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Psychosocial and sexual function of young women less than 40 years old treated with concurrent chemoradiation for cervical cancer: A cross-sectional study testing quality of life

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Abstract:

BACKGROUND OF THE STUDY: The treatment for cervical cancer among young women can result in adverse effects that contribute to a negative quality of life (QOL). The literature shows varied studies on the QOL of cervical cancer patients, but evidence on the local context is limited, particularly in young patients.

OBJECTIVES: This study aimed to determine the QOL of young women with cervical cancer treated with concurrent chemoradiation.

MATERIALS AND METHODS: A prospective cross-sectional research design was employed. A total of 72 cervical cancer patients who were 40 years old and younger and treated with chemoradiation were recruited using complete enumeration. The study locale was in a tertiary government hospital, which is a training center for gynecologic oncology in the Philippines. The European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire (QLQ)-C30 and EORTC QLQ of women with Cervical Cancer (CX24) served as data collection instruments. Descriptive statistics were utilized to describe and synthesize the data.

RESULTS: Seventy-two young women with cervical cancer treated with concurrent chemoradiation reported a mean global health status score of 4.75, indicating a moderate QOL. However, functional domains were generally low, with the lowest scores in cognitive (1.71), social (1.64), and physical interference with social activities (1.96). The average symptom score was 2.10, reflecting moderate symptomatology. On the EORTC QLQ-CX24, most QOL aspects were rated low, except for body image (2.01), menopausal symptoms (2.31), and sexual worry (2.79). Sexual enjoyment scored the lowest at 1.16, with an overall average of 1.71.

CONCLUSIONS: The study highlights low-to-moderate QoL among young cervical cancer patients post-chemoradiation, underscoring the need for improved supportive care addressing physical, psychological, and social challenges caused by the disease and treatment modality.

Keywords:

Cervical cancer, chemoradiation, quality of life

Introduction

Living with cervical cancer is challenging, bringing physical, psychosocial, and sexual issues that negatively affect quality of life (QOL). Young women with cervical

cancer often undergo treatments that induce menopause, either through surgical removal of the ovaries or radiation-induced ovarian failure.

With the hundreds of thousands of women aged 40 and below facing potentially

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sterilizing chemotherapy, radiotherapy, and radical surgery for cancer treatment annually, its impact extends beyond the physical aspect.^[1,2] In addition, the socioeconomic burden of the cost of cancer treatment can slowly suppress the QOL of cancer patients.^[3] While several studies have explored QOL in cervical cancer patients, there is limited understanding of the local context in the Philippines.

The purpose of this study is to enhance understanding of women living with cervical cancer and understand what they are going. The evidence can inform care providers on the appropriate strategies to address their physical, psychological, mental, and therapeutic needs. Such knowledge and understanding have important implications for quality care, by creating openness to women's experiences and their priorities, concerns, and wishes regarding care processes.

Objectives

General objective

- To determine the QOL of young women treated with concurrent chemoradiation for cervical cancer.

Specific objectives

- To determine the level of the QOL of young women treated with concurrent chemoradiation for cervical cancer, in the following aspects:
 1. Global health status assessment
 2. Functional scales
 - a. Physical functioning
 - b. Role functioning
 - c. Emotional functioning
 - d. Cognitive functioning
 - e. Social functioning
 3. Symptom scales
 - a. Fatigue
 - b. Nausea and vomiting
 - c. Pain
 - d. Dyspnea
 - e. Insomnia
 - f. Appetite loss
 - g. Constipation
 - h. Diarrhea
 - i. Financial difficulties
 4. Cervical cancer-specific issues
 - a. Symptom experience
 - b. Body image
 - c. Sexual/vaginal functioning
 - d. Lymphedema
 - e. Peripheral neuropathy
 - f. Menopausal symptoms
 - g. Sexual worry
 - h. Sexual activity
 - i. Sexual enjoyment.

Materials and Methods

Research design

This study used a prospective cross-sectional design, an observational approach that allowed data collection at a single point to assess QOL among women treated with chemoradiation.

Locale

The locale is a tertiary government hospital and is one of the two training centers for gynecologic oncology in the Philippines. It has various outpatient units and serves as a referral hospital for regional hospitals and neighboring provinces. It also serves as clinical learning platform for nurses, medical students, and other healthcare professionals.

Population and sampling

The study population consisted of women diagnosed with cervical cancer treated at the study setting. The inclusion criteria are 40 years old and younger, who received the standard curative treatment (chemoradiation) for cervical cancer.

