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Sexual Function and Quality of Life in Cervical Cancer Survivors After Therapy: A Post COVID-19 Updated Scoping Review

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Abstract: Cervical cancer survivors frequently experience long-term physical and psychosocial sequelae after therapy, with sexual dysfunction and impaired quality of life (QoL) being among the most significant concerns. The COVID-19 pandemic has further disrupted cancer care, potentially altering survivorship outcomes. Purpose: This scoping review aimed to map and synthesize recent evidence (2022–2025) on sexual function and QoL among cervical cancer survivors after therapy in the post-pandemic context. Methods: A scoping review was conducted following the PRISMA-ScR framework. Articles were identified through PubMed, Scopus, and EBSCOhost: Medline Ultimate using keywords related to sexual function, QoL, cervical cancer, and post-therapy. Eligible studies were observational, published in English, and focused on survivors' sexual function and QoL after treatment. Twenty studies met the inclusion criteria and were analyzed thematically using a descriptive exploratory approach. Results: A total of 20 articles were analyzed in this review. Majority of studies reported a high prevalence of sexual dysfunction post-therapy, including decreased desire, lubrication problems, dyspareunia, and reduced satisfaction. Although some intervention studies demonstrated improvements, sexual function generally remained impaired. QoL outcomes were more heterogeneous; several studies indicated poor QoL due to treatment-related symptoms (pain, fatigue, urinary and gastrointestinal dysfunction), while others found that more than half of survivors maintained good QoL. **Conclusion**: Sexual dysfunction remains a pervasive issue among cervical cancer survivors, while QoL outcomes vary depending on treatment modalities, psychosocial support, and coping strategies. A multidisciplinary survivorship approach including medical, psychological, and sexual health support is essential to improve post-therapy well-being in the post-COVID-19 era.

Keywords: Cervical Cancer, Sexual Function, Quality of Life, After Therapy, Survivorship, Post-COVID-19.

INTRODUCTION

Cervical cancer remains a significant global health problem, particularly in low- and middle-income countries. In 2022, approximately 660,000 new cases and 350,000 deaths were reported worldwide, with 94% of these deaths occurring in low- and middle-income countries (WHO, 2024a). In particular, cervical cancer continues to be the leading cause of cancer death among women in 37 countries, primarily in sub-Saharan Africa and Latin America (American Cancer Society, 2024; WHO, 2024a).

Cervical cancer arises from abnormal growths in the cervix, which are primarily caused by persistent infection with high-risk strains of human papillomavirus (HPV) (Tehranian et al., 2024). This cancer can be classified into two main types: squamous cell carcinoma, which accounts for about 80-90% of cases, and adenocarcinoma, which accounts for about 10-20%. Early detection through screening is crucial, as cervical cancer is highly preventable and treatable if identified in its early stages (WHO, 2024b).

Treatment options for cervical cancer vary depending on the stage of the disease and include surgery (such as radical hysterectomy), radiation therapy, chemotherapy, or a combination of these modalities. Treatment aims to eliminate the cancer, and a recent study showed that combining a short course of chemotherapy before standard chemoradiation therapy resulted in a 40% reduction in mortality and a 35% reduction in cancer recurrence over five years (Membrilla-Beltran et al., 2023). Although this therapy has increased survival rates by up to 70% over five years, it is associated with significant physical and psychological side effects. However, this aggressive treatment can negatively impact patients' sexual function and overall quality of life. Common sequelae include pelvic pain, fatigue, gastrointestinal disturbances, and sexual dysfunction. These impacts underscore the need for a holistic treatment approach that addresses both survival and quality of life (Khalil et al., 2015; Membrilla-Beltran et al., 2023).

The impact of cervical cancer treatment on sexual function is significant. Patients often experience decreased sexual desire, vaginal dryness, dyspareunia (painful intercourse), and decreased satisfaction (Mishra et al., 2021; H. Z. Wang et al., 2022). Various studies have reported decreased libido, difficulty arousing, dyspareunia (painful intercourse), reduced vaginal lubrication, and dissatisfaction with sexual life (H. Z. Wang et al., 2022). For example, the prevalence of sexual dysfunction ranges from loss of sexual interest (26–85%) to orgasmic dysfunction (20%). Younger patients often experience more severe sexual challenges due to the severity of treatment and psychological distress. These problems can stem from physical changes, hormonal changes, and psychological factors associated with the cancer diagnosis and treatment. A comprehensive review highlights that sexual dysfunction in cervical cancer survivors has a multifactorial etiology, negatively impacting their quality of life (Mishra et al., 2021).

Beyond sexual function, cervical cancer treatment can significantly impact a patient's overall quality of life. Survivors may face challenges such as fatigue, insomnia, financial hardship, and emotional distress (Frumovitz et al., 2005). The quality of life of cervical cancer survivors varies greatly, depending on the stage of the disease, the method of treatment, and the social support the patient receives (Mvunta et al., 2022). Quality of life among cervical cancer survivors is often suboptimal compared to the healthy population or survivors of other gynecologic cancers (Liberacka-Dwojak et al., 2023). The physical side effects of the medication are compounded by psychological problems such as anxiety and depression (Liberacka-Dwojak et al., 2023; Stanca, Căpîlna, & Căpîlna, 2022). Previous studies have also revealed that survivors face a persistent decline in quality of life even years after treatment is completed (Khalil et al., 2015).

Based on these considerations, a recent review study focusing on sexual function and quality of life in cervical cancer survivors following post-COVID-19 therapy is crucial for several reasons. First, while previous studies have documented treatment-related impacts on sexuality and quality of life, these studies often lack comprehensive evaluations of effective interventions or fail to address emerging trends post-pandemic. Furthermore, the COVID-19 pandemic has disrupted healthcare systems globally, potentially altering access to screening, treatment modalities, and psychosocial support for survivors. Previous research may not have fully captured these current challenges, making it crucial to reassess and update our understanding of survivors' experiences.

