



Research article

Evaluation of posture and quality of life in females undergone modified radical mastectomyAachal Birellwar¹, Shalaka Dhankar¹, Shruti Deshpande^{1*}, Sakshi P. Arora¹, Waqar M. Naqvi²

1. Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India.
2. MGM School of Physiotherapy Aurangabad, MGM Institute of Health Sciences, Navi Mumbai, Maharashtra, India

ABSTRACT

Breast cancer is most common cancer in females. Modified radical mastectomy is operation in female which affects social life and physical life. There is also slightly moderate in quality of life in female undergone modified radical mastectomy. The aim of the study was to find "Evaluation of Posture and Quality Of Life in Females undergone Modified Radical Mastectomy". This study was carried out in Physiotherapy OPD, Ravi Nair Physiotherapy College and AVBRH, Sawangi (Meghe), Wardha. The objectives included to evaluate posture in female's undergone Modified radical mastectomy and to evaluate Quality of life. The present study titled "Evaluation of Posture and Quality of Life in females undergone Modified Radical Mastectomy" which comprised of 35 females. The present study showed that slight changes in posture in females undergone modified radical mastectomy and moderately hampered in social domain of quality of life. From the present study we concluded that there is slight changes in posture in female patients undergone MRM and there is good quality of life in physical, psychological, environment domain and moderate quality of life in social domain. This study will help in evaluating posture and QOL after Modified radical mastectomy. Hence after every modified radical mastectomy conditions, therapists always follow ergonomics to prevent bad posture and improve quality of life. Hence, the evaluation of posture and QOL should be included in all assessment proformas related MRM conditions.

Keywords: Posture, Modified radical mastectomy, Quality of life.

Received - 17/06/2021, Reviewed - 28/06/2021, Revised/ Accepted- 19/07/2021

Correspondence: Shruti Deshpande* ✉ shruti.rnpc@dmimsu.edu.in

Assistant Professor, Department of Community Health Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Sawangi, Wardha, Maharashtra, India.

INTRODUCTION

Breast cancer is the most prevalent cancer diagnosis in India [1]. It is the most prevalent neoplasm in women [2]. Modified radical mastectomy is a highly common operation in women that results in a variety of bodily alterations [3]. It is a difficult occasion in the lives of women [4]. Breast cancer patients have the greatest life expectancy of any cancer type, the Quality of Life in patients is the most important element to consider for women who have had a Modified Radical Mastectomy [5].

Patients experience severe postural concerns after surgery, which might jeopardise a woman's ability to work, as well as her family life and social activities. Breast cancer patients have an impact on their way of life, and subsequent postural alterations and trouble functioning in desired patterns may contribute to a lower quality of life [4]. Various variables such as tightness in the pectoral region, post-surgery contractures in the axilla, scapular muscular weakness, and restricted range of motion in the shoulder will alter body posture after a modified

radical mastectomy. Muscle contractures are visible in the neck region, and the scapular region is easily getting fatigue. Because of poor upper extremity function and some postural abnormalities, women have difficulties executing daily activities. Poor postural habits can be caused by postural disorders such as scoliosis and kyphosis, which are caused by trunk asymmetry [2].

Improper body posture may cause somatic abnormalities. In Mastectomy, patient's both physical and psychological aspects should be considered. Complications associated with post mastectomy are changes in body posture caused by disorders in static and dynamic postural changes affecting the appearance thus affecting the ability to function in an ideal way restricting women from participating in various activities and thus affecting her Quality of life [6]. Following therapy, women may notice changes such as mobility restrictions and postural asymmetries [7]. This is linked to a variety of musculoskeletal function alterations. Their position may be inaccurate due to functional

alterations because they are aberrant in the development of the anteroposterior curvature [8].

According to a recent article, breast cancer surgery can have an impact on posture, spine alignment, thoracic kyphosis and shoulder range of motion [9]. Women with modified radical mastectomy constantly fear recurrence of disease [10].

