

Health Related Quality Of Life (HRQOL) Among Female Breast Cancer Patients In Faraja, Nairobi County, Kenya

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Abstract: Breast Cancer is one of the devastating types of cancer common and most prevalent in women accounting for 23% of all cancers of women globally, Kenya reporting high incidences. After diagnosis, the quality of life (QOL) of women is highly affected, due to the emergence of physical, psychological, spiritual and social effects leading to changes in attitudes and expectations towards life. Due to insufficient cancer facilities in Kenya and expenses of the available treatment modalities, majority of the patients can't afford leading to undignified deaths. Psychosocial support group is affordable and has been found to improve QOL among breast cancer patients besides traditional medical procedures. The purpose of this study was therefore to investigate the psychosocial support group in improving the Health Related Quality of Life (HRQOL), among female breast cancer patients in Faraja Support Trust in Nairobi County that offers free psychosocial services to cancer patients. Analytical cross-sectional study design where both qualitative and quantitative methods of data collection were used. The study used the Quality of Life Instrument-Breast Cancer Patient Version revised by the National Medical Center and Beckman Research Institute tool. Focused Group Discussion was also used. Seventy female breast cancer patients participated in the study. Paired T-test was performed to evaluate the Statistical difference in the variable means for those in the support group and nonsupport for their quality of life. The study results revealed that there was statistical significance in all the four domains among the patients who were in the support group and those not in the support group where those in the support group had better health related quality of life as compared to those in nonsupport group, with T-test between means 2.0 to 4.1 had a P value that ranged between 0.05- 0.0001, denoting statistical significance between the means. The study therefore concluded that, psychosocial support group improved quality of life among female breast cancer patients and recommended that support groups may be integrated in the existing oncology service in all cancer centers across the country.

Keywords: Breast cancer patients, Health Related Quality of Life and Psychosocial Support group

I. INTRODUCTION

Breast cancer is the most common cancer in women worldwide, with 1.7 million new cases diagnosed in 2012; it is the second most common cancer overall globally (Jemal, et al., 2011). It is about 12% of all new cancer cases and 25% of all cancers in women (Ferlay, et al., 2013).

Breast cancer incidence has increased by more than 20%, with mortality rate increasing by 14% globally (Bray, et al, 2013). Mutebi (2014) who cited Hayana and Newman justified the higher incidence/mortality rate in women on African continent as 1:2 as compared to 1:5 among white American which is attributed to late presentation and lack of follow up.

In Kenya Network of cancer organization in their 2015 report, reported that the incidence of breast cancer in Kenya is

estimated at 39,000 new cases of Cancer each year with more than 27,000 deaths per year with 60% being young below 70 years. Due to lack of cancer facilities, Nairobi County receives majority of the patients who are referred for both diagnostic and treatment procedure that are only found in four hospitals within the county (MOH, 2013).

Receiving a cancer diagnosis often triggers a strong emotional response. Garssen., *et al.*, (2013) express that although some people experience shock, anger, and disbelief, others may feel intense sadness, fear, and a sense of loss. In addition, Sharif., *et al.*, (2010) reported that loneliness and isolation are other common feelings because even the most supportive family members and friends cannot understand exactly how it feels to have cancer.

During breast cancer life journey from diagnosis to end-of-life stage, the life of the patient change as well as their perspectives on and appreciation of life affecting their QoL (Björneklett., *et al.*, 2012a). Tehrani., *et al.* (2011) comments that almost one third of patients with cancer suffer from a known psychological problem needing proper intervention as well as socio-emotional supports in each stage of disease.

Boesen., *et al.*, (2011) further express that loss of each or both of the breasts would cause the patient to feel a defect in her body and would change her self-body- imaging and cause feeling loss of not only self-confidence also feminine attraction, leading to anxiety, depression, despair, shame (embarrassment), fear of recurrence of the cancer and death.

Whether surviving a longer or shorter time, all women with breast cancer, and their families, are not only living with uncertainty about the future, the burden of treatment, and the threat of dying, but also dealing with the existential, emotional, social and psychological difficulties their situation brings (Mustafa., *et al.*, 2013).

