

Research Article

Determinants of Life Satisfaction among Patients with Cancer in Sri Lanka: An Analysis of Socio-demographic and Clinical Factors

Rajapaksha, R.M.L.U.K., Kaushalya, O.D., Jayaweera, D.M.G.S.M., Sandeepa, R.,
Ekanayake, E.M.A.P., Rathnakumari, K.N*, & Sandakumari, H.H.H.S.

Faculty of Nursing, KIU, Sri Lanka

Abstract

Background: Life satisfaction is a key indicator of psychological well-being among patients with cancer. To date, evidence from low- and middle-income countries remains scarce. This study aimed to assess life satisfaction among Sri Lankan patients with cancer selected from a rural territory and examine the influence of socio-demographic and clinical factors on their well-being.

Methods: A descriptive cross-sectional study was conducted among 422 patients with cancer attending the oncology follow-up clinics and inpatient unit of the Teaching Hospital Badulla, Sri Lanka. Data were collected using a structured interviewer-administered questionnaire and life satisfaction was measured using the pretested Satisfaction with Life Scale (SWLS). Group comparisons were conducted using t-tests and ANOVA. The General Linear Model (GLM) assessed combined effects of socio-demographic and clinical factors on life satisfaction.

Results: The sample was comprised of 422 patients (50.2% female; mean age = 48 ± 13 years). The mean SWLS score was 23.0 ($SD \pm 6.0$). Significant differences in life satisfaction were found in marital status ($p < 0.001$), education level ($p < 0.001$), employment status ($p < 0.001$), cancer type ($p < 0.001$), and treatment modality ($p < 0.001$). Further, patients with bladder ($p < 0.001$) and breast cancers ($p < 0.001$) and those receiving radiotherapy ($p < 0.001$) demonstrated higher scores. Married ($p < 0.001$), employed ($p < 0.001$), and higher educated patients reported greater satisfaction ($p < 0.001$). The GLM revealed significant main and interaction effects (adjusted $R^2 = 0.65$, $p < 0.001$).

Conclusions: Life satisfaction among Sri Lankan patients with cancer living in a rural territory is shaped by both socio-demographic and clinical factors. Targeted psychosocial interventions such as counseling, family-inclusive support, and vocational guidance particularly for widowed, unemployed, less educated, and chemotherapy treated patients are essential to enhance well-being and support survivorship care.

Keywords: Cancer, clinical characteristics, life satisfaction, socio-demographic factors, Sri Lanka

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Correspondence: Rathnakumari, K.N., Faculty of Nursing, KIU, Sri Lanka.

Email: nirosha@kiu.ac.lk

 <https://orcid.org/0009-0002-0661-1307>

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Introduction

Cancer remains a major public health burden. According to Global Burden of Disease (GBD) 2021 estimates, cancers accounted for approximately 14.6% of all fatalities and 8.8% of total disability-adjusted life years (DALYs) worldwide (Wu et al., 2024). The GLOBOCAN 2022 report further states that the world incidence of nearly 20 million new cancer diagnoses was registered, and it will keep rising, year by year, over the coming decades (Sung et al., 2021). The Sri Lankan cancer burden follows these global trends. According to a recent report, an estimated 37,753 new cancer cases and 5,112 cancer deaths were reported, with the most frequent cancers including breast, oral cavity, and lung cancers (National Cancer Control Programme, n.d).

These numbers reflect the healthcare burden along with the rising number of cancer survivors who bear the long-term physical, emotional, and social effects of cancer. As survival improves, information on these individuals is the center of current oncology practice (Hussey et al., 2024). The health system is faced with the double burden of expanding therapy capacity and coping with survivors' psychosocial welfare in limited-resource settings (Jayarajah & Abeygunasekera, 2021). The World Health Organization (WHO, 2020) highlights the inclusion of patient-reported outcomes like life satisfaction in national cancer control plans. An understanding of life satisfaction in Sri Lankan patients with cancer is critical for the formulation of culturally sensitive, comprehensive models of care.

