Research Report

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Breast and Cervical Cancer Risk Factors and Screening Awareness among Nurses working in Government Sectors in Eastern Region of Nepal

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Submitted

To

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Nepal Health Research Council (NHRC)

Ramshah Path, Kathmandu

Nepal

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Submitted

By

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Place: BPKIHS, Dharan
Date : 29th June 2010

Tara Shah, Associate Professor

(On behalf of the research team)

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Chapter-I

Introduction

1.1 Introduction

Cancer is one of the most dreaded non-communicable diseases and it has wide variation in the distribution throughout the world and alarming increase in deaths from malignancies in both sexes is striking. Earlier cancer was the main problem of developed countries, but now a trend of disease is increasing in developing countries.

The WHO and UICC highlights the burden of cancer is high and increasing worldwide. It is second leading cause of death with 7 million people dying from it annually-over 70% of them in low and middle income countries. In addition, 24.6 million people are living with cancer and more than 11 million new cases of cancer are diagnosed with cancer every year. It is estimated that in the year 2020, if current trends continue, new cases will increase to 16 million per year and more than 10 million people wasdie.[1] Cancer is and will become an increasingly important factor in the global burden of the disease in the decades to come. It is becoming a growing public health problem in Nepal. Despite the unique development in advanced technology, many people still continue losing their life prematurely from this disease especially in developing countries.

Breast cancer is the leading cancer among women worldwide, with more than 540,000 new cases occurring each year. Over 40 percent of these cases are in the developing countries.[2] Incidence of breast cancer is rising all over the world.[3] In South Asia, there is a significant increase in the incidence of breast cancer among the women in reproductive age group.[4] Cancer of the breast is the fifth most common cancer in India. B.P. Koirala Memorial cancer Hospital (BPKMCH) record showed that breast cancer coming in 4^{th} rank as a whole and covering 8.8% of total patients treated in that hospital. The three screening methods recommended for breast cancer includes breast self-examination (BSE), clinical breast examination (CBE), and mammography. Unlike CBE and mammography, which require hospital visit and specialized equipments and expertise, BSE is inexpensive and is carried out by the women themselves.

Cervical cancer is an important women's health problem in developing countries, where it kills over 230,000 women each year. It is the third most common cancer in both sexes and the second leading cancer in women. Worldwide, approximately 500,000 cases of cervical cancer are diagnosed each year, 80 percent of which are in developing countries.[5]

Most developing counties, however, have been unable to implement comprehensive Pap smear screening-based programs. In countries where Pap smear screening is available, it often is accessible only to a small proportion of women through private-sector health care providers, or it is offered primarily to young women through maternal/child health or family planning clinics where the population being screened generally is not at high risk. These approaches have had little effect on morbidity and mortality.[34]

Gynecological cancer accounts for the 23 percent as per BPKMCH medical record, 2003. A recent study has revealed that the gynecological cancer have dramatically increased among Nepalese young women with apprehensions that it is going to be the major killer of women in a few years' time. Routine screening has decreased the incidence of invasive cervical cancer, which is more common in women middle aged and older and in women of poor socioeconomic status, who are less likely to receive regular screening and early treatment. Regular screening with a Pap smear effectively lowers the risk for developing invasive cervical cancer by detecting precancerous changes in cervical cells. Women who do not receive regular Pap smears have a higher risk for the condition. Assuring high levels of participation in screening coverage and follow-up is essential for effective cervical cancer prevention. However, obtaining high levels of coverage is challenging in both developed and developing countries.

Breast and cervical cancer are the most common causes of cancer mortality among women worldwide, but actually they are largely preventable diseases. Cancer prevention is an essential component of the fight against cancer. Unfortunately, many preventive measures are both cost-effective and inexpensive have yet to be widely implemented in many countries. Most nurses meet patients in their clinical practice whether they work in primary health care or in specialized hospital. In the specialized centers of oncology nurses take care of approximately 90%of all cancer treatments, both chemotherapy and radiotherapy.[6] During general clinical practice, if nurses will be attentive about risk factors and screening modalities of these cancers they will be definitely take care of it. [7]

1.2 Rationale / Justification

Women's health in Nepal needs urgent attention. On almost all the parameters of health she fares poorly as compared to her western counterpart. A large number of conditions and ills afflict her- malnutrition, anemia, osteomalacia, tuberculosis, poor education; chronic pelvic infections all are rife among Nepalese women. As if this was not enough, the crab of cancer (cervix and breast) has also bitten her. Unfortunately, we do not have such a system in place that could monitor the prevalence of cancer and help to develop strategies that are relevant and appropriate. Even though, health professionals agree cervical cancer is more prevalent in rural areas where there are little or no health services available.

Nepal faces twin epidemic of communicable and non-communicable diseases including population problem. Hormonal method of contraceptive is widely used from last two decades, which is distributed mainly by the nurses working in periphery level. There is chance to increase number of both breast and cervical cancer enormously.

The numbers of cancer patient attending the hospitals do not indicate the magnitude of the problem in the country. Even though to develop a national hospital database on cancer cases, 7 referral hospitals were included in the network of Cancer Registry Program in 2003, where the service of diagnosis and/or treatment of cancer are available. The collaborating hospitals were B.P. Koirala Memorial Cancer Hospital (BPKMCH), Bharatpur, Chitwan, B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan, Sunsari, Bhaktapur Cancer Hospital (BCH), Tribhuvan University Teaching Hospital (TUTH), Kathmandu, Manipal Teaching Hospital, Pokhara, Kaski, Bir Hospital, Kathmandu and Kanti Children Hospital, Kathmandu, Nepal. Total numbers of form filled by these collaborating hospitals were 3403. Out of top 10 districts 4 (40%) were from eastern region named as Morang, Sunsari, Jhapa and Saptari and rest of the 4 regions (61 districts) only occupied 60%. This can be interpreted that the burden of cancer is more in eastern region or may be due to higher level of awareness more number of patients reported to the hospitals. This has to be investigated for evidenced base practice. BPKMCH record shows around 65% (2007/08) cancer patients are women. Majority of the women are sufferer from beginning to the end of life. This is the time to make alert to health workers about risk factors of the disease and its screening modalities to decrease morbidity and mortality in women.

One special way to mobilize people's energies and concern for health programmes and initiatives is the community health self-study. It helps them to learn that conventional medical care cannot solve all health problems, and can stimulate them to cooperate in finding new ways to improve health. Also it can identify unmet health needs and reveal obsolete and harmful practices that tend to be overlooked by professional health workers, especially in communities where medical services are highly technical, specialized and fragmented. It can uncover wrong forms of care and identity people whose disabilities can be reduced by means that the community itself - and its members – can afford.

Continuing education programs for nurses are urgently needed to improve nurses' knowledge about breast and cervical cancer. Additional studies to examine the impact of other variables on the practice of early-detection methods should be conducted, such as those that determine faculty knowledge and beliefs about early detection, those that assess curriculum content about breast cancer and its early detection, and those that assess other healthcare providers' knowledge and beliefs about early detection. Intervention studies that aim to increase nurses' knowledge of breast and cervical cancer and their practice of early-detection methods would be beneficial.

The present study has been set where the environment is health care facilities and nurses working to provide care to the different types of clients. Investigators have never come across any study which pertains to the using of any screening modalities of breast and cervical cancer. There is no data on breast and cervical cancer knowledge, screening practices and attitudes of nurses in Nepal. Therefore, this study is provided the baseline data on nurses' knowledge of breast and cervical cancer and their practice of early-detection.

1.3 Statement of the Problem

Awareness of the nurses in risk factors and screening modalities of breast and cervical cancer is helpful to reduce morbidity and mortality and increase life expectancy of women as well.

1.4 Objectives

1.4.1 General Objective

To examine the level of awareness of risk factors and screening behaviors regarding breast and cervical cancer among the nurses working in the eastern region of Nepal.

1.4.2 Specific Objectives

1. To assess the level of knowledge, attitude and practices regarding risk factors and screening modalities of breast and cervical cancer among the nurses.
2. To find out the association between demographic variables with awareness related to risk factors and screening modalities of breast and cervical cancer.
3. To correlate the level of knowledge of risk factors and screening modalities of breast and cervical cancer with practices among nurses.

1.5 Research Questions

1. Are the nurses working up to district or first referral level aware about risk factors and screening modalities of breast and cervical cancer?
2. Is there relationship between knowledge and practice of screening for breast and cervical cancer?

1.6 Research Hypothesis

- Higher the level of professional education higher the knowledge of breast and cervical cancer among nurses.
- Differences in level of awareness about cancer prevention and early detection among nurses as per place of work/geographical distribution.
- Additional training on cancer prevention makes nurses more efficient than the non-trained.

1.7 Study Variables

A. <u>Independent Variables</u>

Age, sex, marital status, professional education, designation, place of work, year of experience, additional training, suffering from cancer

B. <u>Dependent variables</u>

Awareness about risk factors and screening modalities of breast and cervical cancer

Chapter-II

Literature Review

Late presentation of patients at advanced stages when little or no benefit can be derived from any form of therapy is the hallmark of breast cancer. Recent global cancer statistics indicate rising global incidence of breast cancer and the increase is occurring at a faster rate in populations of the developing countries.[35] Nepalese woman experiencing breast cancer; six themes were identified to have an impact on the diagnosis, treatment, and prognosis. They include: cultural impact on women's roles, socioeconomic status and education, surgical oncologist-patient relationship, surgical oncologist-nurse relationship, nurses' lack of oncology knowledge, and lack of a cancer screening and prevention program in Nepal. However, many of the variables identified above are not considered in the cancer care provided. Nepal has just opened its first national cancer center with the intent to improve cancer care throughout the country.

Multiple risk factors are responsible for many diseases. They can be broadly categorized as environmental, genetic and life style factors. Much attention has been focused on the first two categories, e.g. the identification of environmental toxicants/carcinogens and the elucidation of genetic susceptibility to disease. Life style risk factors such as aging, poor nutrition, infection and exposure to toxicants can also increase susceptibility to illnesses. These life style factors can therefore be considered to cause acquired susceptibility for increased risk for environmental disease.

