AWARENESS OF BREAST CANCER AMONG THE ADOLESCENT GIRLS

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DECLARATION

I hereby declared that This thesis entitled **"Awareness of Breast Cancer Among the Adolescent Girls of 10+2 Level in Jhapa District"** submitted to Department of Health Education for partial fulfillment of the requirements for the Master's Degree, is a work of genuine research and is not copied or pirated from earlier works.

SANTA BARAL

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ABSTRACT

The small scale descriptive and Survey study was conducted at various schools of Jhapa District. The study entitled "Awareness on Breast Cancer among the Adolescents girls of 10+2 level in Jhapa District" was based on Primary Data Collection from 150 respondents. Stratified random sampling method was applied and structured questionnaires were made to collect the information and data. The main objective of the study is to assess the level of awareness on breast cancer among the adolescent girls of 10+2 level.

All the respondents were females. Among 150 respondents, 42 percent of the respondents were found to be in the age between 16-18 years. Most of the respondents (57.33 percent) were Hindu. A total of 3 percent of respondent's mothers were also illiterate. Similarly 41 percent of respondent's fathers and 48 percent of respondent's mothers were engaged in farming. Majority of respondent (80 percent) heard about breast cancer. Similarly 92.67 percent of them did not have family history of breast cancer, and 92.67 percent did not have menstruation before age of 12 years. Among the respondents, 35.33 percent of them obtained information from T.V/ Radio, 10 percent of respondent did not know about BSE and 88 percent of them did not perform BSE. Almost 94 percent of respondents felt the need of breast cancer awareness classes at higher secondary level. In addition, 70 percent of respondent did not have knowledge about hospitals/institutions that provide cancer services. Similarly, 76 percent of respondents did not have knowledge about mammography and 54 percent of respondents did not have knowledge about biopsy of breast cells and 28 percent of respondents were familiar with radiation therapy.

In this study, 10+2 level female students had little knowledge regarding breast cancer and its risk factors, sign and symptoms and treatment. Students were also not familiar with BSE. There is a need to increase knowledge of adolescent female students about breast cancer and its risk factors. So, there is need to conduct formal and informal breast health awareness classes in 10+2 level. Health care professionals should develop effective breast health programs for adolescent girls; Curriculum planners to plan modify and improve the appropriate curriculum and text book at 10+2 level.

TABLE OF CONTENTS

Page No.

CHAPTER – 3 RESEARCH METHODOLOGY

CHAPTER – IV ANALYSIS AND INTERPRETATION OF DATA

LIST OF TABLES

PAGE NO :

LIST OF FIGURES

ABBREVIATIONS

ACS	:	American Cancer Society
BSE	:	Breast Self Examination
BC	:	Breast Cancer
CBE	:	Clinical Breast Examination
CBS	:	Central Bureau of Statistics
CT	:	Computerized Tomography
ER	:	Estrogen Receptor
GON	:	Government of Nepal
HER-2	:	Hormone Estrogen Receptor- 2
HRT	:	Hormone Replacement Therapy
IARC	:	International Agency for Research on Cancer
IEC	:	Information Education and Communication
MRI	:	Magnetic Resonance of Image
OPD	:	Outpatient Department
$BRCA_1$ and $BRCA_2$	:	The names of $BRCA_1$ and $BRCA_2$ stand for breast cancer susceptibility gene to respectively
SASQ	:	Self Administered Structured Questionnaires
TNBC	:	Triple Negative Abreast Cancer

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Nepal is the naturally gifted country which is geographically divided into High Mountain, middle hills and plain Terai. In spite of having most of the health services facilities, people do not have accessibility to these facilities because of lack of communication, transportation and other problems. Nepal has the population of 26,494,504 , which comprises different races and tribes, living in different geographical areas (CBS, 2011). Government of Nepal is involved in controlling the prevalent infectious disease in the country, but giving less priority to the breast cancer. Increasing number of cases of malignant diseases is coming to the hospital rather than in earlier stages because of lack of self-awareness about the early detection of the breast cancer. The exact number of cancer cases couldn't be predicted with certainty due to the absence of center registry in hospital. Nepal cancer Relief Society (NCRS) estimated rough incidence i.e. about 40 to 50 thousand people suffer from malignant diseases and the incidence is rising every year (Nepal Cancer Relief Society, 2015).

Jhapa is the easternmost district of Nepal .The district with Bhadrapur as its headquarters ,covers an area of 1606 km^2 and has the population of 812650.It is situated in 26˙20" to 26˙50” Northern latitude and 87’39” to 88’12” Eastern longitude. There is multi-cultural, multi-lingual, multi -ethnic and multi-religious society. Jhapa is the district with highest number of literate with literacy rate of 98.33 percent (Jhapa District Profile 2072).There are 59 higher secondary schools under 17 resource centers. Health condition of Jhapa is better than that of other districts. There are 6 primary health centers ,24 health posts and 20 sub-health posts along with one zonal hospital. According to the DHO, Jhapa, the district is often suffered by different fatal diseases. Among them, cancer seems to be main disease. There were 183 patients diagnosed with cancer in 2071/72(Jhapa District Profile 2072).Among these patients, 48 patients were identified as the victims of breast cancer.Nepal Government is involved in controlling the prevalent infectious disease in the country, but giving less priority to the breast cancer. Increasing number of cases of malignant diseases is coming to the hospital rather than in earlier stages because of lack of self-awareness about the early detection of the breast cancer. The exact number of cancer cases couldn't be predicted with certainty due to the absence of center registry in hospital

The word cancer means the change in body's cells that cause them to grow out of control. Cancer is one of the most dreadful non-communicable diseases that have become the important contributor to the global burden of disease. It is multi-cellular disease which can arise from any cell types and organs with multi-factorial etiology. It is a fatal disease which brings social distress, psychological suffering and hardship to the patients and relatives.

Breast cancer starts when cells in the breast begin to grow out of control. Breast cancer is a malignant growth affecting the breast tissue, which may either affect the milk producing dots or lobules carrying milk. Those cells form a tumor which can be felt as a lump. If the cells invade surrounding tissues or distant arias of the body, tumor is cancerous. Breast cancer occurs almost entirely in women but men can get it, too.

The adolescent period is the time of rapid change that provides teaching opportunities for shaping health behaviors into adulthood for examples teaching breast self-care any encourage positive behavior such as performing breast self-examination and seeking regular professional breast examination (Ludwick and Gaczkowshis, 2008).

Breast cancer is a major public health problem in developed countries and is becoming main problem in developing countries. As a multi factorial disease, BC is one of the most common cancer and second leading cause of death among women. But, cancer mortality is higher in developing countries than in the developed countries. (Shrstha, 2012)

Further low reporting of cases seems to indicate that women in Nepal have very little knowledge and awareness about breast cancer and they give less priority to detect earlier and to seek medical services for earlier detection and treatment of breast cancer because of women's cultural impact, low rate of literacy and lack of economic power of women. Therefore it can be predicted, there will be higher incidence of morbidity and mortality from breast cancer among women in coming year in Nepal (CBS, 2015).

For the appropriate and effective treatment of BC it is necessary to classify the types of BC. The most common way to classify is according to status of three specific cells receptors. These are the estrogen receptor (ER), the progesterone receptor (PR) and Human Epidermal Growth Factor Receptor (HER_2).

The most common type of breast cancer is known as Hormone Receptor Positive breast cancer accounting for around 75% of breast cancer. This type of cancer grows in response to the hormones estrogen and progesterone.

Another type of breast cancer is classified by the system is HER2 positive breast cancer which is typified by cells that make too much of a protein known as HER2 neu. It represents 20 -30 of Hormone Receptor Positive breast cancer. Tumors that do not over express HER_2 neu are described as HER_2 negative.

Another type of BC is known as triple negative breast cancer(TNBC) which is sub type of HER_2 negative disease. TNBC refers to the tumor cells which lack oestrogen and progesterone receptor and do not over express the HER2 protein. This type of cancer accounts for around 15% of all breast cancers. It is usually more aggressive and difficult to treat as it does not tend to respond to stenderd therapies. Due to the negative nature it is necessary to treat in early stage.(America Cancer society 2016)

On the basis of the parts of the breast from which cancer starts, it can be classified in to two: ductal Carcinomas and lobular Carcinomas. Most of BCs begins in the ducts that carry milk to the nipple which is called ductal carcinomas. Some BCs start in the glands named lobules that make breast milk is called lobular carcinomas. (American Cancer Society, 2016).

It is equally necessary to have the knowledge of risk factors of BC to be aware of BCs and prevent oneself from the risk. The risk factor of the BC can be classified in to two: Breast cancer risk factors that cannot be changed and life style –related BC risk factors.

The main risk factors for BC which cannot be changed are: being a women, getting older, certain inherited genes $BRCA_1$ and$BRCA_2$, having a family history of BC, having a clinical history of BC and having dense breast tissues. Similarly early menstruation and going through menopause after age of 55 are also the possible risk factors which cannot be changed.

Certain BC risk factors are related to life styles such as drinking alcohol, having over weight and lack of moderate physical activities, not having children, lack of breast feeding and use of contraceptives (Birth control pills, Depo-Provera etc). Likewise certain dietary and obesity, smoking cigarette, ionizing radiation therapy, night work, abortion, and chemicals in environment also play vital role to increase the risk of BC. (American Cancer Society, 2016)

The knowledge of signs and symptoms of BC is important to keep breast health well. Some of the possible signs and symptoms can be stated as follows:

a) A hard lump developing in the breast or armpit.
b) A change in size or shape of the breast like indentation, growing veins or skin erosion.
c) Skin irritation or dimpling, or hardening, redness.
d) Breast or nipple pain
e) Nipple retraction (turning inward)
f) Thickening of the nipple or breast skin
g) The secretion of unusual discharge or a rash around nipple area.

