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A Comparative Study to Assess The Quality of Life And Life Style Among Breast And Cervical Cancer Patients In Mohan Dai Oswal Hospital, Ludhiana, Punjab.

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Abstract: *Cancer is major disease burden worldwide. Quality of life is a multidimensional construct that encompasses various area of functioning, including physical, emotional, social domains and additional concerns of quality of life. Quality of life is a multidimensional concept that focuses on how the disease and its treatment effect the individual. The investigator has taken up this study to compare the quality of life and life style among breast and cervix cancer patients in selected hospital of Ludhiana, Punjab. A quantitative approach will be applied. The data will be collected from 50 breast cancer and 50 cervical cancer patients by standardized tool i.e. Fact –B and Fact-Cx. The content validity of the tool will be determined by expert's opinion. Reliability will be tested by test-retest method and correlation coefficient by applying spearman brown prophecy formula. The data will be collected, organized, tabulated and analyzed by descriptive and inferential statistics. Discussion will be based on the statistical analysis, and will be compared with the literature.*

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I. Introduction

Cancer is a group of diseases characterized by uncontrolled growth and spreading of abnormal cells. If the spread is not controlled, it can result into death. Cancer is caused by both external and internal factors. These causal factors may act together or in sequence to initiate or promote carcinogenesis.[1]There were an estimated 14.1 million cancer cases around the world in 2012, of these 7.4 million cases were men and 6.7 million women. This number is expected to increase to 24 million by 2035.Nearly seven lakh Indians die of cancer every year, while over 10 lakh are newly diagnosed with some form of the disease.[2]

In recent times we have seen an increase in the incidences of cancer. This is mainly attributed to urbanization, industrialization, changes in lifestyle, population growth and increased life span (in turn leading to an increase in the elderly population). In India, the life expectancy at birth has steadily risen from 45 years in 1971 to 62 years in 1991, indicating a shift in the demographic profile. It is estimated that life expectancy of the Indian population will increase to 70 years by 2021–25.2. Breast and cervical cancer are curable if it is detected in the early stages, but more than70% of the cases report for diagnostic and treatment services in the advanced stages of the diseases, which has lead to poor survival and high mortality rate.[3]

As developing countries grow and adopt western culture they also accumulate more diseases that has arisen from western culture and their habits (fat/alcohol intake, smoking, exposure to oral contraceptives, the changing patterns of childbearing and breastfeeding, low parity).[4] South America has developed Breast cancer being less developed country, such as those in which, is a major public health issue. It is a leading cause of cancer-related deaths in women in countries such as Argentina, Uruguay, and Brazil. The expected numbers of new cases and deaths due to breast cancer in South America for the year 2001 are approximately 70,000 and 30,000, respectively. However, because of a lack of funding and resources, treatment is not always available to those suffering with breast cancer.[5]

A major problem in reporting of trends of cervical incidences from developing countries and where there are records they are limited by poor data quality and inaccurate population estimation. In developing countries, mortality rates from cervical cancer have been reported to be 11.2 per 100,000women on the average, almost three times the rate of developed countries. About 40 percent of cervical cancer deaths in developing countries occur in South Central Asia. Deaths associated with cervical cancer are the most telling indicator of the disease's impact on women. While a woman in the United States has a 70% chance of surviving cervical cancer, that chance is reduced to 58% in Thailand, 42% in India, and 21% in sub-Saharan Africa. Reports show that there are about 440,000 new cases annually, and 80% of these cases occurring in developing and undeveloped countries. Every year over 1.15 million women worldwide are diagnosed with breast cancer and

502,000 die from this disease. In African breast cancer patients tends to present at a young age, with large of tumors and multiple.[6]

Quality of life is a multidimensional construct encompassing perceptions of both positive and negative aspects of dimensions such as physical, emotional, social and cognitive functions, as well as the negative aspects of somatic discomfort and other symptoms produced by disease or its treatment.[7]Cancer treatments such as chemotherapy ,radiation therapy and hormone therapy can have long-term physical effects that may influence quality of life, which is a great concern for nurses.[8]Quality-of-life measures are global and needed to be sensitive to clinically meaningful changes resulting from treatment. Survival and quality of life were the most important indicators in technology assessment and cancer treatment. In addition, quality of life was used to evaluate the cost-benefits of cancer treatment.[9]

In female with ca cervix, sexual functioning has been described as the most enduringly compromised quality of life issue that women with gynaecological cancers face.[10] Problems may be due to physiologic, anatomic, or psychological factors - often in combination.[11] Anxiety or depression may combine with the stress and fatigue associated with the diagnosis and treatment of cancer to reduce women's libido and capacity for arousal. Issues relating to sexuality such as self-esteem and sexual self-view may also be psychological ingredients in reducing sexual functioning e.g. Liking the appearance of one's body and reporting the capacity to "feel like a woman" have been correlated with greater sexual activity among survivors of ovarian cancer.[12]