The researcher used the previous year's total number of cervical patients who received the treatment in the study setting. This estimate allowed the researcher to determine monthly census and the target sample size. A monthly average of 12 cancer patients were treated with chemoradiation based on the 2022 records.

With the limited number of potential study participants, the researcher used a complete enumeration sampling method. This method is a complete count to include all eligible study participants in a 6-month data collection. The target sample size is 72 (average of 12 patients multiplied by 6 months) based on the available data on the previous year's census.

Complete enumeration sampling is a type of purposive sampling technique where a researcher chooses to examine the entire population that have a particular set of characteristics.

Data gathering tools

The European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire (QLQ)-C30 and EORTC QLQ of women with Cervical Cancer (CX24) served as data collection instruments. Both EORTC QLQ-C30 and EORTC QLQ CX24 were translated into Pilipino.^[4,5] Permission to use the tools was sought from the EORTC. It is a unique pan-European non-profit clinical cancer research organization established in 1962, operating as an international association under Belgium law. Permission to use their validated questionnaires was granted under the condition that it will be used without

the intent of making a profit or having a third party profit from the data and that the research is being conducted without direct or indirect sponsorship or support from pharmaceutical, medical appliance or related, for-profit healthcare industries.

The EORTC QLQ-C30 investigates the QOL in all cancer patients, whereas EORTC QLQ CX24 is specific to cervical cancer. The EORTC QLQ-C30 was developed in 1993 and comprised 30 questions assessing functions on the physical, role, cognitive, emotional and social, and assessing symptoms, particularly fatigue, nausea and vomiting, pain, dyspnea, insomnia, appetite loss, constipation, diarrhea, and financial difficulty. Twenty-eight questions focus on the functional and physical domains and use a 4-point Likert scale, whereas the last two questions use a 7-point Likert scale and focuses on overall health.

The EORTC QLQ CX24 is a complementary questionnaire specific for cervical cancer patients. It is comprised of 24 questions on functional, symptomatic, and global health status. It assesses the functional scales, namely body image, sexual activity, sexual enjoyment, and sexual/vaginal functioning, and symptom scales: Symptoms experience, lymphedema, peripheral neuropathy, menopausal symptoms, and sexual worry.

The functional domain is further divided into five parts focusing on physical, role, emotional, cognitive, and social functioning. A 4-point Likert scale is used to indicate the answers.

Validity and reliability

The EORTC QLQ C30 exhibited satisfactory to excellent psychometric properties. The scale reliability ranged from 0.62 to 0.92. In terms of validity, the strongest correlations were found between the physical functioning, role functioning (0.72 and 0.67), and fatigue (0.60, 0.63) scales. Global QOL correlated strongly (0.50–0.65) with physical functioning, role functioning, social functioning, and fatigue and less with cognitive functioning and emotional functioning. The EORTC QLQ C30 is a psychometrically robust, cross-culturally accepted questionnaire that was designed to be applicable to a broad spectrum of cancer patients as a core questionnaire.^[6]

The EORTC QLQ CX24 showed high internal consistencies for the subscales, with Cronbach alpha coefficients ranging from. 72 to. 87 (Symptom Experience = 0.72; Body Image = 0.86; Sexual/Vaginal Functioning = 0.87). Convergent and discriminant validity were fulfilled with scaling errors below 3%.

Data gathering procedures

The data were collected from April 2023 to October 2023 after ethical clearance was obtained from the Institutional

Review Board of the study setting. Women waiting for their scheduled medical follow-up were recruited either while waiting for their appointments or afterward when waiting for transport.

The researcher explained the study objectives and the need to answer the questionnaires to the eligible respondents. Participation was voluntary, and informed consent, in writing, was obtained before the data were collected.

The researcher provided adequate time for the respondents to answer the questionnaires. A distance of approximately 1–2 m away from the respondents was observed by the researcher to be prepared for any questions or concerns.

Upon submission of the questionnaires, the researcher checked the completeness of the answers and expressed gratitude to all who participated.

Data management and analyses

The completed questionnaires were placed in a sealed envelope and numbered sequentially. The EORTC QLQ-C30 questionnaire consists of 30 questions grouped into different scales and single-item measures. This includes the functional, symptom, and global health scales. The functional scale assesses the level of function in various areas: Physical, role, emotional, cognitive, and social. Symptom scale assesses the presence and intensity of symptoms: Fatigue, nausea and vomiting, and pain. Global health status assesses overall health and QOL. All data were tallied and analyzed using Microsoft Excel spreadsheet with the assistance of a statistician. The scoring procedures of the instruments guided the analysis. Descriptive statistics were utilized to describe and synthesize the data.