Breast cancer is one of common type of cancer which can lead to high mortality and morbidity rates [11]. Mastectomy has negative impact on females because, it can diminished self-worth. Body image of female include importance and symbolic meaning of her breast. Loss of fertility charm, sexuality, femininity are several problems associated with several problems in women with breast cancer. Negative body image can affect mood of females and her social interaction. Low attractiveness, femininity, low body image are correlated negatively with quality of life and depression.

Loss of breast and cancer had a negative impact effect on women's quality of life [12]. The patients need help to improve psychological outcome, increase physical activity and hence it is role of physiotherapist to deal with any complications of modified radical mastectomy and to improve quality of life of patients. Complications can be physical or psychological. Physical complications includes pain, lymphedema, muscle weakness and changes in body posture. Psychological complications include anxiety, negative body image, depressive disorders [13].

As a result of the considerable postural changes that occur following a Modified Radical Mastectomy, different issues connected to static as well as dynamic activities can occur, affecting not only physical but also psychological functioning. As a result, the current study is being conducted to assess postural changes and their effects on female quality of life. The objectives included to evaluate posture in female undergone Modified Radical Mastectomy, to evaluate Quality of Life and to find association of postural changes and Quality of Life in female undergone Modified Radical Mastectomy.

MATERIALS AND METHODS

An observational study was carried out in Physiotherapy OPD and Acharya Vinoba Bhawe Hospital. The inclusion criteria included the females' up to 6 months post modified radical mastectomy surgery, the age between 40-60 years and the subjects those were willing to participate voluntarily. The exclusion criteria included having post-surgical complications like lymphedema, any other musculoskeletal problem related to upper trunk and upper extremity due to previous injury or diseases and the psychological or psychiatric disorder. The quantitative variables used was Score of Quality of Life, a self-reported questionnaire score and for posture deviation was measured using REEDCO posture scale. Subjects that does not match the selection criteria was excluded to prevent bias. The sample size of 35 sample subjects was selected using convenient sampling method.

Statistical Methods: This was done by using descriptive and inferensive statistics using chi-square test students unpaired t-test. Software used in the analysis was SPSS 24.0 version, praphpad prism 7.0 version and $p < 0.005$ is considered as level of significance ($p > 0.005m$).

RESULTS

The present study titled "Evaluation of Posture and Quality Of Life in Females undergone Modified Radical Mastectomy" which comprised of 35 females undergone modified radical mastectomy from age group 40 to 60 years. The present study showed that slight changes in posture in females undergone modified radical mastectomy and moderately hampered in social domain of quality of life.

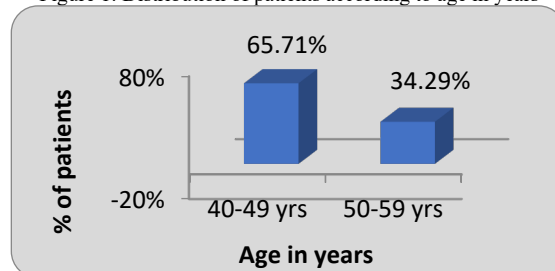
Statistical analysis

Statistical analysis was done by using descriptive statistics and software used in the analysis was SPSS 27.0 version. For the purpose, all the data collected was entered into an excel sheet, tabulated and subjected to statistical analysis. Several statistical measures were used such as mean, standard deviation of mean from subjects demography details i.e. age, gender. Evaluation of posture was done by using scoring of REEDCO Posture Scale and Quality of life using WHO (BREF) scale.

Demographic Profile

Age distribution: In this study, age of participants allocated between 40 to 60 years. The percentage of age of the participating individuals was 65.71% of age 40-49 years and 34.29% of age 50-59 years.

