
R E V I E W

The attitudes to fertility and quality of life in relation to chemotherapy in young breast cancer survivors

Fouzia Memon

Newcastle Fertility Centre at LIFE Newcastle-upon-Tyne UK

Abstract

Background: Since a significant proportion of women treated for breast cancer will now survive their cancer, quality of life for survivors is an important issue. For many young women fertility will be a significant factor in this. A woman's appreciation of her own fertility is likely to be a key factor and her own body image and self-esteem will influence both the type and success of relationships entered into. This in itself may have an effect on her decision to attempt to become pregnant and for a woman, who is already in a successful relationship, may have a role in the decision to start or complete a family.

Methods: An Ovid-Medline search was carried out January 1996 to May 2007, looking for the following terms in the title or abstracts (breast cancer, fertility, psychological issues, sexuality, and quality of life).

Results: The present review paper explored fertility concerns of young woman with breast cancer and related sexual and psychological effects that might affect their quality of life.

Conclusion: This extensive literature review from medical databases like Ovid-Medline has revealed that among depression and physical and psychological stress, fear of loss of fertility is a major factor of poor quality of life among young premenopausal breast cancer survivors.

Key words: Breast cancer, fertility, psychological issues, quality of life, sexuality.

Introduction

There are 2.2 million breast cancer survivors, and approximately 25%-30% of newly diagnosed women each year are <50 years of age. As a result of advances in early diagnosis and therapy, the prognosis of breast cancer has improved over the last decades. The vast majority of women with breast cancer are now becoming long-term survivors with five-year relative survival estimates of approximately 86%.¹ Although the primary objective of treating cancer is cure, this would be seen in the context of promoting and protecting the women's overall wellbeing. Adjuvant chemotherapy and endocrine therapy may be recommended to women <50 years of age, depending on the stage, prognostic factors, and hormone sensitivity of the tumour, because of lower mortality and longer survival resulting from adjuvant therapy.² Young women who undergo chemotherapy for breast cancer face serious

consequences to their reproductive health. Infertility and sexual dysfunction have increasingly been recognized as negative consequences that have impact on quality of life. Northouse³ in 1994 found that younger women with breast cancer are more vulnerable to physical and psychological distress, and this greater vulnerability may account for the poorer quality of life outcomes that have been reported.⁴

This article reviews integral relationship among quality of life, attitude to fertility, chemotherapy-induced menopause, the menopausal symptoms and sexuality in breast cancer survivors.

Attitudes to fertility and its effect on quality of life

Women of childbearing age represent a relatively small minority of women diagnosed with breast cancer.⁵

Correspondence

Dr Fouzia Memon

Research Fellow, Newcastle Fertility Centre at LIFE Newcastle-upon-Tyne UK

Email: fouziarasoolbux@yahoo.com Mob: 0044 7952696973.

However, young women bear an inordinate share of the burden; they are more likely to die of their disease, more likely to experience psychological distress, and more likely to have impairment of their long-term quality of life.^{4,6} They also experience uncertainty of their future due to recurrence of disease. Young women with breast cancer are more vulnerable to psychological distress because of their developmental stage in life^{3,7,8}. They may be single, married without children, parenting young to adolescent children, and establishing careers. Experiencing premature menopause as a result of chemotherapy can further increase a young woman's vulnerability, resulting in a greater risk for emotional distress and a poor quality of life.^{3,9,10} Women reported distress at the inappropriateness of the abrupt menopause, uncertainty related to menopausal symptoms, uncertainty related to temporary or permanent nature of amenorrhoea, feeling older and having no peers to talk with about the experience, and loss of fertility.^{11,12} The study conducted by Christine et al in 2005¹³ found that many young women with breast cancer wanted to discuss worries and feelings about their fertility with health professional specialists in that field but they failed to recall discussions regarding the reproductive health impact of chemotherapy. Demographic, psychological, and disease-related variables were related to recalling such discussions. Young women are more likely to be concerned about the possibility of fertility impairment as a consequence of adjuvant chemotherapy. The risk of ovarian failure following adjuvant therapy for early breast cancer is related primarily to age. Although young women have a small risk of becoming permanently amenorrhoeic, the consequences of this can be devastating and the options should be discussed prior to commencement of adjuvant chemotherapy.¹⁴

Menopausal symptoms and its effect on quality of life

Menopausal symptoms reported by breast cancer survivors include vasomotor symptoms (hot flushes and night sweats), fatigue, sleep disturbances, joint pains, dyspareunia, mood swings, cognitive changes and vaginal dryness. Women's emotional, physical, and functional well-being are negatively affected by the persistence and severity of menopausal symptoms after treatment.^{15, 16, 17} Those breast cancer survivors who experience premature menopause is at greater risk for negative changes in sexuality and poorer functioning outcome.¹⁸ Chemotherapy induced menopause is associated with lower levels of physical functioning and poorer quality of life. Psychological distress is associated with the loss of menstrual function and loss of choice to have more children, even for those who have completed their family, but is more

significantly related to infertility for young women who have not started their families.^{16,19}