The novelty of this review study lies in its focus on post-COVID-19 developments related to sexual function and quality of life among cervical cancer survivors. By synthesizing the latest evidence from 2022–2024, this review aims to identify gaps in the existing literature, propose actionable recommendations to improve survivor care, and highlight the urgency of integrating psychosexual support. This approach will make a significant contribution to bridging the gap in outcomes for survivors globally.

METHOD

a. *Design*

The design applied is a scoping review, a flexible methodological approach to explore new, rapidly developing topics (Peterson et al., 2017). The scoping review framework includes five main stages, namely formulating review questions, identifying relevant research, selecting studies, mapping data, and compiling, summarizing, and reporting findings (Peterson et al., 2017).

b. *Eligibility Criteria*

The process of selecting articles for this review was carried out by three reviewers based on the PRISMA Extension for Scoping Review (PRISMA-ScR) (see Figure1) (Page et al., 2021). Research questions and eligibility criteria for research articles using the PCC approach (Population, Concept, and Context).

P(Population) : Cervical Cancer
C(Concept) : Sexual function and Quality of life
C (Context) : After therapy or treatment

This review excluded inaccessible full-text articles, publications not in English, and secondary studies. Inclusion criteria included accessible full-text articles published in English, articles with observational designs that discussed sexual function and quality of life in cervical cancer survivors. Furthermore, the review was limited to publication years 2022-2025. This restriction aimed to gather recent studies reflecting the impact of the pandemic on sexual function and quality of life in cervical cancer survivors after therapy. Given the impact of the pandemic on healthcare services, psychosocial support, and quality of life, the latest literature will provide relevant insights into patient adaptations and needs in the post-COVID-19 pandemic context.

c. *Data Collection and Analysis*

i.Search Strategy

Article identification was carried out systematically using three main databases: EbscoHost: Medline Ultimate, Pubmed, and Scopus. The keywords used were "(Sexual Function) OR (Sexual dysfunction)) OR (Quality of life)) OR (Health-Related Quality of Life) AND (ffrft[Filter])) AND ((Cervical Cancer) OR (Cervix Neoplasm) AND (ffrft[Filter]))) AND ((Post-therapy) OR (after therapy)". The author used the Boolean operators "AND" and "OR" to trim or expand the search results for various word forms.

ii.Study Selection and Quality Appraisal

All authors independently selected studies that met the eligibility criteria. The authors checked for duplications during the initial selection process using the Mendeley reference manager. They then reviewed titles, abstracts, and full texts for relevance to the research topic and established inclusion and exclusion criteria. Finally, the authors reviewed each full text using the Joanna Briggs Institute (JBI) critical appraisal checklist (Joanna Briggs Institute (JBI), 2022). Furthermore, the authors provide a decision if there is any discrepancy in the selection results. All authors had no differences of opinion regarding the feasibility of this research.

d. *Data Extraction and Analysis*

In this review, data extraction from the analyzed studies was performed using tables that detailed all results related to the topic discussed. The information presented in the extraction tables relates to the study characteristics: Author and Year, Country, Design, Sample, Instrument, and Results. The studies included in this review were observational. Therefore, data analysis was conducted thematically using an exploratory descriptive approach.

The data analysis process began with the identification and presentation of the obtained data in tabular form based on the reviewed articles. After data collection, all authors analyzed and explained each finding based on the extraction results. Finally, the authors double-checked the included studies to ensure and minimize errors during the extraction stage.

RESULT AND DISCUSSION

Study Selection

In the initial stage of the literature search for this scoping review, searches were conducted through several databases and relevant search engines. The databases used included EBSCOhost: Medline Ultimate (n = 2,791), Scopus (n = 609), and PubMed (n = 262). In addition, supplementary searches were carried out via Google Scholar, where the top results were sorted by relevance and considered for further analysis. The total number of articles obtained from all sources was 3,662.

From the 3,662 identified articles, 83 duplicate records were removed. Subsequently, 3,579 articles were screened based on title and abstract, of which 3,540 articles were excluded for being irrelevant. A total of 39 articles were then reviewed in full for eligibility based on comprehensiveness and inclusion criteria. Of these, 19 articles were excluded due to various reasons, including lack of focus on sexual dysfunction or quality of life (n = 10), not being published in English (n = 3), and heterogeneity of the population studied (n = 6). Finally, 20 articles met the eligibility criteria and were included for analysis in this review.

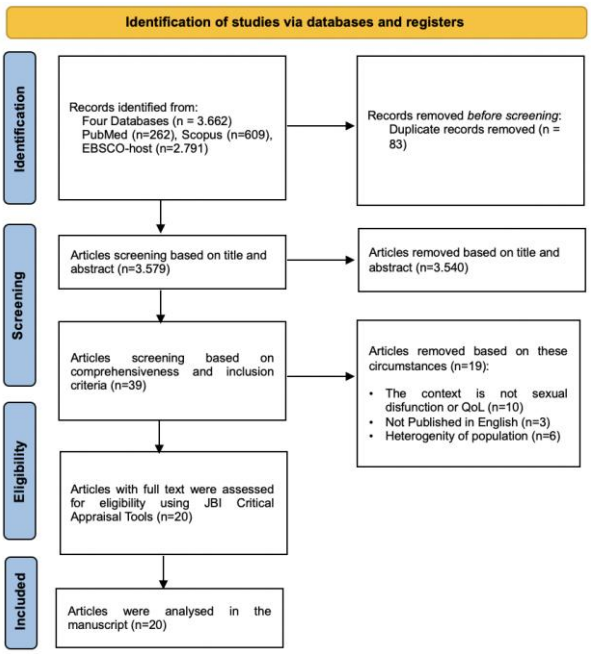

Figure 1. PRISMA Flow Diagram

Notes: PRISMA figure adapted from Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021; 372: n71. Creative Commons (Page et al., 2021).

