि हुनुभएकोमा म धेरै आभार प्रकटगर्दछु। तपाईंले निर्णयगर्नु अघि, तपाईं अनुसन्धानको बारेमा कसैसित पनि छलफल गर्न सक्नुहुन्छ। जानकारीको क्रममा यदि तपाईंलाई प्रदान गरिएको जानकारीको बारेमा केहि बुझ्नुभएन भने, कृपया मलाई बताउनुहोस्, जब सम्म तपाईं स्पष्ट हुनुहुन्न तब सम्म म विस्तृत रूपमा वर्णनगर्नेछु। यदि तपाईंसँग पछि पनि केहिप्रश्नहरूछन् भने कृपया मलाई वा मेरो टीमलाई मेलपठाउनुहोस्।

**अनुसन्धानको विषय :**

**यस अनुसन्धानको विषय “विद्यालय स्वास्थ्यसेवाको परीक्षण र विद्यालय नर्सको भूमिकाप्रति प्रधानअध्यापक र स्वयं स्कुलनर्सको धारणा” कस्तो/कति छ भन्ने कुराहुनेछ।**

**अनुसन्धानको उद्देश्य**

अध्ययनको उद्देश्य बिद्यालय स्वास्थ्यसेवाको परीक्षण तथा बिद्यालय नर्सको भूमिका प्रति प्रधानअध्यापक र स्वयं स्कुलनर्सको धारणा र बुझाई कस्तो/कति छ भन्ने पत्ता लगाउने हो। तपाईंलाई उक्त बिबरणहरूमा आफ्नो धारणा इमान्दार पुर्वक भर्न अनुरोध गर्दछौ। प्राप्त विवरणहरूलाई गोप्य राखिनेछ र अनुसन्धान प्रयोजनका लागि मात्र प्रयोगग रिनेछ।

**जोखिम र असुविधा**

हामी आशा गर्छौ कि यस अध्ययनमा सहभागी हुनाले तपाईंलाई कुनै पनि जोखिम पर्ने छैन । तर यस छलफलमा संगलग्न समय र प्रयासले केहीलाई असुविधा हुन सक्छ । यदि तपाईं कुनै बिशेष प्रश्नको जवाफ दिन चाहनुहुन्न भने ,तपाईं कुनै पनि समय बहसलाई अस्विकार गर्न र छोड्न सक्नुहुन्छ , यसले तपाईंलाई कुनै पनि हिसाबले असर गर्दैन ।

## **फाइदाहरु**

यस अध्यनमा सहभागी हुनाले तपाईंलाई प्रत्यक्ष रुपमा फाइदा पुग्ने छैन , तर तपाईंको सहभागिताले हामीलाई कार्यक्रम बुझ्न मदत गर्नेछ । यस अध्ययनको नतिजाले भविष्यमा विद्यालय तथा राष्ट्रलाई फाइदा पुग्नेछ ।

## **गोपनीयता**

अध्यन टोलीले तपाईंले दिएको जानकारीलाई गोप्य राख्नेछ । प्रत्येक प्रनावालीलाई एक आदितिय नम्बर प्रदान गरिनेछ र तपाईंलाई पहिचान गर्न सक्ने सबै जानकारी डेटाबाट हटाइनेछ। सबै जानकारी कम्प्युटरमा भण्डार गरिनेछ र केवल अधिकृत अनुसन्धान कर्मचारीहरुले पहुच गर्न सक्नुहुनेछ।

## **क्षतिपूर्ति**

यस अनुसन्धानमा भाग लिनको लागि तपाईंलाई कुनै क्षतिपूर्ति दिइने छैन।

## **स्वेच्छिक सहभागिता र अधिकार**

यस अध्यनमा तपाईंको सहभागिता पूर्णतया स्वेच्छिक हो । तपाइले भाग लिन रोज्नुभएन भने पनि, तपाईंलाई कुनै नोक्सान हुने छैन । यसले तपाईंको कसैसंगको सम्बन्धलाई असर गर्दैन र तपाईंलाई हानी पुर्याउन सक्ने कुनै परिणाम हुने छैन ।

## **परिणामको प्रकाशन**

यस अनुसन्धानको नतिजालाई सामाजिक विकास मन्त्रालय , सामुदायिक विद्यालय तथा अन्य आवश्यक संस्थाहरूसंग साझा गरिनेछ जसले गर्दा विद्यालय स्वास्थ्य सेवा तथा विद्यालय नर्सको भूमिकामा प्रवर्धन गर्न योगदान पुगोस्। यस बाहेक अध्यनको नतिजा राष्ट्रिय र अन्तराष्ट्रिय सम्मेलनहरुमा प्रस्तुत गर्न र अनुसन्धान पत्रिकाहरुमा प्रकाशित गर्न सकिन्छ ।

हामीलाई आशा छ तपाइले अध्यनमा भाग लिएर सहयोग गर्नुहुनेछ।

## **कसलाई सम्पर्क गर्ने**

यदि तपाईंसँग केहि प्रश्नहरू छन् भने तपाईंले मलाई कल गर्न वा ईमेल पठाउन सक्नु हुन्छ। यदि तपाईं प्रश्नहरू पछि सोध्न चाहनुहुन्छ भने, तपाईं मलाई वा मेरो टीमलाई सम्पर्क गर्न सक्नुहुने छ।

मेनुका भण्डारी ,सम्पर्कनम्बर: ९८५२०३७८०९, [menukamenu@gmail.com](mailto:menukamenu@gmail.com)

पुनम कुमारी मण्डल ,सम्पर्कनम्बर: ९८४२०२६६७२, [poomandal@gmail.com](mailto:poomandal@gmail.com)

## **Information to Participant Sheet**

**Statement of the study:** Assessment of School Health Services and perception of School Nurses and Principles towards the Nurses' Role in Providing School Health Services in Nepal

**Purpose and methods:** The objective of this study is to assess School Health Services and the perception of School Nurses and Principles towards the Nurses' Role in Providing School Health Services in Nepal. As a participant in this study, you will be asked to fill out a questionnaire about your perception of the Nurse's role in providing school health services. You will also be asked to fill out a demographic questionnaire that will be used to describe your personal characteristics.

**Expected duration of participation and frequency of contact:** The study will take place through a self-administered questionnaire. The potential participants will be informed that the entire study will require approximately 30-35 minutes of their time. You have to give information only one time.

**Direct or indirect benefits:** There may be no direct benefit to you as a result of participating in this study; however, you may benefit from knowing information related to Nurses' Role in Providing School Health Services and the status of school health services. Your participation will likely benefit the local authority to design an appropriate program.

**Foreseeable risks, discomfort, or inconvenience to the participant:** There are no risks attached to participation in this study. Emotional discomfort or stress- There is a very small chance that if you decide to participate in the study, you might experience a mild form of emotional distress

**Confidentiality:** Your responses and demographic information will be kept confidential and will only be used by the principal investigator for analysis purposes.

**Payment /Reimbursement:** you will not receive any payment as a participant in this study.

**Voluntary participation/withdrawal:** Participation is voluntary. You do not have to participate in this study if you do not want to. If you agree to be in this study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide you do not want to participate. You may choose to withdraw from the study at any time and for any reason without any consequence to you.

We would appreciate your participation in this study. This information will help to assess School Health Services and the perception of School Nurses and Principles towards the Nurses' Role in Providing School Health Services. The report of this research will be used by both institutions and organizations for designing an appropriate intervention.