2.1 Risk factors of Breast Cancer

Breast cancer is often associated with a positive family history. Unmarried women tend to have more breast tumors than married ones. Early menarche and late menopause are established risk factors for breast cancer. Estrogen as well as progesterone is also important factors in increasing its risk. Evidence of prior breast biopsy for benign breast disease is associated with an increased risk of breast cancer. High fatty diet and obesity are also linked with its risk. Breast cancer is common in higher socio-economic groups; other factors like radiation and oral contraceptive are considered as risk factors of breast cancer.[8]

2.1.1 Age:

Breast cancer is uncommon below the age of 35, the incidence increasing rapidly between the ages of 35 and 50.[9] A slight bimodal trend in the age distribution has been observed with a dip in incidence at the time of menopause. A secondary rise in frequency often occurs after the age of 65. Women, who developed their first breast cancer under the age of 40, had three times the risk of developing a second breast cancer than did those who developed their first breast cancer after the age of 40. Indeed the etiologies of premenopausal and post-menopausal breast cancer appear to be different. Breast cancer is not only infrequent in Indian women but also occurs in them a decade earlier than Western women – the mean age of occurring is about 42 in India as 53 in the white women. [9]

2.1.2 Family history:

The risk is in those with a positive family history of breast cancer, especially if a mother or sister developed breast cancer when premenopausal. [9]

2.1.3 Parity:

MacMahon, et al in their international case control study found that the risk of breast cancer is directly related to the age at which women bear the first child. An early, first, full-term pregnancy seems to have protective effect. Those whose first pregnancy is delayed due to their late thirties are at higher risk than multiparous women. Unmarried women tend to have more breast tumors than married single women and nulliparous women had the same risk. [9]

2.1.4 Age at menarche and menopause:

Early menarche and late menopause are established risk factors. The risk is reduced for those with a surgically induced menopause. Forty or more years of menstruation doubles the risk of breast cancer as compared with 30 years. [9]

2.1.5 Hormonal factors:

The association of breast cancer with early menarche and late menopause suggests that ovary appears to play a crucial role in the development of breast cancer. Recent evidence suggests that both elevated oestrogen as well as progesterone is important factors in increasing breast cancer risk. In short, hormones appear to hold the key to hold the key to the understanding of breast cancer risk. [9]

2.1.6 Prior breast biopsy

Prior breast biopsy for benign breast disease is associated with an increasing risk of breast cancer. [9]

2.1.7 Diet:

Current etiological hypotheses suggest that the cancer of breast is linked with high fat diet and obesity. It is not known how dietary fat influences breast cancer risk at a cellular level. [9]

2.1.8 Socio-economic status:

Breast cancer is common in higher socio – economic groups. This is explained by the risk factor of higher age at first birth. [9]

2.1.9 Radiation: An increased incidence of breast cancer has been observed in women exposed to radiation. [9]

2.1.10 Oral contraceptives:

Oral contraceptive appears to have little overall effect on breast cancer, although prolonged use of oral pills before the first pregnancy or before the age of 25 may increase the risk of younger women.[9]

2.2 Prevention of Breast Cancer

2.21 Primary prevention

Current knowledge of etiology of breast cancer offers little prospect of primary prevention. However, the aim should be towards elimination of risk factors mentioned above and promotion of cancer education The average age at menarche can be increased through a reduction in childhood obesity and an increase in strenuous physical activity; and the frequency of ovulation (after menarche) decreased by an increase in strenuous physical activity. There is also good reason for reducing fat intake in diet. [9]

2.2.2 Secondary prevention

Breast screening leads to early diagnosis of breast cancer which in turn influences treatment, and hopefully, morality. An important component of secondary prevention is follow-up, i.e. to detect cancer in the opposite breast at an early stage; and to generate research data that might be useful.

No major improvements in survival rates have yet been shown by current treatment modalities. Some cases progress rapidly even if diagnosed at an apparently early stage, others surviving for 20 years even after metastatic period. However, in general, the removal of tumor early is more likely to be curative than removal at a later stage.[9]

2.3 Screening of Breast Cancer

Breast cancer has a long natural history. Carcinoma of the breast is not a pathologic entity that develops overnight. It starts with a single cell, which divides or doubles within 30 to 210 days. It takes approximately 16 doubling times for a carcinoma to become 1 cm or greater in size. Assuming that it takes 30 days for each doubling time, it would take minimum of two and half years for a carcinoma to become palpable. If the doubling time were 210 days, it would take up to 17 years before which carcinoma would be palpable.[42] Brathena, et al explained that the symptoms of cancer of the breast develop slowly.[43]

Breast cancer is a relatively slow growing neoplastic process. Spread to the regional nodes occurs via the draining lymphatics, and to distant sites via the blood stream. The likelihood of regional or distant spread is greater when the primary tumor has grown 3 to 5 centimeters in diameter or more.[44]

The earlier a woman is diagnosed, the better her chances of survival. If the breast cancer is confirmed within the breast and has not spread to the lymph nodes or surrounding tissue, the five-year survival rate is 94%.[39] Survivals from breast cancer decreases rapidly with increasing stage of disease. Typical population based figures for five year relative survival are 86%, 58%, 46% and 12% for stage I, II, III and IV respectively. There is thus considerable potential for reducing population mortality from breast cancer by a systematic approach to improving the stage at presentation by early detection.[45]

Randomized trials of screening have clearly demonstrated a substantial reduction of the order of 40% in breast cancer mortality among women aged over 50 years, when regularly screened, every two to three years by mammography. The intended effect of screening is to advance both the time and the stage at which cancers are diagnosed. To investigate the extent to which this advance occurs, one needs to examine the number of cancers that are diagnosed at screening and their characteristics in terms of size, nodal status, malignancy grade and stage. [36, 40]

A range of approaches has been considered including breast self-examination, regular physical/clinical examination and a variety of methods of imaging early lesions in the breast, particularly mammography. At present, mammography either alone or in conjunction with physical examination is the only early detection method of proven value for screening. [37,38,46]

2.4 Risk Factors of Cervical Cancer

Cervical cancer is considered as the cancer of the reproductive age group but also occurs in the fifth, sixth and seventh decades. It is common for older women not to be screened for cervical cancer. As a result, the incident in this population is higher than expected.

Followings are the well defined risk factors for cancer:

2.4.1 Reproductive and Sexual Factors

For a long time it has been known that sexual behavior affects the incidence of cervical cancer. Specifically, well–controlled studies have demonstrated that age of first sexual intercourse and numbers of sexual partners have a significant influence on the incidence of cervical cancer. [9,10,11]

i) Age at first sexual intercourse
ii) Age of first pregnancy
iii) Number of sexual partners
iv) Number of pregnancies
v) Sexually transmitted diseases:

a. Human papillomavirus (HPV)

During the last few decades, some sexually transmitted diseases (STDs) other than HPV have been implicated in causing cervical cancer or accelerating it progress. The etiology of cervical cancer most likely is multifactorial. However, the only STD that consistently has been associated with cervical cancer and for which a reasonable mechanism of action has been found in the HPV infection; Zur Hausen hypothesized in 1975 that HPV could be the etiologic factor for cervical cancer.[12, 13]

b. Herpes Simplex Virus

Genital herpes is a common disease that has also been implicated in the development of cervical cancer. Because of the presence of multiple STDs in the same individual, it is often difficult to isolate a specific infection to establish its independent predictive value.

c. Human immunodeficiency disease (HIV)

Acquired immunodeficiency syndrome (AIDS) patients have been found to be at risk for malignancies such as Kaposi's sarcoma and B-cell non-Hodgkin's lymphoma. Additionally, human immunodeficiency virus (HIV) – infected women have been identified as being at high risk for the development of neoplastic and preneoplastic conditions of the cervix.

d) Male factor (High – risk male)

The role of men's sexual behavior in the development of cervical cancer has been – and remains – a subject of controversy. Almost 25 years ago, Kessler reported on 29 "marital clusters". These clusters were composed of two women both developed cervical cancer and were married to the same man.[14] Since then, although no definitive study has been done; several investigators have identified the male partner as a potential risk factor.[15]

e) Oral contraceptives

As expected, because of the sexually transmitted aspect of cervical cancer, barrier contraceptives overall have a negative effect and oral contraceptive pills (OCPs) a positive one on the incidence of premalignant and malignant lesions of the cervix. However, the possibility has been raised that the effect of OCPs may be independent of other factors.

One of the few cohort studies that addressed this issue was able to demonstrate, even after standardization of rates by age, parity, smoking social class, previous cytology, and history of sexually transmitted, an increase in the incidence of cervical cancer and carcinoma in situ for OCP users. This increased incidence was directly associated with increased duration of use. The risk of women who took OCPs for more than 10 years was four times greater the risk of never-users.[16]

2.4.2 Socioeconomic factors

i) Low level of education

ii) Low economic level

iii) Ethnic minority

2.4.3 Others

i) Tobacco exposure

ii) Lack of appropriate screening

iii) Previous treatment for cervical intraepithelial neoplasia

iv) Dietary factors

i) Tobacco Exposure

More recently, several epidemiologic studies have established a relationship between cervical cancer and cigarette smoking.[17-20] Cigarette smoking is also positively related, in a dose – dependent fashion, to intraepithelial cervical lesions.[21] Cessation of smoking decreases the risk.[22] The presence of tobacco – related carcinogens in the genital tract of smokers may explain the relationship between tobacco exposure and the development of cervical malignancies. Women, who smoke cigarettes, are twice as likely to develop cervical cancer. Chemicals in cigarette smoke may increase the risk by damaging cervical cells.

ii) Dietary Factors

Several nutritional factors have been implied in the development of premalignant and malignant lesions of the cervix.

2.5 Prevention of cervical cancer

Primary prevention is interpreted as any invention that may block the development of a malignancy. Secondary prevention is defined as interventions that may lead to early diagnosis in curable patients. Tertiary prevention involves interventions that help prevent recurrences and secondary malignancies.

2.4.1 Behavioral Changes:

Changes in sexual behavior may positively affect the incidence of cervical cancer. There have been very few prospective studies that demonstrate the effectiveness of behavioral changers; however, the retrospective data and population based case–control studies overwhelmingly indicate a protective effect of some lifestyle practices and the harmful effect of others. Women who delay the daily onset of sexual activities and the limit of sexual partners have much lower incidence of cervical cancer.[23-29]

2.4.2 Prophylactic Vaccines:

HPV is judged to be the main carcinogenic factor in the development of cervical cancer, and most cervical cancers are HPV related. Vaccine use may prevent HPV infection and its associated cervical cancer. [30-33]

The aim of a prophylactic or preventive vaccine is to prevent the development of HPV infections and the cascade of events that leads to cervical cancer. Strategies the use HPV-based preventive and therapeutic vaccines are presently in clinical trial.

2.4.3 Chemoprevention

There exists a rich background behind the rationale of using retinoids as chemopreventive agents. As discussed either, diets rich in carotenoids have been associated with protecting against cervical neoplasia.

2.5 Screening of Cervical Cancer

Most developing counties, however, have been unable to implement comprehensive Pap smear screening-based programs. In countries where Pap smear screening is available, it often is accessible only to a small proportion of women through private-sector health care providers, or it is offered primarily to young women through maternal/child health or family planning clinics where the population being screened generally is not at high risk. These approaches have had little effect on morbidity and mortality.[38]

Cervical cancer screening programs are being redesigned to be more successful and effective. Strategies have been developed to limit screening to women at highest risk of high grade dysplasia, to reduce the frequency of screening among women who have had at least one normal smear, and to recommend regular follow-up rather than treatment for young women with mildly abnormal smears. Even screening women in their 30s or 40s once in a lifetime can have a significant impact on mortality. [38]

Several alternative approaches to cervical cancer screening also have been proposed and are being evaluated in research studies. These include visual inspection with acetic acid (VIA) and HPV tests to identify cervical lesions without reliance on cytology. These approaches, however, still are being evaluated for clinical effectiveness, acceptability to clients and health

care providers, and cost-effectiveness. These tests, combined with outpatient treatments for precancerous lesions, have the potential to extend a life-saving intervention to women who may not have other access to cervical cancer prevention services. [38]

The Michigan Cancer Consortium recognizes and promotes the use of the American Society for Colposcopy and Cervical Pathology's (ASCCP) 2006 Consensus Guidelines for the Management of Women with Abnormal Cervical Cancer Screening Tests and 2006 Consensus Guidelines for the Management of Women with Cervical Intraepithelial Neoplasia or Adenocarcinoma in Situ.