Early breast cancer usually does not cause any symptoms. So, BSE is to be done regularly. If some of the above mentioned signs and symptoms are seen or found, one must consult the physician for clinical examination. There are various ways to diagnose breast cancer which help to identify the incidence of BC and stages of it. The physicians use one or more methods to detect if the disease is presented. If it is found, other tests will be done to determine to the stages of the cancer. For this purpose the doctor will thoroughly examines for any lumps or suspicious areas. The doctor uses the following methods to diagnose the presence of BC. They are: medical history and physical exams, imaging test, mammograms, and breast ultrasound, MRI of the breast, ductograms and biopsy procedures.

Generally Cancer is described in terms of stages. In simple terms the stage of a cancer describes the size of the tumor and determines whether it has spread and how far it has spread. The stage is important because it helps cancer specialists to decide on the best treatment option. There are three stages of breast cancer: Early stage or First stage, locally advanced or second stage and advanced or metastatic or third stage.

Breast cancer treatment options vary depending on the stage of the cancer, its size, position whether it has spread to other parts of the body and the physical health of the patient. Current treatments for breast cancer include surgery, radiotherapy, chemotherapy, hormonal and targeted therapy. (American Cancer Society, 2016)

The study to assess the level of awareness identify the socio-demographic characteristics and to determine the knowledge of risk factors sign and symptoms, and its treatment for breast cancer among adolescents who are studying in 10+2 level will be first step towards early detection and prevention of breast cancer. Early treatment with better chances and cure and

increasing survival rate of 5 years to 10 years after diagnosis of breast cancer. Therefore this study is initiated to assess the level of awareness to identify individual's development of self-care ability and self-reliance for promotion of health for individual, their family and community in future.

1.2 Statement of Problems

Breast cancer is most common cancer in women. The female students of 10+2 level have little knowledge about breast cancer. They are not aware of breast cancer. Neither they have enough ideas about signs and symptoms of breast cancer, nor they are aware of risk factors and treatment of BC. So, many females die due to BC. The female students of 10+2 do not have enough knowledge about preventions and cures of the BC. They do not interact among peer group about health problems related to BC. They mostly interact their daily problems or general disease but they don't discuss among the friends or ask their teacher about BC. This type of habit also causes to increase the incidence of BC. They are not habitual for BSE. Plenty of research works about breast cancer in this site have not been done. Therefore, this title is full of problems to research about awareness of BC among adolescent girls in 10+2 level.

1.3 Objectives of the Study

The objectives of the study are to:

1) Asses the awareness on breast cancer among the adolescent girls of 10+2 level.
2) Identify socio-demographic characteristics of 10+2 level girls in relation to awareness on breast cancer.
3) Find out the knowledge of risk factors, signs and symptoms, and treatment of BC along with the habit of BSE in them.

1.4 Research questions

1) Does this study measure the awareness level of adolescent girls of 10+2 level ?
2) Is there close relation between demographic characteristics of respondents and breast cancer ?
3) Do the respondents have good knowledge about the risk factors of BC?
4) Do the adolescent girls of 10+2 talk openly about breast cancer ?

5) Can they do self examination to identify breast cancer ?
6) Do the respondents identify signs, and symptoms of the breast cancer along with the method of treatment?

1.5 Significance of study

The significance of the study are:

1) This study will be useful for the adolescents of 10+2 female students to built knowledge about breast cancer. They will know the cause, risk factors, preventions, cures and can decrease the incidence of breast cancer.
2) The study will be beneficial for the authorities of cancer hospital and other sector to develop educational intervention and training package to improve their awareness level, if needed.
3) This study will be useful to the health education curriculum planers, supervisor, examiners, general trainers and instructors to plan, modify and improve the appropriate curriculum and text book at 10+2 level.
4) This study will be helpful as a guideline for the researchers and scholars who want to do their further research in cancer related topics. This study will be helpful for younger women more breast aware which in turn may lead to an earlier diagnosis of breast cancer.

1.6 Delimitations of study

The delimitations of the study are:

1) Only the study of breast cancer is included in this research.
2) The area/site of the study is limited to 10+2 female students of six higher secondary schools in Anarmani resource center of Jhapa District.
3) This study is completed in limited time and budget. So, the result of the study cannot be generalized in large population.
4) This study is limited to find out the awareness about breast cancer of 10+2 female students of Anarmani resource center.

1.7 Definitions of the terms used

Adolescents: The period of from 12-18 years.

Awareness: It means state of being aware, consciousness regarding breast cancer in relation to description, risk factor, signs and symptoms, diagnostic methods, methods of treatment, preventive measures and hospitals/institutions that provide best cancer service, care and advices.

B 1 and B 2 : The names of $BRCA_1$ and $BRCA_2$ stand for breast cancer susceptibility gene to respectively.

Breast MRI: Magnetic Resonance Imagine(MRI) of the breast cancer or breast MRI- is a test used to detict breast cancer and other abnormalities in the breast.

Chemotherapy: It means treatment with cancer killing drugs that may be given intravenously or by mouth. The treatment travels throughout the body by the blood steam to reach and destroy cancer cells and to other location where the cancer may have spread.

Hormonal Therapy : Hormonal Therapy is used to treat cancer tumors that is identified as hormone receptor positive. It is often used after surgery to help in reducing the risk of cancer recurrence although it may also be used for more advanced breast cancer.

Invasive: It means ability to inter and to spread in whole body.

Knowledge: The level of awareness about the breast cancer.

Lumpectomy: Remove segment or lump of breast by surgical procedure.

Mammography: It is x-ray of human breast by using the low dose amplitude x-ray.

Radiotherapy: Radiation in high energy ray aimed at the area surrounding the tumor to kill or shrink cancer cells. Radiation is applied to the areas where the cancer started or another part of the body which the cancer has spread.

Surgery: The branch of medicine which treats diseases injuries and deformities of operation or the manipulation.

CHAPTER – II

LITERATURE REVIEW

The related literature study makes the research well-known about previous situation of the problem and area of the study. Therefore it is necessary to have a study of related literature. Here are some literatures that the researchers reviewed and found some of background information about breast cancer to the adolescent girls of 10+2 level.

2.1 Theoretical Literature Review

The contribution of various modifiable risks factor excluding reproductive factors, to the overall breast cancer burden has been calculated by Danaei et al. they conclude that 21% of breast cancer death worldwide is attributable to alcohol user, overweight, obesity and physical inactivity. This proportion was higher in high income countries (27%) and the most important contribution was overweight and obesity. In low and middle income countries, the proportion of breast cancers attributable to these risk factor was 18% and physical inactivity was the most important determinant (10%) (Danaei., 2005).

Control of specific modifiable breast cancer risks factors as well as effective integrated prevention of non communicable disease which promotes healthy diet, physical activity and control of alcohol intake, overweight and obesity, could eventually have an impact in reducing the incidence of breast cancer in long term. Although some risks reduction might be achieved with prevention. These strategies con not eliminate the majority of breast cancer that develops in low and middle income countries. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control(Anderson, O.B., 2008)

The doctor assess the risks factors of breast cancer, perform physical exam which include booth breast, armpit, the neck and chest area. Additional tests may include: mammography, breast MRI, CT scan, etc. treatment is based on many factors including types and stage of breast cancer, whether the cancer is sensitive to certain hormones and whether or not the cancer over produces(over express) a gene called HER2/neu. In gemeral; cancer treatment may include –chemotherapy, radiation therapy, surgery and hormonal therapy. Cancer treatment may be local or systemic , local treatments involve only the area of disease. Radiation and surgery are form of local treatments. Systemic treatment affects the entire

body. Chemotherapy is the type of systemic treatment. Most women receive combination of treatment for women with stage I, II and III breast cancer, the main goal is to treat the cancer and prevent it from returning. For women with stage IV cancer the goal is to improve symptoms and help them live longer. In most cases, stage IV breast cancer can not be cure(Lacey, 2009)A major study on women's says women who use the birth control pills, especially if they start under age of 18, ran a higher risk of getting breast cancer . Numerous breast cancer studies have demonstrated that diet plays a role in cancer. Cancer experts how believe that up to two thirds of all cancers come from life style factor such as smoking , diet, and lack of exercises(Hutchinso,2010).

A study on "menopausal hormone therapy and sub-sequent risk of specific invasive breast cancer was concluded in California.The study shows that women who use combination Hormonal Replacement therapy (HRT) for 15 years or longer had 83% increment in invasive breast cancer risk compared to women who didn't use HRT and women who use estrogen only. HRT for 15 years or longer had 19% increase invasive breast cancer risk compared to women who did not use HRT (Saxena, 2010).

Breast self examination makes women most" breast aware". Which in turn may lead to an earlier diagnosis of breast cancer. Promotion of self care and attitude fostered early in life may pay life-long dividends. The adolescent period is the time of rapid change that provides teaching opportunities for shaping health behaviors into adulthood. Health behavior may encourage developing positive behavior such as performing breast self examination and seeking regular professional breast examination. It benefits women into two ways: women become familiar with both the appearance and the feel of their breast and detect any change in their breast as early as possible(Ludwick and Gaczkowshis, 2011).