Scales of interpretation were used to determine the QOL. The range of scores was based on the computed class interval (the highest possible score minus the lowest possible score, divided by the number of categories).

Ethical considerations

Ethical clearance was obtained from the Institutional Review Board before data gathering. The principle of autonomy was observed by informing the eligible respondents about the study details before securing their consent. The researcher ensured the voluntary participation of the respondents in the study. Their right to withdraw anytime during the study without any consequence was emphasized before they participated.

The principle of beneficence was upheld by providing health education to respondents who had inquiries about their condition and their treatment. No one was harmed

during the conduct of the study. The researcher strictly complied with institutional policies and research ethical guidelines. Respondents who were in distress or refused to participate were not included in the study. Justice was observed by providing equal opportunities to all eligible respondents based on the set inclusion criteria.

Results and Discussion

A total of 72 responses were gathered in measuring the level of global health status QOL of young women treated with concurrent chemoradiation for cervical cancer. The global health status refer to the self-evaluation of the respondents on their overall health and QOL for the past week. Results show a mean score of 4.75, which is interpreted as a moderate level of QOL.

The relevance of assessing the QOL of cancer patients provides a substantial value in determining their problems and possible solutions to enhance the treatment plans and provide a better life.^[7] It can also be used in the evaluation of prognosis and long-term survival status.^[8] One aspect to be considered is the treatment that comes with grave side effects or body dysfunctions that will alter QOL.^[9] In a survey, it is observed that the QOL of patients receiving radiotherapy (whether or not receiving chemotherapy) is worse than that of patients who just receive surgery.^[10] Varied studies evaluating the QOL of cervical cancer patients have shown similar and contradicting results. Generally, it has been reported that the health-related QOL of cervical cancer patients is adversely affected during the treatment of cancer, with a worsening global score. The moderate level of QOL of the respondents in this study implies that certain characteristics of these cancer patients may explain the variation. In the study of Ahamed and Degu,^[11] they found that the majority (69%) of the cervical cancer patients reported poor overall QOL but 31% of the respondents perceived that they have a good QOL. The researchers highlighted that the advanced stage of disease and the presence of comorbidities are significant predictors of poor QOL. It can be noted that in this current study, the inclusion criteria are only limited to the age and treatment modality of the patients. Mvunta *et al.* also share the same view where they reported that more than half of the cervical cancer patients with earlier stages had a good QOL.^[12]

The results of this study can also be explained by the age of the respondents, who are 40 years old and younger. Somanna *et al.*^[13] documented the same observation from 210 cervical cancer patients, where patients who are ≥ 60 years of age have poorer QOL compared with those who are ≤ 45 years old. In addition to age, Mvunta *et al.* also emphasized the education, parity, marital status, sexual partner, residence, smoking habits, and

occupation as significant factors associated with the QOL of cervical cancer patients.^[12]

The moderate level of QOL of the cervical cancer patients in this study implies an acceptable management of the medical staff in the institution on their special needs, particularly on individualized and holistic patient care, and active encouragement of patients to participate in their treatment to improve QOL. Osann *et al.* recommend that it is important for health professionals to offer cervical cancer patients multidisciplinary consultation to provide them with information about the potential long-term consequences and limitations of the course of treatment.^[10]

The functional QOL scale depicts the perception of the cervical cancer patients on their functional value for pursuing individually meaningful activities and goals. It can be influenced by an individual's autonomy and availability of resources to capacitate the attainment of specific activities. In the context of the respondents in this study, the impact of their disease condition and the problems associated with the treatment have taken their toll on the physical, role, emotional, cognitive, and social functional QOL.

The average score of the functional QOL of young women treated with concurrent chemoradiation for cervical cancer is 1.94, which is interpreted as low QOL. The cognitive, physical, and social functional scales received the lowest scores of 1.64, 1.71, and 1.96, respectively, which are also interpreted as low QOL.