Breast cancer surgery including conservative surgery followed by irradiation, and modified radical mastectomy or radical mastectomy followed by immediate reconstruction is associated with different side-effects including pain, fatigue and thus effecting quality of life in breast cancer patients. Those treated by breast conservation reported better body image but worse physical functions. The negative impact of breast cancer and its treatment was greater in younger women across a number of dimensions of quality of life measures regardless of treatment type.[13]

Sleep disturbance is common and contributes to substantial morbidity among patients with cancer. Rates of sleep disturbance in patients with cancer are higher than in the general population and have been documented by polysomnography. Among patients with heterogeneous advanced cancers, 72% reported sleep disturbance, with common complaints including difficulties with sleep onset and maintenance, not feeling rested in the morning, and daytime fatigue. Chemotherapy has been associated with significantly poorer sleep quality and daytime sleepiness. Disturbed sleep has functional consequences as it has been associated with poorer quality of life in women with breast cancer, including impaired ability to perform work and daily tasks.[14]

Cancer is the second biggest cause of death in India, growing at 11 per cent annually. Patients with cancer often have to deal with severe side effects or physical effects and psychological distress during and after cancer treatment, which have a substantial impact on their quality of life. Quality of life is vital health outcome measure that is relevant to the care of cancer patients. These survivors face numerous issues, including detrimental changes in physical activity, social support, psychological health and personal finance, which can impact long-term survival and quality of life. Survivors may suffer from anxiety, depression, fear of recurrence, impaired body image and increased risk of comorbid conditions. Although factors that influence survival are often not the same as those affecting quality of life, and interventions designed to address one outcome may be ineffective in modifying the other, it is imperative to understand how lifestyle modification can improve relapse-free survival and quality of life in breast cancer survivors.[15]

There are diverse physiologic, psychological, and psychosocial responses to both the diagnosis and the treatment of cancer. The range of effects calls for a multidisciplinary approach, with physical activity and exercise training interventions increasingly becoming integral to long-term patient management. Conventional cancer therapies induce adverse symptoms, often with unfavorable lifestyle changes, including a decrease in habitual physical activity and weight gain. These changes have negative effects on patients' quality of life and can limit their ability to undertake the activities of daily living. However, increasing evidence indicates that both of these adverse developments can be attenuated by participation in regular physical activity .[16]

II. Need Of The Study

World Cancer Report from the World Health Organisation (WHO), more women in India are being newly diagnosed with cancer annually. As against 4.77 lakh men, 5.37 lakh women were diagnosed with cancer in India in 2012. In terms of cancer deaths, the mortality rate among men and women in India is almost the same. While 3.56 lakh men died of cancer in 2012 in India, the corresponding number for women was 3.26 lakh.[17]There are at least 90 cancer patients for every 100,000 population in Punjab. Cancer incidence in the state is higher than the national average of 80 per 100,000 population, reveals a survey by the Punjab government (2013).[18] Quality of life has been used as an evaluation in cancer clinical trials. In 1990, the national cancer institute began employing quality of life measures to compare treatments, as well as serve as an end point in cancer clinical trials; identify side effects and consequences of cancer treatment to assess rehabilitation needs, and predict response to future treatment.[19]Recently, the national cancer institute expanded its use of quality of

life in cancer clinical trials to include quality of life research in outcome studies and to assess quality of life in culturally diverse populations.[20]

Laurel L. Caffey M, Lee D, (1999) conducted a study to determine the quality of life of African American women with breast cancer. The most frequently reported symptoms were energy loss (56.1%), sensory problems (55.7%), sleep problems (49.5%), pain (44.9%), and mental distress (42.3%).Women's appraisal of illness scores were low to moderate (indicating less stressful appraisals) and slightly below the mean obtained with a heterogeneous sample of cancer patients.[21]Wenzel LB, Vergote I, Cella D,(2003) reported common difficulties faced by the patients were depression (49%), anxiety (37%), fear of dying (35%), fatigue (14%), pain (11%),and bladder dysfunction (9%) were the most commonly reported effects in patients with physical side effects;13% of the patients described sexuality problems femininity issues (6%).It is important to note that many of these issues persist 5 to 10 years after diagnosis which reinforces the need to assess and treat problems early in the disease process.[22] Arunachalam D, Thirumoorthy A, Devi S, Thennarasu, (2011) conducted a Study to determine the quality of life in cancer patients with disfigurement due to cancer and its treatments. Concluded that living with a disfiguring body is not always easy. It leads to significant social maladjustment, elevated anxiety, depression, and poor quality of life among the cancer survivors with body disfigurement which calls for multi professional involvement in addressing various psychosocial issues.[23]
Schlumbrecht MP, Sun CC, Westin NS, Huang MS, Zandstra F, Bodurka DC.et.al (2013) reported importance of lifestyle modification in cervical cancer survivors. The results of study concluded that obesity and smoking may significantly complicate care in cervical cancer patients during the survivorship phase of the cancer continuum. It was crucial for oncologists and primary care physicians to reinforce healthy lifestyle changes in these women, with the aim to provide patients with lifestyle management strategies.[24]