Figure 1: Distribution of patients according to age in years

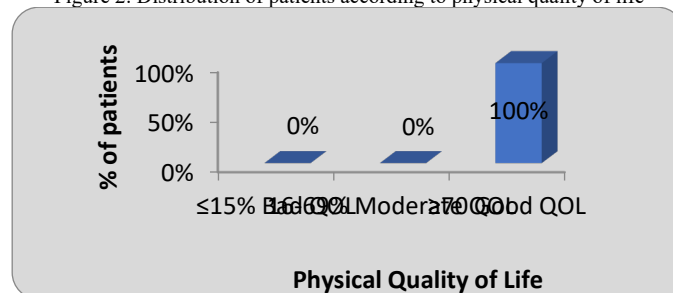


Outcome measures

Quality of life using WHO (BREF) Scale

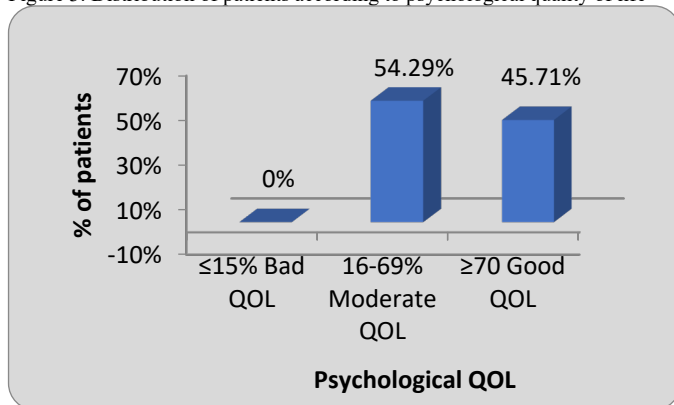
Test for normality for Physical quality of life scale shows mean value 17.14 and standard deviation is 1.45(14-19). 0 % of people shows $\leq 15\%$ Bad quality of life. 0% of people shows 16-69% Moderate Quality of life. 100% people shows ≥ 70 Good Quality of life. It indicates good quality of life.

Figure 2: Distribution of patients according to physical quality of life



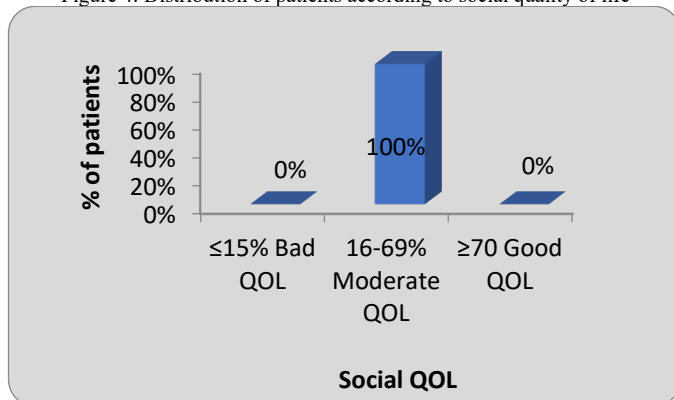
Test for normality for psychological quality of life scale shows mean value 13.48 and standard deviation is 2.34 (10-18). 0% of people shows $\leq 15\%$ Bad quality of life. 54.29 % shows 16-69% Moderate quality of life. 45.71 % shows ≥ 70 Good quality of life. It also indicates good quality of life.

Figure 3: Distribution of patients according to psychological quality of life



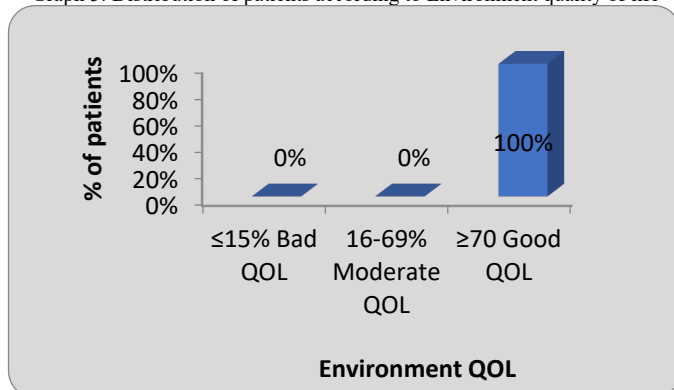
Test for normality for social quality of life scale shows mean value 8.97 and standard deviation is 1.54(6-13). 0 % of people shows $\leq 15\%$ Bad quality of life. 100% people shows 16-69% Moderate quality of life. 0% shows ≥ 70 Good quality of life. It indicates moderate quality of life.