Life satisfaction has been described as a

global cognitive assessment of one's overall life (Diener et al., 1985). It is a core component of subjective well-being that is unrelated to health-related quality of life (HRQoL), which mainly deals with restricted physical and social factors. Life satisfaction reflects more vague evaluations of meaning, purpose, and adaptation to conditions in life. It has been highly related to resilience, successful coping, and social support in oncology (de Camargos et al., 2020; Festerling et al., 2022). Higher life satisfaction is a predictor of lower depressive symptoms, better treatment adherence, and greater psychological adjustment and is thus both a good indicator of well-being and an achievable target for psychosocial interventions (de Camargos et al., 2020; Mei et al., 2021).

The biopsychosocial model emphasizes that life satisfaction of patients with cancer results from the interaction among biological, psychological, and social factors. Among the socio-demographic variables, work, education, and marriage are consistently shown to influence well-being. Married patients have higher life satisfaction due to emotional and functional assistance that minimizes distress, while unmarried or widowed individuals have poorer emotional well-being and compliance with treatment (Tian & Chen, 2022). Higher education enhances coping, health literacy, and access to care, hence better psychological outcomes. Limited education leads to poorer understanding and fewer supports (Liu et al., 2024; Smith et al., 2023). Work and economic security also encourage well-being by providing structure, identity, and social interaction, while unemployment and

economic insecurity negatively affect well-being, particularly in low- and middle-income contexts (Gedikli et al., 2022; Mathieu et al., 2022)

Clinical factors are also an important source of influencing patients' perception of satisfaction. Cancer type, stage of disease, and treatment modality have all been shown to impact subjective well-being. Surgery or radiotherapy patients are more satisfied than chemotherapy patients, who treatments are associated with longer side effects and fatigue (Brajković et al., 2023; Kim et al., 2022). Additionally, those with less aggressive or curable cancers maintain more optimistic attitudes, while patients with advanced or recurrent disease are less satisfied and have a greater psychological burden (Smith et al., 2023). These findings highlight the importance of integrating psychosocial care and symptom control into every stage of cancer management.

While cancer rates are rising in Sri Lanka, there is scarce research on how cancer affects life satisfaction. Few studies have had clinical outcomes or used overall quality of life scales; however, they have not touched on psychological or social factors. In Western countries, several research studies have utilized the Satisfaction with Life Scale (SWLS) in measuring life satisfaction in patients with cancer (Turan et al., 2024; Cerezo et al., 2021). Sri Lanka's close family relationships, community-focusing value system, and religious coping styles may impact how patients with cancer experience life satisfaction such that what they experience varies from Western countries. Understanding cultural elements is essential

for designing support that is appropriate for the given setting, especially as the number of individuals diagnosed with cancer increases and survival rates improve.

This study aims to identify what affects life satisfaction among patients with cancer focusing on social, demographic, and clinical factors. By identifying the most significant predictors of well-being in this population, the study seeks to offer evidence to inform individualized psychosocial and supportive care interventions. These relationships are crucial for optimizing the quality of cancer care and for informing multimodal strategies that prioritize emotional and social well-being and medical therapy.

Methods

The descriptive cross-sectional study was conducted between August and September 2024 at the Oncology Follow-Up Clinics and inpatient Oncology Unit of the Teaching Hospital Badulla in the Badulla District of Uva Province, Sri Lanka, following ethical clearance from the KIU University Ethics Review Committee (KIU_ERC_2024_150) and written informed consent from all the participants.

The study population consisted of adult patients with cancer (≥ 18 years) who presented to the clinic or were hospitalized during the data collection period, excluding those with known cognitive impairment or who were critically ill. Using Daniel's formula (Daniel, 2018), a sample size of 422 was calculated and recruited using convenience sampling. Convenience sampling was used in this study because the target population comprised patients with

cancer attending oncology clinics during the data collection period. Given the clinical setting and the nature of the patient population, it was not feasible to use probability-based sampling methods due to time constraints and patient availability.