Masika, *et al.*, (2012) observed that patients do receive overwhelming volume of information from informal social support which is sometimes contradictory, plus physicians giving a lot of information in one session. This is contrary to achieving the goal of "Putting life into their days, not just days into their life" (Patt, 1996)

The patients end up depressed because of the deterioration of daily activities of living, low self-esteem due to change in the body image, physical, spiritual and psychological pains, and in search of a listening ear and knowledge about the disease from a trustful person (Garssen., *et al.*, 2013). Lee, *et al.*, (2011) in search of methods to maintain quality of life expresses the importance of social support and defines it as availability of people whom the individual trusts and makes one feel cared for.

In addition, Antonia (2014) defines support group as a group of people in similar life situations who meet on a regular basis to share their concerns as it is a safe place to exchange ideas about how to handle difficult issues. Alagraa, *et al.*, (2015) Quoting Palsson & Norberg 1995, Pistrang & Barker 1995, Neuling & Winefield 1988, Northouse 1988, noted that informal social support and education from fellow patients, family members, and the health care team influenced adaptation to breast cancer. Formal support groups designed are based on the premise that patients with cancer benefit from contact with other cancer patients through mutual social support whom they trust (Alagraa., *et al.*, 2015).

Globally, studies have been in agreement that formation of psycho-social support groups are considered best approach to help patients cope better with psychosocial consequences of their disease and improve their quality of life (QoL) (Spiegel, *et al.*, 1989; ForsEgil, *et al.*, 2011; Lo, *et al.*, 2015).

In the absence of this, Grady (2013) commented that many cancer patients die in a devastating state as they encounter few professionals or non to offer them psychosocial support that helps to cope with the multidimensional effect experienced from the time of cancer diagnosis to end-of-life.

Union for International Cancer Control (UICC) (2011) enumerates that understanding and responding to the full impact of cancer on emotional, social and physical wellbeing will maximize the quality of life for patients, their families and careers. Castro (2013) looking at QOL concludes that it is an essential outcome variable and is conceptualized according to a system of values, standards or perspectives that vary from person to person, from group to group and from place to place. So, the quality of life is the sense of well-being that can be experienced by people and represents the sum of objective and subjective personal feelings (Mowry and Wang, 2011).

In African context, QoL is understood as feeling at peace and having a sense of meaning in life rather than just being active or having physical comfort and spiritual wellbeing as all is attached to community relationship (Selman, *et al.*, 2011). Greater social or emotional support was associated with better QOL in the study carried out by (Mowry *et al.*, 2011).

Lee, Lee, Oh and Kim (2013) in agreement with the above said that psychosocial support group has been found beneficial as they provide an expressive forum of peers and have significant association with improved health related quality of life. Anderson, *et al.*, (2011) commented that women join groups in order to feel less isolated, to learn coping skills, and to obtain information

UICC (2011) states that support groups have measurable benefits in improving the coping and adaptation of members, reducing distress and levels of depression and enhancing self-esteem. Other benefits reported included; hope, encouragement, reassurance, the opportunity to exchange information with peers and improve cancer-related knowledge and reinforcement of the normalcy of reactions and a sense of belonging. In as much as psychosocial support has been found to have beneficial effects on the quality of life for breast cancer patients, implementation is still a challenge (Montgomery and McCrone, 2010).

A study done in Africa revealed that psycho-oncology was still underway as few countries had national cancer plans, and in others, psychosocial oncology was not specifically offered except within the context of more, general psychological support (Grassi and Watson, 2012). Nevertheless, Selman, *et al.*, (2011) in their study done in South Africa and Uganda acknowledged that psychosocial support was the backbone of patients quality of life which is the main aim of palliative care.

World Health Assembly resolution on cancer prevention and control (WHA 58.22) adopted in May 2005 (WHO, 2007) and the Kenya's strategic plan on Cancer prevention and control recognizes psychosocial support care as one of the priority areas in improving the quality of life among cancer patients (MOH, 2013).