The results of this study add to the observation of previous research. In the study of Das *et al.*, they observed that 22% of cancer patients report cognitive difficulties before the start of their treatment, which may be due to the cancer itself, stress and anxiety, depression, fatigue, nutritional deficiencies, pain, sleep disturbances, and comorbid conditions.^[14] Among gynecologic cancers, cognitive impairment is often reported side effect in addition to changes in bowel pattern, peripheral neuropathy, and sexual dysfunction.^[15] The International Cancer and Cognition Task Force has defined cancer-related cognitive impairment as a decline in memory, attention, concentration, and executive function among cancer patients.^[15]

Another study among cervical cancer survivors showed that cognitive functioning remained impaired even several months after chemoradiation treatment.^[16] The low cognitive functional QOL of the cervical cancer patients may also explain the low scores in their social function. Hess *et al.* argue that even minor cognitive dysfunction can significantly impact a person's ability for societal participation and employment. These changes

interfere with their daily lives, resulting in a decline in confidence.^[17] Boykoff *et al.* described it as a major obstacle that affects most aspects of daily living and QOL.^[18]

Stress, anxiety, and depression due to the diagnosis of cancer also play an important role in the reduction of the functional capacity of cervical cancer patients.^[14] Psychological morbidity, which includes anxiety and depression, produces disruptive and disabling symptoms that are present in cancer patients with a negative impact on the QOL. Comparing with the general population and other types of gynecological cancer, Osann *et al.* found that cervical cancer patients appear to experience higher levels of psychological morbidity and lower QOL.^[10]

It is also essential to note that the physical functional QOL of the cervical patients in this study is low level. Millet *et al.* pointed out that while the psychological repercussions are significant regardless of the treatment type, the physical changes are perceived to be more disruptive following radical treatments.^[19] Due to the effects of the disease process and treatment, cervical cancer patients may not be able to perform physical tasks efficiently and completely. This condition further impairs their ability to perform self-care and limits their interaction and socialization with their environment. As such, their roles in the community or at least in their families become impaired, resulting in low QOL.

The multifaceted negative impact on the physical, role, emotional, cognitive, and social functional QOL of the patients requires tailored-fit strategies that are particularly focused on how the individual responds to treatment as well as her coping mechanisms. In addition to controlling tumors and improving the survival rate of patients, maintaining and improving the QOL of cervical cancer patients has become an important issue for medical providers.^[20]

More than the curative aspect, clinicians can contribute in improving the QOL of cervical cancer patients by addressing the biological, psychological, and social needs.^[21] Osann *et al.* recommend enhancing the social support and education of the patients to counteract the negative QOL.^[10] Empowering the support system of the patients, which may include the family, friends, or colleagues, can promote a sense of psychological support that can result in better resilience and QOL. The patients themselves are considered to be the prime movers in their health care. In this regard, appropriate awareness and education on their treatment modalities can provide them opportunities to be active participants in their health care.

In the Philippine context, the strong family bonds of Filipinos can create an opportunity for medical providers

to educate the family on the disease process and the consequences of treatment modalities. In this manner, direct care providers and the whole support system of the cervical cancer patients can develop a deeper understanding of the condition. Consequently, it may encourage them to be active participants in the holistic care, as well as it strengthen the support provided. Osann *et al.* support this strategy to enhance the social support network of patients that positively impacts the QOL.^[10]

Results show that the cervical cancer patients in this study have a score of 2.10, which is interpreted as a moderate level of symptomatology QOL (Appendix C). The symptoms that are scored the least are constipation, dyspnea, nausea and vomiting, and insomnia, with mean scores of 1.67, 1.71, 1.85, and 1.99, respectively. These data mean that the respondents had low QOL in these specific symptoms.

Multimodal cancer therapies have been linked to increased survival rates; however, many of these therapies come with significant adverse effects. Chronic physical problems, of which gastrointestinal (GI) symptoms are the most common, have been found to be associated with decreased QOL.^[22] In this study, the respondents had low QOL in their symptoms, particularly in manifesting constipation and nausea and vomiting.