Data were collected by the researchers via an interviewer administered, pre-tested structured questionnaire which captured demographic and clinical characteristics. Life satisfaction was measured by the 5-item SWLS (Diener et al., 1985). Following standard forward and back-translation, the questionnaire was adapted into both Sinhala and Tamil. Content validity was confirmed through expert review and subsequent amendments were made. The finalized Sinhala and Tamil versions were then pre-tested to evaluate clarity and reliability. Internal consistency analysis indicated good reliability, with Cronbach's alpha values of 0.84 for the Sinhala version and 0.81 for the Tamil version. The SWLS is scored by summing the responses to five items, each rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The total score can range from 5 to 35, with higher scores indicating greater life satisfaction. Scores are interpreted as follows: Extremely Satisfied (31–35), Satisfied (26–30), Slightly Satisfied (21–25), Neutral (20), Slightly Dissatisfied (15–19), Dissatisfied (10–14), and Extremely Dissatisfied (5–9).

Descriptive statistics were used to characterize the sample: categorical variables are presented as frequencies and percentages, and continuous variables as means and standard deviations (SD). Comparisons of SWLS scores between groups were made

with independent-samples t-tests for two-category categorical variables and one-way ANOVA for variables with three or more categories; significant ANOVAs were followed up with Bonferroni post-hoc pairwise tests. To determine the independent and joint effects of socio-demographic and clinical variables on life satisfaction, a General Linear Model was estimated with SWLS score as the dependent variable; main effects and selected two- and three-way interactions were tested. Model fit and effect sizes are reported as R^2 , adjusted R^2 , and partial eta squared (η^2). Interpretation thresholds of d and η^2 were considered as small = .01, medium = .06 and large = .14. Data were analyzed using IBM SPSS Statistics (version 26). All tests were two-tailed, and statistical significance was set at $p < 0.05$.

Results

A total of 422 patients were included in the study. The mean age of the participants was 48 (± 13) years. Most participants were women ($n = 212$, 50.18%) and married ($n = 285$, 67.54%). The majority were Sinhalese ($n = 249$, 59%) and had children ($n = 262$, 62.09%). In terms of education, most had studied up to the Advanced Level (A/L) examination ($n = 104$, 24.62%). Regarding employment, 287 participants (68.00%) were employed, and largest proportion resided in rural areas ($n = 150$, 35.55%).

The mean ($\pm$ SD) monthly income was Sri Lankan Rupees (LKR) 53,570.00 ($\pm 52,300.00$). According to clinical characteristics, the most common form of cancer was breast cancer ($n = 157$, 37.20%), and the largest proportion received surgery as

their initial treatment modality (n = 185, 43.84%). Mean duration from the cancer diagnosis was 7 ($\pm$ 5) months (Table 1). The mean (SD) SWLS score for the total sample was 23.0 ± 6.0 . Group differences in SWLS scores by socio-demographic and clinical variables are presented in Tables 2 and 3. All

significantly differed on SWLS scores according to marital status, education level, work status, cancer diagnosis and treatment received. Married participants scored higher on the SWLS than separated and widowed participants, with divorced and single participants in the middle ($p < 0.001$)

Table 1: Sociodemographic and clinical characteristics (n=422)

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	210	49.82
Female	212	50.18
Marital status		
Married	285	67.54
Single	81	19.19
Widowed	34	8.06
Separated	14	3.32
Divorced	8	1.90
Having children		
Yes	262	62.09
No	160	37.91
Ethnicity		
Sinhala	249	59.00
Tamil	109	25.83
Muslim	58	13.74
Burgher	6	1.42
Education		
No schooling	16	3.79
Up to Grade 5	61	14.45
Up to O/L	90	21.33
Up to A/L	104	24.62
Diploma	77	18.25
Graduate	56	13.27
Postgraduate	18	4.27
Employment status		
Employed	287	68.00
Unemployed	135	32.00

Table 1: Sociodemographic and clinical characteristics (n=422) (Cont.)

Living area		
Rural	150	35.55
Urban	141	33.41
Suburban	131	31.04
Cancer type		
Breast	157	37.20
Oral	69	16.35
Lung	57	13.50
Colon	73	17.29
Brain	6	1.40
Skin	24	5.68
Bladder	36	8.53
Treatment modality		
Radiotherapy	83	19.70
Chemotherapy	154	36.50
Surgery	185	43.80

Employed participants had greater SWLS scores than unemployed participants ($p < 0.001$). SWLS scores also varied by cancer type and treatment modality ($p < 0.001$) (Table 3).