In Kenya by the fact that Oncology services are majorly within Nairobi, access to care becomes expensive due to travel cost besides increased workload, machine breakdown or professionals having limited time for patients (Mutuma and Korir, 2013). These constraints contribute to clients dying in an undignified state, with poor quality of life at the end-of-life stage (Ferlay, *et al.*, 2009).

Taking into consideration the current situation of breast cancer patients, its effect on patients' quality of life against many studies that focus on chemotherapy, pain relief, incidence rate (Wata, *et al.*, 2013; Korir, *et al.*, 2015; MOH, 2013; Mwangi, *et al.*, 2013), yet none of these studies has been conducted on psychosocial support group for breast cancer patients in Kenya. It is against this background that the current researcher decided to carry out this study. This study therefore aims at assessing the health related quality of life among female breast cancer patients in the support group and not in the support group.

II. RESEARCH METHODOLOGY

A. STUDY DESIGN/AREA

Analytical cross sectional study was carried out at Faraja support Trust located in Nairobi County from 1st to 28th June 2016. Faraja is non-profit making palliative care center started by a Cancer survivor who dedicated free services to cancer patients to include free psychosocial support groups. It is located on the 1st Floor, Cancer Care Kenya Building, next door to MP Shah Hospital Chemotherapy department, on Shivachi Road, Parklands in Westland Nairobi and serves patients from the entire County. Nairobi stretches across 684 Km² of land and lies adjacent to the eastern edge of the Rift Valley and is situated 5450 ft (1661 meters) above the sea level. This County hosts Kenya's political, commercial and industrial capital. It lies between longitudes 36° 45' East and latitudes 1° 18' South (Korir *et al.*, 2014).

B. TARGET POPULATION

The study population consisted of all female breast cancer patients from Nairobi County, however, Cancer statistics in Kenya was scanty and mainly hospital based with only a few cancer facilities contributing to the registry (Korir *et al.*, 2012). This therefore could not give a true approximation of the study population. Faraja Support Trust was among the facilities that contributed to the registry with their breast Cancer patients at the facility being 102 by April 2016 that was used to adjust calculated sample size.

C. SAMPLE SIZE DETERMINATION

Sample size was calculated using fisher's equation formula later adjusted according to the number accessing services at Faraja at the time of the study.

$$n = \frac{z^2 pq}{d^2}$$

$$= \frac{1.96 \times 1.96 \times 0.5 \times 0.5}{0.05 \times 0.05} = \frac{0.9604}{0.0025} = 384.16 = 384$$

Since the estimate of the population size in Faraja was 102 (N), sample size was adjusted as follows: (n₀ = 384)

$$nf = \frac{n_0}{1 + \{(n_0 - 1)/N\}}$$

$$nf = \frac{384}{1 + \{(384 - 1)/102\}} = 81$$

However, only 70 breast cancer patients participated giving a response rate of 86.4%.

D. SAMPLING PROCEDURE

The researcher used mixed sampling technique where purposive sampling technique was used in choosing the Cancer facility with breast cancer specific support group. Since little was known in Nairobi registry about those facilities having Breast cancer specific support group within the County, the researcher moved to all cancer centers within Nairobi County to verify those with the groups, where Faraja was the only one identified. Convenient sampling method was then used to get study participants where by all breast cancer patients who came for services within one month and consented to the study were interviewed. This was due to the small number of active patients.

E. RESEARCH INSTRUMENTS/ DATA COLLECTION

Complying with ethical considerations and obtaining consent from the participants, the researcher began to complete the questionnaires. The survey used a validated QOL Breast Cancer specific tool that had been revised by National Medical Center and Beckman Research Institute that contained 46 items representing the four domains of quality of life including physical, psychological, social and spiritual well-being. FGD was also used to clarify issues with health significance that were considered sensitive and/or controversial by some informants, yet vital for the study results.

F. DATA PROCESSING

The data was entered, coded and analyzed through a statistical Software in SPSS version 17.0 (SPSS Inc., Chicago, USA). Analytical statistics were performed by using a paired-T-test, set at 0.05 error margin with 95% confidence intervals (CIs) to evaluate the statistical difference between the variable means of those in support group and those in nonsupport group on their quality of life. A p-value less than 0.05 were considered statistically significant. Qualitative data analysis was done for the data obtained from FGD.

