



# Quality of life for elderly breast cancer patients: a new regard

Mohamed Abdelrahim Mahfouz, Mohammed Yahia Almaghrabi

Radiation Oncology Department, King Abdullah Medical City, Makkah Al-Mokarramah, Kingdom of Saudi Arabia

**Contributions:** (I) Conception and design: MY Almaghrabi; (II) Administrative support: MY Almaghrabi; (III) Provision of study materials or patients: MY Almaghrabi; (IV) Collection and assembly of data: All authors; (V) Data analysis and interpretation: All authors; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

**Correspondence to:** Mohammed Yahia Almaghrabi. Radiation Oncology Department, King Abdullah Medical City, 2677Al-Mashaer District, Makkah Al-Mokarramah 7700-24246, Kingdom of Saudi Arabia. Email: al-maghrabi.m@kmc.med.sa; almaghrabimd@hotmail.com.

**Abstract:** The elderly are considered less tolerant to cancer management, most oncologists are not optimistic about clinical outcome and toxicity profile following of elderly cancer patients' treatment. The use of the quality of life assessment may base the decision to treat breast cancer patients on more factors than just their 'age' alone. Our aim in this review is to address the quality-of-life (QoL) assessment importance on elderly breast cancer population who are treated with anticancer modalities.

**Keywords:** Quality-of-life (QoL); breast; cancer; chemotherapy; radiation; surgery

Submitted Jun 03, 2019. Accepted for publication Jul 17, 2019.

doi: 10.21037/tcr.2019.07.39

**View this article at:** <http://dx.doi.org/10.21037/tcr.2019.07.39>

## Introduction

Quality-of-life (QoL) is the perception of self-position in one's life in relation to one's surroundings and considers the patients' own life objectives, goals, anticipations, principles and interests. These extensive thoughts and perceptions combine to make a patient's bodily state, psychological condition, self-dependence, community relations, self-confidence and ultimately impact on their relationship to their local environment (1). There is no general or agreeable definition for the term elderly, some authors regard 60 years as the point of entry into the category of elderly, while others categorise 65 or 70 and 75 as being the correct figure denoting elderly. The International Society of Geriatric Oncology (SIOG) suggests involving patients aged 70 years or older in the organised and Comprehensive Geriatric Assessment (2). Questionnaires for QoL are subjective and should be fulfilled by the patients themselves. Rating by someone else has shown to be inexact, but sometimes are unavoidable (3).

QoL has been stated by researchers as being one of the tough end-points for clinical research (4). Usage of QoL tools may only be suitable when the treatment objectives are not foreseeable in improving the overall survivability,

as in metastatic cancer. The American Society of Clinical Oncology upholds the view that treatment can be given even without survival improvement, as long as it exhibits an improvement in the patient's quality of life (5). National Institutes of Health and the National Cancer Institute concluded that QoL assessment should be part of research studies whenever possible. In addition, it should be noted that patients may prefer to be treated only if improves their quality of life and not necessarily their survivability (6): when patients choose between supportive care and chemotherapy, 22% of the patients prefer chemotherapy for a survivability benefit of 3 months. Reciprocally 68% patients prefer chemotherapy if it essentially improves symptoms, even if no significant effect on survival was achieved. Jacobsen *et al.* state that an evaluation of QoL can improve relationship between physicians and patients (7).

Our aim in this review is to address QoL assessment importance on elderly breast cancer population who are treated with anticancer modalities.

## Discussion

Attempts have been done to approve and validate QoL questionnaires and/or instruments being used on elderly

cancer patients (5). Functional Assessment of Cancer Therapy General Scale (FACT-G), is one of the most commonly used and validated questionnaire used on elderly cancer patients (8), and has been approved by many authors as being a reliable instrument unaffected and unbiased by the patients' age (9). Subgroup analysis in elderly patients included in clinical research without upper age limit may lead to a selection bias. In a systematic review of the literature, Hickey *et al.* identified studies that evaluate QoL in elderly. Thirty-seven studies were identified. In the majority of studies, a generic QoL instrument had been used, most commonly the SF-36. No study used QoL instruments that were old-age specific. Most of the scales were related to physical activity which will decrease with increasing age, comparison between different age groups may be biased (4).

Two important issues take place in cancer management. Firstly is the patient's well-being which is critical in cancer treatment and secondly is the use of QoL questionnaires in evaluating the patients' well-being (4,10). We can improve patients' satisfaction and compliance by sharing their views in the decision making process. Moreover, Sprangers and Schwarz recommended that patient outcomes could be better if QoL questionnaires are used to evaluate and manage functional and psychological problems that have not been thought of previously. Patients who report a good QoL are expected to show better response (11) to treatment. QoL assessment is also recommended in cases where treatment is expected to lead to toxicity, which is very mild or significantly different, and can aid in reaching sensible differentiation between different modalities in the form of QoL (12).

Many retrospective studies stated that elderly cancer patients with breast cancer are less likely to be treated conservatively. The EORTC 10850 randomised trial discussed this issue and analysed patient survivability and QoL in elderly (>70 years) with early breast cancer, two groups of patients were evaluated, one group undergoing mastectomy and the other group undergoing conservative surgery plus tamoxifen. It stated that both groups did not differ in terms of fatigue, social support, emotional health, physical activity, fear of recurrence and leisure time. Moreover, tumour excision plus tamoxifen showed less arm problems and marginal significant advantage in body image. Concluding that conservative treatment is positively associated with better QoL and many authors recommend this approach in older patients (13).