Post-hoc test indicated that married participants were significantly greater than widowed and separated participants, and unmarried participants were greater than widowed participants (Table 4). Higher educational levels were positively correlated with SWLS scores ($p < 0.001$), and post hoc test was significantly lower in those who had no education or Grade 5 or less than those with higher levels of education, with a high score among postgraduate participants.

Further, breast cancer participants had greater scores than lung or skin cancer, and bladder cancer had the greatest scores in all groups. Treatment modality was related to SWLS ($p < 0.001$), where the radiotherapy group had higher scores than the

chemotherapy group, and the chemotherapy group had lower scores than the surgical intervention group.

The GLM was used to examine the effects of marital status, education level, cancer type, and treatment modality on SWLS scores, as well as how these factors interact, with main effects representing the independent influence of each variable on life satisfaction and interaction effects showing how one factor's impact varies depending on another.

Multicollinearity diagnostics were examined prior to model fitting to ensure model stability. All predictors met the acceptable thresholds for multicollinearity ($VIF < 5$, $Tolerance > 0.2$). The overall model was significant ($R^2 = 0.75$, adjusted $R^2 = 0.65$, $p < .001$).

Table 2: Group comparisons of SWLS scores by socio-demographic characteristics (n=422)

Characteristic	SWLS score Mean $\pm$ SD	p value	Effect size
Gender		0.2	d = 0.16
Male	22.50 $\pm$ 5.70		
Female	23.40 $\pm$ 5.20		
Marital status		0.001	$\eta^2 = 0.09$
Married	23.70 $\pm$ 5.10		
Single	22.80 $\pm$ 6.60		
Widowed	18.90 $\pm$ 3.40		
Separated	18.90 $\pm$ 4.70		
Divorced	23.00 $\pm$ 6.00		
Having children		0.9	d = 0.02
Yes	22.90 $\pm$ 5.30		
No	23.00 $\pm$ 5.80		
Ethnicity		0.8	$\eta^2 = 0.01$
Sinhala	23.20 $\pm$ 5.70		
Tamil	22.70 $\pm$ 5.30		
Muslim	22.60 $\pm$ 5.30		
Burgher	23.00 $\pm$ 5.40		
Education		0.001	$\eta^2 = 0.12$
No schooling	18.60 $\pm$ 4.00		
Up to Grade 5	17.90 $\pm$ 5.00		
Up to O/L	23.40 $\pm$ 4.30		
Up to A/L	23.70 $\pm$ 5.90		
Diploma	24.40 $\pm$ 5.10		
Graduate	24.30 $\pm$ 4.20		
Postgraduate	26.70 $\pm$ 3.60		
Employment status		0.001	d = 0.49
Employed	23.80 $\pm$ 5.60		
Unemployed	21.20 $\pm$ 4.80		
Living area		0.7	$\eta^2 = 0.01$
Rural	22.90 $\pm$ 5.40		
Urban	23.20 $\pm$ 5.00		
Suburban	22.70 $\pm$ 6.00		

A/L = Advanced Level; O/L = Ordinary Level; SD = standard deviation; SWLS = Satisfaction with Life Scale; d = Cohen's d for two-group comparisons; η^2 = partial eta squared for ANOVA

Table 3: Group comparisons of SWLS scores by clinical characteristics (n = 422)

Characteristic	SWLS score (Mean $\pm$ SD)	p value	Effect size (η^2)
Cancer type			
Breast	23.7 $\pm$ 5.1	0.001	0.15
Oral	23.3 $\pm$ 6.7		
Lung	20.6 $\pm$ 5.4		
Colon	22.6 $\pm$ 4.7		
Brain	19.3 $\pm$ 4.5		
Skin	18.7 $\pm$ 4.8		
Bladder	25.7 $\pm$ 4.7		
Treatment modality			
Radiotherapy	24.5 $\pm$ 5.9	0.001	0.09
Chemotherapy	21.4 $\pm$ 5.1		
Surgery	23.6 $\pm$ 5.4		