Characteristics of Studies

Table 1 shows that the reviewed studies were conducted in several countries, including Italy, Poland, Belgium, Egypt, the USA, Korea, Canada, Ghana, Spain, the Czech Republic, Tanzania, Indonesia, Turkey, Romania, Lithuania, the Netherlands, Iran, and Ethiopia. The study designs used varied, including cross-sectional (n=8), prospective (n=4), retrospective (n=4), cohort (n=2), quasi-experimental (n=1), and RCT (n=1). In terms of sample size (n=2,751), the study with the largest number of participants was the retrospective study conducted in Romania by Stanca et al. (2022) (Stanca, Căpîlna, Trâmbițaș, et al., 2022) involving 430 cervical cancer survivors. On the other hand, the study with the smallest sample size was a cross-sectional study conducted in Lithuania (Stuopelytė et al., 2023) involving only 20 cervical cancer survivors. These studies explored and identified sexual function and quality of life in the cervical cancer survivor population after therapy.

Sexual Function and Quality of Life in Cervical Cancer Survivors

This review highlights the high prevalence of sexual dysfunction among cervical cancer survivors, with significant declines in sexual function post-therapy. The analysis revealed that the majority of studies reported poor sexual function after therapy, with many survivors experiencing decreased sexual activity, loss of desire, lubrication problems, and dissatisfaction. This was evident in 15 studies that reported poor sexual function among cervical cancer survivors after therapy (Amo-Antwi et al., 2022; Delican & Güngörmüş, 2024; Di Donna et al., 2023; El Ghazaly et al., 2023; Facondo et al., 2022; Liberacka-Dwojak et al., 2023; Membrilla-Beltran et al., 2023; Novackova et al., 2022; Sari et al., 2024; Stanca, Căpîlna, Trâmbițaș, et al., 2022; Stanca, Căpîlna, & Căpîlna, 2022; Stuopelytė et al., 2023; Suvaal et al., 2023; Tehranian et al., 2024; Teshome et al., 2024).

For example, a study by El Ghazaly et al. (2023) and Stuopelytė et al. (2023) which found that almost all participants experienced sexual dysfunction, while studies by Di Donna et al. (2023), Facondo et al. (2022), and Stanca et al. (2022) explicitly stated that their results showed poor sexual function and no sexual activity after therapy, mainly due to lack of

interest or pain during intercourse. Furthermore, Delican & Güngörmüş (2024) reported a very low quality of sexual life (Delican & Güngörmüş, 2024). However, some studies have shown improvements in sexual function over time, particularly after therapy. For example, post-intervention results in Salim et al.'s (2023) study showed that 72.7% of participants reported good sexual function, while Mohammadi et al.'s (2022) found that 45% of women in the intervention group experienced improved sexual function compared to 20% in the control group (Mohammadi et al., 2022; Salim et al., 2023).

Furthermore, quality of life outcomes are more variable, with some survivors maintaining a good quality of life while others struggle with physical and psychological challenges. Some studies, such as those by Liberacka-Dwojak et al. (2023) and Membrilla-Beltran et al. (2023), report significant impairments in quality of life, primarily due to treatment side effects such as urinary and gastrointestinal dysfunction, pain, and fatigue (Liberacka-Dwojak et al., 2023; Membrilla-Beltran et al., 2023). Meanwhile, other studies such as Amo-Antwi et al. (2022), Sari et al. (2024), and Mvunta et al. (2022), found that more than half of cervical cancer survivors maintained a good quality of life (Amo-Antwi et al., 2022; Mvunta et al., 2022; Sari et al., 2024). Intervention-based studies also showed positive results, Salim et al. (2023) reported that 81.8% of participants had a good quality of life post-intervention, and Mohammadi et al. (2022) showed an improvement in quality of life in the intervention group compared to the control group (Salim et al., 2023).

Based on the review results, there are several studies that state poor sexual function and poor quality of life. One of them is the study by Facondo et al. (2022) which stated that 65% of participants reported poor sexual function and 40.7% of participants had poor quality of life, with fatigue and constipation significantly affecting them (Facondo et al., 2022). In addition, El Ghazaly et al. (2023) also stated quality of life was strongly correlated with poor sexual function, and factors such as age and marital years contributed to lower well-being (El Ghazaly et al., 2023).

Table 1. Data Extraction

Author, Year	Country	Design	Participants		Measure	Outcome
			Sample size	Age		
(Di Donna et al., 2023)	Italy	Retrospective study	90 patients aged between 18 and 90 years with locally advanced cervical cancer (LACC)	Median: 52 years old (range: 18-90)	Customized questionnaire to evaluate urinary, gastrointestinal, and sexual function	**Sexual function**: 57.8% patients declared to have not been sexually active after therapy • SexualActivity (p=0.06) • Reasons for no sexual (Not interested) (p=0.001) • Pain During Intercourse (p=0.24)
(Liberacka-Dwojak et al., 2023)	Poland	Cross-sectional pilot study	60 patients: 30 women with cervical cancer (CC) and 30 healthy women as controls group (CG)	Mean: CC = 56.20 ± 6.13 CG = 53.60 ± 4.34	FSFI-6, PSS-10, SCSES, BES	**Sexual function,** CC group had lower sexual function (mean 8.83 vs 19.23; p < 0.001). **Quality of life** impacted by treatment, with significant urinary and gastrointestinal dysfunctions
(Naert et al., 2023)	Belgium	Cross-sectional multicenter	143 (97 ECC, 46 LACC)	Median: ECC = 50 years LACC = 54	FSFI, EORTC QLQ-C30 (Quality of Life), EORTC	**Sexual function,** ECC (65% sexually active), LACC (41% sexually active). Prevalence of