Sexuality after breast cancer treatment

Cancer treatments that impair ovarian function, either temporarily or permanently, have a major impact on female sexual function. In women with breast cancer, breast surgery is a weak determinant of women's sexual function. Rather, treatment with adjuvant chemotherapy accounts for much of the sexual morbidity of breast cancer, especially in women who experience an abrupt transition to menopause as a result of their cancer treatment.^{4,20,21}

As women gradually recover from treatment, sexuality and sexual function regains priority as a valued quality of life component. This group however report less sexual satisfaction than healthy women, lower levels of sexual function, decreased libido, difficulty reaching orgasm, dyspareunia associated with vaginal dryness, and less sexual satisfaction.²² They don't perceive themselves as feminine or sexually attractive as they did before treatment.

Physical, psychological and social effects

The multiple demands of the cancer illness are layered on top of the multiple demands of a young woman's life style, and women become more vulnerable to psychological morbidity as they attempt to manage multiple stressors. Younger spouses experience emotional distress, have difficulty carrying out household and childcare responsibilities. Researchers from Colorado studied 304 breast cancer patients with a quality of life questionnaire. Their findings were that younger women were the ones with significantly worse quality of life and symptoms of depression.²³ Breast cancer patients usually suffer incredible stress while under active treatment. Ju-Yu-Yen et al²⁴ found that women with breast cancer had greater social and interpersonal distress and concern with physical symptoms and recurrence and that they have poorer physical and psychological quality of life (QoL). There is evidence that three years after diagnosis of breast cancer, deficits in QoL were still apparent for role, emotional, cognitive, and social functioning and for symptoms of insomnia, fatigue, dyspnoea, and financial difficulties.²⁵ Differences between breast cancer patients and women from the general population were predominantly in younger ages. Compared with the QoL scored one year after diagnosis, only minor functional changes were observed, but unsurprisingly recurrence of breast cancer during the follow up interval had a deleterious effect on QoL. Improvements in QoL from the first year to the third year after diagnosis seems to be modest and are limited to improvements with

respect to financial difficulties, a better future perspective, and fewer breast symptoms. In contrast, other more general symptoms, such as dyspnoea and appetite loss, seem to become slightly more common. This increase is more likely to be related to changes within the context of normal ageing. Recurrence of disease has a deleterious effect on QoL.^{26, 27}

Improving attitude to fertility, sexuality and quality of life

The available evidence suggest that fertility preservation is of great importance to many young women diagnosed with breast cancer, and that infertility resulting from cancer treatment may be associated with psychological distress. When damage to reproductive system due to treatment is unavoidable, cancer specialist should inform patient options for storing gametes, embryos, or gonadal tissue and refer them to fertility specialists who can provide or counsel them about those services. Fertility programmes should counsel these patients and survivors on the risks of cancer treatment on fertility and options for and risks of preserving fertility and reproducing after cure or remission.²⁸ Although the ability to retain reproductive potential is becoming increasingly a major quality of life factor in young female breast cancer survivors, counselling with regards to the negative impact of the treatment on their fertility and their options for fertility preservation still represent an important area for education, communication, support, and intervention for carers and patient's alike.²⁵ Much of the loss of desire for sex in women with ovarian failure is linked to dyspareunia from vaginal atrophy. However, Leslie²⁹ noted that successful sexual rehabilitation often requires a broader approach that incorporates behavioural changes and involves both partners in a committed relationship. Specific interventions, such as patient education, coping skill management, and support groups, might be helpful to improve QoL in women after a diagnosis of breast cancer. With respect to fatigue, this is one of the most common physical symptoms reported by breast cancer patients, several interventions have been recommended including application of epoetin, transfusion of red blood cells (RBCs), and mild physical exercise, sleep, hygiene, attention-restoring activities, and psycho stimulants.

Discussion

The loss of the chances to experience motherhood, whether because of treatment-related infertility or because of fear of adverse effects of pregnancy on survival, may have a dramatic impact on the quality of life of young women. Furthermore chemotherapy associated ovarian failure is associated with reduced

sexual desire, menopausal symptom distress, psychological distress related to fertility concerns, and uncertainty about late physical effects of premature menopause.³⁰ Communication is central to cancer care delivery. A multidisciplinary approach should be adopted and appropriate referrals should be arranged to manage physical and psychological symptom distress and sexuality and sexual dysfunction problems and for fertility consultations. In addition to biologic motherhood, parenting options should be included in the discussions of fertility. Surrogate pregnancy and adoption of a child are viable parenting options for breast cancer survivors.

Future studies of adjuvant treatments for breast cancer should include instruments that measure quality of life, with particular attention to fertility and pregnancy issues. Since breast cancer mortality has decreased in younger women, follow-up should reach beyond recurrence and survival data to gather information on post-treatment fertility, decisions regarding pregnancy, and how these important issues impact on the quality of life of young survivors.²⁹

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