American Cancer Society stated that a women's risk of breast cancer approximately doubles if she has first degree relative (mother, sister, daughter) that has been diagnosed breast cancer about 20-30% has family history of breast cancer. About 5-10% of breast cancer is caused by inherited genes mutation the most significant risk factors for breast cancer are gender (being a women) and age(growing older) (Nepal Cancer Relief Society, 2011)

Women are hundred times likely to get breast cancer than men, So that the American Cancer Society recommended the primary prevention to the breast cancer is self awareness for early detection by breast self examination, annually clinical breast examination and mammography after the age of 40 years. (Nepal Cancer Relief Society, 2011).

2.2 Empirical Literature Review

Pabitra Ale in her thesis submitted to the department of education, T.U., stated that 10+2 level females had little knowledge regarding breast cancers and its risk factors. The students were also not familiar with BSE. There was a need to increase knowledge of adolescent female students about breast cancer and its risk factors. (Ale, 2011).

KalpanaShrestha mentioned in her research article titled *"Breast cancer knowledgeand screening practice among women visited to KIST medical college"* that according to Singh Y.P., Sayami P. in management of cancer in Nepal, cancer education , screening and early detection are key elements to influence the diagnosis, treatment and prognosis of BC. Breast awareness and clinical examinations are important tools for early detection in our limited context. BC can be cured in majority of the cases if diagnosed early stages. (K. Shrestha, 2012).

The research by Abduelmula R. and Abduelkarem, and others on the title "Evaluation of Breast Cancer Awareness Among Female University Students in University of Sharjah, UAE indicated that the level of awareness of breast cancer studied female students i.e. knowledge of breast cancer warning signs, risk factors, screening program and breast self-examination were very inadequate at the beginning of the studied. Surprisingly, most of the findings after the awareness program designed for the purpose of the research study had a dramatic change which indicated that the breast cancer awareness were more likely to be effective and has a large impact. (Abduelmula R., et. al.,2015).

This study showed that the people of middle east have less knowledge about breast cancer . But if the women are aware of BC and they get awareness education about cancer there will be dramatic change into their attitude of breast cancer.

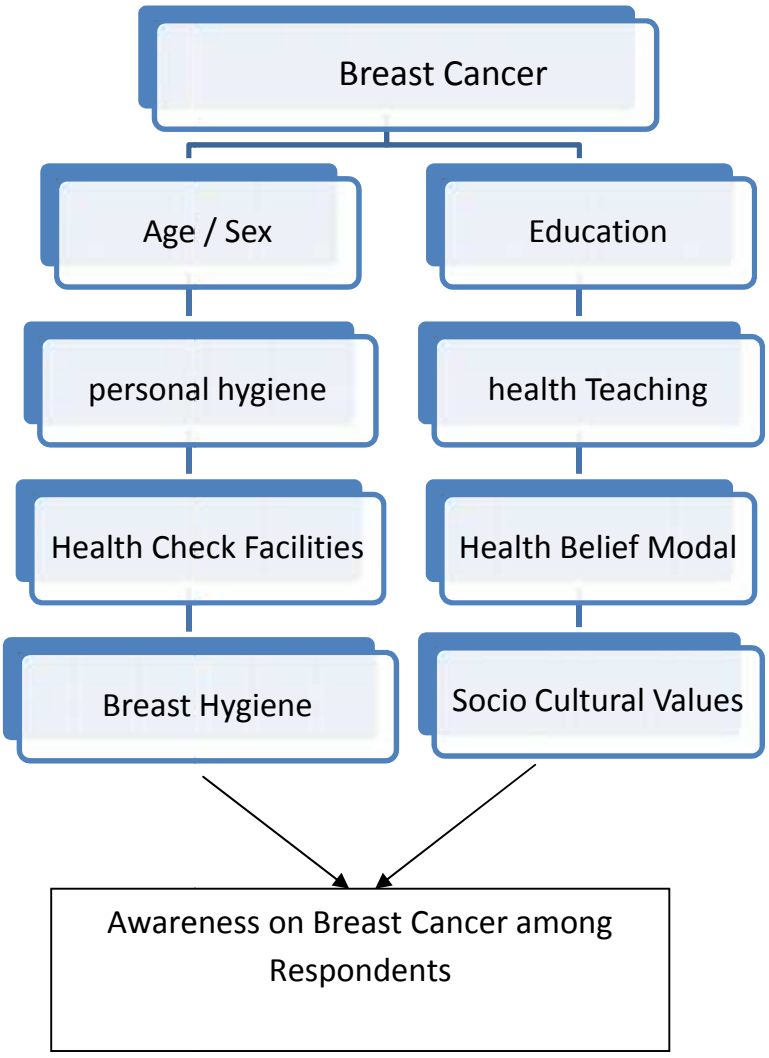
Kumar Bahadur Baniya, in his thesis submitted to department of education, T.U., had researched about the awareness of Breast Cancer among 200 women ageing 40-50 in Okhaldhunga district concluded that they have low awareness regarding breast cancer, risk factors, BSE and cancer care centers (Baniya K., 2015).

From the above review of related literature, the investigator collected background information related to the study and in sighted to write statement of the problem. It is helpful to formulate objectives and research questions, research methodology and questionnaires that

will revive well by the help of literature mentioned above. This shows that some of the researchers have done important works related to awareness of breast cancer. But the research is not sufficient in the area which is selected for the study. Being a highly literate district, the adolescent girls of 10+2 level are not so aware of breast cancer. So, the study will help them to be aware about breast cancer and the incidence of breast cancer can be reduced.

2.3 Conceptual Framework

The conceptual framework assumed to explain the awareness of breast cancer in 10+2 level female students. With the variables given here, it gives a clear roadmap to the researcher. Age, sex, personal hygiene, etc. are important variables to determine awareness level of respondents about breast cancer.



CHAPTER -3

RESEARCH METHODOLOGY

3.1 Study Design

The design of this study is descriptive and exploratory to assess the level of awareness on breast cancer among adolescent (10+2) girls in Jhapa District.

3.2 Population of the Study

10+2 level female students from different six higher secondary schools of **Anarmani resource centre** of Jhapa district is taken as study population. The number of population is 500.

3.3 Sampling procedure and sample size

Sample random sampling procedure is used in this study and the sample size is150. 15 Adolescent girls from **Birendra Higher Secondary School, Chandragadi** have been selected for pilot study.

3.4 Data collection tools

Structured questionnaires are used to collect the data which is structured by consulting with guide, concerned teachers and previous reports and pilot study.

3.5 Validation of tools

The developed data collection tools are approved by guide and concerned teachers and previous research reports. Pre-testing of questionnaires is done after approval from guide and concerned teachers. The developed tools are tested 10% (15) 10+2 students. Pilot study is done after writing consent from campus chief and verbal consent from students. After testing the tool, the instructions, sequence, words and options are changed and some questions are quitted and some are added after getting feedback from the students.

3.6 Data collection procedure

The research is based on primary and secondary data. In the process of data collection, the researcher went to the respective higher secondary schools with the recommendation letters of from campus chief/co-ordinate of respective higher secondary schools. The students who were given information about the study and who accepted to participate in the study were included. Three types of instruments were used to collect data: socio-demographic characteristics, knowledge/awareness on breast cancer and risk factor sign and symptoms and treatment for breast cancer. Self-administered structured questionnaires (SASQ) method was used which is developed on the basis of study objectives. SASQ method is used to collect the data from the selected study population, which is developed on the basis of study objectives.

3.7 Method of Data Analysis and Interpretation

After obtaining the data completely, data management has been done by manually and by using computer. The data has been analyzed by statistical frequency, percentage, standard deviation. The y are presented in table figure and charts. The data was scored and categorized in term of poor awareness (<40%), good awareness (40-60%) and very good awareness (>60%) statistically and by reviewing previous research report.

CHAPTER – IV

RESULT AND DISSCUSSION OF DATA

This chapter deals with the analysis and interpretation of the data which was collected from structured questionnaires. This chapter is divided into following parts:

a. Socio-demographic characteristics of respondents.
b. Awareness/knowledge level of respondents on breast cancer.
c. Awareness of risk factors, sign and symptoms, and treatment on breast cancer of the respondents.

Data has been interpreted and analyzed carefully and has been converted into percentages and shown in tables and figures.

4.1 Socio-demographic Characteristics of Respondents

In this study, data were collected from six higher secondary school of Anarmani Resource Center, Jhapa ; Shree Mahendra Ratna Higher Secondary School, Shree Durga Higher Secondary School ,Shree Devi Higher Secondary School, Shree Mahendra Jyoti Higher Secondary School, Shree Bir Amar Singh Higher Secondary School and Jana Jagriti Higher Secondary School are included. Most of the respondents were from Jhapa district. In this section, socio-demographic characteristics of respondents such as age, religion, ethnicity, parental education, profession and annual income level of family have been discussed.

4.1.1 Age of Respondents

Age is one important factor of every research. The distribution of respondents according to their age group is shown in the following figure.