Author, Year	Country	Design	Participants		Measure	Outcome
			Sample size	Age		
				years	QLQ-CX24 (Cervical Cancer Module)	sexual dysfunction: ECC vs. LACC not significant (p = 0.124)
(El Ghazaly et al., 2023)	Egypt	Cross-sectional	66 women with gynecological cancers	Median: 51.5 years old (range: 32-65)	FACT-G, FSFI	**Sexual function** (p=0.04) (lubrication), 90% of patients experience sexual dysfunction **Quality of life** strongly correlated with sexual function, impacted by factors like age and marital years. SWB=0.025; EWB=0.026
(Facondo et al., 2022)	Italy	Prospective cohort	55 women with endometrial cancer	Median: 66 years old (range: 35-79)	EORTC QLQ-C30 (Quality of Life), QLQ-CX24 (Cervical Cancer Module)	**Sexual function**: Poor = 65%, Good = 35% **Quality of life,** Poor = 40.7%, Good = 59.3% except for fatigue (p<0.05) and constipation (p<0.01), with no significant impact on emotional or social functioning
(Salim et al., 2023)	Egypt	Quasi-experimental (pre-post intervention)	44 women with cervical cancer	Mean: 39.2 ± 21.5 (range: 25-45)	Tool I: Structured interviewing questionnaire sheet Tool II: FSFI Tool III: Q-LES-Q-SF	**Sexual function**: post-intervention, 72.7% showed good sexual function, compared to pre-intervention where 90.9% had poor sexual function **Quality of life**: Post-intervention, 81.8% reported good quality of life, compared to pre-intervention where 86.4% had poor quality of life.
(Carter et al., 2025)	USA, Korea, Canada	Prospective, multi-institutional	169 cervical cancer patients (54 cone biopsy, 115 hysterectomy)	Mean: cone biopsy = 32.1 hysterectomy = 45.5	FACT-Cx, FSFI, PROMIS, GCLQ, IES, RCS	**Sexual function**: 6-week decline post-surgery but improved over time **Quality of life**: improved over time following surgical intervention in both groups and cancer worry decreased
(Amo-Antwi et al., 2022)	Ghana	Cross-sectional	153 cervical cancer survivors	Mean: 58.3 ± 11.4	EORTC QLQ-C30, EORTC QLQ-CX24	**Sexual function**: A third of the survivors were worried that sex would be painful, and 36.6% indicated that their sexual activity as affected

Author, Year	Country	Design	Participants		Measure	Outcome
			Sample size	Age		
						Quality of life: 75% of the survivors had a good overall quality of life
(Membrilla-Beltran et al., 2023)	Spain	Retrospective case-control	66 cervical cancer survivors 33 patient group (PC) and 33 control group (CG)	Mean: range 42-49 PC 14 ± 42.43 CG 19 ± 57.56	FSFI, GRISS, EORTC QLQ-C30	**Sexual function**: Cervical cancer survivors reported sexual dysfunction and impaired sexual satisfaction in almost half of the domains **Quality of life**: affected by pain and fatigue
(Novackova et al., 2022)	Czech Republic	Prospective study	36 sexually active cervical cancer patients	Mean: 47.1 ± 14.1 (range: 27-68)	FSFI, EORTC QLQ-C30, EORTC QLQ-CX24	**Sexual function**: 30.5% had sexual dysfunction. A total of 11 participants with preoperative sexual dysfunction had a postoperative FSFI score lower than the cut-off level. **Quality of life**: postoperative improvement in global health status and role, emotional, and social functioning
(Mvunta et al., 2022)	Tanzania	Cross-sectional	323 cervical cancer patients after chemoradiation	Median age of 52 years (range: 30-90)	EORTC QLQ-C30 & QLQ-CX24	**Sexual function**: patients with a sexual partner reported significantly good sexual activity functioning and troubling symptoms of constipation, body image, and sexual worry **Quality of life**: more than half (54.8%) of the CC patients had a good overall QOL
(Sari et al., 2024)	Indonesia	Cross-sectional	60 cervical cancer patients	Adult 20-65 years 81.7%	FSFI and WHOQoL	**Sexual function**: a total of 53 respondents experienced sexual dysfunction **Quality of life**: 55 respondents had a good quality of life
(Delican & Güngörmüş, 2024)	Turkey	Cross-sectional	350 women with gynecologic cancer	Mean: 55.3 ± 11.7	SQOLS-F	**The quality of sexual life** of women with gynecological cancer was very low (34.1 ± 10.2). Sexual quality of life lebih baik pada terapi bedah (p =

Author, Year	Country	Design	Participants		Measure	Outcome
			Sample size	Age		
						0.000)
(Stanca, Căpîlna, Trâmbițaș, et al., 2022)	Romania	Retrospective	430 cervical cancer survivors	Mean: 51 years (22–76)	EORTC QLQ-C30 & QLQ-CX24	**Sexual function**: significant decline in the quality of sexual life with a low sexual enjoyment and decreased level of sexual activities **Quality of life**: shows a good long-term Global QoL of 64.6 (median), good functioning scores, and a decent symptom scale value
(Stanca, Căpîlna, & Căpîlna, 2022)	Romania	Retrospective	47 cervical cancer survivors	Mean: 54 years (range 36–67)	EORTC QLQ-C30 & QLQ-CX24	**Sexual function**: poor **Quality of life**: low despite good OS
(Stuopelytė et al., 2023)	Lithuania	Cross-sectional	20 cervical cancer survivors	Mean: 44 ± 7.6 (range: 27 - 55)	EORTC QLQ-CX24	**Sexual function**: not a single participant reported good (sexual/vaginal functioning score 66.67) sexual/vaginal functioning, 57.1% indicated moderate (33.34–66.66), and 42.9% reported poor functioning (≤33.33) **Quality of life**: (p>0.05), no statistically significant differences were found between the two age groups when evaluating the QoL
(Suvaal et al., 2023)	Netherlands	Prospective longitudinal study	113 women post-radiotherapy	Median: 48 (40.5–59.0)	EORTC QLQ-CX24, Sexual Activity Questionnaire	**Sexual function**: Approximately 50% of the sexually active womenreported any vaginal and sexual functioning problems and distress over time; more substantial vaginal and sexual problemsand distress were reported byup to 14%,20%and 8%, respectively
(Tehranian et al., 2024)	Iran	Cohort study	250 married women with HPV	Mean: 38.5 ± 4.5	FSFI, SQOL-F	**Quality of life**: at baseline and six months after treatment, there was a significant correlation over time between the total mean of female sexual

