International Journal of Natural Medicine and Health Sciences
ISSN (Online):2790-2471 ISSN (Print): 2790-2463
Volume 2 (3) June 2023
Journal homepage: https://journals.iub.edu.pk/index.php/ijnms

Original Research

Clinical evaluation of patients suffering from breast cancer and determination of evolving treatment therapies and better strategies related to breast cancer

Iqra Saleem[a], Muhammad Soaib Said[b*], Izharullah[a], Muhammad Islam[c], Humaira Nadeem[d], Amer Hayat Khan[b], Asif Mehmood Hashmi[a]

[a]Department of Pharmacy, University of Poonch Rawalakot Azad Kashmir
[b*]Discipline of Clinical Pharmacy, School of Pharmaceutical Sciences,Universiti Sains Malaysia
[c]Department of Pharmaceutical Chemistry, University College of Pharmacy, University of Punjab Lahore, Pakistan
[d]Department of Pharmaceutical Chemistry, Riphah Institute of Pharmaceutical sciences, Islamabad, Pakistan

Abstract

Background: Breast cancer is basically the lesion of female breast that may create from the connective tissue or epithelial cells of breast. Primary objective: The objective of study was to conduct a survey about the prevailing of rate of breast cancer in community of Rawalakot, Islamabad and local community and to find out strategies used for the diagnosis, treatment and prevention of breast cancer. Methods/Design: A well structure questionnaire including 35 questions about the history, socio demographic characteristics, diagnostic tools, treatment plans and prevention methods has been prepared and circulated among the patients of breast cancer through survey. Setting: Study was conducted in Rawalakot and Islamabad Pakistan. Participants: 50 participants were involved. Intervention: The study was also conducted to communicate with larger community of breast cancer patients and to give them awareness related to initial diagnosis of this harmful disease. Primary Outcome Measures: This study was very helpful in educated and non-educated community of the specific cities. Results: While conducting the research based on studies, it was found that about 68.84% patients has been reported with the reoccurrence of breast cancer after surgery, 70% patients have been diagnosed with invasive type and 30% non-invasive type and 50% have been treated with hormonal therapy as continued treatment after surgery. Conclusion: Breast cancer variation among population or regional differences in the types have been attribute to the prevalence of major risk factors, availability and use of medical practices such as cancer screening, availability and quality of treatment, completeness of reporting and age structure

Correspondence:
soaib_said@yahoo.com

Keywords: Clinical evaluation, Breast cancer, Therapies, Strategies

Citation: Saleem I, Soaib Said MS, Izharullah, Islam M, Nadeem H, Khan AH, Hashmi AM. Clinical evaluation of patients suffering from breast cancer and determination of evolving treatment therapies and better strategies related to breast cancer. IJNMS. 2023; 2 (3): 17-24.

Introduction: Cancer is uncontrolled increase of cells. Cancer is a set of illness inflicting cells in the body to change and proliferating past of control. Most forms of cancer cells sooner or later form a lump or mass known as tumor. Tumor of breast creates from the connective tissue or epithelial structures and is essentially the lesion of woman breast [1]. Breast carcinoma or breast cancer is originated in stem from the ducts or breast lobules. Breast cancer is a malignant cell growth in the breast. If it is left untreated it spreads on other areas of the body [3]. About 4% of instances bilateral number one tumor or sequential lesion occurs in identical breast [5]. The region of tumor within breast is upper outer quadrant 50%, central portion 20%, lower outer quadrant 10%, upper inner quadrant 10%, lower inner quadrant 10%.

Types of breast carcinoma: The majority of malignant breast carcinoma or tumors are adenocarcinomas. These are heterogeneous organization of tumors. Major forms of breast cancer are as follows: ductal carcinoma in situ**,** lobular carcinoma in situ**,** inflammatory carcinoma.

Ductal carcinoma In Situ: Within side the epithelium of the collecting duct, ductal carcinoma is originated [11]. It is a spectrum of abnormal converting within the cells which lining the breast ducts. Ductal carcinoma is non-invasive shape of breast cancer. In ductal carcinoma abnormal cell are not grows past the layer of the cells in which they are originated [12]. Almost 5% of tumor is in situ ductal carcinoma. It is most common type of breast carcinoma. In this kind the lesions are not penetrated the basement membrane. The exact mass is not always palpable. This form of breast carcinoma is normally analysis with the aid of using microcalcification recognized on mammography [11]. It is the most common breast cancer in woman. Infiltrating carcinoma causes 80% of breast malignancy. Epithelial lining of massive or intermediate ducts are affected firstly. The more common heterogeneous cell types are grossly less assailable and diffuse. These masses have a get worse prognosis. The less common uniform cell types are grossly softer, mobile, and properly delineated. These masses have a higher prognosis [11].