Screening Tests:

Testing for cervical cancer is performed using either Liquid-Based Cytology or Conventional (slide) Pap Test. Consideration should be given to the use of HR-HPV (High-Risk Human Papillomavirus) testing in conjunction with cervical cytology for screening women 30 years of age and older

Age to Initiate Screening**:**

Screening for cervical cancer should begin at age 21 or 3 years after the onset of sexual activity, whichever comes first.

General Information regarding Cervical Cancer Screening

- The need for cervical cancer screening should not be the only basis for the onset of gynecological care.
- Adolescents must be able to obtain appropriate preventative health care, including, but not limited to, an assessment of health risks, counseling for pregnancy and sexually transmitted disease (STD) prevention, provision of contraception methods, and treatment of STD's; even if they do not need a Pap smear.
- Clinical breast exam and yearly speculum and bimanual pelvic examinations should be provided even if no cervical cancer screening is performed.
- For the purpose of these guidelines an ADOLESCENT is defined as 20 years of age or younger.
- Adolescents and young women who have received the HPV vaccine should continue cervical cancer screening according to the current guidelines.
- In the absence of endocervical cells, if a Pap smear is satisfactory and negative, then regular screening should be continued.[41]

Frequency of Screening: Age to Begin	**Screening Exam**	**Screening Interval**
Age 21 or 3 years after the onset of sexual activity until age 29	Conventional Pap Test **OR**	Annual
	Liquid Based Cytology (LBC)	Every two years
Age > 30* with three consecutive, negative cytology results	Conventional Pap Test OR Liquid Based Cytology	Every two to three years

2.5.1 The Pap smear:

In 1941, George Papanicolaou described a system based on microscopic analysis of cervical cytology for the prevention of cervical cancer.

2.5.2 Colposcopic Examination

A colposcopic examination, followed by biopsy if indicated, is the standard diagnostic procedure for cervical lesions in areas where resources are not limited. In resource-poor settings, colposcopic diagnosis may not be possible. This assessment tool is designed to assist you in determining whether or not Colposcopic assessment is possible in our clinical setting. Other options include performing a second screening test, using a hand-held magnifying device instead of a colposcope for diagnosis, performing biopsies without magnified guidance, and providing treatment on the basis of a VIA assessment.[38]

Chapter-III

Research Methodology

3.1 Research Design:

A descriptive cross-sectional design and the quantitative research method were used for this study.

3.2 Study Site and its Justification:

This study was conducted in the eastern region of Nepal. In this region, there are 16 districts; out of that 3 districts are lies in Mountainous /Himalayan, 8 districts in Hill/Pahad and 5 districts in Plain/Terai as per geographical distribution. Three 3 strata was formed on the basis of geographical distribution, 1 district from mountainous region named as Sankhuwasava (33%), 3 districts from hilly region such as Panchthar, Dhankutta and Udayapur (37.5%) and 2 districts from terai named as Morang and Saptari (40%) was selected randomly. Total 6 (37.5%) districts of eastern region was the site for this study.

Nepal is divided into 3 geographical regions. Therefore, this study is represent the data from all geographical regions, because sometime in remote area there is lack of access of media and other services and nurses working in that area may by unaware. In Nepal concept of cancer care is started in last decade only and that is also in limited places.

Figure: 1 Map of the eastern region of Nepal

3.3 Target Population:

According to policy of Government of Nepal public health nurses (PHN), Staff nurses and Auxiliary nurse midwives (ANM) are posted up to district level of health facilities. Therefore all PHN, staff nurse and ANM posted in eastern region were population for this study. Nurses, who were willing to participate in this study was a sample.

3.4 Sampling Methods:

Simple random sampling technique [Lottery without replacement], which is known as probability sampling method was used to select the districts from each geographical region.

3.5 Sample Size

Sanctioned post of staff nurse in eastern region up to district and zonal levels 14 PHNs, 109 staffs nurses and ANMs 336 are according to annual report 2063/064(2006/2007) of Eastern Regional Health Directorate (ERHD, Dhankuta. Out of these, 3 PHNs (21.4%), 42 staff nurses (38.5%) and 159 ANMs (47.3%) were enrolled in this study. Total samples were 204 (44.4% of total population). Number of sample is increased, due to two zonal hospitals were covered and some staffs are posted from hospital development committee (Bikash Samities).

3.6 Sampling Frame and Sampling Process including Criteria for Sample Selection

Sampling frame was created by making 3 strata as per geographical distribution of the districts in eastern region, from each stratum 33 to 40% districts was drawn then all nurses (population enumeration/census method of data collection) working in selected district and willing to participate in the study was enrolled. Only 6 (2.9%) nurses were refused to participate in this study.

3.7 Tools for Data Collection

Structured and semi-structured questionnaire was developed to gather information to meet the objectives.

3.8 Pre-testing the Data Collection Tools

Pretesting of the data collection tool was done in the Sunsari district among 1 PHN (33.3%), 5 (11.9%) staff nurses and 16 (10%) ANMs. Pretest was done before conduct data collection for main study. Any additional information found from the pretest was added to the final tool and language and format of the tool was modified as per suggestion received from pretested samples.

3.9 Validity and Reliability of the Research

Validity of the instrument was checked by extensive review of literatures and concerned experts in this field. Reliability of the research was checked by using split-half method from the information gathered during pretesting of the tool. Calculated correlation coefficient alpha values were more than 0.80.

3.10 Techniques for Data Collection

The data was collected in six districts of eastern region of Nepal during the month of February to May 2010. Prior to the data collection, permission to conduct a study was obtained from the Nepal Health Research Council (NHRC), Kathmandu, Eastern Regional Directorate Office, Dhankutta and respective District Health Offices (DHO)/ District Public Health Offices (DPHO) respectively.

Investigators were met to the nurses, objective of the research was explained to the respondents and obtained verbal/written consent from each subjects. A self-administered questionnaire was distributed to the respondents and instructed them to fill the questionnaire in front of researchers.

Chapter-IV

Results

A self-administered questionnaire was distributed to all 204 nurses in the Government Health Service to assess their knowledge, attitude and practice of breast and cervical cancer risk factors and screening modalities. Response rate was 97.1%. Knowledge scores breast cancer risk factors ranged from 0-14 out of 16 both positively and negatively framed questions and screening modalities of breast cancer ranged from 0-14 out of 14 questions with one point given to a correct knowledge question, zero for wrong answer. Knowledge scores cervical cancer risk factors and screening modalities ranged from 0-25 out of 25 questions with one point given to a correct knowledge question, zero for wrong answer.

Descriptive and inferential statistics were used to obtain study results to meet the study objectives. Descriptive statistics such as frequency distribution, percentage, mean and standard deviation was used to summarize demographic data of the nurses. The calculation of inferential statistics such as Chi-square test was applied to find out the association between demographic data and awareness of risk factors and screening modalities of breast and cervical cancer. Spearman's correlation coefficient test was computed to find out the relation between knowledge and practices screening modalities. These tests was done by SPSS (Version 10.0.1), and the level of significance was set at 0.05.

Table 1 depicts that the highest number of nurses 59 (28.9%) were from Saptari and lowest number of nurses 20 (9.8%) were enrolled from Sankhuwasava district. This table also depicts that 20 (9.8%) respondents were from Himalayan/mountainous geographical area, where as 79 (38.7%) respondents represented from hill districts and 105 (51.4%) respondents were from terai/plain areas.

Table 1: Distribution of the Respondents as per posted in different Districts

Districts	Frequency	Percentage
Dhankuta	32	15.7
Morang	46	22.5
Panchathar	21	10.3
Sankhuwasava	20	9.8
Sapatri	59	28.9
Udayapur	26	12.7
Total	**204**	**100**

Table 2 shows the age distribution of the respondents. Out of 204 respondents 59 (28.9%) were in 20 to 25 years of age group, where as 14 (6.9%) respondents have more than 50 years of age. The age ranges of the respondents were 20 to 57 years and mean age 33.2 years with standard deviation 10.1 years.

Table 2: Age Distribution of the Respondents

Age in year	Frequency	Percentage	
20-25 years	59	28.9	
26-30 years	44	21.6	Range= 20 -57 years
31-35 years	25	12.3	
36-40 years	27	13.2	
41-45 years	15	7.4	
46-50 years	20	9.8	Mean ±SD = 33.2± 10.1 years
51-57 years	14	6.9	
Total	204	100	

Table 3 depicts the ethnic groups/ castes distribution of the respondents as per Government of Nepal 2007 policy. Very few 8 (3.4%) respondents were belonging to dalit ethnic groups/ caste; where as near about half 45.1% respondents were belonging to upper castes working in Government sector of selected districts.

Table 3 Ethnic groups/Castes Distribution of the Respondents

Ethnic groups/Castes	Frequency	Percentage
Dalit	8	3.4
Disadvantaged Janjatis	70	34.3
Non-dalit terai castes	18	8.8
Advantaged janjatis	17	8.3
Upper castes	92	45.1
Total	204	100

Table 4 depicts the religion of the respondents, out of 204 respondents 188 (92.2%) were Hindus and very few 3 (1.5%) were Christian. Some of the respondents were Kirat (3.4%) and Buddhist (2.9%).

Table 4 Distribution of the Respondents as per their Religion

Religion	Frequency	Percentage
Hindu	188	92.2
Buddhist	6	2.9
Kirat	7	3.4
Christian	3	1.5
Total	204	100

Figure 2 shows out of 204 respondents, 159 (77%) respondents have done ANM level of professional course; where as 37 (18%) have done proficiency level of nursing (staff nurse) course, 8 (4%) of nurses have done graduate nursing (BN/B.Sc. Nursing) course and only one nurse has done M. Sc. nursing in this study.