Author, Year	Country	Design	Participants		Measure	Outcome
			Sample size	Age		
						dysfunction and sexual QoL ($p<0.05$)
(Teshome et al., 2024)	Ethiopia	Cohort study	166 cervical cancer patients	Mean: 52.33 ± 10.16 (range: 30-81)	EORTC QLQ-C30 & QLQ-CX24	**Sexual function**: 33.33 [33.33–41.67], there was no discernible change in terms of sexual enjoyment, sexual function, or activity **Quality of life**: 83.33 [66.67–83.33], QOL and the majority of functional quality of life significantly improved following six months of cancer treatment.
(Mohammadi et al., 2022)	Iran	RCT	110 gynecologic cancer survivors	Not Information	FSFI, SQOL-F	**Sexual function**: Post-intervention, 45% of women in the intervention group reported good sexual function compared to 20% in the control group. **Quality of life**: Post-intervention, 50% of women in the intervention group reported good quality of life compared to 25% in the control group.

***Abbreviations:** FSFI, Female Sexual Function Index; PSS, Perceived Stress Scale; SCES, Sexual Communication Self-Efficacy Scale; BES, Body Esteem Scale; Q-LES-Q-SF; Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form; FACT-Cx, Functional Assessment Cancer Therapy - Cervical Cancer; PROMIS, Patient-Reported Outcomes Measurement Information System; GCLQ, Gynecologic Cancer Lymphedema Questionnaire; IES, Impact of Events Scale; RCS, Reproductive Concerns Scale; GRISS, Golombok Rust Inventory of Sexual Satisfaction; SQOLS-F, Sexual Quality of Life Scale-Female;WHOQoL, The World Health Organization Quality of life.

DISCUSSION

Sexual dysfunction is a common and frequent problem among cervical cancer survivors. This problem arises from the physiological and psychological effects of surgical interventions, radiation therapy, and chemotherapy. Research shows that up to 70% of survivors of advanced cervical cancer suffer from some form of sexual dysfunction, including decreased sexual desire, vaginal dryness, dyspareunia (pain during intercourse), and difficulty achieving orgasm (Corrêa et al., 2016). This is supported by previous research which found that women with advanced cervical cancer (LACC) reported significantly lower levels of sexual activity and higher sexual dysfunction scores compared to early cervical cancer (ECC)

survivors (Naert et al., 2023). Several studies in this review highlight how different treatment modalities contribute to sexual function and quality of life.

An interesting finding in this review is that certain surgical approaches may be more effective in preserving sexual function than others. Surgical removal of the uterus and cervix, known as a radical hysterectomy, is a common treatment for early-stage cervical cancer, but it often causes damage to the pelvic nerve supply. This can result in reduced vaginal lubrication, loss of sensation, and decreased sexual satisfaction (S. Wang et al., 2021). Novackova et al.'s (2022) study found that nerve-sparing radical hysterectomy helped preserve sexual function better than traditional radical surgery (Novackova et al., 2022). Additionally, Carter et al. (2023) noted that although sexual function initially declined after surgery, it improved over time (Carter et al., 2025). This suggests that with appropriate rehabilitation and follow-up, some patients can regain or even improve their sexual function post-treatment. This highlights the role of surgical techniques in minimizing adverse effects on sexual function (Carter et al., 2025).

The type of treatment received plays a significant role in determining sexual function. Women who received exclusive radiotherapy and chemotherapy (ERT/CT) demonstrated poorer sexual function outcomes compared to those who received neoadjuvant chemotherapy followed by surgery (NACT/RT) (Di Donna et al., 2023). Radiotherapy plays a major role in the decline of sexual function where high-energy radiation used to eliminate cancer cells can cause long-term damage to vaginal and vulvar tissue, leading to fibrosis, loss of elasticity, and vaginal stenosis (Daga et al., 2017). This causes severe vaginal dryness and pain during intercourse, making sexual activity difficult for many survivors (S. Wang et al., 2021). This is found in the research of Di Donna et al. (2023), 57.8% of women were not sexually active post-treatment, mainly due to pain, which is a common problem after cancer therapy such as chemotherapy and radiotherapy (Di Donna et al., 2023). Fear of pain during sexual intercourse often leads to avoidance of sexual activity, which further makes intimate relationships tense (S. Wang et al., 2021).

In addition, radiotherapy and chemotherapy are known to cause severe complications, and these therapies also impact survivors' quality of life. The resulting symptoms can significantly impact personal relationships and quality of life (Pfaendler et al., 2015). Facondo et al.'s (2022) study revealed that cervical cancer treatment had a significant impact on patients' quality of life, as evidenced by 40.7% of participants reporting poor quality of life (Facondo et al., 2022). Cervical cancer therapy can have a significant impact on quality of life due to the physical, emotional, and social challenges associated with treatment (Pfaendler et al., 2015). The type of treatment also plays a role, for example, patients treated with surgery alone tend to report a better overall quality of life compared to those who receive radiotherapy or combined therapy (Samaila et al., 2023; Sorokin et al., 2024). While quality of life may improve over time, many survivors face ongoing challenges years after treatment (Pfaendler et al., 2015; Samaila et al., 2023; Sorokin et al., 2024). A study by Mvunta et al. (2022) showed that more than half of patients had a good quality of life after treatment. Patients who underwent a combination of radiation therapy and brachytherapy had better functional scores than those who underwent external beam radiotherapy alone (Mvunta et al., 2022). This suggests that many cervical cancer survivors are able to develop effective coping mechanisms to deal with changes in their condition. Therefore, adequate psychological and social support can help patients adjust to the physical challenges they face after treatment.