Figure No. 1: Distribution of Respondents According to their Age

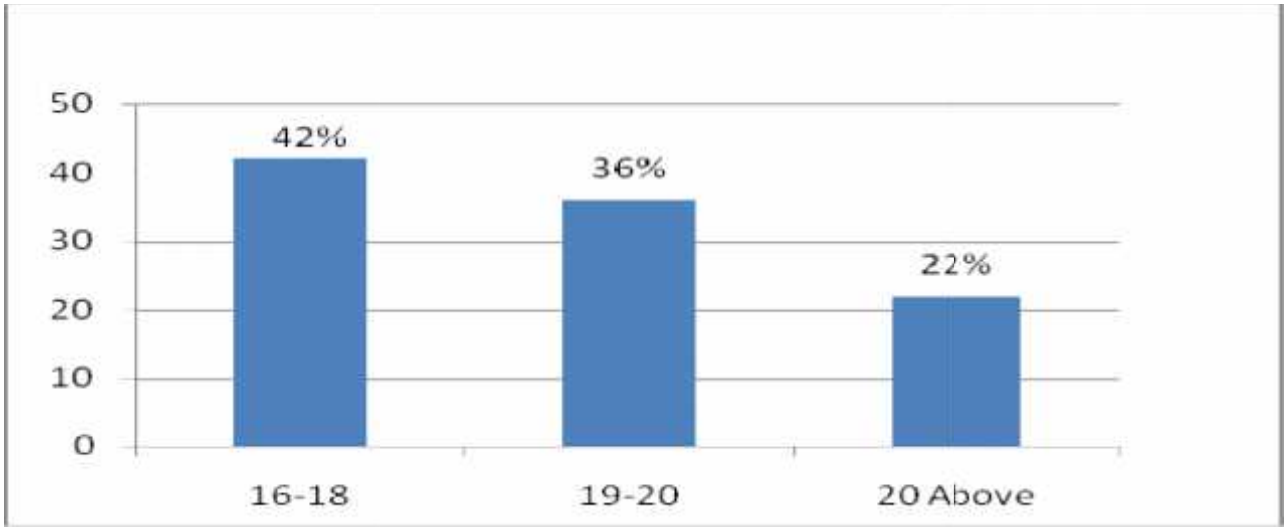


Figure No. 1 shows that distribution of respondents according to their age. Among 150 respondents 42 percent are between the ages of 16-18 years, 36 percent of respondents are between 19-20 years and 22 percent of respondents are above 20 years.

4.1.2 Religion followed by Family

Distribution of respondents according to their religion is shown in the following table.

Table No. 1 Distribution of Respondents According to their Religion

Religion	Number of Respondents (n=150)	Percentage
Hindu	86	57.33%
Buddhist	24	16%
Christian	17	11.33%
Islam	12	8%
Kirat	11	7.33%
Total	150	100

Table no. 1 indicates the distribution of respondents according to their religion followed by family. Among 150 respondents 57.33 percent were Hindu, 16 percent were Buddhist, 11.33

percent were Christian, 8 percent were Islam and remaining 7.33 percent of respondents were Kirat.

It is concluded that religion of respondents plays important role in early diagnosis, prevention and treatment of diseases. Majority of Hindu people treated diseases by traditional healers, *Baidhya* at first and then they go to hospitals and health institutions when they become ill and injured.

4.1.3 Ethnicity of Respondents

Distribution of respondents according to their ethnicity is shown in the following table.

Table No. 2 Distribution of Respondents According to their Ethnicity

Ethnicity	**No. of Respondents (n=150)**	**Percentage**
Brahmin	39	26%
Chhetri	48	32%
Rajbanshi	16	10.66%
Magar	5	3.33%
Rai	11	7.33%
Limbu	9	6%
Newar	7	4.6%
Santhal	7	4.6%
Tharu	5	3.33%
Others	3	2%
Total	150	100

Table No. 2 indicates distribution of the respondents according to their ethnicity. Out of total respondents 26 percent were Brahmin, similarly 32 percent were Chhetri, 10.66 percent were

Rajbanshi, 3.33 percent were Magar, 7.33 percent was Rai, 6 percent were Limbu, Newar were 4.6 percent, Santhal were 4.6 percent, Tharu were 4.33 percent and others were 2 percent.

Ethnicities of respondents were from different backgrounds as Nepal has different castes and races. In literature reviewed, it is found that all ethnics groups are affected by breast cancer.

4.1.4 Parental Education of Respondents

Parental education plays a key role in the family of the respondents. It helps the respondents to maintain the quality of life and adjust in changeable time. Parental educational status affects their health status too. Distribution of respondents according to their parental education is shown in the following table.

Table No. 3: Distribution of Respondents According to Their Parental Education

Parental Education	No. of Respondent's Parents			
	Father		Mother	
	Number	Percent	Number	Percent
Illiterate			5	3%
Primary Level	47	31.33%	63	42%
Secondary Level	63	42.00%	52	35%
Higher Secondary Level	29	19.33%	21	14%
Above 10+2 (University Level)	11	7.33%	9	6%
Total	150	100	150	100

Table no. 3 shows distribution of the respondents according to their parental education. Out of total 31.33 percent of respondent's fathers had completed primary level of education, 0 percent were illiterate, 42 percent had completed secondary level, 19.33 percent had passed higher secondary level and only 7.33 percent had completed university level of education. 3 percent of respondent's mothers were illiterate, 42 percent had completed primary level, similarly 35 percent had completed secondary level, 14 percent had completed higher

secondary level and only 6 percent of respondent's mothers were completed university level of education.

It is concluded that parental educational status was very low because they had very low economic condition. Most of the parents of respondents are depended on agricultural works and majority of respondent's father were completed primary level of education only.

4.1.5 Parental Profession of Respondents

Parental profession/occupation is essential to solve hand to mouth problem of the respondents. Without occupation people can't meet the increasing requires of the family, person, society and country. Occupation also affects the human health protection which again affects their social, mental, physical and spiritual health. Distribution of respondents according to their Parental Profession is shown in the following table.

Table No. 4: Distribution of Respondents According to their Parental Profession

	No of respondents' parents			
Parental Profession	**Father**		**Mother**	
	Number	**Percent**	**Number**	**Percent**
Foreign employment	41	27%	13	8.67%
Teaching	7	5%	2	1.33%
Farming	62	41%	73	48.67%
Office Workers	3	2%	0	0.00%
Government Service	10	7%	4	2.67%
Businessman	11	7%	11	7.33%
Others– House Keeping, Construction, Driving	16	11%	47	31.33%
Total	150	100%	150	100%

Table no. 4 indicates that distribution of respondents according to their parental profession. Out of total respondent's fathers 27 percent were engaged in foreign employment, 5 percent were engaged in teaching, 41 percent were engaged in farming, 2 percent were official workers, 7 percent were engaged in government service, 7 percent were businessman, 11

percent are engaged in house-keeping, driving and construction. Regarding the occupation of respondent's mothers, 8.67 percent were engaged in foreign employment, 1.33 percent were engaged in teaching, 48.67 percent were engaged in farming, 2.67 percent were engaged in government service, 7.33 percent were businessman and 31.33 percent were engaged in house-keeping, construction and driving.

The researcher found that main parental profession of the respondents was farming .Likewise, some respondent's fathers and mothers were engaged in teaching, business, official works and housewives.

4.1.6 Annual Income of Family of Respondents

Economic status is the most important variable that causes women and adolescent girls to check their health, early detection, prevention and treatment of diseases. Distribution of respondents according to their annual income level of family is shown in the following figure.

Figure No. 2: Distribution of Respondents According to Their Annual Income Level of Family

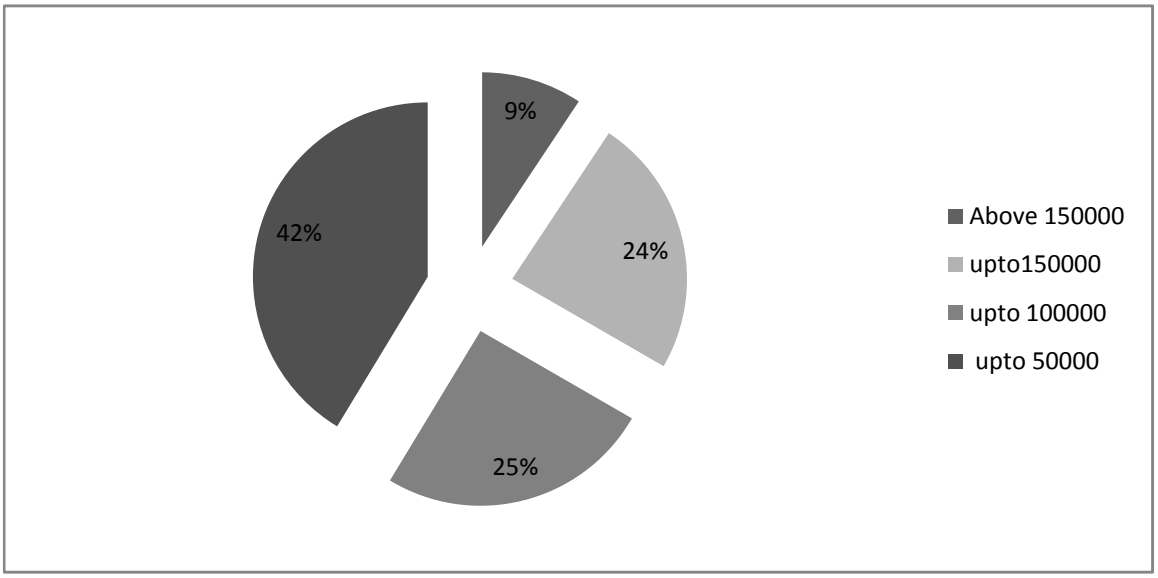


Figure no. 2 indicates that distribution of respondents according to their annual income level of family. Out of total respondent's family 42 percent was Rs.50,000, only 25 percent was Rs. 100,000, 24 percent was Rs. 150,000 and very similarly 9 percent was above Rs. 150,000.