Kaur J (2014) conducted a Study on an exploratory study to assess the quality of life among cancer patients of district Bathinda, Punjab. A total 100 cancer patients were studied. Purposive sampling technique was used to select the sample. The finding showed that 35% cancer patients were in age group 51–60 years, 69% cancer patients were females, majority of cancer patients 79%,68% cancer patients were illiterate, 51% cancer patients had family income less than Rs.5000 per month. More of the subjects were suffered with breast cancer (27%), maximum 75% subjects were diagnosed from less than five years. More than half 53% of cancer patients had average quality of life, followed by 44% of cancer patients had good quality of life. There were only 3% of subjects who had poor quality of life. The analysis of quality of life shows that social well-being was better whereas emotional well-being was the worse domain with mean score 26.35 and 12.19. Age, occupation and stage of cancer had impact on quality of life.[25]
An increasingly important issue in oncology is to evaluate quality of life in cancer patients. The cancer-specific quality of life is related to all stages of the disease. In fact, for all types of cancer patient's general quality of life all instruments can be used to assess the overall impact of patient's health status on their quality of life. In some cancer diseases e.g. Glioma for instance, quality of life has become an important endpoint for treatments comparison in randomized controlled trials so that in these patients clinical studies increasingly incorporate quality of life as the endpoint.[26]

Cancer patients has been gone through a lot of physiological and psychological changes, while working in clinical area researcher observed that cancer patients suffering from radiation and chemotherapy side effects resulting in diminished quality of life and lifestyle. Hence researcher is interested to analyze the physiological, psychological sexual, social long term effects experience by cancer patients and their effect on quality of life and lifestyle of cancer patients.

1.1 Problem Statement:
A Comparative Study To Assess The Quality Of Life And Lifestyle Among Breast And Cervical Cancer Patients In Mohan Dai Oswal Hospital, Ludhiana, Punjab.

1.2 Purpose of study
The purpose of the study is to assess the quality of life and lifestyle among breast and cervical cancer patients.

1.3 Objectives of study
1. To assess and compare the quality of life among breast and cervical cancer patients.
2. To assess and compare the lifestyle among breast and cervical cancer patients.
3. To determine the relationship between quality of life and lifestyle among breast and cervical cancer patients.
4. To find out the association of quality of life and lifestyle with selected variables. e.g. age, educational status, occupation status, family income, duration of illness, types of treatment.

III. Operational Definitions

1 Quality of life

Quality of life refers to total well–being of individual in the areas of physical, emotional, functional, social domains and additional concerns as assessed by Standardized tool fact-B and fact-Cx.

2 Lifestyle

Lifestyle refers to patients' general way of living in areas of physical, psychosocial**,** recreational and spiritual aspects as measured by structured tool.

3 Cancer Patient

Patients diagnosed with cervical and breast cancer admitted or visiting Mohan Dai Oswal hospital for cancer treatment.

4 Hypothesis

H_1.There will be significant difference in quality of life among breast and cervical cancer patients at 0.05 level.
H_2.There will be significant difference in life style among breast and cervical cancer patients at 0.05 level.

IV. Variables Under Study

1. **Dependent variables:** quality of life and life style
2. **Independent variables:** age, occupation, educational status, family income, duration of illness, type of treatment

.

Delimitations: Cancer patients who were –

- Admitted or visiting Mohan Dai Oswal hospital for cancer treatment.
- Willing to participate in study.
- Diagnosed as breast and cervical cancer patients and on treatment

V. Review Of Literature

The review of literature has been organized in the following sections:

Part I: Studies related to quality of life of cancer patients.
Part I: Studies related to lifestyle of cancer patients.

Part I: **Studies related to quality of life of cancer patients.**

Wang F, Chen F, Ruobing XU, Liang WU, Wang J, Cheng LU ,et.al (2013) conducted a study to determine a neglected issue on sexual well-being following breast cancer diagnosis and treatment among Chinese women using qualitative and quantitative designs. Twenty patients with breast cancer were recruited for in-depth interviews. Results based on the qualitative analysis, reported decrease in sexual frequency, Lack of sexual interest,Menopausal symptoms, Body image changes, Effects on marital relationship, Misconceptions about sex, the need for professional consultation.[27]

Damodar G, Smitha T, Gopinath S (2013) conducted a study on assessment of quality of life in breast cancer patients at a tertiary care hospital. In the functional scale of breast cancer patients, physical, role function, future perspective and in symptom scale, fatigue, insomnia, arm symptoms and upset by hair loss were found to be significantly affected. Global health status was mainly influenced by physical, social function, body image, future perspective, insomnia, and breast and arm symptoms. The findings showed that there exists a strong correlation between the length of treatment and the quality of life among breast cancer patients.[28]