In addition to physical impacts, psychological distress also plays a significant role in sexual function and quality of life. Psychological factors such as anxiety, depression, and low self-esteem exacerbate intimacy challenges, which are already exacerbated by the physical consequences of treatment. These emotional barriers often lead to avoidance of sexual

activity, further diminishing sexual well-being (Liberacka-Dwojak et al., 2023). Dwojak et al. (2023) found that higher levels of perceived stress and poor body image were significantly correlated with lower sexual function scores. This psychological distress exacerbates physiological barriers, which further impair sexual function. Therefore, holistic aftercare should address both physical and psychological aspects to improve sexual well-being and quality of life for survivors (Stanca, Căpîlna, & Căpîlna, 2022).

Likewise, quality of life can be influenced by many factors, including psychological conditions. A study by Teshome et al. (2023) found that despite improvements in quality of life scores after treatment, sexual aspects remained significantly impaired. Global quality of life scores increased from 66.67 to 83.33 ($p<0.05$), but patients still reported impairments in sexual satisfaction and sexual activity (Teshome et al., 2024). This suggests that although patients' physical condition improves after treatment, psychosocial factors such as anxiety, depression, changes in self-perception as women, and uncertainty remain major challenges in restoring their quality of life. Uncertainty about their future health status can further contribute to stress and a reduced quality of life (Pfaendler et al., 2015). Survivors often face social isolation due to reduced physical activity, strained relationships, and difficulty returning to work or family roles. The loss of normalcy and control over their bodies can lead to feelings of helplessness and low self-esteem (Dahiya et al., 2016).

Another significant factor contributing to the poor quality of life in cervical cancer survivors is sexual dysfunction. This demonstrates that sexual function and quality of life are closely linked (El Ghazaly et al., 2023). The negative impact of this therapy highlights the need for a more comprehensive approach to managing side effects in cervical cancer patients. Addressing these challenges requires a multifaceted approach. Medical professionals must implement a comprehensive survivorship care plan that monitors and manages long-term treatment-related complications (Pasek et al., 2021). Some that can be applied are physical rehabilitation, including pelvic floor muscle exercises which have been found to be beneficial in restoring pelvic muscle function and improving overall sexual health (Daga et al., 2017). Vaginal dilators and lubricants can help maintain vaginal elasticity and function, reducing pain during sexual intercourse (Daga et al., 2017).

In addition, psychosocial support is equally important in improving the quality of life for cervical cancer survivors. Counseling services, support groups, and cognitive behavioral therapy (CBT) can help survivors cope with anxiety, depression, and body image issues (Corrêa et al., 2016; Salim et al., 2023). Encouraging open discussion about their struggles in a supportive environment can reduce feelings of isolation and increase emotional resilience. Family involvement and social networks also play a crucial role in helping survivors reintegrate into society (Pfaendler et al., 2015). Healthcare providers should prioritize long-term follow-up care to monitor and address post-treatment complications. Routine screening for future side effects, psychological assessments, and lifestyle modification programs should be integrated into care for survivorship. Educating patients about the importance of a balanced diet, regular exercise, and stress management techniques can further improve their well-being. Clinics where patients can access medical, psychological, and sexual health support should be established to provide holistic care (Dahiya et al., 2016).

CONCLUSION

This review has several limitations that should be noted. First, the diverse study designs (cross-sectional, retrospective, prospective, and experimental) led to heterogeneity in the methods used to measure sexual function and quality of life, thus limiting direct comparisons between studies. Second, most studies used different assessment instruments such as the FSFI, EORTC QLQ-C30, and SQOLS-F, which may influence the interpretation of the results. Furthermore, most studies did not consider psychosocial, cultural, and partner

support factors, which play important roles in sexual function and quality of life in cervical cancer survivors. Some intervention studies demonstrated positive results, but the post-intervention evaluation period was limited, so long-term effectiveness remains uncertain. Therefore, further research with longitudinal designs, larger sample sizes, and multidisciplinary approaches is needed to better understand the impact of therapy on sexual function and quality of life and the most effective intervention strategies.

REFERENCES

American Cancer Society. (2024). *American Cancer Society Releases Latest Global Cancer Statistics*.

Amo-Antwi, K., Agambire, R., Konney, T. O., Nguah, S. B., Dassah, E. T., Nartey, Y., Appiah-Kubi, A., Tawiah, A., Tannor, E. K., Peprah, A., Ansah, M. B., Sam, D., Akakpo, P. K., Ankobea, F., Djokoto, R. M., Idun, M. Y. K., Opare-Addo, H. S., Opoku, B. K., Odoi, A. T., & Johnston, C. (2022). Health-related quality of life among cervical cancer survivors at a tertiary hospital in Ghana. *PLoS ONE*, *17*(6 June), 1–18. https://doi.org/10.1371/journal.pone.0268831

Carter, J., Huang, H. Q., Monk, B. J., Kim, Y., Kim, M., Stuckey, A., Vicus, D. L., Holman, L. L., Fleury, A. C., Pearson, J. M., Thawani, N., Shahin, M., Lea, J., Robertson, S. E., Warshal, D., Backes, F. J., Feltmat, C., Wilkinson-ryan, I., & Covens, A. (2025). Gynecologic Oncology Evaluation of physical function and quality of life before and after nonradical surgical therapy for stage IA1 and IA2-IB1 cervical cancer (GOG-0278). *Gynecologic Oncology*, *195*, 50–58. https://doi.org/10.1016/j.ygyno.2025.02.023

Corrêa, C. S. L., Leite, I. C. G., Andrade, A. P. S., de Souza Sérgio Ferreira, A., Carvalho, S. M., & Guerra, M. R. (2016). Sexual function of women surviving cervical cancer. *Archives of Gynecology and Obstetrics*, *293*(5), 1053–1063. https://doi.org/10.1007/s00404-015-3857-0

Daga, D., Dana, R., Gaur, P., & Spartacus, R. K. (2017). Sexual Function in Cervical Cancer Survivors after Concurrent Chemoradiotherapy. *Middle East Journal of Cancer*, *8*(July), 151–154.