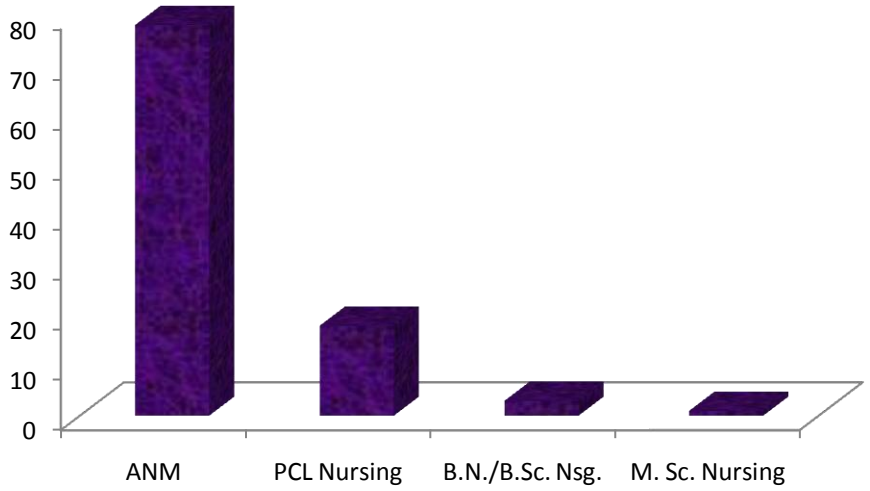

Figure 2: Percentage Distribution of the Respondents as per their Level of Education

Figure 3 shows the marital status of the respondents in percentage, out of 204 majorities of the respondents 149 (73%) were married; 51 (25%) were single/ unmarried and 4 (2%) were widow/ separated in this study.

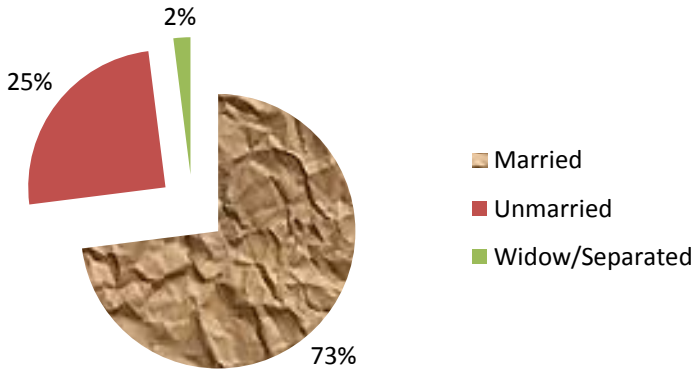

Figure 3: Percentage Distribution of Marital Status of the Respondents

Table 5 depicts that the majorities 159 (77.9%) respondents were working in the post of ANM (auxiliary nurse midwives), very few 3 (1.5%) were PHN (public health nurse) and one fifth that is 42 (20.6%) respondents were staff nurses.

Table 5 Distribution of the Respondents as per their Designation

Designation	Frequency	Percentage
ANM	159	77.9
PHN	3	1.5
Staff nurse	42	20.6
Total	**204**	**100**

Figure 3 depicts the professional education obtained from different organization, two types of curriculum is implemented for nursing education in Nepal, that is from different universities (Tribhuvan University, B.P. Koirala Institute of Health Sciences, Purbanchal University) and CTEVT (Council for technical education and vocational training). In this study, majority 121 (59%) of the respondents obtained professional education from CTEVT and 83 (41%) from different universities of Nepal.

Figure 3:

Job experiences	Frequency	Percentage	Descriptive Statistics
Up to 10 years	135	66.2	Mean ± SD 10.7±9.6 years
11 to 20 years	28	13.7	
21 to 30 years	32	15.7	
More than 30 years	9	4.4	Range = 1 to 36 years
Total	204	100	

Percentage Distribution of the Respondents as per Professional Education Obtained from the Organization

Table 6 shows that two third (66.2%) of the respondents have up to 10 years of job experiences and very few (4.4%) respondents had more than 30 years of job experiences. Mean work experience was 10.7 years with standard deviation 9.6 years and range of work duration was 1 to 36 years.

Table 6: Distribution of the Respondents as per their Professional Job Experiences

Figure 4 depicts the family history of cancer of the respondents, out of 204 respondents, 12 (6%) respondents' family members had cancer; where as 192 (94%) had no family history of cancer.

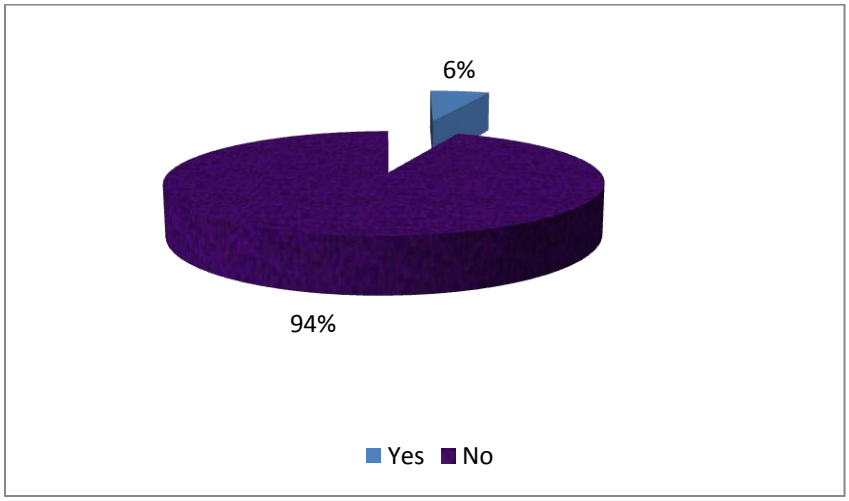

Figure 4: Family History of Cancer among the Respondents

Figure 5 depicts that the respondents were suffering from cancer. Out of 204 respondents, 2 (1%) respondents were suffering from cancer; where as 202 (99%) don't have any history of suffering from cancer. Both respondents were suffering from breast cancer and one respondent had diagnosis in 3rd stage and another had diagnosed in 2nd stage of cancer.

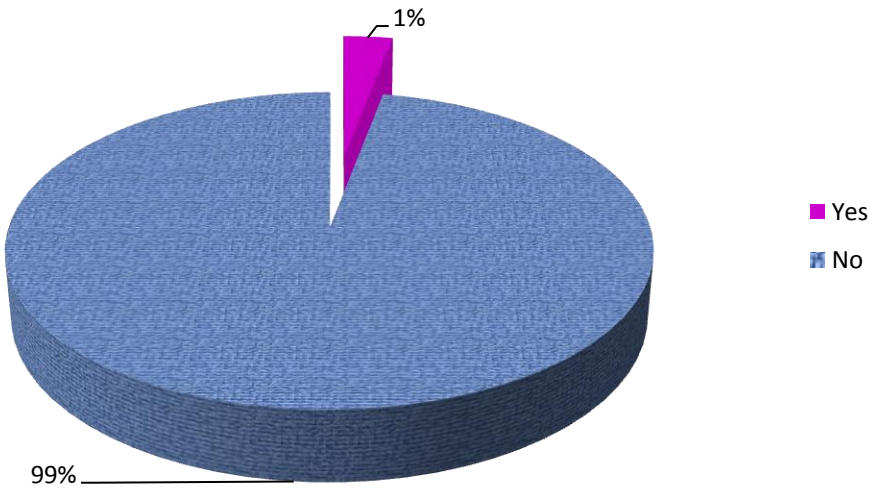

Figure 5: History of Self-suffering due to Cancer among the Respondents

Figure 6 depicts the respondents' knowledge regarding prevention of breast and cervical cancer. Out of 204 respondents, 166 (82%) respondents told that breast and cervical cancer are preventable, where as 14 (7%) respondents told that it can not be prevented and 23 (11%) respondents told that they don't have any idea about prevention of both cancers.

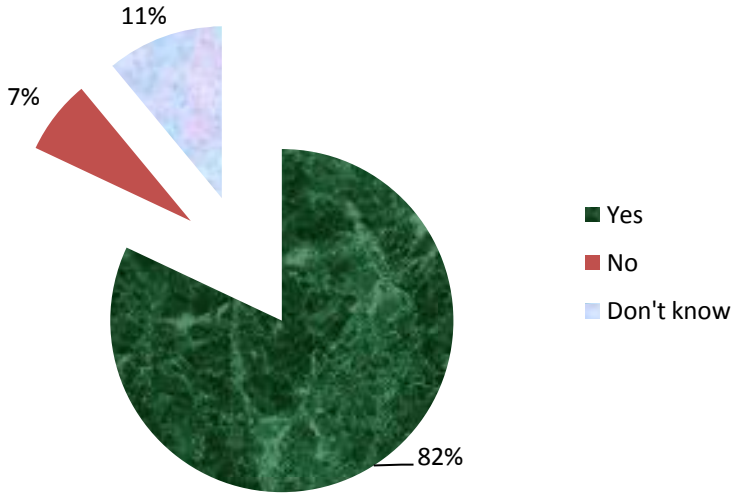

Figure 6 Knowledge regarding Prevention of Breast and Cervical Cancer

Figure 7 shows that the out of 204 respondents, only 6 (3%) respondents were received short-term training in cancer, which was general type. Ninety seven percent (198) of the respondents never get any training in cancer care.

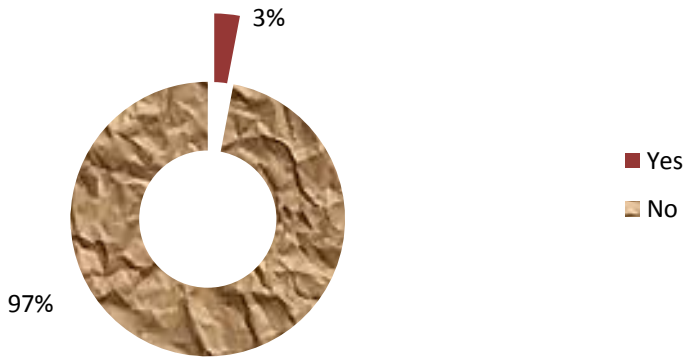

Figure 7 Percentage Distributions of the Respondents as per Received Training on Cancer Care

Table 7 depicts the knowledge regarding risk factors for breast cancer. Out of 204 respondents, some 31 (15.2%) respondents had knowledge about obesity is a risk factor for breast cancer. Near about one third (32.9%) of the respondents were aware about 1st childbirth after the age of 30 years of women is a risk factor for having breast cancer. More than half (52.9%) respondents told that fibrocystic breast diseases considered as a risk factor. One third of the respondents were aware that higher socio-economic class and increasing the age also considered as risk factors. Near about two third (65.2%) of the respondents were also aware that lack of exercise is a risk factor. Forty percents respondents were aware that breast cancer is a hereditary disease. Some (15.2%) respondents were aware about early menarche (< 12 years of age) is a risk factor. Twenty two percent respondents also had the knowledge about late menopause (> 50 years of age) is considered as a risk factor. More than half (54.9%) respondents were aware about frequent exposure to radiation is also a risk factors for developing breast cancer.

Total 16 positively and negatively framed 3 points questions were asked and the total calculated mean score 5.3 with standard deviation 1.3. Score range was 0-14.