You yourself should complete the questionnaire. We assure you that whatever information you provide will be kept confidential.

Thank you very much for your participation and cooperation.

**Tribhuvan University, Institute of Medicine  
Biratnagar Nursing Campus, Biratnagar, Nepal**

**INFORMED CONSENT FORM  
[Assessment of School Health Services and Perception of  
School Nurses and Principals towards the Nurses Role in  
School of Province 1, Nepal]**

I, ....., male/female of ..... years age, hereby confirm that I have read and understood the information sheet and consent form for this research being conducted by ....., and have had the opportunity to ask questions about it.

I hereby declare that,

1. I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.
2. I understand that the researchers, the IRC and other regulatory authorities will not need my permission to look at my health records both in respect of the current study and any further research that may be conducted in relation to it, even if I withdraw from the study. I agree to this access. However, I understand that my identity will not be revealed in any information that will be published or released to the third parties.
3. I agree not to restrict the use of any data or results that arise from this study provided that such use is only for scientific purpose(s).
4. I agree to take part in this study.

**Signature of the research participant**

Signature : .....

Name :

.....

Date: .....

**Investigator's**

Signature : .....

Name :

.....

Date: .....



## Letter of Declaration

**To Nepal Health Research Council, Nepal**

**Subject:** Submission of proposal “Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse’s Role in Schools in Province 1, Nepal” for ethical clearance.

Dear Sir/madam,

I, Menuka Bhandari, on behalf of my Co-investigator (Punam Kumari Mandal), wish to submit a research proposal “Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse’s Role in Schools in Province 1, Nepal” for consideration for ethical clearance from NHRC.

I hereby certify that the proposal presented represents the valid work of the investigators. The investigators will not be challenged or contested by any individual whose name has not been stated in the present list of investigators.

The investigators have no conflict of interest.

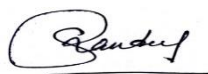
I will bear responsibility for any mistake /irregularities in case any of the information provided above turns false.

**Investigators (Name)**

**signature**

**Ms. Menuka Bhandari (PI)** 

**Ms. Punam Kumari Mandal (CO-I)**



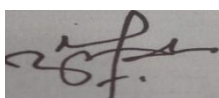
## Revised Work Plan

Work Activities	Tentative Timeline: Total Duration: 2 years (in month)											
	Jan-Feb	March-April	May-June	July-Aug	Sept-Oct	Nov-Dec	Jan-Feb	March-Apr	May-June	July-August	Sept-Oct	Nov-Dec
Literature review												
Proposal preparation and Submission to UGC												
Coordination with School principals and school health nurses												
proposal presentation, finalization												
Ethical Approval												
Data collection												
Analysis of collected data												
Report writing												
Report Submission: first draft												
Report submission: Second draft												
Report presentation and dissemination												
Publication												

(Total Duration: 2 years from 2022 to 2024 Completion)

## UGC Faculty Research Grant - Budget Estimate

SN	Particulars	Remarks	Total cost (Rs.)	
			Year I	Year II
A	<b>Special Task Based Remuneration (<math>\leq 10\%</math>)</b>			
	Proposal preparation		5000	
	Tools development		5000	
	Progress report preparation		5000	
	Data analysis		5000	
	Research article manuscript preparation			5000
D	<b>Field Costs</b>			
	Subjects compensation (Nurse+ Principal)	(30 + 30 )x500	30000	
	Survey Cost(Refreshment)	30 Schools x 1000	30000	
	Daily Allowance	2x 2000x 15Days	60000	
E	<b>Office Costs</b>			
	Office equipment & Supplies	Pendrive,Recorder,Microphone, stationary	10000	
	Personal computer and software		10000	
	Telephone and internet cost		5000	
F	<b>Consultant Services</b>			
	Training			10000
	Special Professional Service			10000
	Data Analysis			10000
G	<b>Student Support</b>			
	Thesis Proposal Preparation Cost	Bachelors(2) 1250 Masters(1) 2500	2500 2500	
	Research Cost (if separate)	As per need		
	Thesis Preparation Cost	Bachelors 2x5000 Masters 10000	10000 10000	
H	<b>Facilities and Administrative Cost</b>			
	Institutional Overhead Cost (10%)			30000
	Ethical Approval		10000	
	Documentation and Publication Cost			25000
	Miscellaneous ( $\leq 5\%$ )			10000
		Subtotal	200000	100000
		Grand Total		300000
		UGC Grant Approved		300000
		Fund from other source [if identified, specify]		Not Applicable
		Fund from other source (not yet identified)		Not applicable



Principal Investigator

.....  
UGC Research Director  
(For official use)

## Roles and Responsibilities of Principal Investigator and Co-Investigator

Particulars	Personnel	Roles and responsibility
Proposal preparations and submission to UGC	Principle Investigator (PI) and Co-investigator	Prepare the proposal and collaborate with others in preparation. Assure that design is appropriate to objectives. Submit the proposal
Tool development and pretesting	PI and Co-I	Develop tool and consult with expert. Validation of tool. Pretesting of tool.
Nepali translation Back Translation	PI and Subject Expert	Translate the questionnaire consulting with subject expert. Back translation of the tool Validation of the tool
Data collection	PI and Co-I	Collaborate with provincial, local government and health institutions. Collect data with enumerators. Check for consistency and completeness.
Data analysis	PI and Co-I Statistician	Analyze data with help of a statistician. Use of appropriate statistical techniques while analyzing data
Progress Report	PI and Co-I	Preparation and submission of progress report to UGC and NHRC
Report preparation presentation and submission	PI and Co-I	Prepare reports on the basis of guidelines. Submit the reports.

## Acceptance Letter from Province 1



प्रदेश सरकार  
स्वास्थ्य मन्त्रालय  
प्रदेश नं. १  
विराटनगर, नेपाल

नीति, योजना तथा जनस्वास्थ्य महाशाखा

मिति: २०७९/०७/२७

पत्र संख्या: ०७९/८०

चलानी नं: ५५४

जो जससँग सम्बन्धित छ ।

प्रस्तुत विषयमा त्रिभुवन विश्वविद्यालय, चिकित्सा शास्त्र अध्ययन संस्थान, विराटनगर नर्सिङ क्याम्पसका उपप्राध्यापक श्री मेनुका भण्डारी र प्रशिक्षक श्री पुनम कुमारी मण्डलले "Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurses Role in school of Province 1, Nepal" विषयक अनुसन्धान कार्य गर्न यस मन्त्रालयमा प्रस्ताव पेश गरे अनुरूप सो अनुसन्धानका लागि नियमानुसार अन्य आवश्यक प्रकृया पुरा गरी यस प्रदेशमा विद्यालय नर्सिङ सेवा कार्यक्रम लागू भएका विद्यालयहरूबाट तथ्याङ्क संकलन गर्ने अनुमति प्रदान गरिएको व्यहोरा अनुरोध छ ।