Dahiya, N., Acharya, A. S., Bachani, D., & Sharma, D. N. (2016). Quality of Life of Patients with Advanced Cervical Cancer before and after Chemo-radiotherapy. *Asian Pac J Cancer Prev*, *17*(7), 3095–3099.

Delican, S., & Güngörmüş, Z. (2024). Sexual Quality of Life and Sexual Problems of Women with Gynecological Cancer: Evaluation According to Treatment Methods and Cancer Types. *Sexuality and Disability*, *42*(1), 3–16. https://doi.org/10.1007/s11195-023-09820-z

Di Donna, M. C., Cucinella, G., Giallombardo, V., Sozzi, G., Bizzarri, N., Scambia, G., Pecorino, B., Scollo, P., Berretta, R., Capozzi, V. A., Laganà, A. S., & Chiantera, V. (2023). Urinary, Gastrointestinal, and Sexual Dysfunctions after Chemotherapy, Radiotherapy, Radical Surgery or Multimodal Treatment in Women with Locally Advanced Cervical Cancer: A Multicenter Retrospective Study. *Cancers*, *15*(24). https://doi.org/10.3390/cancers15245734

El Ghazaly, H., Saad, A., Samy, N., Kamal, K., Medhat, D., & Tawfic, A. (2023). Follow Up of Quality of Life and Sexual Wellbeing in Gynaecological Cancers: a Cross Sectional Study. *Ain Shams Medical Journal*, *74*(1), 111–123. https://doi.org/10.21608/asmj.2023.298215

Facondo, G., Vullo, G., De Sanctis, V., Vitiello, C., Nieddu, L., Alfò, M., Scaringi, C., De Felice, F., Rotondi, M., De Giacomo, F., Ruscito, I., Valeriani, M., & Osti, M. F. (2022). Quality of life and sexual functioning among endometrial cancer patients

treated with one week adjuvant high-dose-rate vaginal brachytherapy schedule. *Journal of Contemporary Brachytherapy*, *14*(4), 341–346. https://doi.org/10.5114/jcb.2022.119198

Frumovitz, M., Sun, C. C., Schover, L. R., Munsell, M. F., Jhingran, A., Wharton, J. T., Eifel, P., Bevers, T. B., Levenback, C. F., Gershenson, D. M., & Bodurka, D. C. (2005). Quality of life and sexual functioning in cervical cancer survivors. *Journal of Clinical Oncology*, *23*(30), 7428–7436. https://doi.org/10.1200/JCO.2004.00.3996

Joanna Briggs Institute (JBI). (2022). *JBI's critical appraisal tools*. Joanna Briggs Institute.

Khalil, J., Bellefqih, S., Sahli, N., Afif, M., Elkacemi, H., Elmajjaoui, S., Kebdani, T., & Benjaafar, N. (2015). Impact of cervical cancer on quality of life: beyond the short term (Results from a single institution). *Gynecologic Oncology Research and Practice*, *2*(1), 2–7. https://doi.org/10.1186/s40661-015-0011-4

Liberacka-Dwojak, M., Wiłkość-Dębczyńska, M., & Ziółkowski, S. (2023). A Pilot Study of Psychosexual Functioning and Communication in Women Treated for Advanced Stages of Cervical Cancer After the Diagnosis. *Sexuality Research and Social Policy*, *20*(3), 1258–1266. https://doi.org/10.1007/s13178-023-00796-1

Membrilla-Beltran, L., Cardona, D., Camara-Roca, L., Aparicio-Mota, A., Roman, P., & Rueda-Ruzafa, L. (2023). Impact of Cervical Cancer on Quality of Life and Sexuality in Female Survivors. *International Journal of Environmental Research and Public Health*, *20*(4). https://doi.org/10.3390/ijerph20043751

Mishra, N., Singh, N., Sachdeva, M., & Ghatage, P. (2021). Sexual Dysfunction in Cervical Cancer Survivors: A Scoping Review. *Women's Health Reports*, *2*(1), 594–607. https://doi.org/10.1089/whr.2021.0035

Mohammadi, Z., Maasoumi, R., Vosoughi, N., Eftekhar, T., Soleimani, M., & Montazeri, A. (2022). The effect of the EX-PLISSIT model-based psychosexual counseling on improving sexual function and sexual quality of life in gynecologic cancer survivors: a randomized controlled clinical trial. *Supportive Care in Cancer*, *30*(11), 9117–9126. https://doi.org/10.1007/s00520-022-07332-8

Mvunta, D. H., August, F., Dharsee, N., Mvunta, M. H., Wangwe, P., Ngarina, M., Simba, B. M., & Kidanto, H. (2022). Quality of life among cervical cancer patients following completion of chemoradiotherapy at Ocean Road Cancer Institute (ORCI) in Tanzania. *BMC Women's Health*, *22*(1), 426. https://doi.org/10.1186/s12905-022-02003-6

Naert, E., Decruyenaere, A., Bultijnck, R., De Jaeghere, E. A., Orije, M. R. P., Salihi, R., Verstraelen, H., Tummers, P., Denys, H. G., & Vandecasteele, K. (2023). Vaginal morbidity, sexual functioning, and health-related quality of life in cervical cancer survivors: a cross-sectional multicenter study (VAMOS). *Supportive Care in Cancer*, *31*(12), 1–11. https://doi.org/10.1007/s00520-023-08155-x