SWLS = Satisfaction with Life Scale; SD = standard deviation; η^2 = Effect sizes

Table 4: Mean differences in SWLS scores between levels of socio-demographic and clinical variables (n=422)

Variable	Comparison	M diff (SE)	p-value	Effect Size (d)
Marital status	Married vs. widowed	4.80 (0.90)	0.001	0.87
	Married vs. separate	4.80 (1.50)	0.009	0.65
	Single vs. widowed	3.90 (1.10)	0.001	0.71
Educational status	No school vs. O/L	-4.80 (1.40)	0.007	0.82
	No school vs. A/L	-5.10 (1.30)	0.003	0.87
	No school vs. postgraduate	-8.00 (1.70)	0.001	1.35
Cancer type	Breast vs. lung	3.00 (0.80)	0.010	0.54
	Breast vs. skin	5.00 (1.10)	0.001	0.91
	Bladder vs. skin	7.00 (1.40)	0.001	1.23
Treatment type	Radiotherapy vs. chemotherapy	3.00 (0.70)	0.001	0.55
	Chemo vs. surgical intervention	-2.10 (0.60)	0.001	0.39

SWLS = Satisfaction with Life Scale; M diff= Mean difference; SE= standard error; d = Effect sizes

Table 5: Multifactorial General Linear Model: Main and interaction effects on SWLS**(n = 422)**

Source	F	Partial η^2	p value
Main effects			
Marital status	3.96	0.051	0.004
Education level	14.28	0.224	0.001
Type of cancer	10.94	0.205	0.001
Types of treatment	1.29	0.009	0.278
Two-way interactions			
Marital status $\times$ education level	6.07	0.125	0.001
Marital status $\times$ type of cancer	3.26	0.081	0.001
Marital status $\times$ types of treatment	5.47	0.069	0.001
Education level $\times$ type of cancer	4.23	0.255	0.001
Education level $\times$ types of treatment	6.44	0.178	0.001
Type of cancer $\times$ types of treatment	5.55	0.170	0.001
Three-way interaction			
Marital $\times$ education $\times$ type of cancer	6.83	0.044	0.001

SWLS = Satisfaction with Life Scale

F values are based on Type III sum of squares. Partial η^2 represents the proportion of variance in life satisfaction explained by each factor or interaction after accounting for other variables.

Marital status, education level, and cancer type demonstrated significant main effects, whereas treatment type did not. Several significant interaction effects were identified among the study variables, including those between marital status and education level, marital status and cancer type, marital status and treatment type, education level and cancer type, education level and treatment type, and cancer type and treatment type. Additionally, a significant three-way interaction was observed among marital status, education level, and cancer type (Table 5).

Discussion

This study examined the association between sociodemographic and clinical factors and life satisfaction among 422 patients with

cancer at the Teaching Hospital, Badulla which explored moderate level of life satisfaction. Marital status, education level, and type of cancer were independently associated with SWLS, whereas treatment modality was associated only when in combination with cancer type. Some two- and three-way interactions were also significant, including education and type of cancer, type of cancer and treatment, and marital status, education and type of cancer. This research is significant because, to our knowledge, no previous study has examined these variables using the SWLS to assess life satisfaction in patients with cancer.

In this sample, the SWLS mean showed that, overall, participants were slightly satisfied with life. This finding is an indicator that, while the heavy physical and psychosocial

burden of cancer exists, the majority of patients nevertheless possess a moderate level of global subjective well-being, something that is a finding consistent with previous research indicating that life satisfaction may be quite preserved in patients with cancer, particularly in the presence of family and social support (Pavot & Diener, 1993; Sung et al., 2021). The Spanish and Turkish studies also observed the same "slightly satisfied" answers in breast patients with cancer, whereas a previous study carried out in the context of a developing country (Jafari et al., 2010; Turan et al., 2024) showed the greater part of participants to be slightly dissatisfied. This highlights the role of contextual dimensions like access to care, financial protection, and social support in the determination of post-diagnosis life satisfaction.