III. RESULTS AND DISCUSSION

The study sought to analyze the health related quality of life (physical well-being, psychological well-being, social well-being and spiritual well-being) among those in support group and those not in support group. The study results were as in table 1 below with subsequent discussions:

Dimensions	Group	N	Mean	SD	Df	t-test	95% CI	P value
Physical	Support group	54	3.0	0.8	68	2.9	2.8 – 3.3	0.0053
	Non-Support group	16	2.4	0.6			2.1 – 2.7	
Psychological well-being	Support group	54	2.2	0.4	68	4.1	2.1 – 2.3	0.0001
	Non-Support group	16	1.7	0.4			1.5 – 2.0	
Social	Support group	54	2.2	0.6	68	3.7	2.1 – 2.3	0.0004
	Non-Support group	16	1.5	0.4			1.5 – 2.0	
Spiritual	Support group	54	4.2	0.4	68	2.0	4.1 – 4.3	0.05
	Non-Support group	16	4.0	0.3			3.8 – 4.1	

Table 1: Comparison between means of support and non-support group by physical, psychosocial well-being, social and spiritual well-being dimensions

A. PHYSICAL DOMAIN

The statistical mean of physical domain for those in the support group was 3.0 (95% CI = 2.8 – 3.3) compared to a mean physical domain of 2.3 (95% CI = 2.1 – 2.7) for the non-support group with the $p=0.0053$. Therefore there was a marginal statistical significance. This suggest that the former group did not have a lot of problems with fatigue, appetite, pain, slept changes, weight loss, vaginal dryness, menstrual changes and overall physical health. Other related study reported of social support benefiting a person's general health and immune systems, regardless of whether or not they have a lot of stress as it acts like a buffer to stress (Clark, 2005). It also indicated that lack of social support in most cases, predicts the deterioration of physical and mental health among the victim. Therefore, the support group helps improve the general physical health of patients with breast cancer. It was also expressed by a patient during FGD on how they benefit from the sharing by other cancer survivor who helps them understand more about the disease reducing their anxiety and enabling them to comply with medical treatment. Greenlee, *et al.*, (2014) commented on the negative physiologic effects of some cancer treatments that may result to patients not seeking professional support. Support group is therefore a good peer forum that helps patients understand their physical well-being. It was in the FGD the members said had their normal "normal"- an abnormal feeling or outcome that is understood by the patient and taken as a normal reaction for instance fatigue.

B. PSYCHOLOGICAL DOMAIN

Many studies have indicated that breast cancer patients suffer from high distress levels and being a member of support group helps them improve their psychological well-being (Yan, *et al.* 2016; Björneklett *et al.*, 2012, McCloskey-Lint., 2007). The current study revealed that there was a mean difference for the psychological well-being of those in support group with a mean of 2.2 (95% CI = 2.1 – 2.3) compared to a mean of 1.5 (95% CI = 2.1 – 2.3) for the non-support group

($p=0.0001$). The psychological well-being examined support groups performance in the following items: coping with disease, coping with treatment, happiness, control of situation, life satisfaction, level of concentration, usefulness, appearance changes, changes in self- concept, distress level at initial diagnosis, cancer chemotherapy, cancer radiation, cancer surgery, completion of treatment, level of anxiety, level of depression, fear of the future tests, fear of second cancer, fear of recurrence, fear of metastasis and normality. The mean difference between the two groups was statistically significant implying that the support group was doing well on the psychological well-being domain in contrast to the non-support group.

C. SOCIAL DOMAIN

Further comparison of mean of the support group and non-support group on social domain revealed statistically significant differences in means of 2.2 (95% CI = 2.1 – 2.3) for the support group compared to a mean social domain of 1.7 (95% CI = 1.5 – 2.0) for non-support and overall p value of 0.0004. Nine items that were included under this domain included: family distress, level of support from others, health care versus relationships, sexuality versus illness, effect on employment, effect on daily activities of living, feeling of isolation, concern for inheritance and financial burden. Generally, in as much as the study participants in the support group had low variable mean with regard to the social domain they were much better than their counterparts in the non-support group. Therefore, the social life of study participants in the support group had significantly improved.

