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Determinants of Quality of Life in Women with Cervical Cancer: A Cross-Sectional study using the FACT-Cx Instrument

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ABSTRACT

Background: Women in Northeast India exhibit a significantly elevated risk of cervical cancer, a leading cause of mortality in the country. The significance of health-related quality of life (HRQoL) is often overlooked, despite advancements in treatment options. This research aimed to investigate HRQoL, screening practices, and cervical cancer awareness in Tripura, India. Methods: This cross-sectional study included 384 cervical cancer patients at a tertiary hospital in Tripura (Mar 2022 – Dec 2024), using the FACT-Cx V4 questionnaire and structured interviews to assess sociodemographic variables and awareness. Quality of life predictors were assessed using descriptive statistics, t-tests, ANOVA, and multiple linear regression, with significance set at $p< 0.05$. Result: The results indicated that 64% of participants lacked awareness of cervical cancer, 0% had received vaccination or screening for HPV, and 7% recognized HPV as a risk factor. The average FACT-Cx score was 127.9 ± 16.4, indicating diminished emotional and functional well-being, while social and physical well-being remained relatively intact. Significant factors affecting quality of life scores include age, education, marital status, number of children, socioeconomic level, and tobacco or organic compound usage ($p < 0.05$). An improved quality of life was independently associated with an early FIGO stage, elevated socioeconomic status, a combination of treatment modalities, advanced educational attainment, and awareness of cervical cancer. Conclusion: Cervical cancer patients in Tripura demonstrate limited knowledge, low uptake of preventive measures, and considerable mental and physical health challenges. Addressing these gaps requires focused education, strengthened immunization and screening programs, and integrated psychosocial support.

Keywords: *Awareness, Cervical Cancer, FAXT-Cx, Tripura.*

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1. INTRODUCTION

Cervical cancer is defined by the proliferation of malignant cells in the cervix, remains a leading cause of morbidity and mortality among Indian women, and is strongly associated with high-risk human papillomavirus (HPV) infection, which accounts for nearly 99% of cases.[1] In India, approximately 123,907 women are diagnosed annually, with 77,348 deaths, making cervical cancer the second most common malignancy among women aged 15 – 44 years.[2] Several risk factors have been identified, including HPV infection, prolonged oral contraceptive use, early marriage and sexual debut, multiple pregnancies, smoking, low socioeconomic status, and tobacco use. [3, 4] Epidemiological data highlight the disproportionate burden in Northeast India, where cervical cancer ranks second after breast cancer. According to the Indian Council of Medical Research (ICMR) 2021 report, based on 11 PBCRs and 7 HBCRs across the region, the prevalence is highest in Arunachal Pradesh, Tripura, Mizoram, and Nagaland, with Tripura showing particularly elevated age-specific incidence among women aged 60 – 64 years.[5, 6] In Tripura, the screening rate for women aged 30 – 49 years is only 0.7%, and cervical cancer is the leading malignancy among women, accounting for 16.5% of cases, followed by breast cancer (14.4%).[6]

Tripura, the third-smallest state in India, has 83% of its population residing in rural areas. Its geographic and demographic profile, limited healthcare infrastructure, and cross-border vulnerabilities constrain the effectiveness of cancer awareness and screening initiatives. The 2021 ICMR-NCDIR registry underscores cervical cancer as the leading cancer among women in Tripura, where awareness of Pap smears, HPV testing, and vaccination remains low. [7, 8] Screening uptake across the northeastern region is only 1% among women aged ≥ 30 years, with slightly higher rates in urban areas (1.7%) compared to rural areas (0.5%). HPV vaccination coverage is equally poor, with only 5.2% of families reporting uptake. Screening availability is limited to a minority of facilities, including PHCs (19.1%), CHCs (20.4%), and district hospitals (35.7%). Socioeconomic status, gender, and educational attainment are significantly associated with awareness levels, yet large gaps persist in knowledge about screening eligibility, preventive vaccination, and treatment options.[9] Current national cancer control strategies emphasize risk factor reduction and the promotion of organized screening programs; however, infrastructural gaps and limited health communication campaigns remain major challenges in the Northeast. In recent years, the therapeutic focus has shifted beyond disease control toward improving health-related quality of life (HRQoL), in line with the biopsychosocial model of care.[10] HRQoL assessments provide critical insights for treatment planning, prognostic evaluation, and survivorship care, as cervical cancer and its treatment often result in significant physical, psychosocial, and social sequelae, including fatigue, lymphedema, urinary and sexual dysfunction, sleep disturbances, depression, and altered self-identity.[11–14] Against this backdrop, the present study aims to evaluate HRQoL, cervical cancer awareness, and screening practices among women in Tripura, thereby addressing an urgent knowledge gap in a high-incidence region.