डा. सुरेश मेहता

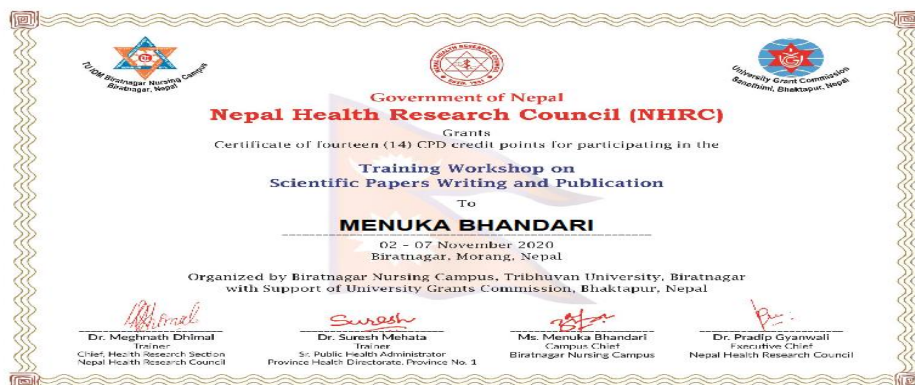
व.जन.स्वा.अ

वरिष्ठ जनस्वास्थ्य प्रशासक

इमेल: yojana.moh@p1.gov.np

## Certificates of Research Training





## List of Scientific Articles Published by PI & CoI

SN	Topic of Article and Name of Journal
1.	Bhandari M. (2017).Anxiety and Depression among Adolescent students at Higher Secondary School. <b>BIBECHANA</b> , <i>A Multidisciplinary Journal of Science, Technology and Mathematics</i> , Volume 14(2017), page no103-109. Journal homepage: <a href="http://nepjol.info/index.php/BIBECHANA">http://nepjol.info/index.php/BIBECHANA</a>
2.	Kadel M., Bhandari M. (2018). Factors Intend to Brain Drain among Nurses Working at Private Hospitals of Biratnagar, Nepal. Journal homepage: <a href="http://nepjol.info/index.php/BIBECHANA">http://nepjol.info/index.php/BIBECHANA</a>
3.	Bhandari M. (2018). Assessment of Knowledge, Practice on Nutrition and Nutritional Status of School Children in a Private School of Biratnagar Metropolitan. <b>BOUDDHIK ABHIYAN</b> , <i>A Multidisciplinary Research Journal</i> , Issue 5 (2018) July, page no 101-107.
4.	Bhandari M., Niroula A., Chaudhary S. (2020). Assessment of Health Problems and Social Needs of Elderly in Old Age Homes of Biratnagar Metropolitan. <b>DRISTIKON: A Multidisciplinary Peer Reviewed Journals</b> , November 2020, page no 169- 183, ISSN 2382-5456. Journal homepage: <a href="https://www.nepjol.info/index.php/dristikon/index">https://www.nepjol.info/index.php/dristikon/index</a>
5.	Menuka Bhandari, <sup>1</sup> Upendra Yadav, <sup>2</sup> Tulasha Dahal, <sup>2</sup> Anjula Karki <sup>3</sup> (2021). Depression, Anxiety and Stress among Nurses Providing Care to the COVID-19 Patients: A Descriptive Cross-sectional Study. DOI: <a href="https://doi.org/10.31729/jnma.7235">https://doi.org/10.31729/jnma.7235</a>
6.	Satya B Shrestha, Menuka Bhandari, Munawatee Rai, Karishma Khadgi (2022). Motivations to Engage in Social Distancing and Depression, Anxiety, and Stress Among Adolescents During COVID-19 Pandemic. <i>JIOM Nepal</i> . 2022 Apr;44(1):55-59. <a href="http://www.jiomnepal.com.np">www.jiomnepal.com.np</a>
7.	Katuwal, A., Bhandari, M. (2022). Health Care Workers' Knowledge, Attitude and Practice on COVID-19 in a Government Hospital, Biratnagar. <i>Bouddhik Abhiyan Journal</i> , No. 7, 2022. DOI: <a href="https://doi.org/10.3126/bdikan.v7i1.47526">https://doi.org/10.3126/bdikan.v7i1.47526</a>
8.	Bhandari, M., Dahal, T., & KC, J. (2022).Professionalism among Nurses Working at Different Government and Private Hospitals of Province 1. <i>J Nepal Health Res Counc</i> 2022 Apr-Jun;20(55):419-25. DOI: <a href="https://doi.org/10.33314/jnhrc.v20i02.4071">https://doi.org/10.33314/jnhrc.v20i02.4071</a>
9.	Mandal PK, Yangden N, Rai B, Niraula A, Subedi S. Utilization of Family Planning Methods and associated factors among women of reproductive age group in Sunsari, Nepal. <i>Janaki Med. Coll. J. Med. Sci.</i> 2022 Dec. 31;10(03):31-4.



	<a href="https://nepjol.info/index.php/JMCJMS/article/view/55564">https://nepjol.info/index.php/JMCJMS/article/view/55564</a>
<b>10.</b>	Dahal M, Subedi S, Mandal PK, Silwal S. Knowledge and Utilization of Postnatal Care Services among Mothers Residing in a Community of Jhapa District. J Coll Med Sci-Nepal. 2022 Mar. 31 ;18(1):27-35. <a href="https://nepjol.info/index.php/JCMSN/article/view/38353">https://nepjol.info/index.php/JCMSN/article/view/38353</a>
<b>11.</b>	Gautam S, Mandal PK, Yangden N, Rai M. Knowledge on Biomedical Waste Management among Nurses Working in a Hospital of Biratnagar. Tribhuvan University Journal. 2021 Dec.;36(02):26-38. <a href="https://nepjol.info/index.php/TUJ/article/view/46596">https://nepjol.info/index.php/TUJ/article/view/46596</a>
<b>12.</b>	Mandal PK, Khadgi D, Lage S, Yangden N, Subedi S. Earthquake Preparedness Knowledge and Practice of Secondary Level . Boudhik Abhiyan. 2023 Aug. 30;8(01):174 87. <a href="https://nepjol.info/index.php/bdkan/article/view/57806">https://nepjol.info/index.php/bdkan/article/view/57806</a>
<b>13.</b>	Mandal PK, Wagle RR, Uranw S, Thakur AK, Risk factors for visceral leishmaniasis in selected High endemic areas of Morang: A case Control Study, Nepal, J. Kathmandu Med. Coll. 2021 Jan. 1;9(4):188-96. Available from: <a href="https://jkmc.com.np/ojs3/index.php/journal/article/view/949">https://jkmc.com.np/ojs3/index.php/journal/article/view/949</a>
<b>14.</b>	Mandal PK. Factors Associated with Undernutrition of Children Admitted in Koshi Zonal Hospital Nutritional Rehabilitation Home. Tribhuvan University Journal. 2018 Dec 31;32(2):29-36. <a href="https://doi.org/10.3126/tuj.v32i2.24701">https://doi.org/10.3126/tuj.v32i2.24701</a>



Government of Nepal  
**Nepal Health Research Council (NHRC)**  
Estd. 1991

Ref. No.: 1442

5 January 2023

Ms. Menaka Bhandari  
Principal Investigator  
TU JoM, Biratnagar Nursing Campus  
Lalitpur

Ref: Approval of research protocol

Dear Ms. Bhandari,

This is to certify that the following protocol and related documents have been reviewed and granted approval through the expedited review process for its implementation.