This was in agreement with the findings from others studies that reported of psychosocial support group providing an expressive forum for peers and had significant association with improved health related quality of life (Tehrani, *et al.*, 2011). Other studies also reported of women joining the groups in order to feel less isolated, learn coping skills, and obtain information (Lee, *et al.*, 2013, Anderson, *et al.*, 2011). Study participants having reported of visiting each other during the FGD and its benefits, confirmed the finding that visiting individuals in similar conditions creates a sense of belonging and sympathy in patients and provided information about how to cope with the disease (Poole, *et al.*, 2001).

In addition, Dunn, *et al* (1999) reported that being visited by peer groups reduced levels of anxiety among cancerous women. Docherty (2004) concluded that the presence of peer support groups paves the way of patients for coping with cancer through increasing the understanding about the normal process of the disease and providing emotional support and a sense of belonging. Breast cancer patients are more sympathetic to similar patients and do not feel uncomfortable or different at their presence (Tehrani *et al.*, 2011).

D. SPIRITUAL DOMAIN

Finally, the two groups were evaluated on their spiritual well-being by comparing the means of the two groups. Statistically significant results were observed on the support group with a mean of 4.2 (95% CI = 4.1 – 4.3) while that of non-support group was 4.0 (95% CI = 3.8 – 4.1) with $p = 0.05$.

Seven items covered under spiritual well-being were participation in religious and spiritual activities, positive changes, uncertainties, purpose of being and feeling of hope. Thus, being a member of the support group improved their spiritual well-being.

Other studies had similar findings and reported that high level of spiritual well-being was more related with enjoyment in life, and higher levels of meaning and peace, even in the midst of cancer-related symptoms such as fatigue or pain (Puchalski, 2012). It had also been indicated in another study that spiritual well-being in cancer patients was associated with lower levels of depression, better quality of life near death, and protection against end-of-life despair and desire for hastened death (Puchalski, *et al*, 2011). Cancer patients felt that their spirituality helped them find hope, gratitude, and positivity in their cancer experience, and also a source of strength that enabled them to cope, find meaning in their lives, and make sense of the cancer experience as they recover from treatment (Puchalski, 2012). During FGD, patient "W" said that cancer was a blessing and opportunity to see life in a different, perhaps more meaningful way.

Religious beliefs of patients, as the cornerstone of the approaches for coping with the disease, play a pivotal role in struggling with the disease. Taleghani, *et al.*, (2012) reported that cancer increases people's awareness of religious aspects and moves them towards exploration of spiritual implications of life. They also added that religious beliefs are considered as an important source of support for facing and coping with the disease particularly in patients with breast cancer.

IV. CONCLUSIONS

The study concluded that:

Psychosocial support group improves the health related quality of life (HRQOL) among female breast cancer patients as supported by the results showing that there were statistical significant difference among all the four domain of physical, psychological, social and spiritual well-being among those breast cancer patients in the support group contrary to their counterpart in the non-support group.

V. RECOMMENDATIONS

The study recommended that:

Support groups may be integrated in the existing oncology service in all cancer centers across the country to help improve the quality of life among breast cancer patients preferably a support group to include only one type of cancer for a more open forum.

SUGGESTIONS FOR FURTHER RESEARCH

Further research may be done on utilization of support group among breast cancer patients and policy influence.