Novackova, M., Pastor, Z., Chmel, R., & Mala, I. (2022). Sexuality and quality of life after nerve-sparing radical hysterectomy for cervical cancer: A prospective study. *Taiwanese Journal of Obstetrics and Gynecology*, *61*(4), 641–645. https://doi.org/10.1016/j.tjog.2021.10.006

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *The BMJ*, *372*, 1–11. https://doi.org/10.1136/bmj.n71

Pasek, M., Suchocka, L., Osuch-Pęcak, G., Muzykiewicz, K., Iwańska, E., Kaducakowa, H., Goździalska, A., & Goździalska, M. (2021). Longitudinal health-related quality of

life study among cervical cancer patients treated with radiotherapy. *Journal of Clinical Medicine*, *10*(2), 1–11. https://doi.org/10.3390/jcm10020226

Peterson, J., Pearce, P. F., Ferguson, L. A., & Langford, C. A. (2017). Understanding scoping reviews: Definition, purpose, and process. *Journal of the American Association of Nurse Practitioners*, *29*(1), 12–16. https://doi.org/10.1002/2327-6924.12380

Pfaendler, K. S., Wenzel, L., Mechanic, M. B., & Penner, K. R. (2015). Cervical cancer survivorship: Long-term quality of life and social support. *Clinical Therapeutics*, *37*(1), 39–48. https://doi.org/10.1016/j.clinthera.2014.11.013

Salim, H. M., Abdelmonem, M. M., & ElSayed, A. M. (2023). Nursing counseling utilizing BETTER model on sexuality, marital satisfaction and quality of life among cervical cancer women. *Egyptian Nursing Journal*, *20*(1), 57–67. https://doi.org/10.4103/enj.enj_54_22

Samaila, A., Biambo, A. A., Usman, N., Aliyu, U. M., Abdullahi, A., & Adibe, M. O. (2023). Health-related quality of life associated with different cervical cancer therapies received by patients in two Nigerian tertiary hospitals. *African Health Sciences*, *23*(3), 261–268. https://doi.org/10.4314/ahs.v23i3.32

Sari, R. I., Ardiyanti, A., & Puspita, N. V. I. (2024). The Relationship between Sexual Function and Quality of Life in Patients. *Profesional Health Journal*, *7*(1), 55–61.

Sorokin, P., Kulikova, S., Nikiforchin, A., & Ulrikh, E. (2024). Impact of Various Treatment Modalities on Long-Term Quality of Life in Cervical Cancer Survivors. *Cureus*, *16*(9). https://doi.org/10.7759/cureus.68642

Stanca, M., Căpîlna, D. M., & Căpîlna, M. E. (2022). Long-Term Survival, Prognostic Factors, and Quality of Life of Patients Undergoing Pelvic Exenteration for Cervical Cancer. *Cancers*, *14*(9). https://doi.org/10.3390/cancers14092346

Stanca, M., Căpîlna, D. M., Trâmbițaș, C., & Căpîlna, M. E. (2022). The Overall Quality of Life and Oncological Outcomes Following Radical Hysterectomy in Cervical Cancer Survivors Results from a Large Long-Term Single-Institution Study. *Cancers*, *14*(2). https://doi.org/10.3390/cancers14020317

Stuopelytė, R., Žukienė, G., Breivienė, R., Rudaitis, V., & Bartkevičienė, D. (2023). Quality of Life in Cervical Cancer Survivors Treated with Concurrent Chemoradiotherapy. *Medicina (Lithuania)*, *59*(4). https://doi.org/10.3390/medicina59040777

Suvaal, I., Kirchheiner, K., Nout, R. A., Sturdza, A. E., Van Limbergen, E., Lindegaard, J. C., Putter, H., Jürgenliemk-Schulz, I. M., Chargari, C., Tanderup, K., Pötter, R., Creutzberg, C. L., & ter Kuile, M. M. (2023). Vaginal changes, sexual functioning and distress of women with locally advanced cervical cancer treated in the EMBRACE vaginal morbidity substudy. *Gynecologic Oncology*, *170*, 123–132. https://doi.org/10.1016/j.ygyno.2023.01.005

Tehranian, A., Vahid Dastjerdi, M., Hatamian, S., & Ghahghaei-Nezamabadi, A. (2024). Sexual Function and Quality of Life in Iranian Women With Human Papillomavirus Infection. *Journal of Family and Reproductive Health*, *18*(3), 154–159. https://doi.org/10.18502/jfrh.v18i3.16656

Teshome, R., Yang, I., Woldetsadik, E., Girma, E., Higgins, M., & Wells, J. (2024). Pre-and Post-Treatment Quality of Life Among Patients with Advanced Stage Cervical Cancer at Tikur Anbessa Specialized Hospital, Ethiopia. *Cancer Management and Research*, *16*, 311–323. https://doi.org/10.2147/CMAR.S451124

Wang, H. Z., He, R. J., Zhuang, X. R., Xue, Y. W., & Lu, Y. (2022). Assessment of long-term sexual function of cervical cancer survivors after treatment: A cross-sectional study. *Journal of Obstetrics and Gynaecology Research*, *48*(11), 2888–2895. https://doi.org/10.1111/jog.15406

Wang, S., Wen, H., Gao, Y., Lv, Q., Cao, T., Wang, S., Wang, J., Li, Y., Wang, H., Wang,

Z., Sun, X., & Wang, J. (2021). Assessment of Pelvic Floor Function and Quality of Life in Patients Treated for Cervical Cancer: A Multicenter Retrospective Study. *Gynecologic and Obstetric Investigation*, *86*(4), 353–360. https://doi.org/10.1159/000517995

WHO. (2024a). *Cervical Cancer*. https://www.who.int/news-room/fact-sheets/detail/cervical-cancer

WHO. (2024b). *Wave of new commitments marks historic step towards the elimination of cervical cancer*. https://www.who.int/news/item/05-03-2024-wave-of-new-commitments-marks-historic-step-towards-the-elimination-of-cervical-cancer