It is concluded that economic status determines the quality of life of a person. Researcher found that the annual income of respondent's family was low because most of respondent's

families depended on their traditional occupation farming and foreign employment. Only small numbers of families were depended on other profession.

4.2 Awareness / Knowledge level of Respondents on Breast Cancer

Breast cancer awareness is necessary for every woman. It is very important for proper diagnosis, staging and treatment to achieve long-term control. It also helps to create awareness in women about life style changes that could actual decrease the incidence of breast cancer. Knowledge/awareness level of respondents is shown in the following tables and figures.

4.2.1 Source of Knowledge on Breast Cancer

Distribution of respondents according to source of knowledge is shown in the following table.

Table No. 5: Distribution of Respondents According to sources of knowledge

Description	**Number**	**Percentage**
Heard about Breast Cancer		
Yes	120	80%
No	30	20%
Total	150	100%
Source of Information		
School	34	22.67%
Book/Magazine	18	12%
T.V./Radio	53	35.33%
Internet	6	4%
Friends	9	6%
Not Exposed	30	20%
Total	150	100%

Table no. 5 indicates that distribution of respondent's knowledge/awareness on breast cancer. A total of 80 percent of respondents heard about breast cancer and only 20 percent did not heard about it. Among 150 respondents, 22.67 percent of respondents obtained information

about breast cancer from schools, 12 percent from books/magazine, 35.33 percent from TV/Radio, 4 percent from internet, 6 percent from friends and 20 percent did not expose.

It is concluded that 80 percent of respondents heard about breast cancer. The effective source of information of respondents is TV/Radio. It seems that easy access is needed for the effective information about breast cancer.

4.2.2 Distribution of Respondents according to their Knowledge/ Awareness Level

Distribution of respondents according to their Knowledge/ Awareness level is shown in the following table.

Table No. 6: Distribution of Respondents according to their Knowledge/ Awareness Level

Knowledge on Breast Cancer	Number	Percentage
Knowledge of BSE		
Yes	9	6%
No	123	82%
Don't Know	18	12%
Total	150	100%
BSE Performance		
Yes	3	2%
No	132	88%
Don't Know	15	10%
Total	150	100%
Need of Breast Cancer Awareness Classes at Higher Secondary Level at School		
Yes	141	94%
No	6	4%
Don't Know	3	2%
Total	150	100%
Knowledge about Hospitals/Institutions that Provides Cancer Services		
yes	36	24%
No	105	70%
Don't Know	9	6%
Total	150	100%
Knowledge on Mammography		
Yes	15	10%
No	114	76%
Don't Know	21	14%
Total	150	100%
Knowledge on Biopsy of the Breast Cells		
yes	27	18%
No	81	54%
Don't Know	42	28%
Total	150	100%

Table no 6 indicates the distribution of respondents according to their knowledge/awareness level on breast cancer. Out of total respondents only 6 percent had knowledge about Breast Self Examination (BSE), 12 percent of respondents did not have knowledge about Breast Self Examination and majority of respondents 82 percent stated that they did not know.

Only 2 percent of respondent performed BSE, 88 percent did not perform BSE, 10 percent stated that they did not know. A total of 94 of respondents felt need breast cancer awareness classes at higher secondary level at school but 4 percent of respondents did not feel need of breast cancer awareness classes and similarly 2 percent stated that they did not know. 24 percent of respondents stated that they had knowledge about hospitals/institutions that provide cancer services, 70 percent did not have knowledge about those hospital/institutions and only 6 percent stated that they did not know.

Among 150 respondents, 10 percent had knowledge about mammography, 76 percent did not have knowledge about mammography and 14 percent stated that they did not know. Similarly 18 percent had knowledge about biopsy of breast cells, 54 percent did not have knowledge about biopsy of breast cells. 28 percent of respondents stated that they did not know.

It is concluded that majority of respondents did not know about BSE and how to perform BSE and 70 percent of respondents did not have information of hospitals/institutions that provide services related to breast cancer. Thus, it proves that awareness of breast cancer is needed to reduce risk of breast cancer among majority of respondents. If they had been aware of it, it would prevent chance of untimely death.

4.2.3 Distribution of Respondents according to their Knowledge about the Reason of not Getting Earlier Diagnosis of Breast Cancer

Distribution of respondents according to their knowledge about the reason of not getting earlier diagnosis of Breast Cancer is shown in the following figure.

Figure No. 3: Distribution of Respondents according to their Knowledge about the Reason of Not Getting Earlier Diagnosis of Breast Cancer

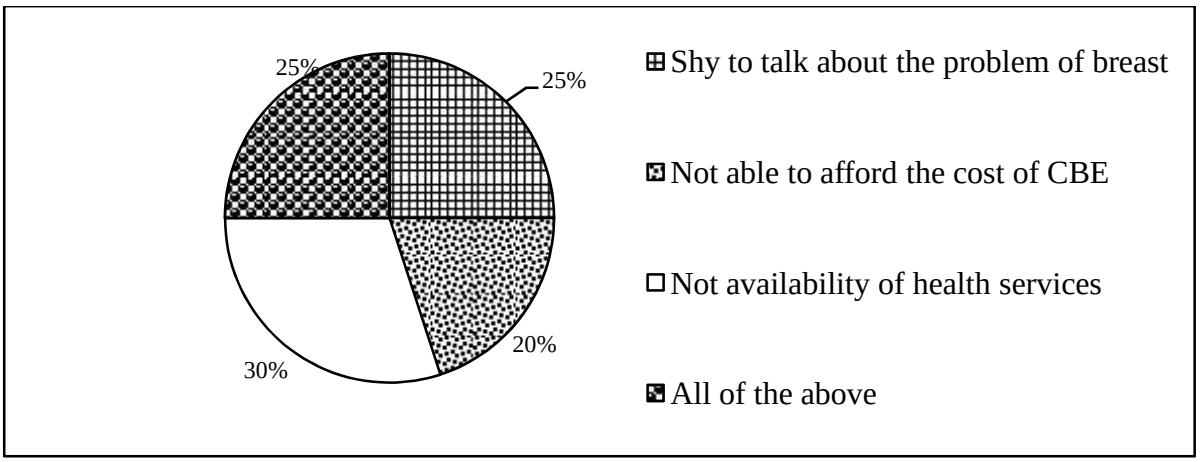


Figure no. 3 shows distribution of respondents according to their knowledge regarding to the reason of not getting earlier diagnosis of breast cancer among younger women by the health professionals. Out of total 25 percent of respondents were not getting earlier diagnosis because the women shy to talk about the problems of the breast, similarly 20 percent of respondents did not able to afford the cost of Clinical Breast Examination (CBE). Among the total respondents, 30 percent stated that the availability of health services is not sufficient and also 25 percent of respondents gave answer ‘all of above’.

Researcher found that main causes of not getting earlier diagnosis of breast cancer are shy to talk, not able to afford the cost of CBE and lack of health services. So, awareness classes are needed and the government of Nepal should provide cost free services for the victims of breast cancer in hospitals.

4.3 Awareness of Respondents on Risk Factors of Breast Cancer

Awareness of risk factors for breast cancer promotes healthy diet, physical activities and control of alcohol intake, overweight and obesity. These factors could eventually have an impact in reducing the incidence of breast cancer in long-term. So, researcher assessed the knowledge/awareness of risk factors for breast cancer among the respondents. Distributions of awareness/ knowledge level of respondents on risk factors for breast cancer are shown in the following tables and figures.

4.3.1 Distribution of Respondents According to Their Awareness of Risk Factors for Breast Cancer

Distribution of respondents according to their awareness of risk factors for Breast Cancer is shown in the following table.

Table No. 7: Distribution of Respondents according to Their Awareness of Risk Factors on Breast Cancer

Risk Factors for Breast Cancer	Number	Percent
Family history of breast cancer		
Yes	2	1.33%
No	139	92.67%
Don't Know	9	6%
Total	150	100%
Personal history of breast cancer		
Yes	-	-
No	143	95.33%
Don't Know	7	4.67%
Total	150	100%
Menstruating before age of 12		
Yes	11	7.33%
No	139	92.67%
Total	150	100%
Environmental pollution, dust, waste products, chemical mixed foods and pesticides for crops may increase risk for breast cancer	44	29.33%
Yes	78	52%
No	28	18.67%
Don't Know		
High dose radiation therapy to chest		
Yes	-	-
No	137	91.33%
Don’t’ Know	13	8.67%
Total	150	100%
Recurrent abortion and prolong use of hormonal contraceptive		
Yes	19	12.67%
No	108	72%
Don't Know	23	15.33%
Total	150	100%

Table no. 7 indicates that distribution of respondents according to their awareness of risk factors for breast cancer. Among 150 respondents, 1.33 percent had family history of breast cancer, majority of respondents 92.67 percent did not have family history of breast cancer and 6 percent of respondents stated that they did not know. Almost of respondents, 95.33

percent did not have personal history of breast cancer and 4.67 percent stated that they did not know. Small numbers (7.33 percent) of respondent were menstruation before age of 12 year and a total of 92.67 percent of respondents did not menstruation before age of 12 year.