McQuade *et al.* emphasized that constipation may not be deemed clinically important until it causes physical risks or impairs QOL.^[23] It presents a constant challenge in the efficient and tolerable treatment of cancer. Although the exact mechanisms underlying chemotherapy-induced constipation are poorly defined, it has been hypothesized that CIC may result from the effects of chemotherapy on the nerve endings in the gut.^[24] The GI tract is innervated by the enteric nervous system together with fibers from extrinsic sympathetic, parasympathetic, and sensory afferent neurons. Both the extrinsic and intrinsic innervation play an important role in the motor activity of the GI tract.^[25]

Considering pain control among cancer patients, chronic opioid treatment has been associated with GI disturbance, namely opioid-induced constipation.^[26] Opioid analgesics interfere with GI motility by delaying transit time, stimulating non-propulsive motility, and altering GI segmentation and tone through their effects on enteric neurons.^[27]

Nausea and vomiting are also a well-known and widely feared side effect of chemotherapy. Natalie reported that between 60% and 80% of patients with cancer suffer from chemotherapy-induced nausea and vomiting if untreated.^[28] The exact mechanisms

of chemotherapy-induced emesis are unclear, but it is postulated that there are a few interconnected neuronal areas within the medulla which make up the vomiting center. Enteroendocrine cells in the GI mucosa are stimulated by the chemotherapeutic agent to release mediators such as prostaglandins, 5-hydroxytryptamine, cholecystokinin, and substance P that stimulate vagal afferents and trigger the emetic reflex.^[29]

Dyspnea can be associated with the pathogenesis of cancer, antineoplastic therapies, and comorbidities. Radiation therapy can also induce dyspnea due to a radiation-induced injury and the effect on the cardiovascular system, leading to coronary artery disease, valvular disease, heart failure, or arrhythmias.^[30] It is described as a distressing and debilitating symptom experienced by cancer patients, usually in association with fatigue, anxiety, and depression.^[31] Aside from its physical consequences, dyspnea among cancer patients may also affect the psychological aspect, as it may lead to panic, hopelessness, helplessness, and social isolation.^[32]

Another symptom that was scored as one of the lowest is insomnia. It is a sleep disorder which is most likely to affect cancer patients. The low QOL of the patients due to insomnia may be attributed to the physical changes caused by cancer itself and the treatment modalities. The psychological stress, depression, and negative emotional impact of cancer may be attributed to the sleep disorders of the patients.^[33]

The EORTC QLQ C30, a questionnaire on the symptoms of cancer patients, was used in this study. This assesses a broad range of QOL domains relevant to cancer patients, and this comprehensive coverage provides a holistic view of the patient's overall health and well-being. The data generated from this study provides information on the symptoms of cervical cancer patients that warrant attention from the medical providers.

The EORTC QLQ CX24, otherwise known as the cervical cancer module, is a supplement to EORTC QLQ-C30 as it assesses disease-specific and treatment-specific aspects of QOL in patients with cervical cancer.

The results show that the respondents in this study have a low level of QOL. Almost all of the aspects of the QOL received scores that are interpreted as low level, except for body image (2.01), menopausal symptoms (2.31), and sexual worry (2.79). Sexual enjoyment (1.16) was scored the least.

The presence of symptoms related to cervical cancer and treatments contributes negatively to the QOL of patients.^[10] Frequent symptoms of cervical cancer include watery vaginal leukorrhea with odor, vaginal bleeding

often after sexual intercourse, blood loss between periods of menstruation, dyspareunia, fatigue, lack of appetite, pain, nausea, and vomiting.^[34]

The treatment modality can affect the sexual health and function of cervical cancer patients. The standard treatment for locally advanced cervical cancer includes brachytherapy in addition to external pelvic radiation therapy and chemotherapy. Brachytherapy can cause vaginal stenosis, dryness, and dyspareunia.^[35] Shankar *et al.* conform with the results where they also observed that 75.29% of the cervical cancer patients they studied had vaginal stenosis and decreased frequency of intercourse after treatment.^[36] Pain during intercourse and altered sexual life were reported by 32.9% and 25.9% of patients, respectively.^[36]

In a systematic review and meta-analysis involving 2,009 women with cervical cancer, it was found that the incidence of female sexual dysfunction was 80%.^[37] Another study documented that chemoradiation is linked with vaginal function and sexual function of cervical cancer patients. Similar to the results of this study, poor sexual function among women with cervical cancer suggests a need to assess sexual function regularly to improve early recognition of female sexual dysfunction and allow appropriate interventions to enhance the sex life of affected patients.^[38]

A trial conducted on 107 cervical cancer patients shows a contrasting result where the patients presented more sexual worry after chemoradiation but presents similar finding in terms of having lower scores on the lymphadenopathy manifestation.^[39] In the same study, worsening was observed in sexual enjoyment, peripheral neuropathy, and menopausal symptoms.