Protocol Registration No/ Submitted Date	534/2022 P 18 November 2022	Sponsor Protocol No	NA	
Principal Investigator/s	Ms. Meruka Bhandari	Sponsor Institution	UGC	
Title	Assessment of School Health Services and Perception of School Nurses and Principals towards the Nurse's Role in School in Province 1, Nepal			
Protocol Version No	NA	Version Date	NA	
Other Documents	1. Informed consent form 2. Data collection tools 3. Support letter 4. Sponsor letter 5. Work plan	Risk Category	Minimal risk	
Co-Investigator/s	NA			
Study Site	Province 1, Nepal			
Type of Review	<div><input checked="" type="checkbox"/></div>	Expedited	Timeline of study 5 January 2023 to January 2025  Duration of Approval 5 January 2023 to January 2024  This approval will be valid for one year	Frequency of continuing review  Every one year
	<div><input type="checkbox"/></div>	Full Board		
Review Date: 5 January 2023				

Tel: +977 1 4254220, Fax: +977 1 4282469, Ramshah Path, PO Box: 7626, Kathmandu, Nepal  
Website: <http://www.nhrc.gov.np>, E-mail: [nhrc@nhrc.gov.np](mailto:nhrc@nhrc.gov.np)



Government of Nepal  
**Nepal Health Research Council (NHRC)**  
Estd. 1991

Ref. No.: 1442

Total budget of research	NRs 3,00,000.00
Ethical review processing fee	NRs 10,000.00
<b><u>Investigator Responsibilities</u></b> <ul style="list-style-type: none"><li>Any amendments shall be approved from the ERB before implementing them</li><li>Submit the support letter from the regulatory authorities in Nepal like DDA, FWD, DoHS, before implementing the study</li><li>Submit progress report every 6 months</li><li>Submit final report after completion of protocol procedures at the study site</li><li>Comply with all relevant international and NHRC guidelines</li><li>Abide by the principles of Good Clinical Practice and ethical conduct of the research</li></ul>	

If you have any questions, please contact the Ethical Review M & E Section at NHRC.

Thanking you,

**Dr. Meghnath Dhimal**  
Acting Administrative Chief

### BIBECHANA

A Multidisciplinary Journal of Science, Technology and Mathematics

ISSN 2091-0762 (Print), 2382-5340 (Online)

Journal homepage: <http://nepjol.info/index.php/BIBECHANA>

Publisher: Research Council of Science and Technology, Biratnagar, Nepal

## Anxiety and depression among adolescent students at higher secondary school

M. Bhandari

Faculty of Child Health Nursing, Tribhuvan University, Institute of Medicine, Nursing Campus  
Biratnagar, Nepal

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Article history: Received 6 November, 2016; Accepted 15 November, 2016

DOI: <http://dx.doi.org/10.3126/bibechana.v14i0.16019>

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### Abstract

This study was conducted to assess the association of depression and anxiety with selected variables; low academic performance and poor parent adolescent relationship among the adolescent students at Arniko Higher Secondary school at Biratnagar. Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) tools were used for data collection. Spearman's Rank Correlation Coefficient and Chi Square test were applied to assess the significant variables. The findings of the study revealed that there was significant correlation between total depression and total anxiety score i.e. Spearman's rank correlation coefficient value was 0.554 ( $p = 0.000$ ). The study also found that the depression and anxiety were significantly associated with type of family ( $p = 0.005$  &  $p = 0.015$ ). The depression was significantly associated with academic performance of adolescent students ( $p = 0.030$ ) and major accident in the family ( $p = 0.009$ ). Similarly, the anxiety was significantly associated with parental fight ( $p = 0.007$ ), conflict with father ( $p = 0.019$ ), and death of family member ( $p = 0.016$ ). It can be concluded that adolescent anxiety and depression are significant mental health problems so further studies are needed to validate the findings.

**Keywords:** Depression; Anxiety; adolescent student; correlation; Higher Secondary School.

## BIBECHANA

A Multidisciplinary Journal of Science, Technology and Mathematics

ISSN 2091-0762 (Print), 2382-5340 (Online)

Journal homepage: <http://nepjol.info/index.php/BIBECHANA>

Publisher: Research Council of Science and Technology, Biratnagar, Nepal

### Factors intended to brain drain among nurses working at private hospitals of Biratnagar, Nepal

Mamata Kadel<sup>1</sup>, Menuka Bhandari<sup>2\*</sup>

<sup>1</sup>Department of Nursing, Neuro Health College, Biratnagar, Nepal

<sup>2</sup>Department of Child Health Nursing, Nursing Campus, Biratnagar, Nepal

\*E-mail: [menukamenu@gmail.com](mailto:menukamenu@gmail.com)

Article history: Received 12 August 2018; Accepted 6 November, 2018

<http://dx.doi.org/10.3126/bibechana.v16i0.21642>

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#### Abstract

**Introduction:** The migration of health worker is a complex and multifaceted phenomena. Emigration of highly skilled and competent nurses to other countries seems to have negative impact on the delivery of excellent health care services.

**Objective:** The objective of this study was to assess factors intend to brain drain among nurses working at private hospitals of Biratnagar.

**Methodology:** A cross sectional study was conducted on staff nurses of selected hospitals of Biratnagar, Nepal from 2017 February to 2018 February; non-probability purposive sampling technique was used. Required information was collected using self-administered semi structured questionnaire related to demographic and factors intending to brain drain from 99 nurses.

**Results:** Majority (78.8%) of nurses were below 25 years of age. Most (81.8%) of them had completed PCL nursing, more than half (55.6%) wanted to migrate abroad to pursue further work and study. Australia (56.4%) and USA (25.5%) emerged as the top destination of choice, while only (5.5%) of them wanted to migrate United Kingdom. Lack of career opportunities, low salary and poor working condition were main pull factors and push factors intending to brain drain among nurses. This study also found that majority (96%) of nurses were not satisfied with their salary.

**Conclusion:** More than half of nurses working in private hospitals would like to migrate abroad. The major push factors for migration was lack of career development and low salary.

**Keywords:** Brain drain; Private hospitals; pull factors and push factors.

## **Assessment of Health Problems and Social Needs of Elderly in old age Homes of Biratnagar Metropolitan**

Menuka Bhandari<sup>1</sup>, Alweena Niroula<sup>2</sup>, Shamila Chaudhary<sup>3</sup>

<sup>1</sup>Principal Author

<sup>2</sup>Corresponding Author

<sup>3</sup>Co-Author

<sup>1,2,3</sup>Lecturer

Institute of Medicine

Faculty of Nursing, Biratnagar Nursing Campus, Biratnagar, Tribhuvan University, Nepal

<sup>1</sup>E-mail: menukamenue@gmail.com

DOI: <https://doi.org/10.3126/dristikon.v10i1.34555>

### **Abstract**

Nepal is also witnessing the expansion of life span and hence an enhancement in the population of the elderly. In Nepal, individuals over 60 years of age are considered elderly. According to the 2011 census of Nepal, there were 2.1 million elderly inhabitants, which constitute 8.1 percent of the total population in the country. Pashupati Bridrashram the only one shelter for elderly people run by the government which was established in 1976 as the first residential facility for elders. This study was conducted to assess the health and social needs of elderly residing at Birateshwor Briddhashram and Mahila Jagriti Briddhashram Biratnagar. Descriptive cross sectional research design has been used to describe characteristics of a population. There are four registered old age home in Biratnagar Metropolitan City, among them only two were selected purposively. Non random sampling technique has been used in which Purposive Sampling method has been adopted. Both health and social needs were assessed using semi-structured interview schedule which consisted of multiple response questionnaire. There were fifty-seven elders, only forty were selected purposively who can give their information, twenty-four females and sixteen males were selected for interview. Most of the elders came to old age home because of lack of own shelter, sixty percent elders have no any children, mostly they were widow or widower. Majority of them had vision (60 %), walking (46%), hearing problems (33 %) and minority (10 %) have inability problems in moving extremities, difficulty in talking. Only a few elders came there because of maltreatment by their family members. The study has suggested for establishment of health post or health care center, provision of ambulance to meet their health needs and importance of care taker to make their life easier, provision of television, kitchen garden, temple to meet their social and spiritual needs.