Lobular carcinoma In Situ: Within the terminal lobular ducts, lobular carcinoma is originated. This form of cancer is less common than ductal carcinoma. Lobular cancer in situ is likewise called lobular neoplasia [11]. The end result of abnormal cells forming in lobules or milk producing glands of breast is lobular carcinoma. Almost 3% of tumors are in site lobular carcinoma. Lesions are not penetrated in the basement membrane in this kind and an exact mass is not always palpable. The malignancy capacity is much less than ductal carcinoma [12]. fMost of breast cancer is invasive or infiltrating. The ductal or glandular wall in which cancer is originated and grown into surrounding breast tissue is damaged. This form of carcinoma has a tendency to have multi-centric place within the identical breast. About 9% of tumors are infiltrating lobular carcinoma. Lesions are invasive histologically and these are damaged through the basement membrane [11].

Inflammatory carcinoma: The most malignant type of breast cancer is inflammatory carcinoma. This kind of cancer is swiftly growing, indistinct, painful mass that enlarges the breast appearance clinically. The tumor blockage of dermal lymphatic is due to inflammatory changes. Metastases have a tendency to arise early and as a result of which treatment rates are low [11].

Breast cancer stages: The degrees of cancer are explained by using different tactics. Doctor will usually affirm the level of the cancer while checking out after surgical operation is finalize, generally approximately 5 to 7 days after surgical operation. When systematic or whole-body remedy is given earlier than surgical operation referred to as neo- adjuvant remedy, the level of the cancer is typically determined clinically. Stage I to stage II cancer is referred as early stage, and stage III to stage IV are referred as regionally advanced by doctors.

Stage 0: Stage zero describes disorder that is most effective within side the duct and lobules of the breast tissue and has now no longer unfolded to the encircling tissue of the breast. It is likewise referred to as non-invasive cancer.

Stage I: In this stage, the tumor is small and invasive. It does not spread to the lymph nodes. Cancer with inside the lymph node is bigger than 0.2 mm however less than 2 mm in size.

Stage II: The cancer cells are spread to the lymph node above and beneath the collarbone. It also spread to 1 to 3 axillary lymph nodes and mammary lymph nodes. Distant parts of the body are not affected by this stage.

Stage III: In inflammatory breast cancer, the tumor has spread to the chest wall or triggered swelling or ulceration of the breast.

Stage IV: The tumor may be of any length and has spread to different organs such as bones, lungs, brain, liver, remote lymph nodes, or chest wall [13]. sign and symptoms of breast tumor: painless firm mass, change in breast like thickening, swelling, dimpling tenderness, redness etc., discharge from nipple is spontaneous, swollen lymph nodes. in breast or armpit, formation of lump [3].

Risk factor: The reason of breast cancer stays unknown; however, several elements were related to boom in breast cancer threat such as age, and gender, and personal history of breast carcinoma and family history of breast carcinoma have the greatest relative threat. Despite those threat elements, about 50% of ladies who expand breast cancer don't have identifiable threat elements past being woman and aging. Age, sex, family history, early menarche, overdue menopause etc. are the recognized breast cancer risk elements. Reproductive hormones have an effect on breast cancer risk by increasing cell proliferation in addition to advertising of cancer growth. BRAC1 or BRAC2 gene, two first diploma relative with breast cancer, benign breast disorder with strange hyperplasia are the factors related to increase in relative threat. Following are some risk elements:

Family history of breast cancer: Women with a family history of breast cancer like mother, sister, daughter, father, or brother are at extended threat of growing breast cancer. Ladies with one first-relative degree female relative who has been identified with breast cancer have 1.8 times had higher risk of breast cancer. Ladies with two relatives have 3 times higher threat rate of breast cancer. Women identified with early onset breast cancer (age<40) have a 4 to 5 folds extended threat of breast cancer [14]. Extended breast carcinoma threat in both

men and women is related to a family history of ovarian cancer.

Genetic pre-deposition: Genetic predisposition, consisting of mutations in BRCA1 and BRAC2 genes, likely make a contribution to some of excess threat of next breast cancer. Inherited mutation causes 5 to 10% of breast cancer. Most genes involve in breast cancer BRAC1 and BRAC2 mutation. In less than 1% of trendy population, this mutation is present [15]. BRCA1 or BRAC2 gene mutation is responsible for approximately 15%-20% of familial breast cancer [16].

Menstrual cycle: Women whose menstrual cycle earlier than age of 12 and stop after 55 years vintage barely have higher threat of breast cancer because of longer publicity of hormones [17].