ABBREVIATIONS AND ACRONYMS

Acc: Accessed, BC: Breast Cancer, *et al*: and others, EWB: Emotional Well-Being, FGD: Focused Group Discussion, HRQOL: Health Related Quality of Life, KEMRI: Kenya Medical Research Institute, MOH: Ministry of Health, MOMS: Ministry of Medical Services, MOPHS: Ministry of Public Health services, PWB: Physical Well-being, QOL: Quality Of Life, UICC: Union for International Cancer Control, WHO: World Health Organization

REFERENCES

- [1] Alagraa R., Abujabei A., Chandra P. And Doughty J. (2014) *Evaluating Psychosocial support needs of Female cancer patients in the state of Qatar*. Qatar Medical Journal.Vol.1 Art. 4
- [2] Anderson J. H., Ganz P. A., Bower J. E., and Stanton A. L., (2011) *Quality of Life, Fertility Concerns, and Behavioral Health Outcomes in Younger Breast Cancer Survivors: A Systematic Review*. University of California Los Angeles.
- [3] Antonia (February 01, 2014) *Intimacy plays role in breast cancer healing*. Standard newspaper.
- [4] Björneklett HG, Lindemalm C, Rosenblad A. (2012) *A randomized controlled trial of support group intervention after breast cancer treatment: results on anxiety and depression*. ActaOncol. 51(2):198-207,
- [5] Boesen EH, Karlsen R, Christensen J, Paaschburg B, Nielsen D, Bloch IS, et al. (2011) *Psychosocial group intervention for patients with primary breast cancer: a randomised trial*. European Journal of Cancer Vol.47 Iss.9 Pg.1363.
- [6] Bray F, Ren JS, Masuyer E, Ferlay J (2013). *Global estimates of cancer prevalence for 27 sites in the adult population in 2008*. Int J Cancer, 132(5):1133–1145.
- [7] Castro, M. (2013) *Quality of Life in Female Breast Cancer survivors in Panama*. University of South Florida.castramayela@yahoo.es
- [8] Docherty A. (2004). *Experience, functions and benefits of a cancer support group*. Patient EducCouns. 55(1):87–93.
- [9] Dunn J, Steginga SK, Occhipinti S, Wilson K. (1999). *Evaluation of a peer support program for women with breast cancer-lessons for practitioners*. Journal of Community & Applied Social Psychology. 9(1):13–22.
- [10] Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, Rebelo M, Parkin DM, Forman D, Bray, F (2013). *GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11*. Lyon, France
- [11] Ferrell BR. (1996) *The quality of life: 1,525 voices of cancer*. Oncol Nurse Forum vol.23 Pg.907-916
- [12] ForsEgil A., BertheussenGro F., Thune Inger, JuvetLene K., Elvsaaas Ida-Kristin Ø., Oldervoll Line, Anker Gun, Falkmer Ursula, Lundgren Steinar and Leivseth Gunnar (2011) *Psychosocial interventions as part of breast cancer rehabilitation programs? Results from a systematic review* Vol 20, Iss 9, pg 909–918