According to current NHS willingness-to-pay thresholds,

an extension to screening up to the age of 78 years represents a cost-effective strategy (14). From the moment women are diagnosed with breast cancer, QoL declined heavily. Timely and appropriate follow-up care may prevent QoL drops (15). Older women are alleged to be less tolerance of chemotherapy compared to younger patients. One study found that there is no significant correlation between age and any of the assessed QoL domains or symptom scales, except for dyspnea and sexual functioning (16). ADEBAR trial revealed minimal differences in QoL in breast cancer patients aged less than 65 years versus 65 to 70 years who were receiving adjuvant chemotherapy. The dropout rate found more evidence on those above the 65 age group (17). Elderly breast cancer patients, who underwent first-line endocrine therapy, were associated with prolonged overall survival after high QoL scores (18).

Three years following radiation treatment, the elderly early-stage breast cancer, QoL scores were high in most areas. Moderate limitations occurred in sexual functioning and enjoyment. Axillary node dissection (ALND) patients scored less in their perception of future perspective than sentinel node biopsy (SLNB) or 'no surgery' patients groups. ALND patients believed they might have a higher risk of relapse than the other two axillary groups (19). Older patients tended to have a significantly higher quality of life from among breast cancer patients' who were also undergoing radiation treatment. A lower level of fatigue was noticed among patients  $\geq 71$  years of age and those under 50 years. The highest average score for fatigue was registered among those from 61 to 70 years of age. Socio-demographic factors impacted significantly on QoL of breast cancer patients (20). To acquire better quality of life after mastectomy and breast reconstruction, low surgical invasiveness, one-stage procedure, early discharge, rapid recovery, and a prompt return to normal routine activities, are believed mandatory (21).

Utilising the quality of life assessments to stress on a new era of life strategy for elderly breast cancer patients is recommended and a good example of such a life strategy is the introduction of yoga, which was found to be a valuable strategy in diminishing depression, pain, fatigue and contribute to assisting cancer patients in performing their daily and routine activities. Regardless of cancer history, physically inactive women reported significantly worse QoL, complaining mainly of declines in their general health, vitality, and physical function domains. Therefore, interventions to help older women maintain or regain their physical and active lifestyle is advised (22,23).

Across the trials, the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Core Questionnaire (QLQ-C30) and the Breast Cancer-Specific Module (QLQ-BR23), Short Form Health Survey (SF-36), Functional Assessment of Cancer Therapy-Breast Symptom Index (FACT-B-FBSI), the Quality of Life Questionnaire for Cancer Patients Treated with Anticancer Drugs (QOL-ACD), and the Functional Assessment of Chronic Illness Therapy (FACIT) are most commonly QoL instruments used. The Nottingham Health Profile (NHP), Beck Depression Inventory (BDI), the visual analog scale (VAS), and the Interview for Deterioration in Daily Living Activities in Dementia (IDDD) has the effect making the assessment of elderly breast cancer patient more feasible and accurate.

In breast cancer with its diverse features and different nature of its population, it is understood that it is very difficult to find single instrument that can both be sensitive and comprehensive enough to be used for reporting the clinical and significant changes in all outcomes of the different stages of patient care. However, based on Mandelblatt *et al.* (9) breast cancer's comprehensive meta-analysis and literature of breast cancer outcomes, it is possible to make a set of questions to measure different outcomes. There are methodological limitations addressed in QoL evaluation for elderly patients: (I) illiteracy occurring in higher proportions especially in the elderly. (II) Cognitive disorders and difficulties in understanding QoL questionnaires. (III) Suffering from multiple comorbidities substantially confusing the real effect of malignancy and treatment on QoL. (IV) Use of QoL evaluation requires approval from elderly cancer patients.

### Looking ahead

QoL has the potential to highlight and tell the physicians more about their patients' condition and illness whilst ascertaining how treatments may interact with the patient's QoL. Even with help of QoL, deciding whether an elderly patient is enrolled or not on to cancer treatment is not an easy task. There is a need for a multidisciplinary approach to treating elderly breast cancer patients and for clinical trials including subsets of women. In terms of the risk/benefit ratio of treatment, the performance of a geriatric assessment alongside careful evaluation of comorbidities is the keystone for proposing the best treatment to patients (24). When 'aging miRNA' profiles are combined with several aging biomarkers, particularly Interleukin-6 (IL-6) and

monocyte chemoattractant protein-1 (MCP-1), patients can be easily clustered into distinctive groups (25).

Further studies and projects are needed to reach the best QoL design questionnaires that are suitable enough for elderly cancer patients.

### Acknowledgments

*Funding:* None.

### Footnote

*Provenance and Peer Review:* This article was commissioned by the Guest Editors (Vincent Vinh-Hung and Nam P Nguyen) for the series "Radiotherapy for Breast Cancer in Advanced Age" published in *Translational Cancer Research*. The article has undergone external peer review.

*Conflicts of Interest:* Both authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/tcr.2019.07.39>). The series "Radiotherapy for Breast Cancer in Advanced Age" was commissioned by the editorial office without any funding or sponsorship. The authors have no other conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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**Cite this article as:** Mahfouz MA, Almaghrabi MY. Quality of life for elderly breast cancer patients: a new regard. *Transl Cancer Res* 2020;9(Suppl 1):S122-S125. doi: 10.21037/tcr.2019.07.39