Pregnancy and breast feeding: Probabilities of breast cancer reduce in woman that being pregnant earlier than age of 30. Studies propose breast feeding for year decreasing probability of breast cancer. Menstrual cycle is inhibited by breast cancer so lessen publicity of hormones in body [17].

Physical activity: Studies propose 10 to 20% threat of breast cancer can be reduced by ordinary exercise as compared to ladies who are inactive. A current report from the Nurse Health study of greater than 95,000 ladies determined that increase in bodily activity after menopause reduced breast cancer threat with the aid of using 10%. Because of the outcomes of physical activity on body mass, hormones, and energy balance, chances of cancer are reduced [18].

Alcohol and tobacco: Studies have showed that alcohol intake approximately 7% to 12% for each 10g more or less one drink of alcohol consumed per day increases the threat of breast cancer. In 2009, the worldwide Agency for Cancer concluded that there had been a restricted proof that tobacco smoking causes breast cancer in ladies. [19].

Radiation: The hyperlink among radiation exposure and breast cancer has been proven in research that breast cancer is one of the most common types of second cancers to arise amongst childhood cancer survivors. High-dose radiation remedy to the chest for ladies treated between 10 and 30 years of age, such as for Hodgkin lymphoma results in secondary breast cancer [20]. Breast cancer danger among ladies with such exposures start to rise about 8 years after radiation therapy and remain improved for greater than 25 years [21].

Diethylstilbestrol exposure: Some research has determined that the chances of threat of breast cancer are more in ladies whose mothers took Diethylstilbestrol all through being pregnant [22].

Pathogenesis: Within epithelial cells of the breast that is typically ducts or lobules of the gland breast cancer is originated. Over 90% of breast carcinoma is both ductal and lobular. The ductal or lobular carcinoma of breast is both non-invasive and invasive. Cancerous cells metastasis occurs through the lymphatic vessels or hematogenous route because the breast is rich with blood supply and rich in plexus of lymphatic vessel. Although breast cancer is time taking ailment that takes common 5 years to grow to be palpable tumor. This ailment spread alongside ducts. Adjoining lobules, facial strands, mammary- fats, from breast lymphatic are invaded with cancer. Blood vessels partitions and in the deep cells of dermis, cancer is developed, and these outcomes result in ulceration at infiltration of overlaying skin [2]. This tumor increases in length and might invade the remote regions like bone, lungs, lung pleura, liver, CNS etc. As the breast cancerous cells incorporate receptors for hormones like estrogen or progesterone in addition to everyday breast cells for this reason these hormones are used as fuel via way of means of the cancerous cells of their growth [2]. Prognosis of ailment typically rely upon the scale of tumor, lymph nodes concerned tumor grade or metastasis [1].

Diagnosis of breast cancer: On early level stopping the analysis of the ailment is vital for diagnosis of breast carcinoma. For detection and analysis of breast tumor or breast carcinoma certain techniques and technologies are used. The most likely techniques are as follows: BSE (breast self-examination), Biopsy, Ultrasound, Immunologic test, Mammography and thermography.

BSE (breast self-examination): Breast self-examination has to done weekly or monthly by all women older than 20 years. After a woman's menstrual period, the BSE is performed, and it is a quality time [11]. Visual examination has to be used when there are any changes in the breast size, form etc. The following signs and symptoms must be noticed during self- examination. Pain full or painless corporation mass. Change in breast like thickening, swelling, dimpling, tenderness or redness etc. Spontaneous discharge from nipple. Swollen lymph nodes. Lymph formation in breast or armpit. To teach individuals about breast cancer some important programs such as BCDDP (breast cancer detection demonstration project) are present.

Mammography and thermography: Mammography is usual for screening. Calcification and the tumor sizes of 1 mm in diameter are sensitive to it [11]. Recently X-rays mammography and thermography has been used to locate the cancerous tumors if no longer likely in identified through palpation. Benign as malignant tumor may be differentiated by the exposure of breast to the X-rays radiation that detects the located tumor in X-ray mammography. While in the case thermography, the heat production differential among normal and abnormal regions of the breast are verified [11]. By means of their heat producing nature and vascularity, metabolic rate, general activity and mass extent, the tumor masses have been detected.

Ultrasound: Breast carcinoma is mostly detected by the usage of ultrasound that has been an encouraged detection technique extended in current years. In distinguishing stable masses from benign cysts, this procedure is 100% accurate. It has been regarded that ultrasound fibro-adenoma more easily and could eliminate the need for invasive procedures. Ordinary technique for detection and on a diagnostic device for breast carcinoma is an ultrasound technique [23].

Immunologic tests: Several antigens like CA15-3, HME-Ags, and MAM-6 are specifically related to breast carcinoma, even though they are utilized in early stages of ailment for detection of breast tumor as a diagnostic device. For surgery and sufferers having radiotherapy or chemotherapy, these antigens are used as tracking procedures [23].

