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Research Article

Quality of Life in Post-Treatment Carcinoma Cervix Survivors: A Cross-Sectional Study Using the EORTC QLQ-CX24 Questionnaire

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Abstract

This cross-sectional study assessed long-term quality of life (QoL) in 75 post-treatment carcinoma cervix patients attending follow-up using the EORTC QLQ-CX24 questionnaire. The mean follow-up duration was 19 months, with most patients presenting in locally advanced stages. Overall symptom burden was low, and body image scores were favourable, indicating good physical and psychological recovery after treatment. Sexual functioning was the most affected domain, with limited responses to sexual health–related items; however, sexually active women reported better sexual enjoyment despite low sexual activity scores. These findings suggest that while general QoL is satisfactory after definitive treatment for cervical cancer, sexual health remains an important unmet need, emphasizing the role of routine QoL assessment and targeted survivorship counselling.

Introduction

Carcinoma cervix remains one of the most common malignancies affecting women in developing countries, with the majority of them presenting in locally advanced stages[1]. Concurrent chemoradiation (CRT) followed by intracavitary brachytherapy is the standard of care and has led to significant improvements in survival[2,3]. However, long-term survivors frequently experience a spectrum of physical, psychological, sexual, and social consequences resulting from both the disease and its treatment. As survival improves, the focus is increasingly on survivorship assessment, where quality of life (QoL) plays a central role.

Radiotherapy (RT), although highly effective in achieving locoregional control, is associated with late gastrointestinal, genitourinary, vaginal, and sexual dysfunction. Many of these late effects may persist or evolve several years after treatment, influencing body image, menopausal symptoms, sexual activity, and overall functioning[4]. Understanding these long-term patient-reported outcomes is essential for developing interventions, optimizing survivorship care, counseling patients, and improving long-term well-being. The European Organisation for Research and Treatment of Cancer (EORTC) QLQ-CX24 is a validated cervix-cancer–specific QoL instrument designed to assess symptoms and functional domains specific to this population, including lymphedema, peripheral neuropathy, sexual/vaginal functioning, sexual worry, and body image. However, QoL assessment in routine cervical cancer follow-up remains underutilized especially in settings where clinical workload often limits structured assessment.

In this study, a cross-sectional analysis of post-treatment carcinoma cervix patients on follow-up was done to evaluate long-term quality of life using the EORTC QLQ-CX24 module. This study aims to assess and quantify sexual and psychosocial functioning, and identify areas requiring targeted supportive care. Understanding these patterns will help integrate QoL-based decision-making into routine follow-up and enhance survivorship care for women treated for cervical cancer.

Methods and Materials

Study design and Study population

This was a cross-sectional study conducted in the Department of Radiation Oncology among patients who had completed treatment for carcinoma cervix and were attending routine follow-up. The study included women who had finished radiotherapy with or without chemotherapy and brachytherapy.

A total of 75 post-treatment cervical cancer patients were included. Patients who had completed curative treatment, on regular follow-up, and willing to participate and complete the questionnaire were eligible. Patients unwilling to answer the questionnaire were excluded.

Data collection

Demographic and clinical details were collected from medical records, including age, stage, treatment received, and follow-up duration.

Quality of life was assessed using the EORTC QLQ-CX24 questionnaire, which is specifically designed for cervical cancer survivors. The module contains both symptom scales and functional scales. For symptom scales such as symptom experience (SE), which include treatment related symptoms, body image (BI), sexual/vaginal functioning (SV), lymphedema (LY), peripheral neuropathy (PN), menopausal symptoms (MS) and sexual worry (SXW), a higher score reflects greater symptom burden. For functional scales include sexual activity (SXA) and sexual enjoyment (SXE) a higher score indicates better functioning.

Patients were asked to complete the questionnaire during their follow-up visit in a private and comfortable setting.

Scoring Method

Scoring of the EORTC QLQ-CX24 questionnaire was performed according to the official EORTC manual. For each domain, the individual item responses were first averaged to obtain a raw score, which was then linearly transformed to a 0–100 scale.

- Higher scores on symptom scales indicate more severe symptoms.
- Higher scores on functional scales indicate better functioning.

Mean was calculated for each domain[5].

Results

A total of 75 post-treatment carcinoma cervix survivors were included in the study. The mean duration of follow-up at the time of assessment was 19 months (range: 3–144 months). The most common presenting stage was FIGO IIB, followed by IIIC1.

All patients completed the symptom and body-image components of the EORTC QLQ-CX24. Only 16 patients (21%) answered the sexual functioning–related items. The remaining patients did not respond due to lack of sexual activity, most commonly because of loss of spouse or fear that sexual intercourse might lead to disease transmission. The mean scores for the various domains were as follows:

Table 1: EORTC QLQ-CX24 Symptom Scale Score.