2. MATERIAL & METHODS

We conducted a cross-sectional study over a period from March 2022 to December 2024, at Atal Bihari Vajpayee Regional Cancer Center, Agartala, Tripura. The study timeframe permitted inclusion of women across survivorship stages, particularly those who had completed chemoradiotherapy ≥ 6 months before data collection.

Study participants:
During routine outpatient follow-up visits, 384 women aged 18 – 80 years with histologically confirmed cervical cancer (FIGO stages I – IV) were recruited. All participants were clinically stable and had completed their treatment regimen. Eligibility criteria included histopathological confirmation of cervical cancer, completion of chemoradiotherapy at least six months prior, and the ability to provide written informed consent. Women unwilling or unable to provide consent were excluded.

Data Collection:
During follow-up clinic consultations, trained clinical research assistants collected data through structured, face-to-face interviews, ensuring uniform questionnaire administration and accounting for variations in literacy. Data were obtained using a pre-tested proforma and verified against medical records. Variables included demographic characteristics (age, marital status, education, occupation, household income), geographic and socioeconomic indicators (urban/rural residence, health insurance), and cervical cancer awareness.

Health-related quality of life (HRQoL) was assessed using the validated Functional Assessment of Cancer Therapy – Cervix (FACT-Cx V4) questionnaire, developed by the US-based Center for Outcome Research and Education and adapted for Indian patients. The instrument comprises 42 items across five dimensions: physical well-being (7 items), social/family well-being (7 items), emotional well-being (6 items), functional well-being (7 items), and a cervical cancer-specific subscale (15 items). Responses were scored on a 5-point Likert scale, with total scores ranging from 0 to 168, higher scores indicating better quality of life.

To address linguistic diversity, questionnaires were administered in Bengali or English. All interviews were conducted orally, with responses directly recorded by interviewers to reduce respondent burden and minimize missing data.

Ethical Consideration:
The study protocol was approved by the Institutional Ethics Committee of Agartala Government Medical College . (IRB Approval No: AGMC/Medical Education/IEC Approval/2022/17324) and DIT University (DITU/UREC/2022/04/5). All participants received written and verbal information regarding study objectives, procedures, risks, and rights, and provided written informed consent in their preferred language. Participation was voluntary, with the option to withdraw at any time without affecting clinical care. Data were anonymized and stored in compliance with national ethics standards and the Declaration of Helsinki.

Statistical Analysis:
Data was entered into Excel and analysed using SPSS for Windows Version 20. Descriptive statistics were conducted using the median, standard deviation, and mean for continuous data, while frequencies were utilized for categorical variables. The relationship between variables was assessed using a one-way analysis of variance (ANOVA) for variables with more

than three groups and an independent t-test for samples with two groups in single-component analysis. A p-value below 0.05 was deemed statistically significant. Multiple linear regression was employed, with score dimensions as the dependent variables and the influencing factors as the independent variables**.** Variables with $p < 0.20$ were chosen for inclusion in the multiple linear regression model. The β coefficient's value is the disparity in averages. The modified model included variables that demonstrated statistical significance ($p < 0.05$).