The low scores on the sexual health of the cervical cancer patients imply that medical professionals give more attention to these aspect to promote the QOL. Active discussions on sexual health can provide an avenue for patients to express their concerns as well as for clinicians to gain an understanding of their condition. Interestingly, Sport *et al.* observed that discussion of sexual health between younger patients and oncologists is becoming increasingly common.^[35] Active interactions between patients and providers reflect better working relationships and attainment of health goals.

Although most of the aspects show a low level of QOL, the results reveal that the body image of the cervical cancer patients is at the moderate level. Body image is described as an important construct in mental health that involves a multidimensional self-perception toward the general appearance of one's body.^[40] Body image may change as a result of cervical cancer and

contribute to psychological morbidity and a negative QOL.^[41] The results suggest a sense of positivity that the women may have adapted to their body changes and can contribute to their physical, emotional, and social well-being.^[42]

The overall low level of QOL of cervical cancer patients in this study stirs up the need to re-evaluate the strategies of medical providers in managing the symptoms and dealing with the experiences of the patients in their disease condition and treatment. Considering a holistic approach that includes the physical, mental, emotional, psychological, and social aspects of their health can contribute to a better QOL. Christiansen *et al.* suggest that women with cervical cancer undergoing oncological treatment need more specific and detailed information about the course of treatment, symptom management, adverse effects, and psychological reactions to better manage their daily lives.^[43] It is, therefore, important to support patients with multidisciplinary teams during the course of treatment to address a tailored therapeutic approach.

Conclusions

This study provides evidence on the local context of the QOL of young women with cervical cancer and treated with concurrent chemoradiation. The low-to-moderate levels of the QOL of cervical cancer patients reflect the need to appraise and enhance the management strategies of medical providers in addressing the physical, psychological, emotional, and social disturbances caused by the disease and treatment modality. The results of this study imply a holistic approach in caring for cervical cancer patients.

Recommendations

A multidisciplinary team approach composed of gynecologic oncologist, radiation oncologist, reproductive medicine, pain specialist, and palliative care may have a potential in addressing the multifaceted needs of cervical cancer patients. It is also recommended that future researchers may include a bigger sample size from other hospitals catering to cervical cancer patients. This strategy can contribute to the generalizability of the study results. Since advanced cancer stages and comorbidities may influence the QOL of cervical cancer patients, future studies may consider the determination of these variables and its association.

Limitations of the study

This study was conducted in only one center study with a limited number of respondents; hence, the results may not be generalized. Recruitment of cervical cancer patients who may have advanced stage and comorbidities may have influenced the results. Finally,

this was a cross-sectional study at only one time point. Comparison of the data is a limitation of this study.

Authorship contributions

Maria Rowena G. Bascos - Involved in the conceptualization, methodology, data curation, formal analysis, writing of the original draft, review and editing.

Rey H. de los Reyes - Involved in the conceptualization, methodology, review and editing of the draft, and supervision.

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Conflicts of interest

The author is a Fellow-In-Training in the study locale. No funding was granted to cover the expenses in this study.

References

1. Oktay K, Sonmezer M. Ovarian tissue banking for cancer patients: Fertility preservation, not just ovarian cryopreservation. *Hum Reprod* 2004;19:477-80.
2. American Cancer Society. Cancer facts & figures 2024 [Internet]. 2024. Available from: <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/2024-cancer-facts-figures.html>.
3. Ghoshal S, Arora M, Chakrabarti A, Datta A, Dey T. The socio-economic burden of cancer: An observation from the palliative care OPD. *J Family Med Prim Care* 2022;11:821-4.
4. Kaasa S, Bjordal K, Aaronson N, Moum T, Wist E, Hagen S, *et al.* The EORTC core quality of life questionnaire (QLQ-C30): Validity and reliability when analysed with patients treated with palliative radiotherapy. *Eur J Cancer* 1995;31A: 2260-3.
5. Greimel ER, Kuljanic Vlasic K, Waldenstrom AC, Duric VM, Jensen PT, Singer S, *et al.* The European Organization for Research and Treatment of Cancer (EORTC) quality-of-life questionnaire cervical cancer module: EORTC QLQ-CX24. *Cancer* 2006;107:1812-22.
6. Aaronson NK, Ahmedzai S, Bergman B, Bullinger M, Cull A, Duez NJ, *et al.* The European Organization for Research and Treatment of Cancer QLQ-C30: a quality-of-life instrument for use in international clinical trials in oncology. *J Natl Cancer Inst* 1993;85:365-76. doi: 10.1093/jnci/85.5.365.
7. Wenzel L, Vergote I, Cella D. Quality of life in patients receiving treatment for gynecologic malignancies: Special considerations for patient care. *Int J Gynaecol Obstet* 2003;83 Suppl 1:211-29.
8. Zhao M, Luo L, Zhang CH, Zhang JP, Yuan JY, Gu RY, *et al.* Healthy-related quality of life in patients with cervical cancer in Southwest China: A cross-sectional study. *BMC Health Serv Res* 2021;21:841.
9. Peters WA 3rd, Liu PY, Barrett RJ 2nd, Stock RJ, Monk BJ, Berek JS, *et al.* Concurrent chemotherapy and pelvic radiation therapy compared with pelvic radiation therapy alone as adjuvant therapy after radical surgery in high-risk early-stage cancer of the cervix. *J Clin Oncol* 2000;18:1606-13.
10. Osann K, Hsieh S, Nelson EL, Monk BJ, Chase D, Cella D, *et al.* Factors associated with poor quality of life among cervical cancer survivors: Implications for clinical care and clinical trials. *Gynecol Oncol* 2014;135:266-72.
11. Shajahan Ahamed M, Degu A. Health-related quality of life among cervical cancer patients at Kenyatta National Hospital. *J Oncol Pharm Pract* 2023;29:393-400.