*Keywords:* elderly, health problems, old age home, social needs



## Professionalism among Nurses Working at Different Government and Private Hospitals of Province 1

Menuka Bhandari,<sup>1</sup> Tulasha Dahal,<sup>1</sup> Jyoti KC<sup>1</sup>

<sup>1</sup>Tribhuvan University, Institute of Medicine, Biratnagar Nursing Campus, Biratnagar.

### ABSTRACT

**Background:** Professionalism is the conceptualization of attributes, interactions, obligations, attitudes, and behaviours required of professionals in relation to clients and society. The objectives of the study were to identify the five specific attitudes of professionalism; belief in self-model, belief in public service, a sense of calling to the field of study, a feeling of autonomy, and the importance of professional organization and to examine the relationship of selected variables with the attributes of professionalism.

**Methods:** The cross-sectional study design was used. The self-administered questionnaire consisted of Hall's Professional Inventory as revised by Shizek was used for data collection, which includes 25 items. The sample size was 316 nurses from seven government and four private hospitals of province 1. Descriptive statistics were used to find frequencies, percentages, means, SDs, and ranges. Multivariate analysis was performed using a linear regression model.

**Results:** The mean score of the total professionalism was 87.54 (SD=7.99) and the highest score was on attitude towards the sense of calling (Mean=18.86, SD=2.66). Nurses with master's degree education had the high autonomy ( $\beta=-0.193$ ,  $p=0.004$ ), Matron ( $\beta=2.109$ ,  $p=0.036$ ) and the membership of Nursing Association of Nepal ( $\beta=0.200$ ,  $p=0.004$ ), current salary of the senior nurse ( $\beta=-0.172$ ,  $p=0.037$ ), and matron ( $\beta=-2.501$ ,  $p=0.013$ ) had a positive relationship with self-regulation. The experienced nurses ( $\beta=-0.296$ ,  $p=0.010$ ) had a more positive attitude towards a sense of calling.

**Conclusions:** The professionalism status of nurses was not seen adequate in this study. The present study concluded that the Master's degree in Nursing education, administrative position such as matron, incharge, good salary, sufficient working experience, membership in a professional organization, adequate training, job satisfaction, research and publication are the most important factors of professionalism for nurses.

**Keywords:** Government hospitals; hall's professional scale; nurses; private hospitals; professionalism

### INTRODUCTION

Professionals are identified by a specific body of information acquired through formal education, a higher level of expertise, a certification demonstrating admittance into the profession, and a set of behavioural norms known as professionalism.<sup>1</sup> Nurse must adhere to high professional standards of conduct, which are critical to the advancement of professional nursing worldwide. Nurses must actively participate in the advancement of professional standards of behaviour and conduct in their sector as leaders.<sup>2</sup>

Advanced practice nurses e.g. midwives, nurse anaesthetists, are achieving social recognition as providers of cost-effective health care.<sup>3</sup> In Nepal, there

are various professional issues related to autonomy, professional standards, access to higher posts, research activities so it is needful study. The main objective of this study is to find out the existing status of professionalism among nurses, the factors associated, and the level of professionalism among nurses working at government and private hospitals of Province 1, Nepal.

### METHODS

The cross-sectional design was used to examine the status of professionalism using five attitudinal attributes, levels of professionalism, and the associated factors among nurses working at different government and private hospitals of province 1, Nepal. Considering the geographical and population representativeness, 7

**Correspondence:** Ms Menuka Bhandari, Tribhuvan University, Institute of Medicine, Biratnagar Nursing Campus, Biratnagar, Morang, Nepal. Email: menukamenugmail.com, Phone: +9779852037809.

## Depression, Anxiety and Stress among Nurses Providing Care to the COVID-19 Patients: A Descriptive Cross-sectional Study

Meneka Bhandari,<sup>1</sup> Upendra Yadav,<sup>2</sup> Tulasha Dahal,<sup>2</sup> Anjula Karki<sup>3</sup>

<sup>1</sup>Biratnagar Nursing Campus, Institute of Medicine, Tribhuvan University, Biratnagar, Morang, Nepal, <sup>2</sup>B.P. Koirala Institute of Health Science, Dharan, Sunsari, Nepal, <sup>3</sup>Koshi Hospital, Biratnagar, Morang, Nepal.

### ABSTRACT

**Introduction:** Addressing adequately the mental health during and after COVID-19, as well as preparation for possible future outbreaks, requires an understanding of the nature and extent of mental health impacts, factors related to negative mental health outcomes and symptoms of mental illness. The aim of this study was to find the prevalence of depression, anxiety and stress among nurses providing care to the COVID-19 patients.

**Methods:** A descriptive cross-sectional study was conducted from 10<sup>th</sup> April 2021 to 30<sup>th</sup> June 2021 among 301 nurses from three COVID-19 dedicated hospitals using self-administered questionnaires. Whole sampling technique was used. Ethical approval was obtained from the Ethical Review Board of Nepal Health Research Council (Registration number: 106/2021P). The data was analyzed using the Statistical Package for the Social Sciences version 16. Descriptive statistics like frequency, percentage, mean and standard deviation were calculated.

**Results:** Out of 301 nurses, the prevalence of depression, anxiety and stress was 258 (85.72%), 189 (62.80%) and 151 (49.84%) respectively.

**Conclusions:** The study has shown a higher prevalence of depression, anxiety and stress among nurses in comparison to other studies in the similar settings. A quick assessment of the mental health status and mental health requirements of nurses would be helpful in responding to and reducing psychological distress in the crisis situation. The mental health status of nurses should thus be closely monitored by the employing health institutions including managing their workload, providing emotional support and responding to their personal needs.

**Keywords:** anxiety; COVID-19; depression; nurses; stress disorder.

### INTRODUCTION

SARS Coronavirus 2 (SARS-Cov-2) triggered the Coronavirus Disease 2019 (COVID-19) outbreak which was declared as a global pandemic by the World Health Organization (WHO) on March 11, 2020. The first case in Nepal was detected on January 23, 2020 and the number of cases increased rapidly.<sup>1,2</sup> Nurses are more vulnerable to sadness, anxiety and stress due to the demanding nature of their work which could impair performance and self-efficacy.<sup>3,4</sup>

Nurses worried about infecting their family, friends and coworkers, felt insecure and stigmatized, and reported high levels of stress, anxiety and depressive symptoms with reluctance to work, which could have long-term psychological implications.<sup>5,6</sup> Various

problems like inadequate provision of Personal Protective Equipment (PPE), incentives, government facilities and mass resignation by nurses in COVID-19 dedicated hospitals were the cause of interest for this study.

The main objective of this study was to find out the prevalence of depression, anxiety and stress among nurses in COVID-19 hospitals.