Table 7: Distribution of the Nurses as per their Knowledge regarding Risk Factors of Breast Cancer

S. No.	Knowledge regarding risk factors of breast cancer	True		False		Not Sure		Statistics
		No.	%	No.	%	No.	%	
1.	Obesity	**31**	**15.2**	80	39.2	93	45.6	Total Mean score ± SD 5.3± 1.3 Range= 0-14 scores
2.	1st childbirth after 30 years of age	**67**	**32.9**	48	23.5	89	43.6	
3.	Fibrocystic breast diseases	**108**	**52.9**	13	6.4	83	40.7	
4.	High socio-economic status	**73**	**35.8**	81	39.7	50	24.5	
5.	Increasing the age of the women	**68**	**33.3**	77	37.8	59	28.9	
6.	Lack of exercises	**133**	**65.2**	18	8.8	53	26.0	
7.	Excessive consumption of fat & Caffeine in diet	**78**	**38.2**	40	19.6	86	42.2	
8.	Prolong use of oral contraceptive pills	**88**	**43.1**	62	30.4	54	26.5	
9.	Hereditary disease	**82**	**40.2**	87	42.6	35	17.2	
10.	Early menarche	**31**	**15.2**	92	45.1	81	39.7	
11.	Late menopause	**45**	**22.1**	74	35.3	85	41.6	
12.	Frequently exposed to radiation	**112**	**54.9**	27	13.2	65	31.9	

Table 8 depicts the knowledge regarding screening modalities of breast cancer, out of 204 respondents, 88 (43.1%) respondents were agreed that screening make in the chance of curing breast cancer. Near about 62% (126) respondents told that mammography can detect lumps that can't be felt. Eighty five (41.7%) respondents gave response that yearly mammography is recommended after 50 years of age. Majorities (81.4%) of the respondents told that it should start after 20 years of age and 58.3% respondents had knowledge that it should be performed from 7 to 10 days after menstruation. More than two third (72.1%) respondents told that looking in the mirror for symmetrical shape of the breasts. More than one fifth respondents (23.5%) said that need to observe for nipple discharge and expressed it during BSE. More than half (58.8%) respondents had knowledge that BSE should be carried out monthly and two third (66.2%) respondents told that pads of fingers should use when feeling the breast Pads of fingers should use when feeling the breast. Majorities (84.3%) of the respondents were aware about abnormal

breast change includes: discharge, lump, hard knot, dimpling and/or changes in color of the skin is signs and symptoms of breast cancer.

Table 8 Distribution of the Respondents as per their knowledge regarding Screening Modalities of Breast Cancer

S. No.	Knowledge regarding screening modalities for breast cancer	True		False		Not Sure		Statistics
		No.	%	No.	%	No.	%	
1.	Screening make in the chance of curing breast cancer	**88**	**43.1**	29	14.2	87	42.6	Total Mean score ± SD 8.28±1.41 Range score= 0-14
2.	Mammography can detect lumps that can't be felt	**126**	**61.8**	8	3.9	70	34.3	
3.	Yearly mammography is recommended after 50 years	**85**	**41.7**	22	10.8	97	47.5	
4.	BSE should start at the age of 20	**166**	**81.4**	12	5.9	26	12.7	
5.	BSE should be performed from 7 to 10 days after menstruation	**119**	**58.3**	22	10.8	63	30.9	
6.	Looking in the mirror for symmetrical shape of the breasts	**147**	**72.1**	17	8.3	40	19.6	
7.	Observe for nipple discharges	**48**	**23.5**	99	48.6	57	27.9	
8.	Need to palpate axillaries lymph nodes	**148**	**72.5**	26	9.8	36	17.6	
9.	BSE should be performed every month	**120**	**58.8**	25	12.3	59	28.9	
10.	Pads of fingers should use when feeling the breast	**135**	**66.2**	15	7.3	54	26.5	
11.	Abnormal breast change	**172**	**84.3**	6	2.9	26	12.8	

Figure 8 shows the practice of BSE, CBE and mammography. Out of 204 respondents, 104 (52%) respondents never done BSE, where as 100 (48%) were doing BSE, but not in regular basis and in haphazard way. Nineteen (9%) respondents have gone CBE sometime, but not in routine basis. Two (1%) respondents have done mammography once in their life time.

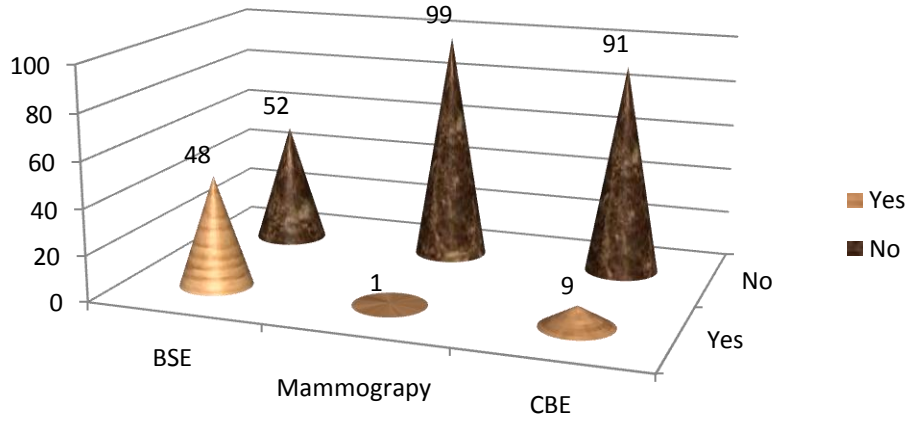

Figure 8 Percentage Distribution of the respondents as per their practice of BSE, CBE and Mammography

Figure 9 shows that 120 (59%) respondents were interested to participate in screening mammography, where as 84 (41%) respondents were not interested for mammography. The reason for not interested for screening was service is not available as well as not necessary too.

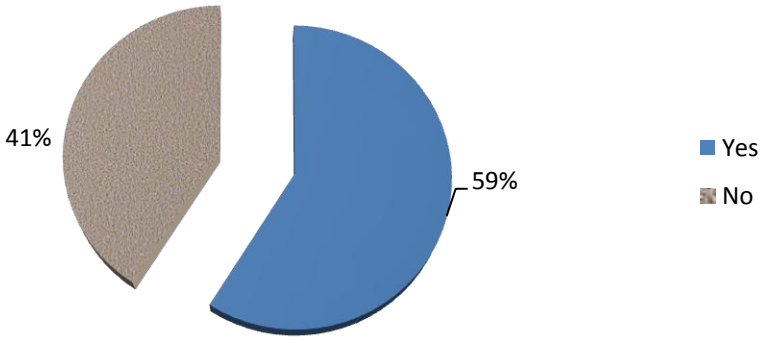

Figure 9 Percentage Distribution of the Respondents as per their Interest to do Screening Mammography

Table 9 shows the general information such as occurrence, signs and symptoms, causative organism and preventive measures of cervical cancer. Most of the respondents (93.6%) were aware about cervical cancer is the most frequently occurring cancer in women in Nepal. Majorities of the respondents (78.4%) aware about abnormal vaginal bleeding (e.g. spotting after

sexual intercourse, bleeding in between menstrual periods, increased menstrual bleeding) may be a prime sign of cervical cancer, where as two third (66.7%) of the respondents had knowledge about abnormal (yellow, odorous) vaginal discharge may be a sign of cervical cancer. Low back pain, painful urination and painful sexual intercourse may be symptoms of cervical cancer were stated by 67.1% of the respondents. One third of the respondents verbalized that sexually transmitted- Human papillomavirus (HPV)/ Herpes simplex virus/ HIV can be a causative organism for cervical cancer. Near about one third (31.4%) of the respondents were aware about the vaccine available against HPV and two third of the respondents told that behavioural change is necessary to prevent cervical cancer.

Table 9 Distribution of the Respondents as per their Awareness regarding General Information regarding Cervical Cancer

S. No.	General Information regarding Cervical Cancer	Yes		No		Don't know	
		No.	%	No.	%	No.	%
1.	The most frequently occurring cancer in women in Nepal	**191**	**93.6**	4	2	9	4.4
2.	Abnormal vaginal bleeding	**160**	**78.4**	12	5.9	32	15.7
3.	Abnormal vaginal discharge	**136**	**66.7**	27	13.2	41	20.1
4.	Low back pain, painful urination and painful sexual intercourse	**137**	**67.1**	23	11.3	44	21.6
5.	Sexually transmitted- Human papillomavirus (HPV)/ Herpes simplex virus/ HIV can be a causative organism	**66**	**32.4**	30	14.7	108	52.9
6.	Vaccine against HPV can prevent cervical cancer	**64**	**31.4**	19	9.3	121	59.3
7.	Behavioral Changes is considered as a primary prevention of cervical cancer	**136**	**66.7**	28	13.7	40	19.6

Table 10 depicts those majorities (67.2%) of the respondents told that women having multiple sex partners are high risk. Near about half (48%) aware about high risk male (male carrier and female sufferer). More than half (58.8%) aware about early marriage (<16years), 56.4% respondents told that younger the age of first intercourse (<16years) higher the risk

factors, three fourth (74.5%) respondents gave response this increasing the number of childbirth increasing the risk for cervical cancer and 56.9% respondents were aware about younger the age of first childbirth (<16 years) higher the risk for cervical cancer. One third (33.3%) respondents aware about prolong use of oral contraceptive pill (Estrogen) and almost half (52%) respondents aware that occurrence of genital warts are the high risk factors for cervical cancer. Fifty eight percent told that low socio0economic, 54.9% told smokers, 43.1% told tobacco consumption, 30.4% told alcohol consumption, 35.8% told less consumption and 39.7% respondents stated that previous treatment for cervical intraepithelial dysplasia are considered as risk factors for cervical cancer. Out of 14, the total score range was 2 to 6. Total mean score 3.6 with 1.3 standard deviation. This means respondents have less awareness about risk factors of cervical cancer.

Table 10: Distribution of the Respondents as per their Knowledge regarding Risk Factors of Breast Cancer

S. No.	Risk factors for cervical cancer	Yes		No		Don't know		Statistics
		No.	%	No.	%	No.	%	
1.	Women having multiple sex partners	**137**	**67.2**	31	15.2	36	17.6	
2.	Male factor (High–risk male)	**98**	**48.0**	43	21.1	63	30.9	Total mean score ± SD 3.6± 1.3
3.	Early marriage (<16years)	**120**	**58.8**	28	13.7	56	27.5	
4.	Younger the age of first intercourse	**115**	**56.4**	29	14.2	60	29.4	
5.	Increasing the number of childbirth	**152**	**74.5**	20	9.8	32	15.7	
6.	Younger the age of first childbirth	**116**	**56.9**	26	12.7	62	30.4	
7.	Prolong use of oral contraceptive pill	**68**	**33.3**	70	34.3	66	32.4	
8.	Occurrence of genital warts (Past & Present)	**106**	**52.0**	40	19.6	58	28.4	
9.	Women with low socio-economic status	**119**	**58.3**	41	20.1	44	21.6	Total score range 2- 6
10.	Smokers have higher risk	**112**	**54.9**	41	20.1	51	25.0	
11.	Tobacco consumption	**88**	**43.1**	56	27.5	60	29.4	
12.	Alcohol consumption	**62**	**30.4**	65	31.9	70	37.7	
13.	Diet (less vitamins & minerals)	**73**	**35.8**	56	27.5	75	36.7	
14.	Previous treatment for cervical intraepithelial dysplasia	**81**	**39.7**	22	10.8	101	49.5	

Table 11 depicts the knowledge of the respondents regarding screening modalities for cervical cancer. Out of 204 respondents, 54.4% stated that screening make in the chance of curing cervical cancer, where as 61.8% told that Pap smear test to be done in every 3 years interval. Majorities (82.4%) respondents told that a periodic pelvic examination recommended to detect

early signs. Near about one third of the respondents verbalized that Colposcopy and tests for HPV and/ Herpes simplex virus and/ HIV is important for cervical cancer screening.