Figure 4: Distribution of patients according to social quality of life



Test for normality for Environment quality of life scale shows mean value 19.28 and standard deviation is 0.71(18-20). 0 % of people shows $\leq 15\%$ Bad quality of life. 0% of people shows 16-69% Moderate Quality of life. 100% people shows ≥ 70 Good Quality of life. It indicates good quality of life.

Graph 5: Distribution of patients according to Environment quality of life



Reedco posture scale

Test for normality for REEDCO posture scale shows mean value 80 and standard deviation is 4.69(70-85). 8.6 % shows 70 scoring. 17.1 % shows 75 scoring. 40% shows 80 scoring. 34.3 % shows 85 scoring. It indicates that maximum people has good posture.

Figure: Distribution of patients according to REEDCO posture score

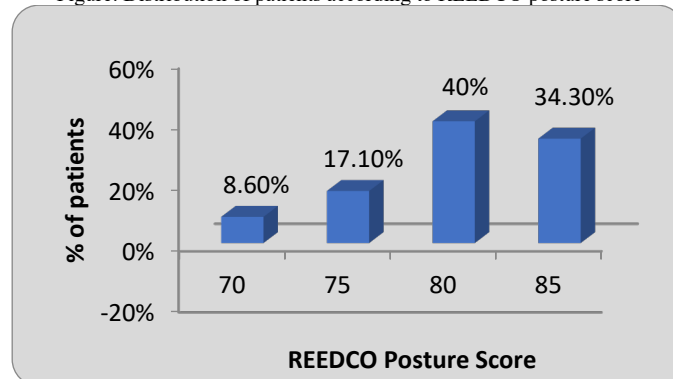
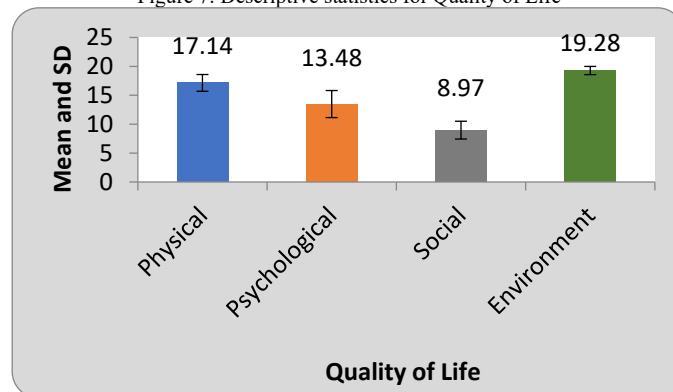


Figure 7: Descriptive statistics for Quality of Life



DISCUSSION

The current study was carried out to find out association of postural with Quality of life in females undergone Modified Radical Mastectomy. Various studies have shown postural deviation in females with breast cancer also that their Quality of life is altered resulting in various difficulties. The goal of this study was to see if there is a link between posture and quality of life because changes in posture and spine can affect how women work, whether at work or at home, due to muscle tightness or other musculoskeletal changes that limit joint range of motion and cause pain, making it difficult for women to perform various tasks. Thus current study aims to find out association between posture and Quality of life. Chest tightness can cause a restriction in the range of motion of the shoulder joint, which is especially common in the elderly. It is critical to pay extra attention to preventing any shoulder dysfunction that requires follow-up after surgery, particularly in elderly patients who have had a modified radical mastectomy.