Jassim GA, Whitford DL (2013) conducted a study on quality of life of Bahraini women with breast cancer: a cross sectional study. Total sample, 239 consented to participation. The results showed that the mean and median age of participants were 50.2 and 48.0 respectively. Participants had a mean score for global health of 63.9 among functional scales, social functioning scored the highest (mean 77.5).Whereas emotional functioning scored the lowest (63.4). The most distressing symptom on the symptom scales was fatigability (mean 35.2).Using the disease specific tool it was found that sexual functioning scored the lowest (mean 25.9). On the symptom scale, upset due to hair loss scored the highest (mean 46.3). Significant mean differences were noted for many functional and symptom scales.[29]

Azmawati MN, Najibah E, Hatta MD, Norfazilah A (2013) conducted a study on quality of life by stage of cervical cancer among Malaysian patients. The results showed that global health status, emotional functioning and pain score were higher in stage III cervical cancer patients while role functioning was higher in stage I cervical cancer patients. Patients with stage IV cancer have a lower mean score in global health status and emotional functioning while stage III had lower mean score in role functioning but higher mean score in pain .[30]

Skvarciany Z, Juocevicius A, Raistenskis J, Povilaitiene R (2010) conducted a study on quality of life of women with breast and cervical cancer in the first year after diagnosis. The aim of this study was to evaluate and compare the level of disability and quality of life in women with breast and cervical cancer one. Total, 67 respondents were interviewed cervical cancer and 165 women breast cancer who came for the determination of disability in 2010. Questionnaire EQ-5d was used for the assessment of quality of life. The

results showed that cervical cancer 85.1% and breast cancer 88.5% of patients were able to maintain a safe environment. During the first year after the diagnosis, the most part of women remained active. Eating problems were reported only by few patients in both groups with cervical cancer and breast cancer.[31]

Bartoces MG, Severson RK, Schwartz KL, Neale AN, Rusin BA (2009) conducted a study on quality of life and self-esteem of long-term survivors of invasive and noninvasive cervical cancer.Total,145 participating survivors, 42 with invasive and 103 with noninvasive cervical cancer. Data were collected using a structured interview, conducted primarily over the telephone. The results showed that there were no differences in either physical component summary (PCS) or mental component summary (MCS) scores between long-term survivors of invasive and noninvasive cervical cancer. Self-esteem was associated with mental component summary but not with physical component summary in women with invasive cancer as well as in women with noninvasive cancer.[32]Vrettos I, Kamposioras K, Kontodimopoulos N , Pappa E, Georgiadou E, Haritos D,et,al. (2009) conducted a study on comparing health-related quality of life of cancer patients under chemotherapy and of their caregivers. Total 222 cancer patient-caregiver dyads. HRQOL was evaluated with EQ-5D. The results showed that the mean age of the sample was 57.4 and 48.9 for patients and caregivers, respectively. The EQ-5D descriptive system indicates that female patients more frequently experience anxiety and depression than male patients. Male and higher-education caregivers had higher VAS scores, while demographic factors did not seem to influence patients' HRQOL. Anxiety and depression of caregivers were correlated with patients' problems in self-care and usual activities.[33]

Ljuca D, Marosevice G (2009) conducted a study on quality of life in patients with cervical cancer FIGO IIb Stage after concomitant chemo radiotherapy. The findings showed that a statistically significant difference between the median scores of these two groups has been found in the quality of life, role function, emotional function, social function, pain, fatigue and vaginal problems.[34]

Montazeri M, Vahdaninia M, Harirchi I, Ebrahimi M, Khaleghi F , Soghra J ,et.al (2008)conducted a study on quality of life in patients with breast cancer before and after diagnosis: an eighteen months follow-up study. A prospective study of quality of life in breast cancer patients. Total 167 patients diagnosed with breast cancer. The findings showed that the mean age of breast cancer patients was 47.2 (SD = 13.5) years and the vast majority (82.6%) underwent mastectomy. The results showed that there were significant differences in patients' functioning and global quality of life at three points in time. Although there were deteriorations in patients' scores for body image and sexual functioning, there were significant improvements for breast symptoms, systematic therapy side effects and patients' future perspective .[35]

Herzog TJ, Wright JD (2007) conducted a study to determine the impact of cervical cancer on quality of life--the components and means for management. The results showed that impact body image, self-esteem, relationships with partners, and sexual and reproductive issues, while adding to an overall decrease of QOL in women with cervical cancer.[36]

Sampaio EBM, Albuquerque IMN, Linhares JJ (2007) conducted a study on assessing the quality of life in women with breast cancer through the questionnaire SF-36.A case control study of an exploratory and descriptive nature with 75 women carriers of breast cancer and 75 controls. The results showed that all patients with breast cancer consider, in relation to one year prior, their state of health equal or better, with statistically significant difference in relation to the controls (P=0.0007). The average of the assessment of the functional capacity in patients with breast cancer, when compared with the controls, evidenced a lower functional capacity in the patients with breast cancer, but without statistical difference. [37]