12. Mvunta DH, August F, Dharsee N, Mvunta MH, Wangwe P, Ngarina M, *et al.* Quality of life among cervical cancer patients following completion of chemoradiotherapy at Ocean Road Cancer Institute (ORCI) in Tanzania. *BMC Womens Health* 2022;22:426.
13. Somanna SN, Sastry NB, Chaluvarayaswamy R, Malila N. Quality of life and its determinants among cervical cancer patients in South India. *Asian Pac J Cancer Prev* 2022;23:2727-33.
14. Das A, Ranadive N, Kinra M, Nampoothiri M, Arora D, Mudgal J. An overview on chemotherapy-induced cognitive impairment and potential role of antidepressants. *Curr Neuropharmacol* 2020;18:838-51.
15. Areklett EW, Fagereng E, Bruheim K, Andersson S, Lindemann K. Self-reported cognitive impairment in cervical cancer survivors: A cross-sectional study. *Psychooncology* 2022;31:298-305.
16. Kirchheiner K, Pötter R, Tanderup K, Lindegaard JC, Haie-Meder C, Petrič P, *et al.* Health-related quality of life in locally advanced cervical cancer patients after definitive chemoradiation therapy including image guided adaptive brachytherapy: An analysis from the EMBRACE study. *Int J Radiat Oncol Biol Phys* 2016;94:1088-98.
17. Hess LM, Huang HQ, Hanlon AL, Robinson WR, Johnson R, Chambers SK, *et al.* Cognitive function during and six months following chemotherapy for front-line treatment of ovarian, primary peritoneal or fallopian tube cancer: An NRG oncology/ gynecologic oncology group study. *Gynecol Oncol* 2015;139:541-5.
18. Boykoff N, Moieni M, Subramanian SK. Confronting chemobrain: An in-depth look at survivors' reports of impact on work, social networks, and health care response. *J Cancer Surviv* 2009;3:223-32.
19. Millet N, Moss EL, Munir F, Rogers E, McDermott HJ. A qualitative exploration of physical and psychosocial well-being in the short and long term after treatments for cervical cancer. *Eur J Cancer Care (Engl)* 2022;31:e13560.
20. Araya LT, Gebretsele GB, Gebremariam GT, Fenta TG. Reliability and validity of the amharic version of european organization for research and treatment of cervical cancer module for the assessment of health related quality of life in women with cervical cancer in addis Ababa, Ethiopia. *Health Qual Life Outcomes* 2019;17:13.
21. Xiaohua R, Qiongyao G, Yahui Q. Quality of life of cervical cancer patients in a cancer hospital in Yunnan Province. *Contemp Nurse First Ten Days Mag* 2020;27:5-8.
22. Andreyev HJ. Gastrointestinal problems after pelvic radiotherapy: The past, the present and the future. *Clin Oncol (R Coll Radiol)* 2007;19:790-9.
23. McQuade RM, Stojanovska V, Abalo R, Bornstein JC, Nurgali K. Chemotherapy-induced constipation and diarrhea: Pathophysiology, current and emerging treatments. *Front Pharmacol* 2016;7:414.
24. Ghobrial IM, Rajkumar SV. Management of thalidomide toxicity. *J Support Oncol* 2003;1:194-205.
25. Phillips RJ, Powley TL. Innervation of the gastrointestinal tract: Patterns of aging. *Auton Neurosci* 2007;136:1-19.
26. Abernethy AP, Wheeler JL, Zafar SY. Detailing of gastrointestinal symptoms in cancer patients with advanced disease: New methodologies, new insights, and a proposed approach. *Curr Opin Support Palliat Care* 2009;3:41-9.