S.No	Symptom scale/Items	QLQ- CX24 item numbers	Respondents (n)	Mean score
1	Symptom Experience (SE)	31-37, 39, 41-43	75	1.43
2	Body Image (BI)	45-47	75	0.5
3	Sexual/Vaginal Functioning (SV)	50-53	16	14.6
4	Lymphoedema (LY)	38	75	0
5	Peripheral neuropathy (PN)	40	75	8.8
6	Menopausal symptoms (MS)	44	75	1.4
7	Sexual worry (SXW)	48	75	3.9

Table 2: EORTC QLQ-CX24 Functional Scale Score.

S.No	Functional Items	QLQ- CX24 item numbers	Respondents (n)	Mean score
1	Sexual Activity (SXA)	49	75	9.7
2	Sexual Enjoyment (SXE)	54	16	54

On analysis of the symptom-related domains, higher scores were seen in the sexual/vaginal functioning scale, indicating persistent concerns such as dryness or discomfort in some patients. Modern scores were observed in the peripheral neuropathy and menopausal symptom scales, suggesting manageable treatment-related effects. Body image scores were favourable, indicating good overall self perception among most survivors.

Among the 16 patients who answered the sexual functioning–related items, sexual enjoyment demonstrated a higher mean score (54), indicating better preserved satisfaction in sexually active individuals, whereas sexual activity remained low (9.7), influenced by factors such as loss of spouse, fear of disease spread which reflects emotional and physical factors influencing sexual health after treatment.

Discussion

With improved survival following definitive chemoradiation, quality of life (QoL) has become an important outcome in carcinoma cervix survivors. In the present study, QoL was assessed using the EORTC QLQ-CX24 questionnaire in 75 post-treatment cervical cancer patients with a mean follow-up of 19 months. Most patients presented with locally advanced disease, predominantly FIGO stage IIB followed by IIIC1, which is consistent with the usual stage distribution reported in developing countries.

Overall, the symptom burden in our cohort was low, with very low scores for symptom experience, lymphedema, menopausal symptoms, and sexual worry, and only mild peripheral neuropathy. Similar findings have been reported in previous studies using the EORTC QLQ-CX24, which showed that while acute toxicities are common during and immediately after radiotherapy, most physical symptoms improve or stabilize during long-term follow-up[6,7]. The relatively low symptom scores in our study can be explained by the fact that patients were evaluated during follow-up rather than immediately after active treatment.

Body image scores were favourable in the present study, indicating good psychological adaptation following treatment. Earlier longitudinal studies in cervical cancer survivors have demonstrated that body image tends to improve over time after completion of therapy, especially once disease control is achieved and patients adapt to survivorship[8,9]. Our findings support these observations and suggest satisfactory psychosocial recovery in most patients.

Sexual functioning was the most affected domain in this study. Only 21% of patients responded to the sexual functioning–related items of the QLQ-CX24. Among respondents, sexual activity and sexual/vaginal functioning scores were low, whereas sexual enjoyment was relatively preserved in sexually active women. Reduced sexual activity and vaginal dysfunction following pelvic radiotherapy have been widely documented and are attributed to vaginal dryness, fibrosis, dyspareunia, and psychological distress[10,11].

Sexual problems after treatment for carcinoma cervix are common and may continue for a long time. A study comparing very long-term survivors of cervical and vaginal cancer with women from the general population

showed that although cancer survivors had more sexual problems, their rates of having a sexual partner and being sexually active were similar to those of the general population[12]. In the present study, only a small proportion of patients answered sexual functioning-related questions, mainly due to lack of sexual activity, loss of spouse, and fear of disease transmission. Cultural factors and lack of routine sexual health counselling may have contributed to this finding. Similar barriers have been reported in studies from India and other Asian countries, where sexual health is often under-discussed, and patients may have misconceptions regarding disease spread or recurrence[13]. This highlights the need for routine, culturally sensitive counselling on sexual health during follow up of cervical cancer survivors.

Notably, sexually active women reported better sexual enjoyment scores. This suggests that sexual satisfaction may still be possible despite reduced sexual activity after treatment. This highlights the importance of counselling and reassurance regarding sexual health during follow-up.

Overall, the present study demonstrates that while physical symptoms and body image are generally well preserved after treatment, sexual health remains an important unmet need in cervical cancer survivors. Routine use of cervix-specific QoL tools such as the EORTC QLQ-CX24 can help identify these concerns and guide supportive interventions to improve long-term quality of life.

Conclusion

Post-treatment quality of life in carcinoma cervix patients was generally satisfactory, with low symptom burden and good body image during follow-up. Sexual functioning was the most affected domain, with limited responses and low sexual activity; however, sexually active women reported better sexual enjoyment. These findings highlight the need for routine quality-of-life assessment and proactive, culturally sensitive sexual health counselling during survivorship.

Limitations

This was a single-institution study with a relatively small sample size and cross-sectional design. Baseline pre-treatment quality-of-life data were not available, and responses to sexual functioning items were limited due to sociocultural factors, potentially underestimating sexual morbidity.

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