Biopsy: Another technique for detection or analysis of breast carcinoma is biopsy. The tumor tissue is surgically removed by the doctors and referred to as excisional biopsy. The tissues are immediately examined by means of using the frozen segment technique by the healthcare providers. This technique takes longer type however offers short statistics approximately the type and prognosis of the ailment [23].

Treatment of Breast cancer: Breast cancer remedy are determined by medical doctor After understanding the level of carcinoma, patient history, patient present physiology, age, biological traits of cancer and threat and benefit ratio after willingness of affected person, breast cancer remedy is determined by medical doctor. Different remedies included are as follows: Surgery, Radiation, Systematic therapy, Chemotherapy, Hormonal therapy and Targeted therapy.

Surgery: Breast cancer surgery is typically used for early diagnosis of breast cancer. The number one aim of surgical operation is to remove the tumor from the breast. Breast conserving surgery (BCS) additionally referred to as mastectomy and lumpectomy. Most effective cancerous tissue is removed in BCS. BCS is not always feasible when tumor is large, and mastectomy may also be needed. Elimination of complete breast is referred as mastectomy. Elimination of complete breast in addition to lymph nodes below the arms is referred to as modified radical mastectomy however it does not encompass elimination of chest wall muscle as in radical mastectomy that's why radical mastectomy is hardly used. The removal of chest wall is not always required in maximum cases, so radical mastectomy is not always used typically [24]. 50% of ladies are identified with early stage I and stage II have mastectomy, 6% do not have any surgical operation and 1% do now no longer have any remedy. However, 13% go through BCS, 60% have mastectomy, 18% do not have any surgical operation and 7% do not acquire any remedy in stage III and stage IV of breast cancer [24]. During diagnosis, it all depends on age whether 20%-40% of women who go through mastectomy decided to have breast reconstruction, both with an implant, tissue from any other part of the body or a mixture of the two. [25].

Radiation: Radiation therapy use a high strength beam to kill cancerous cells. After surgical operation this remedy is usually used to smash and kill ultimate most cancerous cells in breast, chest wall or underarm region. By radiation remedy, breast conserving surgery is constantly observed as it assists to reduce danger of reoccurrence by 50% and 20% threat of cancer death [26]. Radiation therapy is given rely upon sort of cancer, stage, and place of tumor. The widespread type of radiation for breast cancer is external type radiation. Radiation is given from system outside the body on region where cancer is located. This is normally dependent be contingent on length and extend of cancer. Normally for 5-6 weeks, radiation therapy is given on daily bases. However current research reduces remedy to 3 weeks [26]. Internal radiation remedy uses a radioactive substance sealed in needles, wire or catheters and it located directly into or near the cancer and it is also known as brachytherapy. The capacity to target radiation therapy increases unexpectedly in current year. Brachytherapy also significantly reduces side effects and length of remedy. For examples most typical brachytherapy is given only for 5 days [27]. If tumor is more than 5 cm or while cancer is in lymph node than some mastectomy additionally desires radiation therapy. When cancer is in earlier stage or spread into CNS and bones than radiation therapy is used.

Systematic therapy: Systematic therapy is any remedy that travels through bloodstream and invade to all part of body, not only single disease. These kinds of drugs are given orally or intravenously. Systematic remedy consists of chemotherapy**,** hormonal therapy**,** targeted therapy.

These treatments are given through special mechanism, as an instance chemotherapy work by attacking unexpectedly dividing cells which are usually cancerous cells. hormonal remedy shows its action by inhibiting or lowering level of hormones. New targeting drugs show their action by attacking precise part of cancer cells. It is called neo-adjuvant remedy if this sort of remedy is given before surgical operation [28].

Chemotherapy: Many elements such as size of cancer, number of lymph nodes involved, presence of estrogen and progesterone receptors, amount of HER2 and protein made by cancer cells are involved in gain of chemotherapy. Basal and HER2 enriched breast cancer are most touchy to chemotherapy even as terminals are generally less responsive. It is proved by new studies that integrated remedy is more powerful than monotherapy. Depend on mixture chemotherapy is normally given for 3-6 weeks. These cancer drugs are usually given intravenously or by mouth [29].

Hormonal therapy: Estrogen is a hormone produces by means of ovaries. It promotes the growth of many breast cancers. Breast cancer test positive for estrogen and progesterone may be given hormonal remedy. Tamoxifen is a drug that is responsible to prevents estrogen from binding to breast cancer cell and result in decrease mortality. Aromatase inhibitors are different elegance of drug use to deal with early and strengthen hormone receptor breast cancer in post menopause. For the duration of primary decade, the rate of recurrence lessen by 39% by the use of tamoxifen for first five year in the remedy of ER+ breast cancer, and it also decreases breast cancer mortality by nearly one-third for the duration of first 15 years [30].