- [13] Garssen B, Boomsma MF, Meezenbroek Ede J, Porsild T, Berkhof J, Berbee M, et al. (2013) *Stress management training for breast cancer surgery patients*. *Psycho-Oncology* Vol.22 Iss.3 pg.572.
- [14] Grady (2013) *Uganda Fights Stigma and Poverty to Take On Breast Cancer*. The Cancer Divide. Kampala.
- [15] Grassi L., and Watson M., (2012). *Psycho-oncology: psychosocial programmes and national cancer plans of countries within the International Federation of Psycho-Oncology Societies*. John Wiley & Sons, Ltd. Volume 21, Issue 10, pages 1027–1033, October 2012.
- [16] Greenlee H., Balneaves L. G., Carlson L. E., Cohen M., Deng, Hershman D., Mumber M., Perlmutter J., Seely D., Sen A., Zick S. M., Tripathy D., (2014) *Clinical Practice Guidelines on the Use of Integrative Therapies as Supportive Care in Patients Treated for Breast Cancer*. Oxford University Press
- [17] Jack B. A., Kirtan J., Birakuraki (2013) *A bridge to the Hospice. The impact of Community Volunteer Programme in Uganda*.
- [18] Jacobsen, K.H. (2012). *Introduction to health research methods: A practical guide*. Sudbury, MA: Jones & Bartlett Learning.
- [19] Jemal A., Bray F., Center M. M., Ferlay J., Ward E., Forman D., (2011) *Global cancer statistics: Ca : a Cancer Journal for Clinicians*. Vol. 6. Issue 2
- [20] Kenya Network for Cancer Organization (accessed 23. August 2015)
- [21] Korir A, Okerosi N, Ronoh, V., Mutuma G and Parkin M. (2015) *Incidence of Cancer Nairobi Kenya (2004-2008)*. University of Oxford. UK. *International journal of Cancer*. Kenya
- [22] Kwan ML, Ergas IJ, Somkin CP, Quesenberry CP Jr, Neugut AI, Hershman DL, et al. (2010) *Quality of life among women recently diagnosed with invasive breast cancer: the Pathways Study*. *Breast Cancer Res Treat*. 123:507–24. doi: 10.1007/s10549-010-0764-8. pmid:2014 0494
- [23] Lee MK, Park S, Lee ES, Ro J, Kang HS, Shin KH, Lee KS, Chung KW, Kim SW, Yun YH. (2011). *Social support and depressive mood 1 year after diagnosis of breast cancer compared with the general female population: a prospective cohort study*. *Support Care Cancer*. 19(9):1379-92, 2011.
- [24] Lee R, Lee KS, Oh EG, Kim SH. (2013) *A randomized trial of dyadic peer support intervention for newly diagnosed breast cancer patients in Korea*. *Cancer Nursing* vol.36 Iss.3 Pg.15.
- [25] Lo C., Hales S., Rydal A., Panday T., Aubrey C., Malfitano C., Jung J., Nissim R., and Robin G. (2015) *Managing Cancer and living meaningfully; Study protocol for a randomized controlled trial*.
- [26] Masika G. M., Wettergren L., Kohi T. W., and Essen L. V., (2012) *Health-related quality of life and needs of care and support of adult Tanzanians with cancer: a mixed-methods study*. Central Ltd. (Accessed 2nd May.5015)
- [27] McCloskey-Lint K. (2007). *Support group boost well-being, not survival*. <http://www.breastcancer.org>
- [28] Ministry of Public Health and Sanitation/ Ministry of Medical Services, (2011) *National Cancer Control Strategy 2011-2016*. Republic of Kenya
- [29] MOH (2013) *The Kenya National Palliative Care Guideline*. Nairobi Pg. 14
- [30] Montazeri A. (2008) *Health-related quality of life in breast cancer patients: A bibliographic review of the literature from 1974 to 2007*. *J Exp Clin Cancer Res* Pg.27.
- [31] Montgomery M, McCrone SH. (2010) *Psychological distress associated with the diagnostic phase for suspected breast cancer: systematic review*. *Journal of Advanced Nursing* Vol. 66 Iss.11 Pg.2372.
- [32] Mowry S. E., and Wang M. B. (2011) *Influence of Support groups on quality of life in Head and Neck cancer patients*. *SRN Otolaryngol* 250142:10.5402/2011/250142
- [33] Mustafa M¹, Carson-Stevens A, Gillespie D, Edwards AG. (2013) *Psychological interventions for women with metastatic breast cancer*.
- [34] Mutebi (2014) *Stigma, Survivorship and Solutions: Addressing challenges of living with breast cancer in low-resource areas*. *S Afri Med J*. 104(5): 383. DOL: 10.7196/SAMJ.8253
- [35] Mutuma G. Z., and Rugutt-Korir (2006) *Cancer Incidence Report 2000 – 2002, Nairobi Cancer Registry, Kenya Medical Research Institute, Nairobi, Kenya*.
- [36] Mwangi P., Faith N., Powell and Richard A., (2013) *Model of delivering Palliative and End of Life care*. Vol. 7. Wolter Kluwer Health/ Lippincott. Williams and Wilkins
- [37] Nairn RC, Merluzzi TV. (2003). *The role of religious coping in adjustment to cancer*. *Psychooncology*. 12(5):428–41.
- [38] Neal C., Beckjord E. B., Rechis R., Schaeffer J., Berno D., and Duchover Y. (2007). *Cancer Stigma and silence around the World; Alivestrong report*
- [39] Neuling S.J. & Winefield H.R. (1988). *Social support and recovery after surgery for breast cancer: Frequency and correlates of supportive behaviors by family friends and surgeon*. *Social Science & Medicine*, 27, 385-92.
- [40] Northouse L.L. (1988). *Social support in patients' and husbands' adjustment to breast cancer*. *Nursing Research*, 37, 91-5.
- [41] Palsson, M.B. & Norberg A. (1995). *Breast cancer patients' experiences of nursing care with the focus on emotional support: The implementation of a nursing intervention*. *Journal of Advanced Nursing*, 21, 277-85.
- [42] Patt R. B., (1996) *Put life into their days not just days into their life. psychosocial care: Standards of Psychosocial Health Services for persons with Cancer and their Families*, available at <http://capo.ca/CAPOstandards.pdf>.
- [43] Pistrang, N. & Barker C. (1995). *The partner relationship in psychological response to breast cancer*. *Social Science & Medicine*, 40, 789-97.
- [44] Poole G, Poon C, Achille M, White K, Franz N, Jittler S, et al. (2001). *Social support for patients with prostate cancer: The effects of support groups*. *Journal of psychosocial oncology*. 19(2):1–16.