3. RESULTS

A total of 384 patients were included in this study. The mean age at diagnosis was 50.38 ± 11.66 years, with most (67.5%) between 40 – 60 years. The majority resided in rural areas (63.8%) and belonged to low-to-moderate socioeconomics strata; 70.6% had only primary education. Early marriage (≤ 20 years) was reported in 56.5% of cases. Hindu comprised of 91% of participants. A notable proportion utilized both oral contraceptives and cigarettes, while 58% had never used them, and 71% had never smoked. Chemoradiotherapy was the predominant treatment, utilized in 78% of cases. Advanced disease at presentation was frequent, with 35.7% in FIGO Stage IIIA and 24.2% in FIGO Stage IIB as depicted in Table 1. 77.9% patients had undergone chemoradiotherapy as part of their treatment.

Variable	**N (%)**
Total Patients	**384 (100%)**
Age in years (mean ± SD)	50.38 ± 11.66
20-40	55 (14.3%)
40-60	259 (67.5%)
60-80	68 (17.7%)
>80	2 (0.5%)
Education	
Primary	271 (70.6%)
Secondary	89 (23.2%)
Higher	15 (3.9%)
Illiterate	09 (2.3%)
Economic status *	
Lower class	173 (45.1%)
Middle class	197 (51.3%)
Upper class	14 (3.6%)
Residence	
Urban	139 (36.2%)
Rural	245 (63.8%)
Religion	
Hindu	349(91%)
Muslim	14(4%)
Christian	21(5%)
Age at Marriage (years)	
≤ 20	217 (56.5%)
21 – 30	128 (33.3%)
31 – 40	32 (8.3%)
>40	04 (1.1%)
Never Married	03 (0.8%)
Age of 1st pregnancy (years)	
≤ 20	193 (50.3%)
21 – 30	149 (38.8%)
>30	38 (9.8%)
Never got pregnant	04 (1.1%)
Tobacco use	
Yes	273 (71.1%)
No	111 (28.9%)
OCP use	221(58%)
Yes	163(42%)

No	
FIGO Stage	
IA	4 (1.1%)
IB	7 (1.8%)
IIA	57 (14.8%)
IIB	93 (24.2%)
IIIA	137 (35.7%)
IIIB	52 (13.5%)
IVA	27 (7%)
IVB	7 (1.8%)
Treatment modality	
CT + RT	299 (77.9%)
RT	46 (12%)
Surgery + RT	39 (10.1%)

FIGO: International Federation of Gynecology and Obstetrics; CT +RT: Chemotherapy + Radiotherapy

Table 1: Socio-demographic and clinical profile of participants

Findings indicate that participants possessed limited knowledge regarding cervical cancer and exhibited minimal proactive measures to prevent the disease. None of the surveyed women had undergone cervical cancer screening, despite 36% being aware of the disease. Vaccination serves as the most effective prevention method against cervical cancer; however, only 17% of individuals recognize that HPV is a sexually transmitted disease, with an even smaller percentage aware of its preventability. None of them had received the HPV vaccine. Furthermore, merely 8% recognized the factors that elevate the risk of cervical cancer, and an even smaller percentage (5%) understood that the condition is treatable if detected early as shown in Table 2.

Variable	**N (%)**
Have you heard about cervical cancer?	
Yes	139 (36)
No	248(64)
Have you undergone cervical cancer screening?	
Yes	Nil
No	384
HPV infection spreads through sexual interaction?	
Yes	25(7)
No	359(93)
Cervical cancer can be prevented with immunization?	
Yes	67(17)
No	317(83)
Have you received the HPV vaccination?	
Yes	Nil
No	384
Are you aware about the risk factors of cervical cancer?	
Yes	32(8)
No	352(92)
Do you know that early detection of cervical cancer is treatable?	
Yes	19(5)
No	365(95)