Targeted therapy: The growth-promoting protein HER2 increases in approximately 15% to 20% of breast cancers. Tumors with excess HER2 are much more likely to copy as compared to those ones that do not overproduce the protein. A monoclonal antibody called Trastuzumab (Herceptin), that immediately targets the HER2 protein, and has been taken into consideration a gene-primarily based approaches, to minimizing the outcomes of HER2 [31]. Genes alternate in cancer cell that assist the cell grow or swell is prevented by a group of drugs. Poly (ADP-ribose) polymerase (PARP) inhibitors are new targeted remedies. For BRCA gene mutation, these drugs are very important. Other PRAP inhibitors are also being study.

Prevalence of breast cancer worldwide: Public fitness statistics display that the worldwide burden of breast most cancers in ladies, measured via way of means of occurrence, mortality, and monetary costs, is good sized and at the increase. It is expected globally that more than

a million ladies are recognized with breast cancers each year. More than 410,000 women will die from the disorder [32]. Breast carcinoma is typically most happening cancers in ladies. It comprises nearly 1/3 of all malignancies in lady. Breast cancer is one of the maximum not unusual place reasons for most cancers dying for ladies global. It is the second simplest to lung most cancers as a motive of most cancers' mortality. It is the main motive of dying for American ladies among the age of forty and 55. The threat of invasive breast carcinoma is 12.6% in ladies [33]. Breast cancers variation amongst population or nearby variations within side the sorts had been characteristic to the superiority of foremost threat factors, availability, and use of clinical practices inclusive of most cancers screening, availability and great of remedy, completeness of reporting and age structure. However, geographical regions and international locations additionally decide the frequency of the maximum typically recognized instances and dying [34]. Mortality quotes are maximum within side the very younger (much less than age 35) and within the very vintage (extra than age 75) [35]. It seems that a totally younger have extra competitive disorder and that within the very vintage might not be dealt with aggressively or can be comorbid disorder that will increase breast cancers fatality [36]. (Ginsburg et al., 2011) said that, for a massive range of ladies newly recognized within side the world, it's been found that breast most cancers is a left-out disorder in time period of numerically extra common fitness problems. It has been defined as an orphan disorder within the experience that the very specific information approximately tumor traits and the important host biology able to impart simple care is absent. With the exception of dietary recommendations, modern global most cancers coverage and making plans projects are inappropriate to breast most cancers. In a few evolved international locations development with decline in mortality has been said [37]. (Ferlay et al., 2010) said that breast cancers occurrence quotes in Eastern Africa range from 19.3 consistent with 100,000 to 89.7 consistent with 100,000 ladies in Western Europe. They are excessive in evolved areas of the arena besides Japan and coffee in maximum of growing international locations. The variety of mortality charge could be very lots much less in evolved international locations, because of extra favorable survival of breast cancers in those areas about 6-9 consistent with 100,000. But its miles nonetheless maximum common motive of most cancers dying in girl in each evolved (189,000 deaths which is sort of same to expected range of deaths from lung most cancers 188,000) and growing areas (269,000 deaths, 12.7% of total) [38]. (Parkin et al., 2005) said that breast cancers is the maximum widespread most cancers within side the world, approximately 4.4 million survivors as much as five years following diagnosis, and second maximum not unusualplace motive of mortality in ladies global. In 2004, 1.15 million new instances of breast most cancers had been said and over 500,000 deaths said round the arena and 1/2 of instances arise in industrializes international locations [39]. (Li et al., 2002) said that almost all of breast tumors from Asian ladies are estrogen receptor (ER) negative [40]. (Carey et al., 2006) said that numerous versions with inside the gene profiles of tumors from populations of various genetic or ethnic backgrounds have additionally been said. About 15% of sporadic breast most cancers, which might be BRCA1 foundation in Caucasian ladies seems to have the basal phenotype. Other research has additionally confirmed that breast cancers in ladies of African ancestry may also have a better percentage of basal phenotype [41]. The American Cancer Society's estimates for breast most cancers in the United States for 2019 are approximately 268,600 new instances of invasive breast cancers may be recognized in ladies. About 62,930 new instances of carcinoma in situ (CIS) may be recognized (CIS is noninvasive and is the earliest shape of breast most cancers). About forty 41,760 ladies will die from breast most cancers.