Vistad I, Sophie D. Dahl AA (2005) conducted a study on a critical review of patient-rated quality of life studies of long-term survivors of cervical cancer. The results showed that radiotherapy is more associated with reduced QOL dimensions than surgery or chemotherapy. In earlier stages of cervical cancer and following surgery alone, there seem to be minor differences between cervical cancer survivors and control groups concerning various QOL domains.[38]

Greimel E, Thiel I, Peintinger F, Cegnar I, Pongratz E (2002) conducted a study to on prospective assessment of quality of life of female cancer patients. A prospective study was conducted including 248 patients with gynecologic and breast cancer. The Results showed comparable QOL scores among patients with different gynecologic malignancies and breast cancer. During active treatment breast cancer patients had significantly higher mean scores in physical functioning compared to women with gynecologic cancers and higher scores in role functioning compared to patients with cervical cancer. After completion of treatment there were no statistically significant differences in QOL among the groups. All women, global QOL and emotional functioning were mostly affected during and after treatment.[39]

Part II: Studies Related To Life Style Of Cancer Patient.

Kern E , Chun, J , Schwartz S, Billig j , Friedman E , Eddy M , et.al.(2014) conducted a study on the breast cancer lifestyle intervention pilot study. Questionnaires were administered. The results showed that mean score BMI was 31 kg/m^2. After the intervention, there was a decrease in weight and BMI .The average weight

loss was 10 lbs. Participants reported greater enjoyment of exercise and decreased pain related to treatment. These initial positive results were not maintained after 6 months and 1 year. The results demonstrated significant benefits of exercise immediately after cancer diagnosis and highlighted the importance of developing sustainable lifestyle interventions. Interventions targeted at modifiable lifestyle factors in women with early stage disease may provide benefit that is comparable to certain adjuvant systemic therapies.[40]

Hartman SJ, Marinac CR, Natarajan L, Patterson RE (2014) conducted a study on Lifestyle factors associated with cognitive functioning in breast cancer survivors . The Results showed that obese participants had significantly worse performance. The highest tertile of physical activity was significantly related to better performance on the executive functioning domain and attention domain .The middle tertile of physical activity was significantly related to better performance and decreased odds of impairment on the visual–spatial domain. More hours of sleep per night was significantly associated with better performance and decreased odds of impairment on the verbal functioning domain**.**[41]

Paxton RJ, Taylor WC, Chang S, Courneya KS, Jones LA (2013) conducted a study on Lifestyle behaviors of African American breast cancer survivors. A total of 470 African American breast cancer survivors (mean age=54 years) participated in an online survey. The results of study concluded that many African American breast cancer survivors had chronic conditions that may be exacerbated by poor lifestyle choices. Results also provided evidence that healthy lifestyle interventions among obese African American breast cancer survivors are urgently needed.[42]

Zhao G, Li C, Okoro CA, Li J, Wen XJ, White A, et.al. (2013) conducted a study on Trends in modifiable lifestyle-related risk factors following diagnosis in breast cancer survivors. A total 7,443 women aged ≥18 years who participated in the Behavioral Risk Factor Surveillance System .The results showed that the prevalence estimates for lifestyle-related risk factors were 10.2 % for current smoking, 6.8 % for excessive alcohol drinking, 24.7 % for obesity, 53.8 % for engaging in physical activity ≥150 min/week, and 33.9 % for consuming fruits and vegetables ≥5 times/day among female breast cancer survivors. After adjustment for covariates, with increasing years of survivorship, a linearly increasing trend was observed for current smoking, excessive alcohol drinking and obesity. Continuing efforts on counseling and encouraging breast cancer survivors to adopt healthy lifestyles are needed to improve their health.[43]

Lee JE, Loh SY (2012) conducted a study on physical activity and quality of life of cancer survivors. Electronic databases were systematically searched for randomized controlled trials incorporated as lifestyle activity through MEDLINE with the associated terms "physical activity or exercise", "quality of life" and "cancer survivor or people with cancer", 'lifestyle' and 'randomized controlled trial'. The result of study concluded that physical activity is related to better quality of life of cancer survivors.[44]

Kimlin TAG, Lim JW, Gonzalez P (2010) conducted a study to explore the relationship between physical well-being and healthy lifestyle changes among European- and Latina-American breast and cervical cancer survivors. A cross-sectional design with mixed sampling methods. Total 922 European- (n=452) and Latina-American (n=470) breast cancer survivors (BCS) or cervical cancer survivors (CCS) were recruited from the California Cancer Surveillance Program. Results of study concluded that Physical well-being item responses varied according to ethnicity, income, and education. BCS and CCS showed different patterns in the relationship between physical well-being items and lifestyle changes. Specifically, exercise was significantly related to physical well-being items for BCS, while diet changes were significantly associated with physical well-being for CCS.The results reveals unique correlation of physical well-being items by cancer type, ethnicity, and lifestyle changes. Patients responsive interventions to promote healthy lifestyles and improve survivorship outcomes [45]