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## Motivations to Engage in Social Distancing and Depression, Anxiety, and Stress Among Adolescents During COVID-19 Pandemic

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### Submitted

Jan 10, 2022

### Accepted

Mar 28, 2022

### ABSTRACT

#### Introduction

The coronavirus disease 2019 (COVID-19) is a pandemic prevalent in most countries globally affecting people of all ages including adolescents. Social distancing was implemented to minimize the spread of the virus. The present study is aimed to determine the factors that motivate adolescents to engage in social distancing and find out the depression, anxiety and stress status of the adolescents during COVID-19 pandemic.

#### Methods

A quantitative, descriptive cross-sectional study was conducted among 256 adolescents studying in classes 11 and 12 of four 10+2 schools in Biratnagar Metropolitan City. The study duration of this study was 6 months. A complete enumerative sampling technique was used to enroll students. Data was collected by the structured questionnaires containing sociodemographic variables and the Nepali version of the Depression Anxiety Stress 21-point Scale through an online google docs questionnaire.

#### Results

The maximum number of respondents (61.8%) maintained a social distance of their own will, and 48.2% of respondents maintained social distance because of external factors. The prevalence of depression was 27.8%, anxiety was 18.5% and stress was 13.3%. No association was found between social distancing and the mental health of adolescents with demographic variables.

#### Conclusion

The present study concluded that adolescents are self-motivated to comply with social distancing rules and there is no effect on their mental health status during the period of the COVID-19 pandemic.

#### Keywords

Adolescence, anxiety, depression, motivation, social distancing, stress

## Health Care Workers' Knowledge, Attitude and Practice on COVID-19 in a Government Hospital, Biratnagar

Anjana Katuwal and Menuka Bhandari

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### Abstract

World Health Organization declared COVID-19 as a global pandemic on 11<sup>th</sup> March 2020 due to rapid transmission and severity of illness of this fatal virus from the country of origin. This study was conducted to assess the health care workers' knowledge, attitude and practice on COVID-19 in a government hospital at Biratnagar. A descriptive, cross-sectional research design was used. Census method was adopted for sampling, structured questionnaire was used to collect data among 115 healthcare workers over a period of two months. More than three fourth (78.3%) scored good knowledge, almost all possessed a positive attitude and more than half (62.6%) had good infection prevention practice on COVID-19. However, 52.2% reported that COVID-19 is contagious and only 13.9% identified as a zoonotic disease. Also, it revealed that only 35.7% practiced correct steps of donning PPE, only 27.8% reported proper sequence of doffing PPE and 40.0% followed standard duration for hand washing as per the WHO, CDC guideline. The study highlighted the gap in some specific aspects of knowledge and practice of the healthcare workers that need immediate concern. Adequate provision of periodically updated educational training programmes on COVID-19 and infection prevention practices focusing on PPE might help bridging the gap.

*Keywords:* COVID-19, health care workers, knowledge, practice, attitude

### 1. Introduction:

The World Health Organization (WHO, 2020) announced a global public health emergency at the beginning of a new decade, on 30th January 2020, against the epidemic of corona virus disease, which is known as Corona Virus Disease 2019 (COVID-19). It has since been dramatically spread and declared a pandemic on 11<sup>th</sup> March, 2020. According to WHO, the total number of confirmed cases has reached over 30.6 million with 9, 50,000 deaths across the world till 20th of September, 2020 Nepal was the first South Asian Nation to have a confirmed case of COVID-19 in a 32-year-old Wuhan returnee on 24<sup>th</sup> January, 2020 (Bastola et al., 2020). COVID-19 infection with flu-like symptoms has previously been documented in people who visited Huanan Seafood Wholesale Market in Wuhan, Hubei Province in China, in December 2019. Therefore, the virus is considered to be zoonotic in origin. The etiological agent responsible for this outbreak: Severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2) is a member of the Nidovirales family of Corona viridians (Li & Xia, 2020). More than 88% of cases of COVID-19 experienced fever, 67.8% had cough, 33.4% had sputum production, 18.6 % of cases reported dyspnoea, 38.1% experienced fatigue, 13.6 % complained

## CURRICULUM – VITAE PI

**Name:** Bhandari, Menuka  
**Position:** Lecturer/Campus Chief  
**Nationality:** Nepali  
**Date of Birth:** 14 Feb 1979 A.D. (2035/11/02)  
**Birth place:** Budhabare, Jhapa, Nepal  
**Marital Status:** Married  
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**Father's name:** Bhandari, Bhim Prasad  
**Mailing Address:** [menukamenu@gmail.com](mailto:menukamenu@gmail.com)  
**Contact no:** 9852037809



### Language Skill

SN	Language	Conversation		Written	
		Very Good	Satisfactory	Very Good	Satisfactory
1	Nepali	✓		✓	
2	English	✓		✓	

### Academic Qualifications

SN	Academic level	Board / Institute	Passed Yr	% Division	Major subject
1.	SLC	SLC /Buddha AdarshaMaVi,Jhapa	2052(1994)	72.5% First	English, Math Science, Health
2.	PCL Nursing	TU,IOM / Biratnagar	2056(1998)	80.1% Distinction	Int.Science,FON,CHN
3.	Bachelor in Nursing	TU, IOM / Maharajgung, Kathmandu	2061(2004)	83.12% Distinction	Research in nursing, Leadership & Mgmt, Nsg concept
4.	Master in Nursing	TU ,IOM/ Maharajgung, Kathmandu	2066/68 (2011)	80.44% Distinction	Child Health Nursing Thesis

## Working Experiences, Position and Training Skills

SN	Position	Institute/Hospital	Department/Subjects	Duration
1.	Staff Nurse	Koshi Zonal Hospital	Pediatric/Orthopedic	10 Years
2.	Assistant Instructor	Koshi Health & Science Institute (CMA/ANM)	Anatomy, Physiology, Basic Medical Procedure	3Years
3.	Instructor	Birat Health and Science College (PCL)	Midwifery, Medical/surgical	2 Years
4.	Assistant Lecturer	Nobel Medical College (BSc Nursing)	Medical/Surgical	1 Year
5.	Lecturer	Hamro School of Nursing ,PU (BSc)	Pediatrics, Research, Management	4.5 Year
6.	Lecturer	TU,IOM, Nursing Campus Biratnagar	Pediatric, Education, Research, Management	2.5 Years
7.	Campus Chief	TU,IOM, Nursing Campus Biratnagar	Campus Administration and Management, QAA, Research project	Since 4 Years

## Research and Publications

SN	Topic of Article and Name of Journal
1.	Bhandari M. (2017). Brain Drain: A Global Concern, Literature Review. <b>BOUDDHIK ABHIYAN</b> , A Multidisciplinary Journal, Issue 4, April 2017, page no 86-95, ISSN 2505-0915
2.	Bhandari M. (2017).Anxiety and Depression among Adolescent students at Higher Secondary School. <b>BIBECHANA</b> , A Multidisciplinary Journal of Science, Technology and Mathematics, Volume 14(2017), page no103-109. Journal homepage: <a href="http://nepjol.info/index.php/BIBECHANA">http://nepjol.info/index.php/BIBECHANA</a> DOI: <a href="http://dx.doi.org/10.3126/bibechana.v14i0.16019">http://dx.doi.org/10.3126/bibechana.v14i0.16019</a>
3.	Kadel M., Bhandari M. (2018). Factors Intend to Brain Drain among Nurses Working at Private Hospitals of Biratnagar, Nepal. Journal homepage: <a href="http://nepjol.info/index.php/BIBECHANA">http://nepjol.info/index.php/BIBECHANA</a> Article history: Received 12 August 2018; Accepted 6 November, 2018 <a href="http://dx.doi.org/10.3126/bibechana.v16i0.21642">http://dx.doi.org/10.3126/bibechana.v16i0.21642</a>
4.	Bhandari M. (2018). Assessment of Knowledge, Practice on Nutrition and Nutritional Status of School Children in a Private School of Biratnagar Metropolitan. <b>BOUDDHIK ABHIYAN</b> , A