Prevalence of breast most cancers in growing international locations: A breast cancer is a primary fitness hassle global. Worldwide extra than a million new instances of breast cancers had been recognized in women every year each in growing and evolved international locations. Several Asian populations inclusive of the ones in Hong Kong, Singapore and China, Brazil in South America, African populations in Zimbabwe and Uganda, Algiers in North Africa and numerous registered in India. Breast cancer bills for one 1/3 of most cancers diagnosed and 15% of most cancers' deaths arise because of breast cancers. It became expected that 181,600 new instances of breast most cancers had been recognized in 1997 [4]. About 192,000 instances and 4,000 deaths in 2001 make it not unusual place most cancers and second main motive of dying [6]. Overall expected 12.7 million new cancer instances and 7.6 million most cancers deaths arise in 2008 with 56% of recent cancers instances and 63% of cancers dying. There had been 14.1 million new instances and 8.2 million dying arise in 2012 [4]. (Jemal et al., 2011) said that cancer is an essential fitness hassle in lots of elements of the arena which main motive of mortality in economically evolved and second main in growing international locations. Breast cancers about 23% of the full most cancers instances [42]. (Bhurgri et al., 2004) said that Pakistan has maximum charge of breast most cancers amongst all different Asian international locations which account for nearly 34.6% of all lady associated cancers. According to Karachi most cancers registry the once-a-year age-standardized quotes of breast most cancers is 69.1 that's similar to American and European quotes [43]. (Butt et al., 2009) said that the frequency of breast most cancers in Pakistan is extra than folds extra as evaluate to the opposite international locations [44]. (Valsecchi et al., 2008) said that, within the growing international locations like Pakistan the populace-primarily based totally most cancers registers are missing and maximum of the figures are focused on the statistics of small unit of populace [45]. (GulamNabi et al., 2012) said that breast most cancers is maximum not unusualplace cancers of ladies in Kashmir. Mostly affected person age of 48 year and 59.1% are same or much less than 50 years. Duration of symptom of breast most cancers became 6.32 months. Most lesion became nearly 65.1% had been 2-5 cm and 16.7% had been much less than 5 cm in best dimension. Majority instances are gift grade II and lymph node involvement. Higher grade lesion and massive length tumor became estrogen and

progesterone negative. No correlation became determined [46]. Breast carcinoma has one of the maximum not unusual place cancers amongst Indian women with age adjusted charge as excessive as 25.8 consistent with 100,000 ladies and mortality 12.7 consistent with 100,000 ladies. The age adjusted occurrence charge of carcinoma of the breast became determined as excessive as 41 consistent with 100,000 ladies for Delhi, observed via way of means of Chennai (37.9), Bangalore (34.4) and Thiruvananthapuram District (33.7) [47]. A statistically widespread increased in age adjusted charge over time (1982–2014) in all of the PBCRs specifically Bangalore (annual percent alternate: 2.84%), Barshi (1.87%), Bhopal (2.00%), Chennai (2.44%), Delhi (1.44%) and Mumbai (1.42%) became observed. Mortality-to-occurrence ratio became determined to be as excessive as 66 in rural registries while as little as eight in city registries. Mostly younger age has been determined as primary threats issue for breast most cancers in Indian ladies. Breast most cancers projection for India all through time intervals 2020 shows the range to head as excessive as 1797900 [47].

Methodology: Purpose of study: The purpose of study is to evaluate the local community suffering from breast cancer and improving the patient awareness related to the early diagnosis in order to decrease the severity of the condition and providing them better care before they reach to the critical condition. Study design: It was illustrative cross-sectional study that was conducted in Combined Military Hospital (CMH) Rawalakot, Islamabad and local community. Study Area: The study area was Combined Military Hospital (CMH) Rawalakot, Islamabad and local community.

Duration of study: The duration of study was 6 months.

Data sampling: The data were randomly collected including all age groups from CMH Rawalakot, Islamabad and local community. All the relevant information was taken from prescription with prior permission of patient and hospital authority. The procedure of data collection and its usage was informed to hospital authority. It was assured that every component of the study would be kept confidential.

Method: The questionnaire was designed, and the data was collected for determination of evolving treatment trends in the breast cancer patients and to understand the causes, ADRS, interactions and treatment protocols associated with breast cancer. The study was also conducted to communicate with larger community of breast cancer patients and to give them awareness related to initial diagnosis of this harmful disease.

Study Tool: The study tool was a performed structured questioner included different sections: Section A and Section B included question on various aspects of general information about patient socio-demographic characteristics and lifestyle. Section C and Section D include question about breast self-examination (BSE) and lab tests and finding of breast cancer. Section E includes questions about the treatment of breast cancer and its potential side effect. Data analysis: Data was analyzed by percentage method.