Table 2: Education and awareness association with cervical cancer patients

FACT-Cx results indicate a moderate quality of life among 384 participants, characterized by domain-specific variability. The mean score for Social/Family Well-Being was 24.8 (SD = 3.2), reflecting strong family and social support. Physical Well-Being (M = 21.3, SD = 4.9) and Functional Well-Being (M = 20.8, SD = 5.3) were assessed as moderate, suggesting the presence of health and daily functioning challenges. The Emotional Well-Being score was the lowest at (19.4, SD = 4.6), suggesting a higher psychological or emotional burden. The average score for cervical cancer-specific concerns was (43.8, SD = 6.7), indicating the impact of disease-related challenges on individuals. The overall FACT-Cx score (127.9, SD = 16.4) suggests a moderate quality of life as depicted in Table 3.

Domain	**Mean (SD)**	**Median**	**Range**
Physical Well-Being (PWB)	21.3 (4.9)	21.0	0–28
Social/Family Well-Being (SWB)	22.6 (5.1)	23.0	0–28
Emotional Well-Being (EWB)	19.4 (4.6)	19.0	0–24
Functional Well-Being (FWB)	20.8 (5.3)	21.0	0–28
CC-Specific Concerns (CxS)	43.8 (6.7)	44.0	0–60
Total FACT-Cx	**127.9 (16.4)**	**128.0**	**0–168**

Table 3: Scores for Quality of Life in each FACT-Cx Domain

The univariate analysis revealed multiple statistically significant ($P < 0.05$) correlations between patient variables and FACT-Cx scores. Individuals younger than 61 exhibited significantly elevated CxS and total scores (p = 0.013 and p = 0.041, respectively). The correlation between total scores and functional well-being was more pronounced in individuals with a bachelor's degree or higher (p = 0.045 compared to p = 0.048). The scores for PWB, SWB, EWB, FWB, and total assessments among patients in the middle and upper economic groups were significantly elevated (p < 0.05). Individuals residing in urban areas demonstrated superior scores on quality-of-life metrics (p = 0.038), as shown in Table 4.

Strong associations were observed between clinical variables and outcomes: lower scores in PWB, FWB, and total score correlated with early-stage disease (p = 0.023, p = 0.002, and p = 0.001). Significant differences in FWB, CxS, and total scores were noted among treatment modalities, with surgery plus RT or CT+RT favoured over RT alone (p = 0.005, p = 0.049, p = 0.002). Fewer children correlated with increased FWB and total scores (p = 0.023 and p = 0.046). Additionally, a later age at first pregnancy was linked to improved SWB and overall scores (p = 0.046 and p = 0.042, respectively). Lower subscale and overall scores correlated with tobacco use, OCP usage, and cervical cancer awareness, with this correlation remaining consistent across various domains (p < 0.05).

Variable	**Category**	**PWB Mean (SD)**	***p***	**SWB Mean (SD)**	***p***	**EWB Mean (SD)**	***p***	**FWB Mean (SD)**	***p***	**CxS Mean (SD)**	***p***	**Total FACT-Cx Mean (SD)**	***p***
Age at diagnosis	≤60 years	68.6±9.2	0.292	57.5±11.1	0.341	79.1±8.3	0.302	60.9±7.0	0.422	33.8±8.5	0.013*	300.0±24.5	0.041*
	≥61 years	60.2±8.6		58.7±8.0		80.0±10.4		63.3±6.2		25.5±6.5		287.7±27.2	
Education	Primary & Illiterate	67.7±9.2	0.241	57.3±10.5	0.390	78.2±8.4	0.369	63.0±5.8	0.045*	39.7±15.5	0.143	305.9±29.4	0.048*
	Secondary & Higher	64.5±7.9		58.7±8.1		74.0±9.6		65.9±5.7		33.5±11.9		297.5±30.6	
Economic status	Lower	65.0±9.6	0.049*	56.1±10.4	0.031*	74.5±8.2	0.034*	61.8±6.9	0.016*	21.9±24.4	0.640	289.3±33.8	0.021*