Among 150 respondents, 29.33 percent of respondents gave correct response about environmental pollution, dust, waste products, chemical foods addiction and use of the pesticides for crops, 52 percent gave incorrect response and 18.67 percent stated that they did not know. Out of total respondents, (91.33 percent) did not have knowledge about high dose radiation therapy to the chest and 8.67 percent of respondents stated that they did not know. About one third (12.67 percent) of respondents stated that they had knowledge about recurrent abortion and prolong use of hormonal contraceptive increase the risk of breast cancer, 72 percent of respondents did not have knowledge about those matters and 15.33 percent of respondents gave answer 'did not know'.

It can be said that majority of respondents did not have family and personal history of breast cancer and they did not have menstruation before 12 year. Most of the respondents had little knowledge about risk factors of breast cancer. Thus it proves that, if they did not have knowledge on risk factors for breast cancer, they are not aware about breast cancer.

4.3.2 Distribution of Respondents according to their Awareness Regarding Diet

Distribution of respondents according to their awareness regarding diet is shown in the following figure.

Figure No. 4: Distribution of Respondents According to their Awareness Regarding Diet

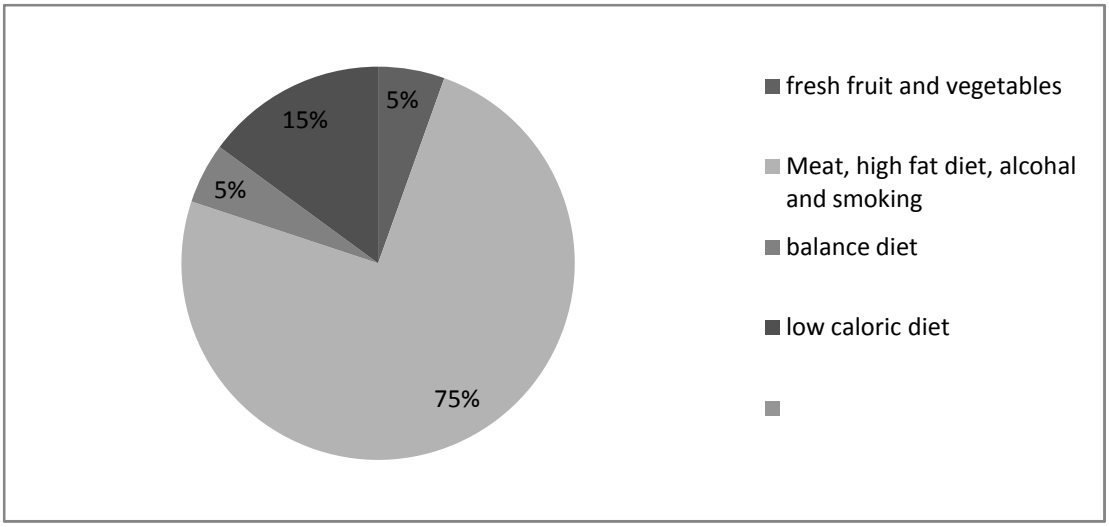


Figure no. 4 shows that distribution of respondents according to their awareness regarding diet. Out of total respondents, 5 percent respondents stated that fresh fruit and vegetables may increase the risk of breast cancer, 75 percent of respondents said that meat, high fat diet, alcohol and smoking may increase, and 5 percent of respondents stated that balanced diet may increase the risk of breast cancer and 15 percent of respondents said that low caloric diet may increase the risk of breast cancer.

It is concluded that $\frac{3}{4}$ of respondents had very good (75%) awareness regarding diet which may increase the risk of breast cancer. It proves that, if they had sufficient information regarding diet, it would minimize risk of breast cancer. Almost 10 percent of the respondents had incorrect knowledge about dietary component of breast cancer.

4.3.3 Distribution of Respondents according to their Awareness regarding Pregnancy

Distribution of respondents according to their awareness regarding pregnancy is shown in the following figure.

Figure No. 5: Distribution of Respondents according to their Awareness regarding Pregnancy

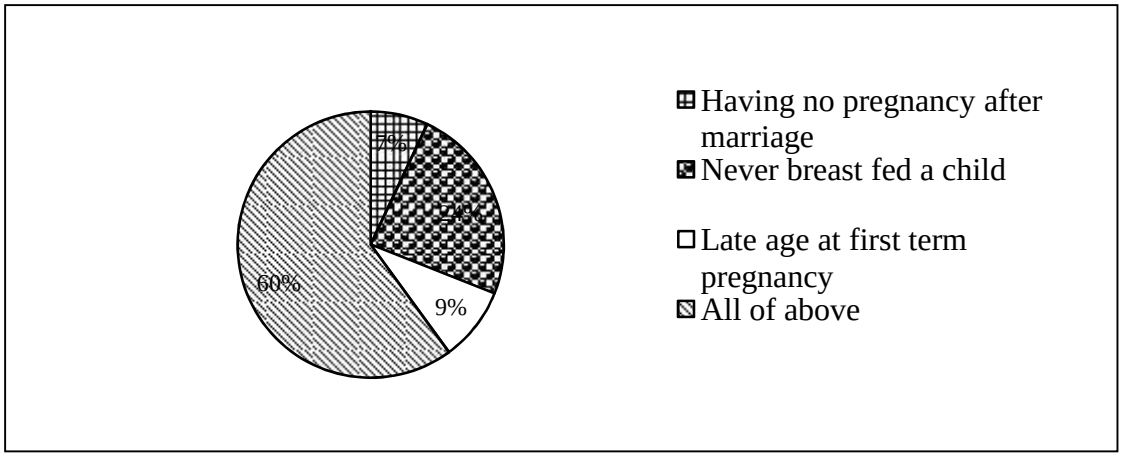


Figure no. 5 indicates that distribution of respondents according to their awareness regarding pregnancy which may increase the risk of breast cancer. Among 150 respondents, 7 percent of respondents reported that having no pregnancy after marriage, 24 percent of respondents stated that never breast fed a child is a risk factor of breast cancer, 9 percent of respondents stated that late age at first full term pregnancy and 60 percent of respondents stated that all of above which is correct response.

It is concluded that 60 percent of respondents had good awareness (40-60%) regarding pregnancy which may increase the risk of breast cancer.

4.3.4 Distribution of Respondents according to their Awareness regarding other Risk Factors of Breast Cancer

Distribution of respondents according to their awareness regarding other risk factors of Breast Cancer is shown in the following figure.

Figure No. 6: Distribution of Respondents according to their Awareness regarding other Risk Factors of Breast Cancer

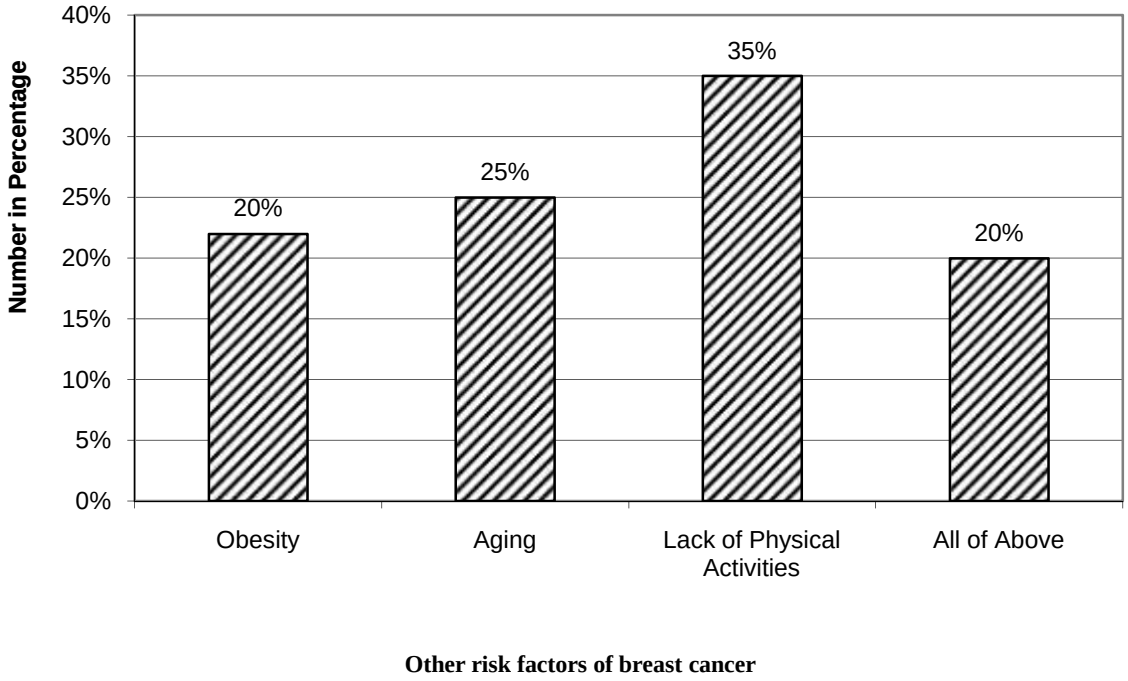


Figure no. 6 shows distribution of respondents according to their awareness regarding other risk factors of breast cancer. Out of total, 20 percent stated that obesity is a other risk factor of breast cancer, 25 of respondents said that aging, 35 percent of respondents stated that lack of physical activities and 20 of respondents stated all of above which is correct response.

It is conducted that majority of respondents had poor awareness regarding other risk factors of breast cancer.

4.4 Distribution of respondents according to their knowledge about sign and symptoms of breast cancer.

Figure no : 7 Distribution of respondents according to their knowledge about sign and symptoms of breast cancer.