Table 11: Distribution of the Respondents as per their knowledge regarding Screening Modalities of Breast Cancer

S. No.	Knowledge regarding screening modalities for cervical cancer	Yes		No		Don't know	
		No.	%	No.	%	No.	%
1.	Screening make in the chance of curing cervical cancer	111	54.4	14	6.9	79	38.7
2.	Pap test (cervical smear) in every 3 years is one of the most effective methods	126	61.8	11	5.4	67	32.8
3.	A periodic pelvic examination recommended to detect early signs	168	82.4	9	4.4	27	13.2
4.	Colposcopy test suggested for detection of cervical cancer	75	36.8	17	8.3	112	54.9
5.	Tests for HPV and/ Herpes simplex virus and/ HIV	66	32.4	30	14.7	108	52.9

Figure 10 depicts that 98% of the respondents never done cervical screening, where as only 2% have done Pap smear as well as one respondent has done biopsy along with Pap smear, but that is also not in regular basis.

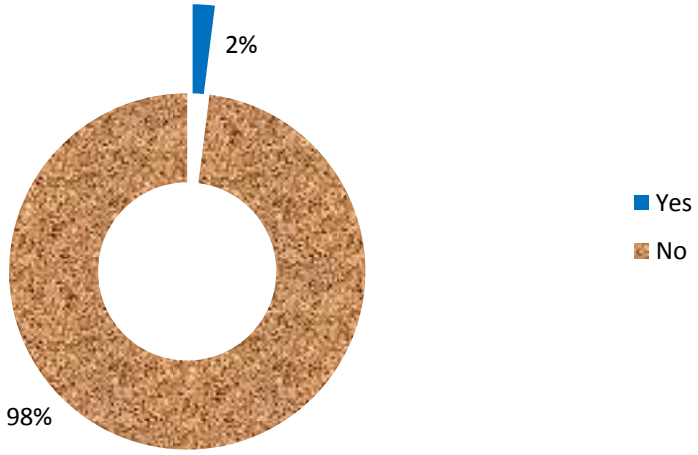

Figure 10 Percentage Distribution of the respondents as per their practice of Pap smear Test

Table 12 shows the reasons for never done cervical screening, out of 200 respondents, some (17.5%) respondents had not done screening due to services were not available. One fourth had not done screening, due to lack of awareness about screening programme and more that half (58%) respondents thought, it is not necessary for them.

Table 12: Reasons for NOT done Cervical screening by the Respondents

Reasons	Frequency	Percentage
Services are not available	35	17.5
Don't know about screening modalities	49	24.5
Not necessary	116	58.0
Total	**200**	**100**

Figure 11 shows that out of 204 respondents, 68% were interested to do cervical screening in this study, where as 32% of them were still not interested.

Figure 11 Percentage Distribution of the Respondents as per their Interest to do Pap smear Screening

Table 13 depicts the association between independent variables with awareness of risk factors and screening modalities of breast and cervical cancer. Pearson chi-square test was applied and at 0.05 level of significance.

Age is associated with screening of breast cancer, where as risk factor of breast cancer and cervical cancer is not associated. Marital status is not associated with risk factors and screening modalities of breast and cervical cancer.

Geographical distribution of the districts is associated with awareness of risk factors and screening modalities of breast and cervical cancer, where P-value is 0.010.

Level education and designation as staff nurse and ANM is highly associated, where P-value is .000. Institute of education is highly associated with level of awareness, where P-value is .000.

Job experiences is associated (P-value 0.009) with screening modalities of breast cancer, where as risk factors of breast cancer and overall information about cervical cancer is not associated with job experience.

There is no association between training received by nurse, it may be due very less in number; family history of cancer and self-suffering due to cancer.

Table 13 Association between Independent Variables and Awareness of Risk Factors and Screening Modalities of Breast Cervical Cancer

Characteristics	Categories	P-Values		
		Risk Factors of BC*	Screening modalities of BC*	Risk Factors & screening of CC**
Age				
Up to 40 years	155	.639	.020	.650
>40 years	49			
Marital status				
Single	56	.669	.507	.781
Married	148			
Designation				
Staff nurse	45	.000	.000	.000
ANM	159			
Geographical distribution of districts				
Mountain	20	.014	.010	.039
Hill	79			
Terai/Plain	105			
Institute/University				
Universities	83	.000	.000	.001
CTEVT	121			
Job experiences				
Up to 20 years	163	.511	.009	.233
>20 years	41			
Family history of cancer				
Yes	12	.621	.237	.276
No	192			
Self-suffering from cancer				
Yes	2	.912	.615	.830
No	202			
Training received				
Yes	6	.839	.315	.494
No	198			

*BC= Breast cancer **CC= cervical cancer

Table 14 depicts the Relationship between knowledge of risk factors and screening modalities of breast cancer with practice of BSE, CBE and mammography and attitude of mammography screening. Knowledge of risk factors and screening modalities of breast cancer is positively correlated with practice of BSE and positive attitude towards mammography screening level of significance at 0.01. Knowledge of screening modalities of breast cancer is positively correlated with CBE practices level of significance at 0.05.

Table 14 Relationship between knowledge of risk factors and screening modalities of Breast Cancer with Practice of BSE, CBE and Mammography and Attitude of Mammography Screening

Variables	Practice			Attitude for mammography
	BSE	CBE	Mammography	
Knowledge of risk factors of breast cancer	-.202** .004	-.069 .329	.019 .784	-.065 .356
Knowledge of screening modalities of breast cancer	-.266** .000	-.153* .029	-.002 .973	-.281** .000

**Spearman correlation is significant at o.o1 level (2-tailed)
*Spearman correlation is significant at o.o5 level (2-tailed)

Table 15 shows the relationship between knowledge of risk factors and screening modalities of cervical cancer with attitude and practice of cervical screening. Knowledge of risk factors and screening modalities of cervical cancer is positively related to attitude towards cervical screening, but practice is not related to the knowledge.

Table 15 Relationship between knowledge of risk factors and screening modalities of Cervical Cancer with Attitude and Practice of cervical screening

Variables	Attitude towards cervical cancer screening	Practice for cervical cancer screening
Knowledge of risk factors and screening modalities of cervical cancer	-.203** .002	-.057 .211

**Spearman correlation is significant at o.o1 level (2-tailed)

Chapter-V

Discussion

Despite advancement and multifold improvement in scientific knowledge, presently there is no known method for primary prevention of breast cancer. Under the present circumstances, therefore early detection and treatment of breast cancer as a secondary preventive measure seems to be the most appropriate approach for reducing mortality due to breast cancer and for improving quality of life in these clients.

Unlike many cancers, cervical cancer can be prevented. A first line of defense is to educate women about how to protect themselves against the human papillomavirus (HPV), a common infection that causes most cervical cancers. For women at risk of cervical cancer, secondary prevention is the key to saving lives. Cervical cancer can be prevented by using relatively inexpensive screening and treatment technologies to detect abnormal cervical tissue before it progresses to invasive cancer.[6]

A self-administered questionnaire was distributed to all 204 nurses in the Government Health Service to assess their knowledge, attitude and practice of breast and cervical cancer risk factors and screening modalities. Response rate was 97.1% in this study. Cut off score of knowledge was fixed at more than 60%. Out of 204 respondents, 32 (15.6%) had adequate knowledge of breast cancer risk factors. Score ranged from 0-14 out of 16 both positively and negatively framed questions. Mean score of 16 items questionnaire were 10.4 with standard deviation 2.9. Majorities of the respondents 68.1% (139) had adequate knowledge on screening modalities of breast cancer. Almost half (49.5%) of the respondents had adequate knowledge on general information, risk factors and screening modalities of cervical cancer.

Significant differences were observed between risk factors of breast cancer and screening modalities. Statistically significant factors influencing knowledge scores were related to the nursing profession, namely nursing qualifications, current nursing post and current workplace.

Those with a family history of breast and cervical cancer may have had better general breast cancer knowledge and awareness about screening because they have had to consider the disease. Finally, age was inversely related to breast cancer screening knowledge, possibly due to younger nurses having more current screening knowledge because continuing education is not required of nurses in Nepal.

Conclusion and Recommendation

This study has revealed poor knowledge of risk factor of breast cancer as compare to screening modalities of breast cancer; and risk factors and screening modalities of cervical cancer as well as low level of practice of breast and cervical cancer screening among these nurses. There is very urgent need for updating the various curricular of these categories of nurses to include courses in screening methods for early detection of such cancers like breast cancer and cervical cancer. Regular update courses for nurses on health maintenance practices are also recommended.

Government hospitals is need to establish breast imaging units, pathological laboratory units, and screening clinics; and it would be necessary to include screening mammography, pelvic examination and Pap smear. The participation of non-governmental and voluntary organizations in creating awareness about breast cancer is also being helpful in solving these problems.

This study also empowers the nurses by conducting refresher training and providing resource materials. This study also helps to improve practice of health education and counseling regarding prevention and early detection of breast and cervical cancer, this aspect is not included in analysis.

Future studies may focus on other healthcare professionals, such as physicians in both the public and the private sectors. In addition, emphasis should also be placed on the relation between breast cancer awareness and screening practices. This relation would help clarify whether educating Nepalese women would actually improve their screening practices. Some studies have shown that a positive correlation exists between breast cancer awareness and screening practices among different groups. If this relation holds among the Nepalese population, more education programs would increase the early detection of breast cancer, reducing the public health burden of the disease. It has been well documented that needs assessment is helpful in directing prevention efforts of various diseases.[47- 50]

The information obtained from this study may assist in planning intervention and prevention strategies.

Limitation of the Study

This study was limited to-

- The nurses working in governmental organizations and up to district/zonal level and posted in eastern region of Nepal.
- Data site was limited to eastern region of Nepal.

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Appendices

I. QUESTIONNAIRE (ENGLISH VERSION)

II. QUESTIONNAIRE (NEPALI VERSION)

III. CONSENT FORM

Appendix-I
Semi-structured Questionnaire

Following questions to which you have to respond carefully based on your perception regarding each item. You should make (√) or fill in the blank on appropriate answer this information will be kept confidential and will be used for the research purpose only.