	Middle & Upper	70.9±6.7		65.4±7.8		78.1±7.7		66.6±6.2		25.2±21.7		312.5±28.6	
Residence	Urban	68.8±9.9	0.204	62.6±3.2	0.359	83.4±6.0	0.295	68.0±7.4	0.241	28.5±15.2	0.444	311.3±28.1	0.038*
	Rural	63.9±9.8		55.4±11.9		75.4±9.0		60.9±7.6		21.2±8.4		292.0±27.5	
FIGO Stage	Stage I–II	81.5±11.8	0.023*	81.5±8.9	0.674	78.4±15.3	0.419	80.5±11.8	0.002*	21.9±13.3	0.198	343.4±32.6	0.001*
	Stage III–IV	52.7±14.4		65.0±11.2		45.5±14.4		31.3±7.9		17.6±14.6		267.6±30.5	
Treatment	Surgery + RT	81.3±11.0	0.431	78.1±7.3	0.647	75.9±15.6	0.438	67.8±12.4	0.005*	34.8±8.1	0.049*	337.9±35.8	0.002*
	CT + RT	83.4±14.8		81.1±12.6		79.4±10.2		75.7±14.5		21.0±7.0		326.6±33.5	
	RT only	78.6±14.4		76.2±8.6		62.6±10.5		55.1±10.4		15.8±9.4		288.5±31.7	
Marital Age	≤20 years	67.2±9.6	0.122	60.6±11.0	0.224	76.9±8.9	0.484	79.1±6.6	0.125	29.4±8.0	0.500	313.2±30.5	0.039*
	≥21 years	91.3±3.4		88.9±6.1		66.6±13.4		80.5±2.9		29.3±7.4		356.8±28.3	
Age at 1st Pregnancy	≤20 years	68.1±9.4	0.491	65.7±9.7	0.046*	76.2±7.9	0.472	64.4±7.1	0.433	29.7±8.1	0.370	304.1±29.7	0.042*
	≥21 years	75.6±4.8		69.7±6.7		79.0±6.6		64.4±6.1		29.2±7.3		318.9±26.5	
No. of Children	≤2	77.8±8.1	0.331	71.0±13.7	0.440	76.8±8.4	0.064	75.1±8.0	0.023*	29.6±8.0	0.390	330.3±32.6	0.046*
	≥3	73.5±8.5		69.4±11.1		69.6±12.0		70.6±7.3		29.2±7.4		312.9±30.5	
Tobacco Use	Yes	67.7±9.3	0.427	58.0±11.2	0.490	77.8±8.4	0.500	62.2±11.2	0.436	30.8±8.0	0.022*	296.5±29.4	0.040*
	No	75.6±4.9		61.3±9.4		81.5±5.9		64.8±3.8		29.2±7.3		312.0±28.7	
OCP Use	Yes	75.0±8.2	0.133	78.2±14.2	0.122	68.2±11.7	0.023*	70.5±6.1	0.001*	30.9±8.1	0.020*	322.8±34.2	0.003*
	No	76.7±8.6		82.8±10.8		83.1±16.5		78.5±8.3		29.3±7.4		350.4±33.1	
Awareness of Cervical Cancer	Yes	72.0±9.1	0.041*	64.5±10.2	0.038*	78.3±7.9	0.029*	69.1±6.5	0.034*	32.1±7.6	0.025*	316.0±28.1	0.001*
	No	65.1±8.4		58.3±9.5		73.2±9.0		61.7±6.2		27.2±8.0		285.9±27.0	