	<i>Multidisciplinary Research Journal, Issue 5 (2018) July, page no 101-107.</i>
5.	Bhandari M., Niroula A., Chaudhary S. (2020). Assessment of Health Problems and Social Needs of Elderly in Old Age Homes of Biratnagar Metropolitan. <b>DRISTIKON: A Multidisciplinary Peer Reviewed Journals</b> , November 2020, page no 169- 183, ISSN 2382-5456. Journal homepage <a href="https://www.nepjol.info/index.php/dristikon/issue/view/2219">https://www.nepjol.info/index.php/dristikon/issue/view/2219</a> DOI: <a href="https://doi.org/10.3126/dristikon.v10i1.34555">https://doi.org/10.3126/dristikon.v10i1.34555</a>
6.	Menuka Bhandari, 1 Upendra Yadav, 2 Tulasha Dahal, 2 Anjula Karki (2021). Depression, Anxiety and Stress among Nurses Providing Care to the COVID-19 Patients: A Descriptive Cross-sectional Study. DOI: <a href="https://doi.org/10.31729/jnma.7235">https://doi.org/10.31729/jnma.7235</a>
7.	Satya B Shrestha, Menuka Bhandari, Munawatee Rai, Karishma Khadgi (2022). Motivations to Engage in Social Distancing and Depression, Anxiety, and Stress Among Adolescents During COVID-19 Pandemic. JIOM Nepal. 2022 Apr;44(1):55-59. <a href="http://www.jiomnepal.com.np">www.jiomnepal.com.np</a>
8.	<b>Katuwal, A., Bhandari, M. (2022).</b> Health Care Workers' Knowledge, Attitude and Practice on COVID-19 in a Government Hospital, Biratnagar. Bouddhik Abhiyan Journal, No. 7, 2022. DOI: <a href="https://doi.org/10.3126/bdkan.v7i1.47526">https://doi.org/10.3126/bdkan.v7i1.47526</a>
9.	Bhandari, M., Dahal, T., & KC, J. (2022). Professionalism among Nurses Working at Different Government and Private Hospitals of Province 1. J Nepal Health Res Counc 2022 Apr-Jun;20(55):419-25. DOI: <a href="https://doi.org/10.33314/jnhrc.v20i02.4071">https://doi.org/10.33314/jnhrc.v20i02.4071</a>

## Research and Training Skills

SN	Name of Training	Duration	Sponsor
1	Training of Teachers	7 Days	TITI, Bhaktapur
2	Newborn Resuscitation Training	3 Days	Koshi Hospital
4	Working as a research coordinator	1 Month	John Hopkins University
5	Skilled Birth Attendance Training	2 Months	NHTC at Koshi Zonal Hospital
6	Research Methodology Training	5 Days	BPKIHS Dharan
7	OSPE, OSCE Training	2 Days	Hamro School of Nursing
8	Research Methodology Training	3 Days	Purbanchal University
9	Care of Low Birth Weight Baby by Jhpigo	2 Days	Jhpigo
10	Master of Ceremony Training	1 Day	LCB Int.
11.	Leadership Development Training	2 Days	LCB Int.
12	Epinurse Training (TOT) by	5 Days	Nepal Nursing Association
13	Strategic Planning Training, 5 Days	5 Days	Biratnagar Nursing

			Campus
14	Data Management & Analysis Workshop, 5 Days	5 Days	UGC/BNC
15	Training for Campus Chief	5 Days	CERID
16	Problem Based Learning (PBL)	3 days	NCHPE, TU IOM
17	Scientific Writing & Paper Publication	6 Days	UGC/BNC
18	Research Methodology Training	5 Days	NHRC
19	Accessing Literature Review	3 Days	NHRC
20	Tool Development, Validation and Analysis	5 Days	UGC/BNC
21	Systematic Review and Meta Analysis	6 Days	NHRC
22	Qualitative Research Method in Health Science	6 Days	UGC/BNC
23	Research & Writing Online	6 Days Months	TU Grassroots Vol <sup>n</sup>
24	Faculty Development Training in Research	1 Month	TU Grassroots Vol <sup>n</sup>
25	Faculty Development Training	6 Days	NCHPE, TUIOM

## Specialty

1. Bachelor in Hospital Nursing from Tribhuvan University, Institute of Nursing, Nursing Campus Maharajgunj, 2-year course
2. Masters in Child Health Nursing from Tribhuvan University, Institute of Nursing , Nursing Campus Maharajgunj, 2-year course

## Membership

Nursing Association of Nepal, Nepal Nursing Council, Midwifery Society of Nepal, Pediatric Association of Nepal, Biratnagar Nursing Campus Alumni Association

## References

Professor Takma KC, Ass. Dean, Dean of Institute of Medicine

Professor Dr. Jagdish Prasad Agrawal, Immediate Dean of Institute of Medicine

Professor Sarala Joshi, Maharajgunj Nursing Campus



# CURRICULUM – VITAE CoI

## 1. Personal Details:

**Name:** Punam Kumari Mandal  
**Date of Birth :** June 27, 1983  
**Home Address:** Rangeli Municipality, Ward no 6, Morang, Nepal  
**Corresponding Address:** Biratnagar Nursing Campus, TUIOM, Biratnagar, Nepal  
**Contact number:** Mobile n°: 9842026672, e-mail: punammandal777@gmail.com  
English, Nepali, Maithali.

## 2. Academic Qualification:

- Master of Public Health, Tribhuvan University, Institute of Medicine, Maharajgunj Medical Campus, Kathmandu, First Division (79.9%),2013
- Bachelor of Nursing, National Academy of Medical Sciences, Bir Hospital Nursing Campus, Mahabaudha, Kathmandu, Distinction (88.96 %),2009
- Proficiency Certificate Level in Nursing, Tribhuvan University, Institute of Medicine, Biratnagar Nursing campus, First Division (76.5%),2003
- School Leaving Certificate, Shree Public Madhayamic Vidhyalaya, Rangeli, Nepal, First Division (71.28 %),1999

**3. Certification / Licensure:** NNC Regd. No. 4141, NHPC (Specialization) Regd. No.992 Jan PH

## 4. Awards

- Nepal Bidhaya Bhusan Award ,2009
- Nepal Chhatra Bidhya Padak Award,2009

## 5. Membership

- Nursing Association of Nepal -Life Member
- Nepal Public Health Association-life Member
- TDR Global Member

## 6. Work experiences:

Position	Period	Organization
Assistant professor	March 2023 to date	Tribhuvan University, Institute of Medicine, BNC
Nursing instructor	November 2015 to March 2023	Nursing Campus Biratnagar, TUIOM
Teaching Assistant	February 2014 to November 2015	Nursing campus Biratnagar,TUIOM
Nursing Instructor	March 2010 to June 2012	Nursing Campus Biratnagar, TUIOM
Staff Nurse	August 2003 to January,2008	BPKIHS, Dharan