Result and discussion: 4% patient of breast cancer has been suffered from the disease between the ages of 15-20 years as shown in graph no 1. 32% patients suffered from breast cancer between the age limit of 21-40 years as shown in graph no 1. 36% patient suffered from breast cancer between the range of 41- 60 years of age as shown in graph no 1. 20% of total number of patients suffered from breast cancer between the age limit of 61-80 years as shown in graph no. 1. Only 10% of total number of patients suffered from breast cancer between the age limit 80-100 years as shown in Graph no. Hence it is found that maximum percentage of patient suffering from breast cancer lies between 40-60 years. Among total number of patients under observation 62% are married woman and 32% are un- married as shown in Graph no. 2. Hence it is found that married females are mostly suffered from this disease. Among total number of cases being studied 64% were found herrited based and other 36% cases were found to be non-herited as suffered from disease due to other reasons and it is graphically represented in Graph no. 3. Hence it is found that maximum patient of breast cancer has been reported as herited. In the case study of breast cancer, it is evaluated that 20% patient has gone therapy ultrasound detection method, 44% patient have biopsy, 32% have mammogram and only 6% have been diagnosed by immune test as shown Graph no. 4. Hence it is found that maximum patient suffering from breast cancer undergoes biopsy method for diagnostic purpose. It could be observed that among the total number of patients of breast cancer under the study, 15% cases has been reported as a non-invasive breast cancer and rest of 85% has been reported as invasive breast cancer as shown in Graph no. 5. Hence it is found that maximum patients suffering from breast cancer has invasive type breast cancer. Among the total number of cases under study it has found that 66% patient suffered from breast cancer of right side and rest of 34% suffered from left side breast cancer as shown in Graph no 6. Hence it is found that maximum patient suffering from breast cancer has cancer or tumor in their right side of breast. The most commonly used chemotherapy drugs have been used in breast cancer reported as in Graph no. 7 be like 50% patients has been prescribed of tamoxifen and estron that are hormone which are used to prevent reoccurrence of breast cancer after surgery. 40% has been given progestron that is also hormone, 38% has been given anastrazole that is an anti-cancerous drug and 30 of patients has been prescribed with taxones also called as anti-cancerous agent. Hence it is found that maximum patient undergoes hormonal therapy as continue treatment after surgery. In the researched based case studies of breast cancer patient, the 68% of patients has been reported having the sign of reoccurrence and 32% among total number of patients has on sign of reoccurrence. Hence it is found that maximum patient suffering from breast cancer has been reported having sign of reoccurrence.

Conclusion: Breast cancer variation among population or regional differences in the types have been attribute to the prevalence of major risk factors, availability and use of medical practices such as cancer screening, availability and quality of treatment, completeness of reporting and age structure

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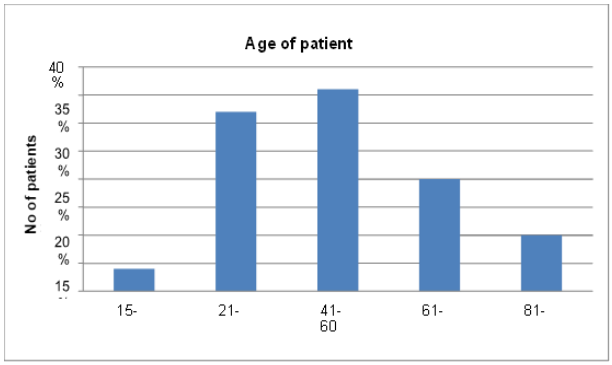
Table 1.

Breast cancer type	Characteristics	Percentage
Infiltrating ductal type	Arises in the epithelial lining. of large or intermediate	80%
Lobular infiltrating type	Arises from the epithelium of the terminal ducts of lobules	10%
Inflammatory type	Most malignant type with finding of tenderness erythema and edema	3%
Paget's type	Can be misdiagnosed as Dermatitis	1%

Table 2.

Class	Mechanism of action	Medication
Alkylating agents	DNA strand breakage or cross linking of two strands thus preventing DNA synthesis.	Nitrogen mustard (cyclophosphamide e) Alkyl Sulphonates (Busulfan) Triazenes (Dacarbazine)
Antimetabolites	competitively inhibit utilization of normal substrate	Folic acid antagonists (Methotrexate) Purine antagonist (Mercaptopurine) pyrimidine antagonist (5-flurouracil)
Natural products	cytotoxic inhibitor, preventing formation of mitotic spindles,	Antibiotics (Bleomycin) Vinca alkaloids (vinblastine,