Canaval G E, Sanchez M Z (2009) conducted study on lifestyle and cancer prevention in female employees at a health institution. Correlation and cross-sectional study with a random sample of 143 working women. The

Results of study concluded that the mean age for the sample was 44.4 ± 6.2, 87% of the women had higher education and 85% were working in health care services. A total of 89% of the women had unhealthy lifestyles because of the lack of regular physical activity, not having a Papanicolau test according to the norm, not practicing breast self-exams, and having an altered body mass index. There was significant correlation between lifestyle and occupation, and also with self-efficacy perception for breast self-examination. The lifestyles for most of the women sampled were unhealthy.[46]

Braaten T, Weiderpass E, Kumle M, Adami HO, Lund E (1999) conducted a study on Education and risk of breast cancer in the Norwegian-Swedish women's lifestyle and health cohort study. A prospective cohort study .Total 102,860 women .The results showed that women with more than 16 years of education had a 36% increased risk compared to the lowest educated (7–9 years).This relationship was slightly stronger among postmenopausal (RR 1.51) than among premenopausal (RR 1.25) women. In both groups, however, the relative risk estimates turned close to unity by adjustment for parity, age at first birth, body mass index (BMI), height, age at menarche, menopausal status, use of oral contraceptives and consumption of alcohol. The overall multivariate relative risk among the highest educated women was 1.04.[47]

VI. Research Methodology

6.1 Research approach

A quantitative research approach was considered to be appropriate in the view of the nature of problem and to accomplish the objectives of the study.

6.2 Research design

For fulfilling the objectives of the present study, non experimental comparative research design was utilized for collection and analysis of the data as shown in the fig.2. In this design effect of independent variables is observed on dependant variables.

6.3 Research Setting

The Present study was conducted in Chemotherapy, radiation, medicine, surgical, neutropenia ward and OPDs in Mohan dai Oswal Hospital Ludhiana, Punjab. The hospital is 350 bedded multispecialty hospital .It was started in the memory of late. Smt. Mohan Dai Oswal w/o late Sh. Vidya Sagar Oswal. It has well equipped outpatient and in-patient departments for all specialties such as Neuro, Ortho, Pediatrics, Chest, ENT, Dental, Eye, Gastro, General Medicine and Surgical, Onco-medicine and surgery OPDs. This hospital provides preventive, curative & rehabilitative health services for cancer patients. According to hospital statistics, daily 3-5 new breast and cervical cancer patients and 20-25 repeated breast and cervical cancer patients come to the Mohan dai Oswal hospital for their check-up and treatment.

6.4Target Population

The target population was the breast and cervical cancer patients admitted or visiting
Mohan dai Oswal hospital for treatment.

6.5 Sample and sampling technique

The total sample for the study was 100 i.e.50 breast cancer and 50 cervical cancer patients and purposive sampling technique was used.

Inclusion and exclusion criteria

Inclusion criteria-Cancer patients those who were

- Having diagnosis of cervical and breast cancer.
- Admitted or visiting mohan dai oswal hospital for cancer treatment.
- Willing to participate.
- Able to converse in hindi/punjabi/ english.

Exclusion criteria-cancer patients who were

- In advanced stage of illness.
- Debilitating stage.

VII. Research Variables

7.1 Dependent variables - Dependent variables in the study are quality of life and life style among breast cancer and cervical patients.

7.2 Independent variables - Independent variables in the study are age, occupation, educational status, family income, duration of illness, types of treatment.

VII. Development of Tools

Selection and development of the tool: Standardized scale Fact B and Fact Cx was used to assess the quality of life among breast and cervical cancer patients. Structured tool was used to assess the lifestyle of breast and cervical cancer patients

Description of Tools

The tools consisted of the following parts:

Part A*:* Socio demographic characteristics .

This part consisted of six items for obtaining personal information i.e. age, occupation, educational status, family income, duration of illness, types of treatment which was used to collect the baseline information of the breast and cervical cancer patients.

Part B: Standardized scale

Fact -B Scale-This part of tool consisted of Standardized scale regarding breast cancer patients. This is 5 point scale (Not at all-0, A little bit=1, some-what=2, Quite a bit=3, Very much=4). It consists of total 37 items out of which 17 positive and 20 negative items. This scale is divided into 5 sub parts i.e. Physical well -being, Social/family well- being, Emotional well- being, Functional well- being, Additional concerns.