## **7. Training, workshop, and conference attended:**

- MOOC on Implementation Research (IR) with a focus on Infectious Diseases of Poverty (IPD) on 15<sup>th</sup> July 2023, 5 weeks of modular training organized jointly with Regional Training Center for Health Research Supported by TDR, Faculty of Medicine, Public Health and Nursing, Gadjah Mada and the WHO special program for Research and Training in Tropical Diseases (TDR).
- Research Training on Secondary Data Analysis 30<sup>th</sup> April-4<sup>th</sup> May 2023, Organized by TU, IOM, Biratnagar Nursing Campus, Supported by University Grant Commission, Nepal
- DHS e-learning Survey Sampling Training Course-Summer 2022 July-August, Demographic and Health Survey Program, USAID
- Training Workshop on Systematic Review and Meta-Analysis (13-18 June, 2021 NHRC, Nepal)
- Research and Proposal Writing in Sciences (8th Sep to 2nd Nov 2020, AUTHOR AID, inasp.
- Training Workshop on Scientific Writing and Publication (02 --07 November 2020) , Nepal Health Research Council, Ramsahpath Kathmandu Nepal
- Training Workshop on Health Research Methodology (27 September-02 October, 2020), Nepal Health Research Council, Ramsahpath Kathmandu Nepal
- Two Week online Certificate program with Intensive Hands-on Training on R-Programming (14th to 25th September 2020). Dr.M.G.R. Education and Research Institute, Faculty of Humanities and Science, India.
- 7th Virtual National Summit of Health and Population Scientists in Nepal, 1-2 June 2020 NHRC, Poster Presentation Title: Physical Activity among Nursing Students of Tribhuvan University During Covid-19 Pandemic.
- International Cancer Conference 2022, France, Oral presentation Title: Awareness of oral cancer in a community of Sunsari, Nepal: Oral cancer awareness saves lives.
- International Cancer Conference 2023, London, Oral Presentation Title: Close the Cancer Care gap, Aware the Elderly: A study to assess the awareness of health effects of tobacco use among the elderly, Morang, Nepal.
- The 5<sup>th</sup> Indonesia Tuberculosis International Research Meeting (INA-TIME) 2023, Stepping of research to end TB, together we can.
- 64<sup>th</sup> ITM colloquium 2023, Understanding the Global Landscape of Diseases Burden in the Context of Climate Change, Kathmandu, Nepal, Poster presentation Title: Community Health Worker's Awareness and Attitude toward the Prevention and Control of Non-communicable Diseases, Morang Nepal.

## **8. Research and publications**

1. Mandal PK, Yangden N, Rai B, Niraula A, Subedi S. Utilization of Family Planning Methods and associated factors among women of reproductive age group in Sunsari, Nepal. Janaki Med.



- Coll. J. Med. Sci. 2022 Dec. 31;10(03):31-4.  
<https://nepjol.info/index.php/JMCJMS/article/view/55564>
2. Dahal M, Subedi S, Mandal PK, Silwal S. Knowledge and Utilization of Postnatal Care Services among Mothers Residing in a Community of Jhapa District. J Coll Med Sci-Nepal. 2022 Mar. 31 ;18(1):27-35. <https://nepjol.info/index.php/JCMSN/article/view/38353>
  3. Gautam S, Mandal PK, Yangden N, Rai M. Knowledge on Biomedical Waste Management among Nurses Working in a Hospital of Biratnagar. Tribhuvan University Journal. 2021 Dec.;36(02):26-38. <https://nepjol.info/index.php/TUJ/article/view/46596>
  4. Mandal PK, Khadgi D, Lage S, Yangden N, Subedi S. Earthquake Preparedness Knowledge and Practice of Secondary Level . Boudhik Abhiyan. 2023 Aug. 30;8(01):174-87.<https://nepjol.info/index.php/bdikan/article/view/57806>
  5. Subedi S, Mandal PK, Choudhary A. Knowledge on Prevention of Mother to Child Transmission of HIV among Pregnant Women of Damak. Boudhik Abhiyan. 2023 Aug. 30 ;8(01):201-14. <https://nepjol.info/index.php/bdikan/article/view/57808>
  6. Basnet U, Yangden N, Mandal PK. Knowledge on Urinary Incontinence among Women in a Community at Barahachhetra, Nepal. Journal of Research and Development. 2023 Jun 6;6(01):30-8.
  7. Khanal A, Rai M, Mandal PK. Knowledge on Learning Disabilities Among Primary School Teachers of Selected Schools in Municipality of Morang. J Psychiatr Assoc Nepal. 2021 Dec. 31;10(2):3-7.<https://nepjol.info/index.php/JPAN/article/view/48989>
  8. Jha P, Mandal PK. Knowledge And Attitude On Mental Illness Among People Of A Selected Community Of Biratnagar. Journal of Psychiatrists' Association of Nepal. 2021 Oct 14;10(1):43-9. <https://doi.org/10.3126/jpan.v10i1.40347>
  9. Shrestha M, Mandal PK. Emotional intelligence among nursing students of a government campus in eastern Nepal. J. Kathmandu Med. Coll. 2021 Aug. 28;10(1). <https://jkmc.com.np/ojs3/index.php/journal/article/view/34>
  10. Mandal PK, Wagle RR, Uranw S, Thakur AK, Risk factors for visceral leishmaniasis in selected High endemic areas of Morang: A case Control Study, Nepal, J. Kathmandu Med. Coll. 2021 Jan. 1;9(4):188-96. Available from: <https://jkmc.com.np/ojs3/index.php/journal/article/view/949>
  11. Rai P, Mandal PK, Yangden N, Rai M, Subedi S, Awareness of Oral Cancer in a Community of Tarhara, Sunsari, Nepal, Janaki Medical College Journal of Medical Science. 2021, Vol 9. No1,33-40 <https://doi.org/10.3126/jmcjms.v9i1.38077>

12. Gautam B, Mandal PK, Yangden N, Students' awareness towards climate change: A study of Climate change effect on Human Health in Nepal, Prithavi Academic Journal.2021, ISSN 2631-2352. <https://doi.org/10.3126/paj.v4i0.37006>
13. Mandal PK. Factors Associated with Undernutrition of Children Admitted in Koshi Zonal Hospital Nutritional Rehabilitation Home. Tribhuvan University Journal. 2018 Dec 31;32(2):29-36.<https://doi.org/10.3126/tuj.v32i2.24701>

### **Paper Submitted**

Community Health Worker's Awareness and Attitude towards Prevention and Control of Non-communicable Diseases, Morang Nepal.

Behavioral Risk Factors of Non-communicable Diseases among Pregnant Women attending at Health Centers of Morang, Nepal.

Patterns and Perception of Complementary and Alternative Medicine Use among People with Non-communicable Diseases in Eastern, Nepal.

## **9. Student Supervised: 20+**

### **10 References**

1. Mrs Menuka Bhandari ,Camus Chief, Biratnagar Nursing Campus,+977-9852037809
2. Mr.SurendraUrawn,Assistant Professor ,Tropical Medicine ,BPKIHS,  
++977-025-531253, Email-surendra uranw@yahoo.com
3. Mr Rajendra Raj Wagle professor Karnali Academy of Health Sciences  
Email- [rajendrarwagle@gmail.com](mailto:rajendrarwagle@gmail.com)

## Some Glimpse of Data Collection