Our results indicate that social determinants, in this case, marital status, work, and education, are determinants of life satisfaction. Married individuals were higher on the SWLS than separated and widowed respondents, while single respondents were in an intermediate position. This is also supported by registry and meta-analytic evidence that marriage is associated with better psychosocial functioning, earlier stage at diagnosis, and better survival, outcomes generally accounted for by spousal caregiving, emotional buffering, and common economic resources (Krajc et al., 2022; Freedman et al., 2014). In the Sri Lankan rural context of limited formal social protection space, care from spouse and extended family is often at the forefront of coping with illness on a daily basis and this can also reinforce the protective role of

marriage noted in this and previous local research (Rukshani et al., 2018; Jayasinghe et al., 2021). Screening for social isolation and making active provision for family-inclusive psychosocial interventions, such as family meetings and caregivers' counselling, is therefore indicated as family interventions have been shown to be helpful in reducing distress and improving quality of life (QoL) in the cancer setting (Basaran et al., 2025; Gabriel et al., 2020).

Level of education had a positive association with SWLS, with lower educated individuals having lower life satisfaction. Similarly, Spanish studies among women with breast cancer also indicated greater life satisfaction among more educated patients (Soria-Reyes et al., 2023), extending the cross-national applicability of this association across different health systems. Education likely influences health through a range of mechanisms such as health literacy, ability in navigating services, and socio-economic advantages, leaning towards better coping with illness and towards treatment utilization (Sung et al., 2021). Both high income (HICs) and LMIC studies report the same associations but with comprehensive social safety nets in HICs hiding the impact of low education on well-being. Straightforward interventions such as patient navigation and culturally adapted low literacy educational materials have proven to improve participation and QoL across sites and are the best implementation targets in this case (Kokorelias et al., 2021; Nguyen et al., 2025).

Employment status was also compared with SWLS which showed employed patients were more satisfied with life compared with

unemployed patients. Employment provides economic security, stability, and social identity; loss of employment upon diagnosis is associated with greater financial toxicity and poorer psychosocial outcomes, particularly in environments that provide less social protection (Andreu et al., 2023; Tamminga et al., 2020). The addition of formal return-to-work interventions and work counseling to survivorship care has been demonstrated to improve employment as well as related quality-of-life outcomes and is deserving of pilot or local implementation (Gayatri et al., 2020; Seol et al., 2021; Fleischer & Sayers, 2025).

Satisfaction with life varied significantly according to cancer type as in this study, breast and bladder patients with cancer had somewhat higher scores on SWLS, than lung and skin patients with cancer. Differences conform to cross-cultural QoL accounts of poorer well-being in those having high symptom burden cancers, disabling treatment, concern about prognosis, or severe social stigma (Sung et al., 2021; Seol et al., 2021). Stage at diagnosis heterogeneity and disease-specific supportive services availability in LMICs are bound to exacerbate these disparities (Gayatri et al., 2020). Patient navigation and disease specific supportive care, such as anti-stigma activity, focused counselling, peer support, and optimal access and patient-reported outcomes in both HICs and LMICs, are programme responses that can be had (Dalton et al., 2019).

Treatment modality correlated with SWLS as well. Patients treated by chemotherapy had lower life satisfaction scores than those

receiving surgery or radiotherapy. This will most likely be a reflection of chemotherapy side effects, high frequency of visits to the clinic, and disruption of routines; the same patterns have been reported in cross-cultural QoL studies (Seol et al., 2021; Ahmadsei et al., 2022). Increasing pre-treatment counseling, preparation symptom management, and organizational support, such as patient transportation and chemotherapy scheduling, is advocated for by intervention trials with less distress and improved tolerance of the treatment (Gabriel et al., 2020; Seol et al., 2021).

Interestingly, our GLM identified high-order two- and three-way interactions that indicated determinants of life satisfaction do not occur singly. Some subgroups, such as lower educated, widowed patients with high burden cancer, appear cumulatively at risk. This finding is consistent with risk stratified survivorship care that reconciles sociodemographic screening and clinical severity to maximize psychosocial and functional resource appropriation, as envisaged by more recent models of patient-centred cancer care in LMICs (Kitaw et al., 2025; Syrjala et al., 2021). However, the observed large effect sizes should be interpreted cautiously, as correlated predictors such as education and employment may partially overlap in their influence on subjective well-being. Future studies employing hierarchical or multilevel modeling could further clarify these associations.