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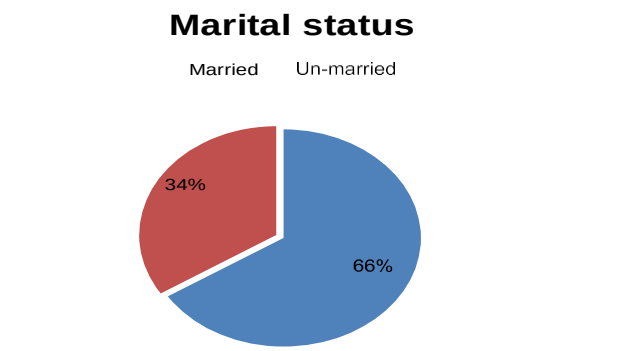

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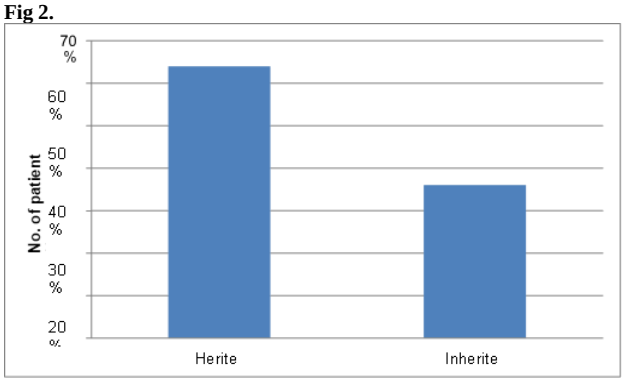

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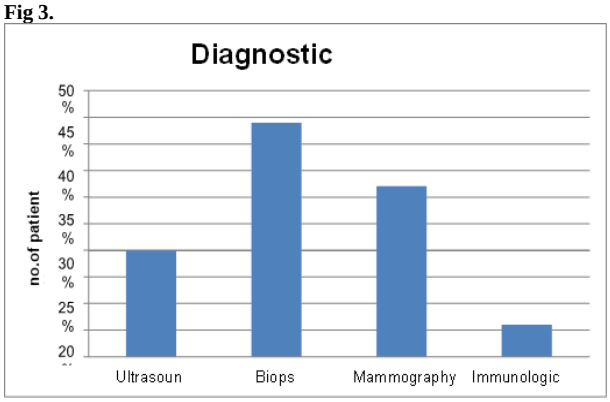

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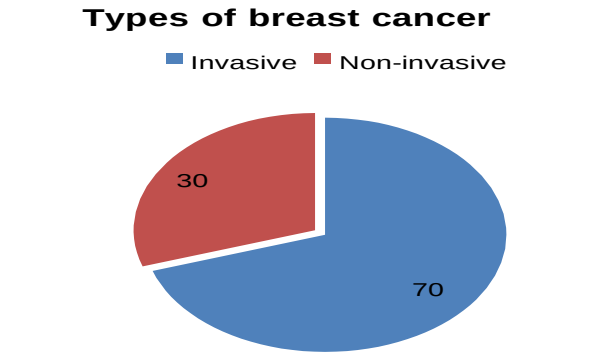

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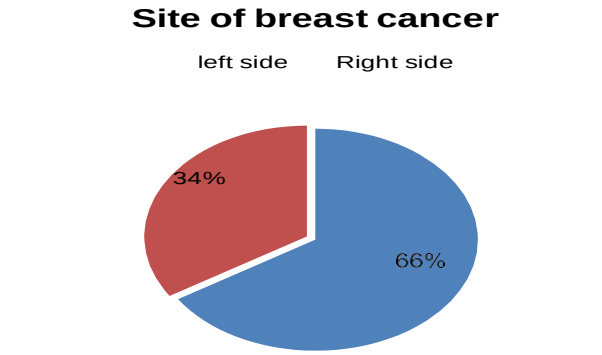

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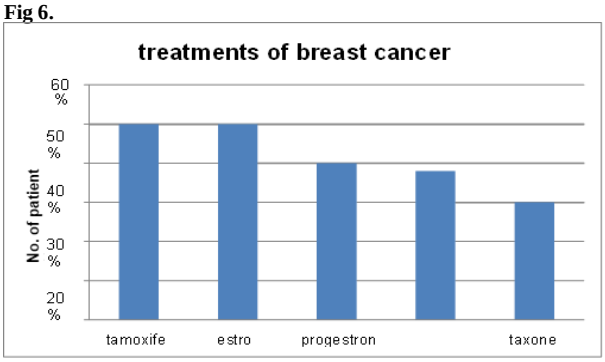

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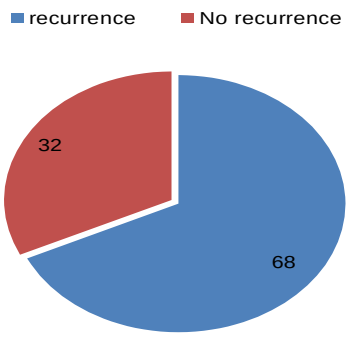

Fig 8.