

Beware! Reduced Functional Capacity and Quality of Life with Increased Fatigue Level among the Breast Cancer Survivors Undergoing Chemotherapy in India

Sir,

Breast cancer impact affects physical, social, psychological, and many other aspects of life among the cancer survivors. For the past two decades, there has been increasing number of studies highlighting the importance of physical activity and prevention, reduction, and reoccurrence of cancer. There is a paucity of information available on the functional capacity and quality of life (QoL) among the breast cancer survivors (BCS). The objective of this study is to determine the postchemotherapy changes on functional capacity and QoL among BCS. The functional capacity was determined by 6-min walk test (6MWT).^[1] QoL was measured by the European Organization for Research and Treatment of Cancer (EORTC) breast cancer-specific QoL questionnaire (QLQ-BR23) (EORTC QLQ-BR23).^[2] The EORTC QLQ-BR23 questionnaire consists of 23 items under two sections, function and symptom. The answers for each question are in a Likert scale format. This questionnaire contains two scales, namely, the functional scale and the symptom scale. In addition to the above, the fatigue level was monitored by Schwartz Cancer Fatigue Scale (SCFS).^[3]

The university research and ethics committee (ACS/2016/57) approved the study protocol. A total of 116 female BCS, aged between 38 and 56 years, were included for the quasi-experimental, one-group pretest-posttest study design. The study was done in accordance with ethical guidelines for biomedical research on human subjects, the Indian Council for Medical Research, 2006, and also in accordance with the guidelines of Helsinki Declaration, revised 2013.^[4] The detailed purpose, procedure, risks, and benefits of the study were explained to them after obtaining signed consent form before data collection and assured confidentiality of the collected data. Anthropometrics were measured according to the recommendations of the International Standards for Anthropometric Assessment.

The total sample was stratified according to the Union for International Cancer Control/American Joint Committee on Cancer/International Association for the Study of Lung Cancer tumor, node, and metastasis staging.^[5] Before the commencement and end of 4th-week chemotherapy, 6MWT was measured according to the guidelines of American Thoracic Society,^[6] QoL by EORTC QLQ-BR23, and fatigue level by SCFS.

Normality of collected data was established by Kolmogorov–Smirnov test. As the collected data follow normal distribution, descriptive statistics were expressed in mean \pm standard deviation. Parametric tests (paired *t*-test) were used to analyze the significant difference between sessions. Among 116 females (46.7 \pm 8.3 years old; 154.8 \pm 6.6 cm; 82.2 \pm 8.0 kg; 28.2 \pm 3.6 kg/m²), 47.5% were in Stage III and 52.5% were in Stage IV. There were 12 dropouts out of 116 BCS. However, they were analyzed using intention-to-treat analysis. Baseline and 4-week changes in 6MWT, EORTC QLQ-BR23, and SCFS were elaborated in Table 1.

The change score of 6MWT, EORTC QLQ-BR23, and SCFS is 51.1 \pm 13.4 m, 10.9 \pm 1.8, and 8.8 \pm 2.2, respectively. Minimal clinically important difference for 6MWT in patient with cancer is 43.1 m^[1] and EORTC QLQ-BR23 is a 10-point change in score.^[7] The minimal detectable change of SCFS is 5.7.^[8] There is a clinically significant reduction in functional capacity and QoL with increased fatigue level among BCS. Thus, we can rightly say that the chemotherapy has a potential to reduce functional capacity and QoL and increases the fatigue level among BCS in 4 weeks.

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Conflicts of interest

There are no conflicts of interest.

Table 1: Baseline and postchemotherapy changes in functional capacity, quality of life, and fatigue level among the breast cancer survivors

| Variables | Prechemotherapy score (baseline) | Postchemotherapy Score (end of 4 th week) | Change score | P |
|----------------|----------------------------------|--|-----------------|--------|
| 6MWT (m) | 435.3 \pm 30.5 | 384.2 \pm 23.8 | 51.1 \pm 13.4 | <0.001 |
| EORTC QLQ-BR23 | 23.3 \pm 3.6 | 34.2 \pm 4.1 | 10.9 \pm 1.8 | 0.003 |
| SCFS | 7.8 \pm 1.2 | 16.6 \pm 3.4 | 8.8 \pm 2.2 | 0.001 |

6MWT: Six-minute walk test, EORTC QLQ-BR23: European Organization for Research and Treatment of Cancer breast cancer-specific quality of life questionnaire, SCFS: Schwartz Cancer Fatigue Scale

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