The result shows that there is only slight changes in posture reported with slight reduction in REEDCO Posture Scale in female patient's undergone modified radical mastectomy and there is moderate Quality of life in social domain. To our knowledge, only few studies which provides evidence from an observational trial to show changes in posture and Quality of life in female undergone Modified

Cinira AssadSimão Haddad, Maria del Carmen Janeiro Perez and Fausto Miranda, Junior carried out a study on "Assessment of Posture and joint movements of the upper limbs of patients after Mastectomy and Lymphadenectomy" concluded that women after Mastectomy have changes in range of motion in upper limb, especially in shoulder and changes may occur in Posture deviations. Marcelo Saad also describes problems which is observed by women like reduced range of motion and decrease muscle strength. The purpose of the study was to use a method that would permit quantification of range deviations and deficits, thus current study was conducted to find effect of Postural changes and Quality of life.

Emídio A. AraújoNeto et al. in (2017) conducted a study on "Quality Of life of Post- Mastectomy women living in Semi-Arid Region in Brazil" suggested that it is important to evaluate quality of life in Modified Radical Mastectomy patients. Fernando L. A. Fonseca showed that many factors like reduction range of movement in affected arm side, pain reported by patients responsible for poor quality of life. However, Social factor like support provided by family members, were found to improve Quality of Life. The condition imposes limitations on the motor difficulties and other aspects. Flavia de S. Gehrke suggested that reducing the range of arm movement on the side where the operation was done, pain, and discomfort are factors that inhibit regular daily activities. Thus, current study showed that the quality of life hampered in modified radical mastectomy.

Andrea Obrocnikova, conducted an observational study on "Quality Of Life in Women with breast cancer" confirmed investigation of research and results is reduce Quality of Life in patients of breast cancer. In 2017, Miloslava Jaselska suggested that attention should be given to each Female patient and Quality of Life should be maintained. Benefits of this is to help female overcome emotional, behavioural and cognitive consequences and its treatment and has positive impact on Quality of Life of cancer patients. Anna Hudakova.

Chung Ho Lee, conducted a study on "Effect of breast cancer surgery on chest tightness and upper limb dysfunction". Seong Yun Chung verified that in patients with breast cancer after surgery there is increased in chest tightness. In 2019, Woo Young Kim Seung Nam Yang suggested that upper limb dysfunction was correlated with reduction of shoulder range of motion that was associated with chest tightness. And our study presents that slight difference in posture in females undergone modified radical mastectomy. Suelen Helena da, conducted a study on "Post-mastectomy quality of life and its relationship with upper limb muscle strength". Silva Lydia Christmann suggested regarding the effects of breast cancer on mastectomized women's quality of life, particularly in social areas of their lives. Espindola Koetz also show reduction of muscular strength

caused by the surgical procedure has an impact on the MSA's functionality. Our Study presents slightly hampered in social domain of quality of life.

CONCLUSION

From the present study we can conclude that there is slight changes in posture in female patients undergone modified radical mastectomy and there is good quality of life in physical, psychological, environment domain and moderate quality of life in social domain. This study will helps in evaluating posture and quality of life after modified radical mastectomy. Hence after every modified radical mastectomy condition, therapists always follows ergonomics to prevent bad posture and improve quality of life. Hence, the evaluation of posture and quality should be include in all assessment proformas related modified radical mastectomy conditions.

Limitation

1. Only Evaluation of posture is done and its effect on Quality Of Life is assessed but not on the treatment outcomes of Modified Radical Mastectomy.
2. It was difficult to convince the patient for being a part of this study.
3. Most of the women afraid to be a part of research due to SARS Covid-19 pandemic.
4. Duration of study was reduced 6 months to 5 months due to pandemic.
5. Participants were afraid to be a part of the study due to the pandemic.

Authors contribution all authors made best contribution for the concept, assessment and evaluation, data acquisition and analysis and interpretation of the data.

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How to cite this article

Aachal B, Shalaka D, Shruti D, Sakshi P. A, Waqar M. N, 2021. "Evaluation of Posture and Quality of Life in Females undergone Modified Radical Mastectomy". *Jour. of Med. P'ceutical & Allied. Sci.* V 10 - I 4, 1296 P-3233-3237. doi: 10.22270/jmpas.V10I4.1296.