Fact-Cx Scale-This part of tool consisted of Standardized scale regarding cervical cancer patients. This is 5 point scale (Not at all=0, A little bit=1, Some-what=2, Quite a bit=3, Very much=4). It consists of total 42 items out of which 20 positive and 22 negative items. This scale is divided into 5 sub parts i.e., Physical well -being, Social/family well- being, Emotional well- being, Functional well- being, Additional concerns.

Part C- Structured tool

Structured tool was used to assess lifestyle of breast and cervical Cancer patients. This is 4 point scale (A=3, B2, C=1, D=0). It consists of total 21 items .this tool is divided into 3 sub parts i.e. Physical Domain, Psychosocial Domain, Spiritual Domain/ Recreational Domain.

VIII. Validity of Tool

Content validity of the structured tool was determined by the expert‘s opinion. These experts were from the different specialties i.e. medical surgical nursing, paediatric nursing, community nursing and psychiatric nursing. The experts were requested to give valuable suggestions for the purpose to develop a better relevant tool to perform the study. As per suggestions changes have been incorporated. Structured tool was translated into Punjabi language and the back to English by Punjabi expert.

IX. Pilot Study

Pilot study was conducted in the 2nd week of January 2015. Pilot study carried on 5 breast cancer and 5 cervical Cancer Patients. Pilot study was done to ensure the reliability of the tool and feasibility of the study. Prior permission was taken to conduct the study from oncologist and medical superintendent. With the help of standardized scale and structured tool investigator collected data from cancer patients after obtaining verbal consent. Tools were found to be reliable & feasible. There was no change in items of tool. The time taken for data collection was 20 to 25 minutes.

X. Reliability of Tools

The reliability of tools for assessment of quality of life and lifestyle of breast and cervical cancer patients was determined by test-retest method and correlation coefficient by applying spearman brown prophecy formula.

The reliability of the standardized scale of quality of life Fact-B was r =0.91

The reliability of the standardized scale of quality of life Fact-Cx was r =0.90

The reliability of the lifestyle structured tool was r=0.94. Hence the tools were found to be reliable.

XI. Ethical Consideration

Permission was taken through email from Author Dr. David Cella, Fact-B and Fact-Cx scale. Approval from the research and ethical Committee of College of Nursing and Oswal Hospital, Ludhiana was taken to conduct the study and written permission was taken for that (Appendix I). Breast and cervical Cancer patients who were taking part in the study were explained about the purpose of the study and were assured that the information given by them would be kept confidential and would be used purely for research purpose. Anonymity of the subjects and confidentiality of information was maintained.

XII. Analysis & Interpretation Of Data

Objective 1: To assess and compare the quality of life among breast cancer and cervical cancer patients.

Hypothesis

H_0-There will be no significant difference in quality of life among breast and cervical cancer patients at 0.05 level.

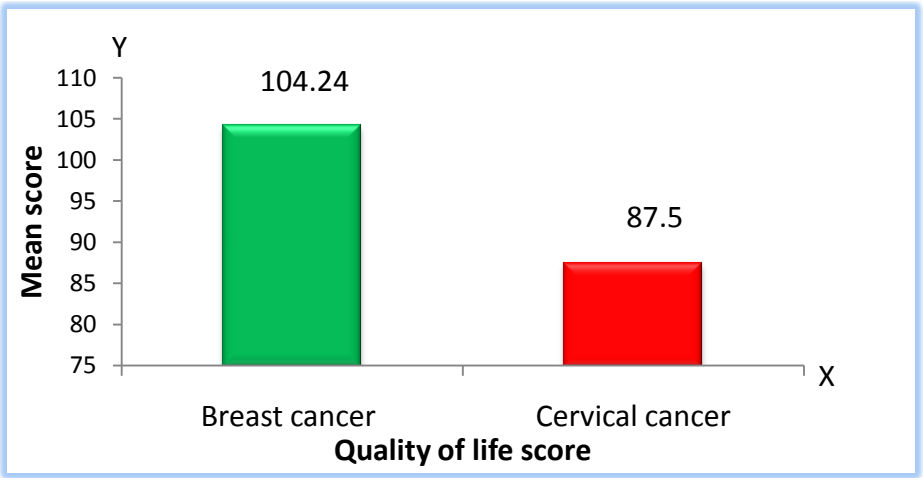
Mean, SD of quality of life score of breast and cervical cancer patients
N=100

Group	Quality of life score			
	Mean	Mean%	D	t value
Breast cancer	104.24	70.4	18.07	5.20*
Cervical	87.5	52	13.78	

cancer

Maximum breast cancer score =148 *significant at p<0.05 level minimum breast cancer score =0
Maximum cervical cancer score = 168
Minimum cervical cancer score = 0

Table 2 and Fig3,depicts that mean score of quality of life among breast cancer patients was 104.24 (70.4%) and cervical cancer patients was 87.5(52%).While applying t-test, it was found to be significant at 0.05 level. Hence it can be concluded that quality of life among breast cancer patients was better than the cervical cancer patients. So null hypothesis was rejected.