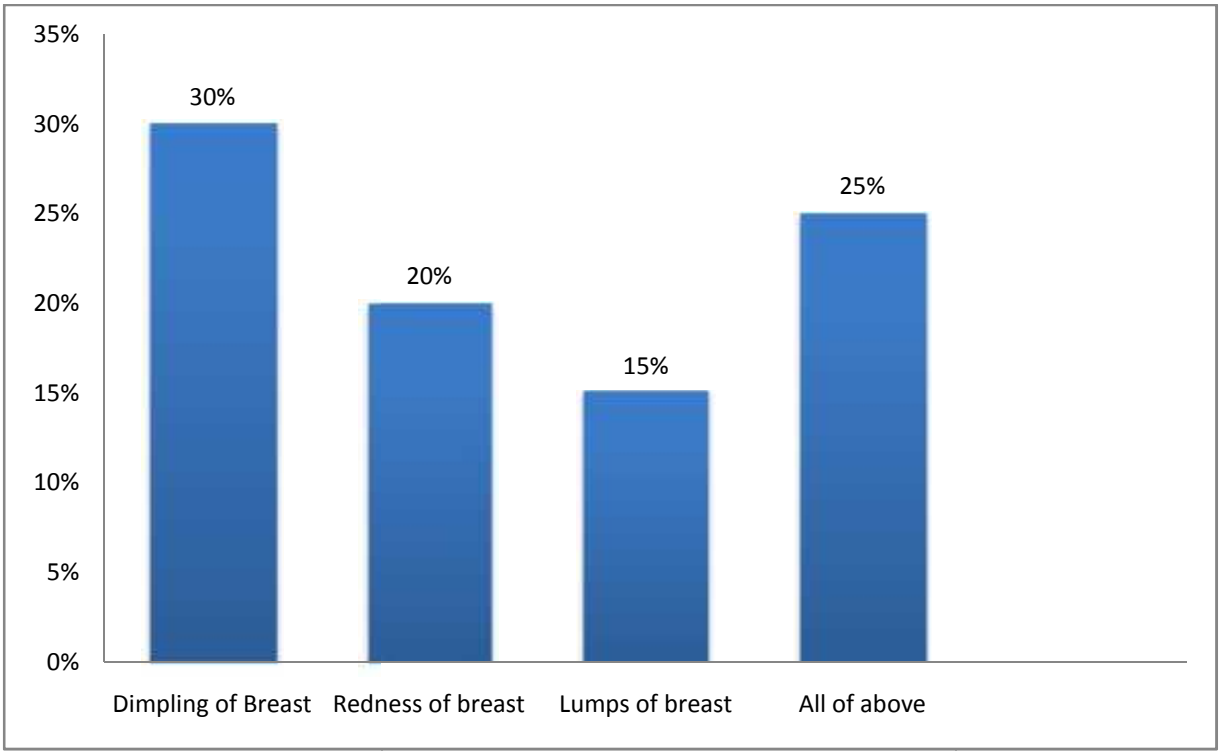


Figure no. 7 shows distribution of respondents according to their knowledge regarding sign and symptoms of breast cancer among adolescent girls. Out of total 33% percent of respondents were aware about dimpling of breast. Similarly 22 percent of respondents had already known about the redness of breast. Among the total respondents, 28% percent stated that the lumps around the breast was the main symptom of breast cancer and 17% percent of respondents gave answered all of above.

Researcher found that main symptom for breast cancer ,according to the respondents,was dimpling of breast as it was largest number of response

4.5 Distribution of respondents according to their knowledge about treatment of Breast Cancer.Figure no :

8. Distribution of respondents according to their knowledge about treatment of Breast Cancer.

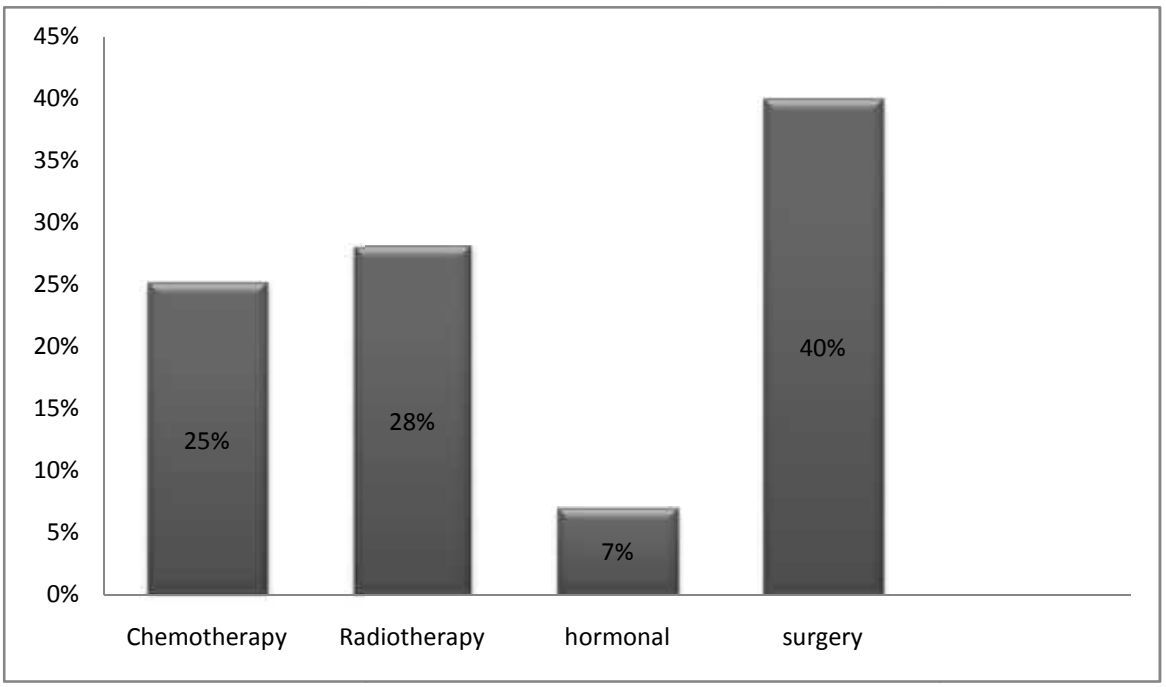


Figure no.8 shows distribution of respondents according to their knowledge regarding treatment of breast cancer among adolescent girls. Out of total 40% percent of respondents were aware about surgery of breast. Similarly 25 percent of respondents had already known about the chemotherapy. Among the total respondents, 28% percent stated that the radiotherapy of the breast was the main treatment of breast cancer and 7% percent of respondents answered hormonal and targeted therapy are the methods of treatment.

Researcher found that major form of treatment of breast cancer is surgery of the breast as it was the largest number of response from respondents.

4.6 Findings

The major findings of this study are given below:-

A. Socio-demographic characteristics of the respondents:

a. Among 150 respondents, in addition 42 percent of respondents belonged to the age group of 16-18 years.

b. Most of the respondents 57.33 percent were Hindu.

c. A total of 32 percent of respondents were Chhetri. Similarly 26 percent of respondents were Brahmin and 10.66% percent were Rajbansi.

d. Moreover 31.33 percent of respondent's fathers had completed primary level of education. In addition 3 percent of respondent's mothers were illiterate and 42 percent of respondent's mothers had completed primary level of education only.

e. Out of total 41 percent of respondent's fathers were engaged in farming and 27 percent were engaged in foreign employment and similarly 48.67 percent of respondents mothers were also engaged in farming and 31.33%percent were engaged in Others fields such as House Keeping, Construction, Driving.

f. Out of total respondent's annual income family 42 percent was Rs. 50,000 only 25 percent was Rs. 100,000, 24 percent was Rs. 150,000 and very similarly 9 percent was above Rs. 150,000.

B. Awareness/knowledge level of respondents on breast cancer

a. A total of 80 percent of respondents heard about breast cancer.

b. Moreover 22.67 percent of respondents obtained information about breast cancer from Schools, and 20 percent did not expose.

c. Out of total, 94 percent of respondents felt need breast cancer awareness classes at higher secondary level at school and 4 percent did not feel.

d. Among total respondents 24 percent of respondents had knowledge about hospital/institutions that provide cancer services and 70 percent of respondents did not have knowledge.

C. Awareness of the respondents of risk factors, sign and symptoms, and treatment of breast cancer.

a. Most of respondents 92.67 percent did not have family history of breast cancer.

b. Majority of respondents 95.33 percent did not have personal history of breast cancer.

c. Only 7.33 percent of respondents have menstruation before age of 12 years.

d. Out of total 29.33 percent of respondents reported correct answer, the environmental pollution, dust, waste products, chemical mixed foods and pesticides for crops increase the risk of breast cancer.

e. A total of none of the respondents were familiar with radiation therapy to chest which is a risk factor for breast cancer.

f. Out of total (12.67 percent) of respondents stated that they had knowledge about recurrent abortion and prolong use of hormonal contraceptive increase the risk of breast cancer.

g. As per the knowledge and awareness of breast cancer,out of total, 33% percent of respondents were aware about dimpling of breast.

h. Regarding the treatment of breast cancer 40 percent of respondents were aware about the surgery of breast. Very less (7%) of the respondents had knowledge regarding hormonal therapy and regarding chemotherapy and radiotherapy the respondents had equal knowledge 25% and 28% respectively.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Breast cancer is the most common cancer in women both in the developed and the developing world. The incidence of breast cancer is increasing in the developing world due to increase life expectancy; increase urbanization and adoption of western lifestyles. Young breast cancer patients have a lower rate of survival than old breast cancer patients due to being diagnosed at advanced stage. Breast cancer awareness makes women more "Breast Aware" which in turn may lead to an earlier diagnosis of breast cancer. Promotion of self care an attitude fostered early in life may pay lifelong dividends. The adolescent period is a time of rapid change that provides teaching opportunities for shaping health behaviors into adulthood. Teaching about breast cancer awareness may encourage positive behavior to the patients, such as performing breast-self examination, seeking regular professional breast examinations and empowering women to take some control and responsibility over their health promotion. For younger women BSE education and adherence are a gateway to health promotion behaviors which set the stage for adherence to clinical breast examination and mammography screening later in life.