Table 4: Analysis of FACT-Cx Scores based on Patient Characteristics

As per the modified multiple regression model, the quality of life was significantly improved across all FACT-Cx domains for women with early FIGO stage (I-II) cancer, higher socioeconomic status, combined treatment modalities, advanced education, and awareness of cervical cancer. Women diagnosed with early-stage cervical cancer reported elevated scores in physical well-being ($\beta = +4.3$, $p < 0.001$), emotional well-being ($\beta = +3.4$, $p = 0.002$), functional well-being ($\beta = +5.6$, $p < 0.001$), the cervical cancer subscale ($\beta = +2.3$, $p = 0.018$), and total FACT-Cx ($\beta = +18.6$, $p < 0.001$). Elevated total scores ($\beta = +12.7$, $p = 0.001$) and improved social/family well-being ($\beta = +2.4$, $p = 0.006$) exhibited a strong correlation with economic position. Awareness of cervical cancer was identified as a significant predictor of enhanced outcomes in multiple domains, including social ($\beta = +2.8$, $p = 0.002$), functional ($\beta = +3.2$, $p = 0.001$), and overall quality of life ($\beta = +13.9$, $p < 0.001$). The physical, cervical cancer subscale, and overall FACT-Cx evaluations showed a positive correlation with treatment involving both surgery and radiotherapy or simultaneous chemoradiotherapy ($\beta = +3.7$, $p = 0.004$) as shown in Table 5.

FACT-Cx Domain	Variable (retained)	β (Coefficient)	95% CI	*p*-value
Physical Well-Being (PWB)	Early FIGO stage (I–II)	4.3	2.0 – 6.6	<0.001*
	Treatment (Surgery + RT/CT+RT)	3.7	1.2 – 6.3	0.004*
Social/Family Well-Being (SWB)	Economic status (Middle/Upper)	2.4	0.6 – 4.2	0.006*
	Awareness of cervical cancer	2.8	1.0 – 4.6	0.002*
Emotional Well-Being (EWB)	Early FIGO stage (I–II)	3.4	1.1 – 5.7	0.002*
	Awareness of cervical cancer	1.9	0.4 – 3.4	0.010*
Functional Well-Being (FWB)	Higher education	2.3	0.5 – 4.1	0.009*
	Early FIGO stage (I–II)	5.6	3.0 – 8.2	<0.001*
	Awareness of cervical cancer	3.2	1.2 – 5.2	0.001*
Cervical Cancer Subscale (CxS)	Early FIGO stage (I–II)	2.3	0.3 – 4.3	0.018*
	Treatment (Surgery+RT/CT+RT)	3.0	0.7 – 5.3	0.007*
	Awareness of cervical cancer	2.4	0.7 – 4.1	0.005*
Total FACT-Cx Score	Early FIGO stage (I–II)	18.6	10.7 – 26.5	<0.001*
	Economic status (Middle/Upper)	12.7	5.8 – 19.6	0.001*
	Treatment (Surgery+RT/CT+RT)	14.2	5.7 – 22.7	0.002*
	Awareness of cervical cancer	13.9	6.8 – 21.0	<0.001*

Table 5: Quality of life predictors in cervical cancer patients: a multiple linear regression analysis

4. DISCUSSION

The study revealed an average age at diagnosis of 49.7 ± 9.5 years, with 67% of patients falling within the 41-60 age range. The mean age at marriage and first pregnancy was 21.8 ± 4.2 years and 21.9 ± 4.3 years, respectively, with an average of 3.1 ± 1.2 children (Table 2). A majority of women were rural (63%), predominantly low- or middle-class (96%), and had attained only primary education (71%). In clinical observations, 49% of patients presented with stage III illness, while 78% underwent concurrent chemoradiotherapy. these results were compared with another study by Keerthana, K[15], and Zhao M et al.[11]. In our study majority of cases were diagnosed in stage II (39%) and stage III (49%), which shows similar results in another study conducted in Brazil.[17,18]

A significant awareness gap existed. Although 36% of participants had heard of cervical cancer, none had been screened, and knowledge of HPV, vaccination, and early-stage disease treatment was very limited. These findings echo northeastern India and other low-resource studies that found a lack of awareness, stigma, and screening infrastructure hinder prevention and early identification. The lack of HPV vaccination among participants emphasizes the need to expand awareness initiatives and integrate immunization into state-level public health plans. The total FACT-Cx score for women with cervical cancer was 112.15 (22.91) according to the study by Santos LD et al. [12]. In contrast, the study by Fregnani C et al.[19] reported a total score of 110.40 (25.60) for cervical cancer patients in Brazil. Researchers in Southwest China reported a cumulative FACT-Cx score of 130.16 (14.20). Our total FACT-Cx score of 300.0 (24.5) demonstrates superiority compared to earlier research. The differences between fields and periods may explain this discrepancy.[11]