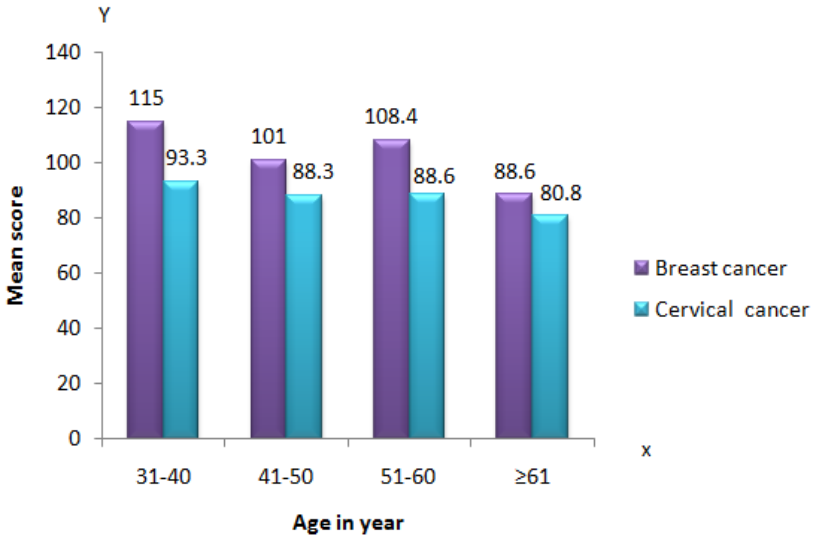
Mean score of breast and cervical cancer patients

Objective 4.To find out the association of quality of life and lifestyle with selected variables. e.g. age,
Table : **Comparison of mean quality of life score of breast and cervical cancer patients score, according to age**
N=100

Age in	**Breast cancer**			**Cervical cancer**			
Years	**n**	**Mean**	**SD**	**n**	**Mean**	**SD**	
31-40	10	115	17.7	6	93.3	5.573	
41-50	19	101	17.9	15	88.3	16.9	
51-60	16	108.4	15.9	15	88.6	13.07	
≥61	5	88.6	19.6	14	80.8	14.07	
Source of variation	**df**	**Sum of squares**	**Mean of squares**	**F**	**Sum of squares**	**Mean of squares**	**F**
Between group	3	2231.4	743.82	2.48^{NS}	857.6	285.9	1.47^{NS}
Within group	46	13771.6	299.38		8928.3	194.1	
Total	49	16003.0			9785.9		

Maximum score breast cancer=148 NS=Non Significant
Minimum score breast =0
Maximum score cervical cancer=168
Minimum score cervical cancer: 0

Table 10 and Fig11,reveals that breast cancer patients age group 31-41 years had highest mean quality of life score (115), followed by age group 51-60 years (108.4), age group 41-50 years (101) and ≥60 years got lowest mean score (88.6). On the other hand in cervical cancer patients age group 31-40 years had highest mean score (93.3), followed by age group 51-61 years (88.6), age group 41-50 years (83.3) and ≥61years got lowest mean score (80.8). In order to find the relationship of age with quality of life of breast and cervical cancer patients F ratio was computed which was found to be statistically non significant. This shows that age had no significant influence on quality of life among breast and cervical cancer patients.



.Comparison of mean score of breast and cervical cancer patients according to age in years

XIII. Major Finding

The analysis of the data revealed the following:

- Majority of cancer patients were 41-50 years of age, graduate/post graduate, housewives. Majority of cancer patients were earning between rupees 5001-10, 000, duration of illness 2-4 year, type of treatment received combination therapy. Cancer patients were homogenous variables.
- Quality of life of breast cancer patients was better as compare to cervical cancer patients and both breast and cervical cancer patients' majority had average level of quality of life.
- Lifestyle of breast cancer patients was better as compare to cervical cancer patients and in both breast and cervical cancer patients' majority had fair level of lifestyle.
- Quality of life and lifestyle of breast cancer patients had moderate positive correlation. Hence it can be concluded that quality of life of breast cancer patients increase the lifestyle of breast cancer patients also.
- Quality of life and lifestyle of cervical cancer patients had moderate positive correlation. Hence it can be concluded that as the quality of life of cervical cancer patients increase the lifestyle of cervical cancer patients also.
- According to mean score of quality of life of breast cancer patients, education was statistical significant and age, occupation status, family income, durational of illness, types of treatment were statistical non significant. Whereas cervical cancer cervical cancer duration of illness was statistical significant and age, education status occupation status, family income, types of treatment were statistical non significant.
- According to mean score of lifestyle of breast cancer patients, education was statistical significant and age, occupation status, family income, durational of illness, types of treatment were statistical non significant. Whereas cervical cancer cervical cancer age, duration of illness were statistical significant and education status occupation status, family income, types of treatment were statistical non significant.

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