The main purpose of the present study entitled "Awareness on Breast Cancer among the adolescent of 10+2 level in Jhapa district" is to assess the level of awareness on breast cancer and to identify the level of awareness/knowledge of risk factors, sign and symptoms and treatment of breast cancer

The study is descriptive and survey type-mainly based on primary data obtained from 150 respondents. Stratified sampling procedure was applied for this study. Structured questionnaire was the major tool adopted to get necessary information on breast cancer. The tool was pre-tested to 15 respondents in Birendra Higher Secondary school in Chandragadi , Jhapa. After collecting the data was tabulated on master chart. Than the data was analyzed and interpreted with the help of computer software. After analysis and interpretation of data, the findings, conclusion and recommendations were presented.

5.2 Conclusion

The results of the study showed that higher proportion of respondents heard about breast cancer but they did not have knowledge and did not perform Breast Self Examination. Almost of respondents felt need of breast cancer awareness classes at higher secondary level

at school. More than half of the respondents did not have knowledge about hospital and institutions that provide cancer service, mammography and biopsy of breast cells. They were not familiar with radiation therapy, pesticides and prolong hormonal contraceptive use.

The majority of respondents did not have knowledge on breast cancer and its risk factors and they did not practice breast self examination due to lack of knowledge, lack of sufficient educational programs for breast cancer awareness, they did not know how to perform breast self examination, did not expect to get breast cancer in adolescent period and they did not have close relative with breast cancer, and did not have family history of breast cancer. Average knowledge level of respondents was below 37 percent on breast cancer and 35 percent on risk factors, signs and symptoms, and treatment for breast cancer. So, most of respondents had poor knowledge level on breast cancer and its risk factors signs and symptoms, and treatment of breast cancer.

5.3 Recommendations

In order to promote breast cancer awareness to the adolescent female respondents, following recommendations were made on the basis of findings.

5.3.1 General Recommendations

a. This study recommend to higher secondary school to initiate a planned informal or formal awareness classes regarding breast cancer for the students.

b. There is a need to provide on education program regarding the breast-self-examination.

c. Health care professionals should develop effective breast health programs among adolescent to help adolescents female acquire good health habits since their youth

d. Government and NGOs should provide breast cancer awareness and breast health programs to the students.

e. Informal adult literacy classes should be provided for illiterate respondents' mothers and fathers for proper guiding and teaching.

f. Cost free service for the diagnosis and treatment of BC should be provided to the breast cancer patients by the government of Nepal.

5.3.2 Recommendations for Further Study

a. This type of study could be conducted in others higher secondary school and campus in depth and covering large sample size.

b. It facilitate to do comparative study both rural higher secondary 10+2 female students and urban higher secondary 10+2 female students.

c. It becomes very useful for government or non government who wants to bring programs related to this topic and also useful for health, personnel.

d. This study also becomes very useful for curriculum planners, supervisor, examiners, general trainers and instructors to plan, modify and improve the appropriate curriculum text book at 10+2 level.

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APPENDIX

Questionnaires

Instruction:

Please tick (√) the correct answers only. The information will be based only for the study purpose and it will be kept confidential.

Social-demographic characteristics of respondents are

1 .Name of the school/college

1. Name of respondents :

2 .Faculty of education :

3. Address:

Permanent:	Temporary:
VDC/Municipality…….	VDC/Municipality…….
Ward No.:……..	Ward No.:……..
District …….	District …….

4. Age

a. 17-18 years b. 18-19 years c. Above 19 years

5. Religion

a. Hindu b. Buddhist c. Christian

d. Muslim e. Others (Specify)

6. Ethnicity

a. Brahmin b. Chhetri c. Rajbanshi

d. Santhal e. Rai f. Limbu

j. Others (Specify)

7. Parental Education

a.Illiterate (No schooling) b. Primary level (1-5 class passed)

c.Secondary level (6-10 passed) d. Higher Secondary level (10+2 passed)

e.University (Above 10+2)

8. Parental Profession: (Father)

a. Unemployed b. Teaching

c. Farming d. Official Worker

e. Health professional f. Businessman

g. Others (specify)

9. Parental Profession: (Mother)

a. Unemployed b. Teaching

c. Farming d. Official Worker

e. Health professional f. Businessman

g. Others (specify)

10. Annual family income level

a. Rs 50000 b.Rs 100000 c.Rs150000 d.above 150000

B. Knowledge/Awareness level of respondents on breast cancer:

11. Have you heard about breast cancer?

a. Yes b. No

12. From which source did you get information about breast cancer?

a. School b. Books/Magazine

c. Radio/TV d. Internet

e. Friends

13. Do you know about Breast Self Examination (BSE)?

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

14. Have you done breast self examination (BSE) 5 to7 day of menstruating period?

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

15. Do you think you need of awareness classes about the breast cancer at higher secondary level at school for early detection and prevention of breast cancer?

a. Yes b.No

16. Do you know about the hospitals/institutions that provide cancer services and advices with awareness information about breast cancer?

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

17.Do you know about Mammography (X-ray of breast cancer)?

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

18. Do you know about the biopsy of the breast cells to detect cancerous cells in breast?

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

19 In your opinion, which is the most appropriate reason of not getting earlier diagnosis of breast cancer among younger women by the health professional?

a. Because of the women shy to talk about the problem of the breast and they are not aware of breast cancer.

b. The women are not able to afford the cost of Clinical Breast Examination in hospital for the prevention of breast cancer.

c. Because the availability of health services is not sufficient.

d. All of the above.

C.Awareness of risk factors, sign and symptoms, and treatment on breast cancer of the respondents

20 Do you have family history of breast cancer?

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

21. Do you have personal history of breast cancer?

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

22. Did you begin menstruating before age of 12?

a. Yes b. No

23. What kind of diet may increase the risk of breast cancer?

a. Diet in fresh fruit and vegetables

b. Rich in meat including saturated fat and alcohol with smoking. c. Intake balanced diet

d. low caloric diet.

24 Which is the risk factor of breast cancer?

a. Having no pregnancy after marriage

b. Never breast fed a child

c Late age at first full term pregnancy.

d. All of above

25. Do the environmental pollution, dust, waste products, chemical foods addiction and use of the pesticides for crops increase the risk of breast cancer?

a. Yes b. No c. Don’t know

26. Does the high dose radiation therapy increase the risk of breast cancer?

a. Yes b. No c. Don’t know

27. Which are other risk factors of breast cancer?

a. Obesity b. aging c. lack of physical activities. d. All of above

28. Do the recurrent abortion and prolong use of hormonal contraceptive increase the risk of breast cancer?

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

29. Do you know about immunization of cancer?

a. Yes b. No c. Don’t know

30. What changes occur in breast to the breast cancer victims?

a. Dimpling of breast b. Redness of breast

c. Lumps around breast and armpit. d. All of above

31. Which of the following are service delivery institutions related to cancer?

a. Primary health center b. Health Post

c. Sub health post d. Hospitals

e. all of above

32. Which agencies do spread awareness about cancer in your society ?

a. Health post b. District Public Health Office

c. Socialized Hospitals d. District hospitals

e. all of above

33. The District Public Health Office giving free service of Rs. 100000 to the low income cancer victims.. Do you know about it?

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

34. Regular use of contraceptives increase risk of breast cancer . Do you know about it ?

a. Yes b. No

35. What type of contraceptives devices are used by women for birth control ?

a Pills b . Depo-Provera

c. Cupper "T" d.Narplant

36. The changes in color around nipple and lumps in breast and around armpit is major sign and symptoms of breast cancer . Do you know about it?

a. Yes b. No

37. How many times have you done clinical examination of breast?

a. Once in a year b).Twice a year

c. every month d. some times

38. Is there any awareness program which is lunched in your school ?

a. Yes b . No

39. Have studied magazines or any research article related to breast cancer?

a. Yes b. No c. Sometimes

40. The most dangerous stage of breast cancer is

a. First stage b. Second stage c. Third stage and above

41. Do you think need of awareness program among adolescent girls of 10+2 level about breast cancer?

a. Yes b. No

42. The procedures can be applied for the diagnosis of breast cancer are

a. Ultra-sound b. MRI

c. Biopsy d. all of above

43. Do you fell compulsory need of counseling after the treatment of BC victims?

a. Yes b. No.

44. Which of the following signs and symptoms do you think is the most visible in BC patients?

a. Dimpling Of breast b. Redness of breast

c. Lump of breast d. all of the above

45.Which of the following methods of treatment is effective for breast cancer?

a. Chemotherapy b. Radiotherapy

c. Hormonal and targeted therapy d. Surgery