This study from Tripura, India, elucidates the quality of life of cervical cancer survivors in a resource-constrained, high-burden region of the nation. The survivors' overall quality of life was moderate (127.9 ± 16.4) as assessed by the FACT-

Cx tool. The domain of social/family well-being (SWB) exhibited the highest strength, whilst the domain of emotional well-being (EWB) demonstrated the lowest strength. This tendency is not unique to Tripura and is in line with evidence from a number of international studies. This discovery aligns with prior research conducted by Zhou et al. and Ding et al.[20, 21] A study by Zhao et al. in 2021 reported an overall quality of life score of 130.2 ± 14.2.[11] The scores of 16.91 ± 5.01 in FWB are the lowest recorded. While we recognize that age and treatment modality influence FWB ratings, we observe that those receiving surgery and postoperative adjuvant therapy exhibited greater FWB scores compared to those getting concurrent radiation and chemotherapy. Due of its detrimental effects, patients experience physical and psychological distress throughout prolonged radiation therapy and chemotherapy regimens.[22] Moreover, patients' health-related quality of life deteriorates when they suffer anxiety while awaiting radiation treatment, stemming from their fears and misconceptions about the procedure, which subsequently leads to physical symptoms and psychological distress.[11, 23] A potential reason for the disparity in health-related quality of life between younger and older patients is that younger individuals typically have enhanced physical function.[24] Treatment modalities for cervical cancer, encompassing surgery and/or radiation therapy, are dictated by the FIGO staging of the disease.[25,26]

In the study by Osann et al., patients who had radiation treatment (with or without chemotherapy) exhibited a reduced HRQoL compared to those who solely underwent surgery.[27] A meta-analysis indicated that radiation treatment was associated with a diminished health-related quality of life (HRQoL).[28] Potential adverse effects include lymphedema, lymphatic cysts, and malfunction of the bladder, bowels, and vaginal canals, among others.[29, 30] No matter how long a patient lives, their HRQoL will be negatively impacted by the disease's emotional and social impacts, as well as by treatment-related side effects.[31] Results may be attributable to senescence rather than only to the length of time since treatment; yet a study in Taiwan found that older survivors and those with a longer time since treatment had worse global HRQoL scores.[32] Our findings are consistent with those of the study by Mantegna et al., which found that HRQoL improved with increasing intervals between diagnosis and treatment.[33] The health-related quality of life (HRQoL) of patients receiving pelvic radiotherapy is distinct from that of those undergoing radical hysterectomy, especially concerning sexual function.[34] Furthermore, radical hysterectomy may improve HRQoL and sexual function in patients with early-stage cervical cancer, as indicated by a study conducted in the United States. [35] This study's strengths lie in its focus on a high-burden yet underrepresented region, the use of a validated HRQoL instrument (FACT-Cx V4) adapted for Indian patients, and rigorous face-to-face collection verified through medical records. However, its relatively small sample size and single-center design may limit generalizability, underscoring the need for larger multicenter studies.

5. CONCLUSION

This study demonstrates that cervical cancer patients in Tripura face considerable challenges related to health literacy, screening rates, and overall quality of life. The delayed diagnosis can be attributed, in part, to the sufficient understanding among most women regarding the prevention of cervical cancer, recognition of HPV infection, and the importance of vaccination. Treatment improved physical functioning to some extent; however, mental and functional health remained impacted. This research underscores the essential role of cancer awareness promotion, emotional support provision, regular screenings, and HPV vaccination within comprehensive cancer care. Enhancing cervical cancer survival rates and quality of life necessitates strengthening health systems and addressing sociocultural barriers.

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