Title of the study:

Breast and Cervical Cancer Risk Factors and Screening Awareness among Nurses working in Government Sectors in Eastern Region of Nepal

Part A: Demographic information:

S. No…….. Date: ……

1. Name (Optional): …… Surname……
2. Age…….year Marital status……
3. Religion:…… Caste/Ethnicity……..
4. Designation: …… Level: 4^{th}/ 5^{th}/ 6^{th} /7^{th} or other……
5. Place of work: ……. District…….
6. Level of education: a) Professional (ANM), b) PCL Nursing c) BN/B.Sc.Nsg
   d) MN/M.Sc. Nursing e) Other degree if any)……..
7. Type of college: TU/ PU/ BPKIHS/ CTEVT/ Other…….
8. Work experience (As a nurse): ……..
9. Do you have cancer in your family? a) Yes b) No
   If yes, specify relation …… Site of cancer …….
10. Have you ever suffer from any type of cancer? a) Yes b) No
11. **If yes**, specify site of cancer…… Stage of cancer…….
    Type of treatment received……..
12. Do you have chronic disease in your family? a) Yes b) No
    If yes, specify disease……

13. Did you get any training about cancer? a) Yes b) No

If yes, which type of training did you get related to cancer?

a) Training on cancer overall b) Training on breast cancer

c) Training on gynecological cancer d) Any other (specify) ……

If yes, what was the duration of training on breast/cervical cancer?

14. Do you accept that breast and/ or cervical cancer is a preventable disease?

a) Yes b) No c) Don't know

Part B: General information about Risk Factors of Breast Cancer

S. No.	Statement	True	False	Not Sure
1.	A hard blow on the breast may cause breast cancer			
2.	The irritation of a tight bra can over time cause breast cancer			
3.	Overweight increases the risk of developing breast cancer			
4.	Bearing the first child after the age of 30 increases the risk of breast cancer			
5.	Fibrocystic breast disease (noncancerous breast lumps) increases the risk of breast cancer			
6.	Rich women have a higher risk of developing breast cancer than the poor women			
7.	Breast cancer is more common in 65-year-old women than in 40-year-old women			
8.	Most breast lumps are cancerous			
9.	Exercise reduces the risk of developing breast cancer			
10.	Diet (fat & caffeine) affects the risk of developing breast cancer			
11.	Prolong use of oral contraceptive pills increase the risk of breast			

	cancer			
12.	Breast cancer is a hereditary disease			
13.	Early menarche increase the risk for breast cancer			
14.	Late menopause increase the risk for breast cancer			
15.	Frequently exposed to radiation increase for breast cancer			
16.	Hormone replacement therapy is recommended for women with breast cancer			

Part C: Information about Breast Cancer Screening

S. No.	Statement	True	False	Not Sure
1.	Screening make in the chance of curing breast cancer			
2.	Mammography can detect lumps that can't be felt			
3.	Mammography is recommended yearly for women over 50 years of age			
4.	A women who regularly feels her breasts is doing one of the most effective methods of breast cancer detection			
5.	Women should begin doing breast self-examination (BSE) at the age 20 years			
6.	BSE should be performed from 7 to 10 days after menstruation			
7.	An important part of BSE is looking in the mirror for symmetrical shape of the breasts			
8.	It is not necessary to look at the breast during BSE			
9.	Some nipple discharge is expected, as becoming older, while squeeze the nipple during BSE			
10.	BSE should include feeling for lumps under the arms			
11.	Squeezing the nipple is necessary for a good examination			
12.	BSE should be performed every month			
13.	Pads of fingers should use when feeling the breast			
14.	Abnormal breast change includes: discharge, lump, hard knot, dimpling and/or changes in color of the skin			

I. Have you ever conduct BSE? a) Yes b) No

If yes, how frequently are you doing BSE: a) Weekly b) Monthly c) When you remember

For how long are you conducting BSE …….. years

II. Have you ever gone through mammography? a) Yes b) No

If Yes, when have you done mammography? ……. in year.

How frequently are you doing mammography**?** …… interval in year.

Total number of mammography you have done……

III. Have you ever gone through clinical breast examination (CBE)?

a) Yes b) No

If Yes, when have you done CBE? ……. in year.

How frequently are you doing CBE**?** …… interval in year.

Who have done CBE last time……

Are you willing to undergo the mammography? a) Yes b) No

Part D: General information of Cervical Cancer Factors & Screening

S. No.	Statement	True	False	Not Sure
1.	The most frequently occurring cancer in women is cervical cancer in Nepal			
2.	Abnormal vaginal bleeding (e.g. spotting after sexual intercourse, bleeding in between menstrual periods, increased menstrual bleeding) may be a prime sign of cervical cancer			
3.	Abnormal (yellow, odorous) vaginal discharge may be a sign of cervical cancer			
4.	Low back pain, painful urination and painful sexual intercourse may be symptoms of cervical cancer			
5.	Sexually transmitted- Human papillomavirus (**HPV**)/ **Herpes simplex virus/ HIV** can be a causative organism of cervical cancer			
6.	Women having multiple sex partners have additional risk for developing			

	cervical cancer			
7.	Male factor (High–risk male) associated with developing cervical cancer			
8.	Early marriage (<16years) has been associated with cervical cancer			
9.	Younger the age of first intercourse (<16years) increase the risk of developing cervical cancer			
10.	Increasing the number of childbirth increasing the risk of developing cervical cancer			
11.	Younger the age of first childbirth increasing the risk of developing cervical cancer			
12.	Prolong use of oral contraceptive pill (Estrogen) increase the risk of cervical cancer			
13.	Occurrence of genital warts (Past & Present) found to be an important risk factors			
14.	Women with low socio-economic status (poor & less educated) have a higher risk of cervical cancer			
15.	Smokers have higher risk for developing cervical cancer			
16.	Tobacco consumption increase the risk for developing cervical cancer			
17.	Alcohol consumption increase the risk for developing cervical cancer			
18.	Diet (less vitamins & minerals) affects the risk of developing cervical cancer			
19.	Previous treatment for cervical intraepithelial dysplasia have higher risk of developing cervical cancer			
20	Screening make in the chance of curing cervical cancer			
21.	Pap test (cervical smear) in every 3 years is one of the most effective methods of cervical cancer detection			
22.	A periodic pelvic examination recommended to detect early signs of cervical cancer			
23.	Colposcopy test suggested for detection of cervical cancer			
24.	Vaccine against HPV can prevent cervical cancer			
25.	Behavioral Changes is considered as a primary prevention of cervical cancer			

I. Have you ever gone through any specific screening procedure available for cervical cancer? a) Yes b) No

<u>If Yes</u>, which procedure you have done for screening of cervical cancer?

a) Papanicolaou test (Pap smear) b) Colposcopy

c) HPV testing d) Any other …….

<u>If Yes</u>, when have you done last time?.....

How frequently are you doing? …….

If No, what are the reason for not availing any screening services for breast and cervical cancer?

a) Services are not available

b) Don't know about screening modalities

c) Not necessary

d) Any other……..

II. Are you willing to undergo the Pap test? a) Yes b) No

ब्उउभलमष्ह(क्ष्क्ष

प्रश्नावली

क्रम संख्या.....

मिति.....

..

Part – A: DEMOGRAPHIC PROFILE

१. नाम (ऐच्छिक)..... थर/जाति.....

२. उमेर..... वर्ष धर्म.....

३. वैवाहिक स्थितिः (क) अविवाहित (ख) विवाहित (ग) विधुवा (घ) अन्य .....

४. हालको पद.....तह ४, ५, ६, ७ अन्य

५. कार्यालयको ठेगाना.....जिल्ला.....

६. शैक्षिक स्तरः (क) अ.न.मी. (ख) स्टाफ नर्स (ग) स्नातक तह नर्सिङ्ग (घ) स्नातकोत्तर नर्सिङ्ग

(ङ) अन्य शैक्षिक योग्यता भए.....

७. अध्ययन गरेको शैक्षिक संस्थाः (क) त्रि.वि. (ख) पू.वि.वि. (ग) वी.पी.को.स्वा.वि.प्र.

(घ) सि.टि.इ.भि.टी. (ङ) अन्य.....

८. नर्स भै काम गरेको अवधि.....वर्ष

९. तपाईको परिवारमा कोही क्यान्सर रोगबाट पिडित हुनु हुन्छ ? (क) छ (ख) छैन

यदि छ भने, शरीरको कुन भागको.....

यदि छ भने, तपाईसित नाता को पर्नु हुन्छ.....

१०. **तपाई आफैलाई कहिले क्यान्सर भएको थाहा छ ?** (क) छ (ख) छैन

यदि छ भने, शरीरको कुन भागको.....

यदि छ भने, कुन अवस्थाको (Stage)

११. **तपाईको परिवारमा कोही दीर्घ (जीर्ण) रोगी हुनुहुन्छ ?** (क) छ (ख) छैन

यदि छ भने, कुन रोग.....

१२. **तपाई क्यान्सर सम्बन्धी कुनै प्रकारको तालिम लिनु भएको छ ?** (क) छ (ख) छैन

यदि छ भने, कुन क्यान्सरको र कति अवधिको तालिम लिनु भएको छ ?

(क) सबै प्रकारको क्यान्सर (ख) स्तनको क्यान्सर (ग) प्रजनन अंगको क्यान्सर

(घ) अन्य कुनै भए.....

१३. **तपाईको विचारमा स्तन तथा पाठेघरको मुखको क्यान्सरलाई रोकथाम गर्न सकिन्छ ?**

(क) सकिन्छ (ख) सकिदैन (ग) थाहाछैन

Part - B

GENERAL INFORMATION ABOUT RISK FACTORS OF BREAST CANCER

क्रम संख्या	विवरण	ठीक	बेठीक	थहा भएन
१	स्तनको साह्रो गाँठो क्यान्सर रोगको कारण हुन सक्छ ।			
२	कस्सिएको ब्रा (Bra) को घर्षणको कारणले स्तन क्यान्सर हुन सक्छ ।			
३	शरीरको अत्यधिक तौल स्तन क्यान्सरको कारण हुन सक्छ ।			
४	३० वर्षको उमेरपछि पहिलो सन्तान जन्माउने महिलामा स्तन क्यान्सरको जोखिम बढी हुन्छ ।			
५	स्तनको Fibrocystic रोगले (क्यान्सर रहित स्त्री रोग) स्तनको क्यान्सर हुने			

	खतरा बढ्छ ।			
६	गरीब महिलाहरु भन्दा धनी वर्गको महिलाहरुमा स्तनको क्यान्सर हुने खतरा बढी हुन्छ ।			
७	४० वर्षको महीला भन्दा ६५ वर्षको महीलाहरुमा स्तन क्यान्सर हुने सम्भावना बढी हुन्छ ।			
८	धेरै जसो स्तनको गाँठोहरु क्यासर रोगनै हुन्छ ।			
९	नियमित व्यायाम गर्नाले स्तन क्यान्सर हुने सम्भावना कम हुन्छ ।			
१०	वसो तथा केफीन युक्त खाना बढी खानाले स्तनको क्यान्सर हुने सम्भावना बढ्छ ।			
११	लामो समयसम्म परिवार नियोजनको खाने चक्की (Oral Pills) सेवन गर्नाले स्तन क्यासर हुने सम्भावना बढ्छ ।			
१२	स्तन क्यान्सरलाई वंशानुगत रोग मानिन्छ ।			
१३	छिट्टै रजस्वला (Early Menarche) शुरु हुने महिलाहरुमा स्तन क्यान्सर हुने सम्भानवा बढ्छ ।			
१४	ढिलो रजस्वला समाप्त (Late Menopause) हुने महिलाहरुमा स्तन क्यान्सर हुने सम्भावना बढ्छ ।			
१५	निरन्तर X-Ray को सम्पर्कमा रहनाले स्तनको क्यान्सर हुने सम्भावना बढ्छ ।			
१६	स्तन क्यान्सरको उपचारको लागि Hormone Replacement Therapy (HRT) उपर्युक्त हुन्छ ।			