- [45] Puchalski C. M., (2012) *Spirituality in the Cancer trajectory*. Ann Oncol (2012) 23 (suppl_3): 49-55. <https://doi.org/10.1093/annonc/mds088>
- [46] Puchalski CM, Ferrell B, O'Donnell E, Bruera E, Yennurajalingam S.(2011) *Spiritual Issues in Palliative Care, Oxford American Handbook of Hospice and Palliative Medicine*, 2011 New York Oxford University Press, USA
- [47] Saegrov S, Halding AG. (2004). *What is it like living with the diagnosis of cancer?* Eur J Cancer Care (Engl). 13(2):145–53.
- [48] Selman L. E., Higginson I. J., Agupio G., Dinat N., Downing J., Gwyther L., Mashao T., Mmoledi K., Moll T., Sebuyira L. M., Ikin B., and Harding R. (2011) *Quality of life among patients receiving palliative care in South Africa and Uganda*. A multicentred study.
- [49] Sharif F, Abshorshori N, Tahmasebi S, Hazrati M, Zare N, Masoumi S. (2010). *The effect of peer-led education on the life quality of mastectomy patients referred to breast cancer-clinics in Shiraz, Iran 2009*. *Health Qual Life Outcomes*. Vol. 8 Iss.1 Pg.74.
- [50] Spiegel D., Kraemer H.C., Bloom J.R. & Gottheil E. (1989). *Effect of psychosocial treatment on survival of patients with metastatic breast cancer*. Lancet, 2, 888-891.
- [51] Stewart, D.W. and Shamdasani, P.N. (1990) *Focus Groups: Theory and Practices*. Sage, UK.
- [52] Tehrani, A. M., Farajzadegan, Z., Rajabi F. M., and Zamani, A. R. (. 2011) *Belonging to a peer support group enhance the quality of life and adherence rate in patients affected by breast cancer: A non-randomized controlled clinical trial*. J Res Med Sci. 2011 May; 16(5): 658–665.
- [53] Union for International Cancer Control (UICC) (2011) *World Cancer Day: Quality of Life*. <http://www.worldcancerday.org/> Geneva
- [54] Wata, D. E., Osanjo, G. O., Margaret Oluka M. and Guantai, A. N. (2013) *Predictors of Breast Cancer Treatment Outcomes in Kenyan Women; African journal for pharmacology and Therapeutics*. Vol. 2 No. 4.Pg 109
- Silvestri GA, Knittig S, Zoller JS, Nietert PJ. (2003) Importance of faith on medical decisions regarding cancer care, *J CliniOncol*, vol. 21(pg. 1379-1382)
- [55] Yan B., Yang L., Hao L., Yang C., Quan L., Wang L., Wu Z., Li X., Gao L., Sun Q., and Yuan J. (2016). *Determinants of quality of life for Breast Cancer patients in Shanghai, China*