27. De Schepper HU, Cremonini F, Park MI, Camilleri M. Opioids and the gut: Pharmacology and current clinical experience. *Neurogastroenterol Motil* 2004;16:383-94.
28. Natale JJ. Overview of the prevention and management of CINV. *Am J Manag Care* 2018;24:S391-7.
29. Hesketh PJ. Chemotherapy-induced nausea and vomiting. *N Engl J Med* 2008;358:2482-94.
30. Keramida K, Kostoulas A. Dyspnea in oncological patients: A brain teaser. *Eur Cardiol* 2023;18:e03.
31. Tishelman C, Petersson LM, Degner LF, Sprangers MA. Symptom prevalence, intensity, and distress in patients with inoperable lung cancer in relation to time of death. *J Clin Oncol* 2007;25:5381-9.
32. Tanaka K, Akechi T, Okuyama T, Nishiwak Y, Uchitomi Y. Impact of dyspnea, pain, and fatigue on daily life activities in ambulatory patients with advanced lung cancer. *J Pain Symptom Manage* 2002;23:417-23.
33. Pinucci I, Maraone A, Tarsitani L, Pasquini M. Insomnia among Cancer Patients in the Real World: Optimising Treatments and Tailored Therapies. *Int J Environ Res Public Health*. 2023;20:3785. doi: 10.3390/ijerph20053785.
34. Dallabrida FA, Loro MM, Rosanelli CL, Souza MM, Gomes JS, Kolankiewicz A C. Quality of life of women undergoing treatment for cervical cancer. *Revista Da Rede de Enfermagem Do Nordeste* 2014;15:116-22.
35. Sport C, Yarden N, Mukhopadhyay N, Fields E. PO11 sexual health should not be a taboo topic when treating cervical cancer. *Brachytherapy [Internet]* 2023; 22:S70. Available from: <https://www.sciencedirect.com/science/article/pii/S1538472123014782>.
36. Shankar A, Patil J, Luther A, Mandrelle K, Chakraborty A, Dubey A, *et al.* Sexual Dysfunction in Carcinoma Cervix: Assessment in Post Treated Cases by LENTSOMA Scale. *Asian Pac J Cancer Prev* 2020;21:349-354. doi: 10.31557/APJCP.2020.21.2.349.
37. Esmat Hosseini S, Ilkhani M, Rohani C, Nikbakht Nasrabadi A, Ghanei Gheshlagh R, Moieni A. Prevalence of sexual dysfunction in women with cancer: A systematic review and meta-analysis. *Int J Reprod Biomed* 2022;20:1-12.
38. Ljuca D, Marošević G. Impact of chemoradiotherapy on vaginal and sexual function of patients with FIGO IIb cervical cancer. *Bosn J Basic Med Sci* 2011;11:62-4.
39. Nunes de Arruda F, da Costa S, Bonadio R, Dornellas A, Pereira D, de Bock GH, *et al.* Quality of life of locally advanced cervical cancer patients after neoadjuvant chemotherapy followed by chemoradiation versus chemoradiation alone (CIRCE trial): A randomized phase II trial. *Int J Gynecol Cancer* 2020;30:749-56.
40. Stokes R, Frederick-Recascino C. Women's perceived body image: Relations with personal happiness. *J Women Aging* 2003;15:17-29.
41. Przezdziecki A, Sherman KA, Baillie A, Taylor A, Foley E, Stalgis-Bilinski K. My changed body: Breast cancer, body image, distress and self-compassion. *Psychooncology* 2013;22:1872-9.
42. Teo I, Cheung YB, Lim TY, Namuduri RP, Long V, Tewani K. The relationship between symptom prevalence, body image, and quality of life in Asian gynecologic cancer patients. *Psychooncology* 2018;27:69-74.
43. Christiansen MG, Piil K, Jarden M. The symptom experience and self-management strategies of women undergoing cervical cancer treatment: A qualitative study. *Cancer Nurs* 2022;45:12-20.