PART - C

INFORMATION ABOUT BREAST CANCER SCREENING

क्रम संख्या	विवरण	ठीक	वेठीक	थहा भएन
१	स्क्रिनिङ्गले स्तन क्यान्सर निको पार्न मद्दत गर्छ ।			
२	छामेर पत्ता नलागेको स्तनको गाठो मेमोग्राफीबाट पत्ता लाग्दछ ।			
३	५० वर्ष भन्दा माथिको महिलाले प्रत्यक वर्ष मेमोग्राफी गर्नु पर्दछ ।			
४	निरन्तर स्वयं स्तन जाँच (Self-Brest Examination) गरेमा स्तन क्यासर समयमै पत्ता लगाउन सकिन्छ ।			
५	२० वर्षको उमेरदेखि नै स्वयं स्तन जाँच गर्नु उपर्युक्त हुन्छ ।			
६	महीनावारी भएको ६ देखि १० दिन भीत्र स्वयं स्तन जाच गर्नु राम्रो हुन्छ ।			
७	स्वयं स्तन क्यान्सर जाँचको क्रममा ऐना अगाडी उभिएमा स्तनको आकृति (Shape) वरावर भए नभएको थाहा पाउन सकिन्छ ।			
८	स्वयं स्तन जाँच गर्दा स्तनलाई हेरी रहनु नरुरी छैन ।			
९	उमेर बढ्दै गएपछि स्तनवाट केही मात्रामा तरल पदार्थ निस्किनु सामान्य हो ।			
१०	स्वयं स्तन जाँच गर्दा काखीमा गिर्खा भए नभएको जाच गनुपर्दछ ।			
११	स्वयं स्तन जाँच गर्दा स्तनको मुन्टो निचोरेर हेर्नु पर्दछ ।			
१२	स्वयं स्तन जाँच प्रत्येक महीनामा गर्नु पर्दछ ।			
१३	स्वयं स्नत जाँच गर्दा औलाहरुको मध्य भाग (pad of fingers) को प्रयोग गर्नु पर्दछ ।			
१४	रोग लागेको स्तनमा साह्रो गीर्खाहरु, सुन्निएको, खाल्टो परेको, रस निस्किनु र/वा स्तनको रंगमा परिवर्तन हुनु हो ।			

- **तपाई कहिले आफनो स्तन जाच गर्नु भएको छ ?** (क) छ (ख) छैन

  यदि छ भने, कति कति दिनमा गर्नु हुन्छ ? (क) हप्तामा (ख) महिनामा (ग) सम्झेको वेलामा

- **तपाईले कहिले मेमोग्रफी गर्नुभएको छ ?** (क) छ (ख) छैन

  यदि छ भने, कहिले गर्नु भएको .....वर्ष (क) हप्तामा (ख) महिनामा (ग) सम्झेको वेलामा

- कति कति वर्षको फरकमा मेमोग्राफी गर्दै हुनुहुन्छ .....
- हालसम्म जम्मा कति पटक मेमोग्राफी गरी सक्नु भयो.....
- के तपाई मेमो ग्राफी गराउन इच्छुक हुनुहुन्छ ? (क) छ (ख) छैन
- तपाई कहिले अन्य स्वास्थ्य कर्मीबाट स्तन जाँच गराउनु भएको छ ? (क) छ (ख) छैन
  यदि छ भने, कहिले गर्नु भएको .....वर्ष, कति वर्षको फरकमा.....
- पछिल्लो पटक कहिले जाच गराउनु भएको.....

Part - D

GENERAL INFORMATION OF CERVICAL CANCR

(Risk factors & Screening)

क्रम संख्या	विवरण	ठीक	बेठीक	थहा भएन
१	नेपाली महिलहरुमा हुने क्यान्सरहरु मध्ये पाठेघरको मुखको क्यान्सर प्रमुख हो			
२	असामान्य योनि रक्तस्राव (सम्भोग पछि), महीनावारीको विचैमा वा महीनावारी हुदा धेरै रगत जानु) पाठेघरको मुखको क्यान्सरको प्रारम्भिक लक्षण हो ।			
३	असामान्य पहेलो दुर्गन्धित योनि श्राव पाठेघरको मुखको क्यान्सरको चिन्ह हो ।			
४	तल्लो ढाड दुख्नु, पिसाव फेर्दा दुख्नु/पोल्नु, कष्ठपूर्ण सम्भोग, आदि पाठेघरको मुखको क्यान्सरको लक्षण हो ।			
५	यौन सम्पर्कबाट सर्ने Human Papilloma Virus (HPV) पाठेघरको मुखको क्यान्सरको कारण हो ।			
६	धेरै जना पूरुषसित यौन सम्पर्क गर्ने महिलाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा बढी हुन्छ ।			
७	धेरै जना महिलाहरुसित यौन सम्पर्क राख्ने पूरुषको सम्पर्कमा रहेकी महीलामा			

	पाठेघरको मुखको क्यान्सर हुने सम्भावना बढी हुन्छ ।			
८	१६ वर्षको उमेर भन्दा पहिले विवाह भएकी महिलामा पाठेघरको मुखको क्यान्सर हुने सम्भावना बढ्छ ।			
९	१६ वर्ष भन्द कम उमेरमा यौन सम्पर्क गरेकी महीलामा पाठेघरको मुखको क्यान्सर हुने सम्भावना बढ्छ ।			
१०	धेरै सन्तान जन्माउने आमाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा बढी हन्छ ।			
११	कम उमेरमा पहिलो सन्तान जन्माउने आमाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा बढी हुन्छ ।			
१२	लामो समयसम्म परिवार नियोजनको खाने चक्की (Oral Pills) को सेवनले पाठेघरको मुखको क्यान्सर हुने खतरा बढी हुन्छ ।			
१३	यौनाङ्गमा हुने मुसा (Genital Warts) ले महिलाहरुमा पाठेघरको मुखको क्यान्सरको महत्वपूर्ण सम्भावना हुन्छ ।			
१४	गरीव तथा अशिक्षित महिलाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा बढी हुन्छ ।			
१५	धुम्रपान गर्ने महिलाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा धेरै हुन्छ ।			
१६	सुर्ती सेवन गर्ने महिलाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा धरै हुन्छ ।			
१७	रक्सी सेवन गर्ने महिलाहरुमा पाठेघरको मुखको क्यान्सर हुने खतरा धरै हुन्छ ।			
१८	कम पोषण युक्त खाना (भिटामिन तथा खनिज) को प्रयोगले महिलाहरुमा पाठेघरको क्यान्सर हुने खतरा धेरै हुन्छ ।			
१९	पाठेघरको मुखको intra-epithelial dysphasia रोगको पहिले उपचार गरेकी महिलहरुमा क्यान्सर हुने सम्भावना बढी हुन्छ ।			
२०	स्क्रिनिङ्गले पाठेघरको मुखको क्यान्सर निको पार्न राम्रो अवसर मिल्छ ।			
२१	प्रत्येक ३ वर्षमा Pap Test (Cervical Smear) गर्नु पाठेघरको मुखको क्यान्सर पत्ता लगाउने प्रभावकारी तरिका हो ।			
२२	वेला वेलामा स्त्रीरोग सम्बन्धी जाच गराउदा पाठेघरको मुखको क्यान्सर वेलैमा पत्ता लगाउन सकिन्छ ।			

२३	पाठेघरको मुखको क्यान्सर पत्ता लगाउन Colposcopy Test गर्नु उत्तम हो			
२४	HPV को विरुद्धमा खोप लिनाले पाठेघरको मुखको क्यान्सरको रोकथाम गर्न सकिन्छ ।			
२५	वानी व्यहोरामा सुधार ल्याउनाले पाठेघरको मुखको क्यान्सरको रोकथाम गर्न सकिन्छ ।			

क) तपाई कहिले पाठेघरको मुखको क्यान्सर स्क्रिनिङ्गकोलागि परिक्षण गरानु भएको छ ? (क) छ

(ख) छैन

- यदि गर्नुभएको छ भने, निम्न उल्लेखित मध्ये कुन जाच गराउनु भएको छ ?

  (a) Pap Smear (b) Colposcopy (c) HPV testing

  Any other……

- यदि गर्नुभएको छ भने, पछिल्लो पटक कहिले गराउनु भयो ……

- यदि जाच गराउनुभएको छ भने, कति कति समयको फरकमा जाच गराई राख्नु भएको छ

  ……

- यदि जान गराउनु भएको छैन भने, के कारणले नगर्नु भएको

  (क) स्क्रिनिङ्ग गर्ने तरिकाहरु थाहा नभएर

  .(ख) सेवा सुविधा उपलब्ध नभएर

  (ग) आवश्यकता महशुश नभएर

(घ) अन्य कुनै कारण भए .....

ख) तपाई Pap Smear जान गराउन इच्छुक हुनु हुन्छ ?

१) छ २) छैन

Appendix-III

Consent Form

Project Title:

Awareness of Risk Factors and Screening Behaviors regarding Breast and Cervical Cancer among Nurses working in Eastern Region of Nepal

Purpose

You are being asked to participate in a study examining some of your experiences as you are working in the field of health promotion and illness prevention. This may help us better understand the level of knowledge and practice, because cancer burden is increasing. It will help to assess training needs in concerned area.

Procedure

You have been chosen to participate in this study because you are working in periphery level. If you agree to participate you will be asked some questions related to risk factors and screening modalities. In addition to the questionnaire you will be asked to answer some questions about your personal background.

Benefits

The potential benefit for you and/or others is a possible increase in the understanding of how a disease cancer can be prevented, especially persons dealing with a health education, screening and/or diagnosis, referral.

Participation

If you do not wish to participate in the study you can tell the interviewer, who asked you the questions or distribute form that you do not wish to be involved. You may also continue to answer the questionnaire, however DO NOT sign the consent form if you do not want your data to be included in the study.

Confidentiality

If you choose to participate in this study your identity will be kept confidential. The investigator will treat your identity with professional standards of confidentiality. The information obtained in this study may be published in a health related journal, but your identity will not be revealed.

Authorization: I have read the above and understand the purpose, procedure, and benefits of this study. I, _____ agree to participate in this research. I understand that I may later refuse to participate, and that I may withdraw from the study at any time.

Signed: _____ Date:……