Education and cancer type interaction supports that the education gradient in life satisfaction varies by tumour site consistent

with evidence that socioeconomic resources have larger effects where care complexity or functional sequelae are more common (Liu et al., 2024 ; Barakat & Konstantinidis, 2023). The interaction between the cancer type and treatment suggests that the subjective impact of a given modality is influenced by tumour site and corresponding functional consequences; heterogeneity in QoL by diagnosis and treatment also prevails in HIC and LMIC groups (Christopher et al., 2016; Yoder et al., 2022). The triway interaction between education, marital status, and cancer type identifies a subgroup of low education, unmarried patients with high burden cancers who have particularly low life satisfaction, is in line with existing research on cumulative social vulnerability (Aizer et al., 2013; Jayasinghe et al., 2021). The interaction between cancer type and treatment captures the way in which treatment and disease collectively affect subjective outcome. The same treatment, for example, chemotherapy, can yield positive restoration of one cancer but suboptimal results with another. Evidence shows QoL trajectories are a function of diagnosis and dose of treatment: survivors of low-grade cancer often regain satisfaction over time, whereas metastatic disease maintains lower levels (Ren et al., 2024). Both the nature of the cancer and the nature of the treatment co-determine restoration of life satisfaction.

Marital status, education, and interaction in cancer type multiply vulnerability. Single, lower education patients with advanced cancers are the lowest in life satisfaction, which is a reflection of the absence of social and material resources. Past studies highlight that partnership remains the strongest

predictor of post-cancer life satisfaction, where social support occupies the central position in adaptation and emotional recovery (Christopher et al., 2017). Therefore, those patients with minimal social or marital support and minimal education are particularly at risk of negative psychosocial outcomes, consistent with more diffuse research on the combined impact of low socioeconomic status and social isolation.

The findings indicate that life satisfaction among patients with cancer is shaped by the interaction of socio-demographic and clinical factors, with education, marital status, and cancer type identified as primary determinants. These results emphasize the importance of implementing psychosocial interventions tailored to address various dimensions of social vulnerability to improve the well-being of patients with cancer.

A key strength of this study is its relatively large and diverse sample of patients with cancer representing multiple cancer types and treatment modalities, enhancing the representativeness of the findings. Additionally, the study contributes novel evidence from a LMIC country context, offering culturally and socioeconomically relevant insights that have been underrepresented in global psycho-oncology literature.

The present research has several limitations. First, we obtained data by using self-report questionnaires, which may lead to response bias. Second, the patients were chosen through convenience sampling from a specific patient support group which may

restrict generalizability. And third, causal relationships between strengths and life satisfaction cannot be assumed, given the study's correlational design. Moreover, residual confounding, unmeasured variables such as depression and social capital, can prejudice the results.

Future research should adopt longitudinal or mixed-method designs to better understand how life satisfaction evolves over time following diagnosis and treatment. Including measures of depression, coping styles, social support, and social capital could clarify mechanisms underlying variations in life satisfaction. Furthermore, multi-site or nationally representative studies are recommended to enhance external validity, and intervention-based studies could evaluate the effectiveness of psychosocial programs tailored to high-risk groups identified in this research.

Conclusion

Life satisfaction among Sri Lankan patients with cancer living in a rural territory is shaped by the complex interaction of clinical, socio-demographic, and psychosocial factors, with marital status, education, employment, cancer type, and treatment modality emerging as key determinants. The findings highlight the need for a holistic approach to cancer care that integrates psychosocial support alongside medical treatment. Priority actions include routine screening for social vulnerability, provision of family inclusive counseling, development of low literacy educational resources, implementation of patient navigation services, and establishment of vocational rehabilitation and symptom management programs. Such multidimensional interventions could meaningfully enhance

the well-being and resilience of patients with cancer. Future longitudinal and interventional studies are warranted to evaluate the long-term impact, feasibility, and scalability of these strategies within low- and middle-income oncology care settings.

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Conflict of interest

All authors declared there are no any relevant conflict of interest.

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