

Assessment of Psychological Distress among Cancer Patients in North Central Province of Sri Lanka: A Cross-Sectional Study

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Abstract

Cancer, which is a serious health problem globally today, has become a leading cause of death, and it diminishes the psychological well-being and quality of life of patients as well as their families. Even though medical treatments focus on the cancer, there is little concern for identifying the psychological issues and providing psychological support to cancer-diagnosed patients. This study aimed to assess the psychological distress and identify related psychological problems among cancer patients while highlighting the significance of psychological support for them. The study employed quantitative methods, and the sample comprised 60 diagnosed cancer patients from the North Central Province of Sri Lanka who were receiving medical

treatment and residing at the Cancer Care Hospice and Teaching Hospital in Anuradhapura. Data were collected using the GHQ-30 Sinhala version and statistically analysed using IBM SPSS version 25. The study found that a significant majority of the cancer patients in the selected sample suffered from psychological distress, including associated factors such as depression, loss of confidence, insomnia, social dysfunction, and anxiety. It was concluded that a substantial number of cancer patients are experiencing serious psychological problems regardless of age, gender and level of education, and therefore, providing psychological support through counselling, psychotherapy, and psychiatric treatment is essential for cancer patients to enhance their mental health and overall quality of life.

Keywords: Cancer patients, Cross-sectional study, North central province of Sri Lanka, Psychological distress

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Introduction

Psychological distress is a common mental health issue among terminally ill people, such as those with advanced cancer, involving challenges across physical, psychological, and social aspects of life. Distress is described as “an unpleasant experience of a mental, physical, social or spiritual nature, affecting their way of think, feel and act.” (NCCN, 2020:07) and it is “a state of emotional suffering characterised by symptoms of depression and anxiety.” (LABate, 2012:106). A distressed patient may experience a variety of symptoms, including sadness, fear, worry, helplessness, anger, feeling out of control, concerns about illness and treatment, worries about paying bills and the cost of living, questioning self-faith and religious beliefs, pondering the purpose and meaning of life, withdrawing from people and social gatherings, concerns about caring for others such as parents and children, poor sleep and appetite, difficulty concentrating, depression, anxiety and panic, frequent thoughts of illness and death, and these symptoms are common among cancer patients (NCCN, 2020; LABate, 2012). As a result, suffering and dissatisfaction with life are significantly experienced by individuals with cancer.

The term cancer refers to a group of diseases that result from abnormal cell growth in the body, or in a part or organ of the body. There are several types of cancer that have been identified, with breast, lung, colon and rectum, prostate, skin, and stomach cancers reporting the highest number of diagnosed cases.

Childhood cancers are also increasing, with nearly 400,000 children diagnosed annually. Some cancers spread through the blood via genetic material, but most are caused by unhealthy lifestyles and behaviours such as tobacco use, alcohol consumption, unhealthy diet, physical inactivity, and air pollution (WHO, 2022). The latest reports from WHO (2022) revealed nearly 10 million deaths from cancer in 2020, making it a leading cause of death worldwide, and it is estimated that new cancer cases will rise from 19.3 million to 30.2 million between 2020 and 2040 (GCO, 2022). Cancer is not only a physical illness but also affects every aspect of patients' lives, including their personal lives, psychological well-being, and the lives of caregivers. Cancer damages the physical, mental, social, spiritual, and economic states of the patient, and it often takes a long time to recover from the void caused, or in some cases, recovery may not be possible in a lifetime.

Literature review and research gaps

Diagnosed cancer patients often report numerous symptoms of psychological distress. The severity of these symptoms can range from mild to severe, and in some cases, they may develop into a psychiatric disorder (Braiteh & Bruera, 2007). In severe situations, the patient should be referred to a psychiatric specialist for medication, while others may benefit from counselling and psychotherapy. An increase in psychological issues can directly impact the immune system, and poor mental and physical health can exacerbate the

illness. Sometimes, this distress can also affect family members and those around them (Braiteh & Bruera, 2007).

Research has revealed that cancer patients are at high risk of developing psychological disorders due to cancer-related psychological imbalance (Grassi et al., 1993; Akechi et al. 1999; Wang et al., 2020). A study conducted by Akechi and colleagues found that cancer patients with suicidal risks or who attempted suicide (93% of their sample) had a psychiatric diagnosis, most commonly mood disorders and delirium. In addition to these two disorders, adjustment disorders with mixed disturbances of emotions and conduct were also identified (Akechi et al., 1999). Research by Wang and colleagues (2020), conducted during the Covid-19 pandemic, revealed a high prevalence of mental health issues and gaps in mental health services for cancer patients during this period. They also found that 23.4% of their sample had depression, 17.7% had anxiety, 9.3% had Post-Traumatic Stress Disorder (PTSD), and 13.5% exhibited hostility. Furthermore, this research indicates that a history of mental disorders, excessive alcohol consumption, and frequent worrying about cancer management are risk factors for developing psychological disorders among cancer patients (Wang et al., 2020). Therefore, numerous studies show that the vulnerability to mood and anxiety-related psychological disorders is high among cancer patients.

Similarly, few studies have been conducted in the Sri Lankan context, measuring distress and other

psychological morbidities among cancer patients in different regions of the country. Research conducted in the Southern Province of Sri Lanka has found that a large majority of the cancer patients in their sample suffered from severe levels of distress (Weeratunga et al., 2016). Another study in Sri Lanka also indicated that psychological distress was experienced by nearly 30% of the sample during the two-year period following the diagnosis of breast cancer, and nearly 48% of the sample had experienced psychological distress at some point during the period following diagnosis (Mudduwa & Punchihewa, 2011).

Although the well-known effects of distress are acknowledged, research on psychological distress among cancer patients in the North Central Province of Sri Lanka remains limited. Therefore, it is crucial to conduct studies and establish clear statistical metrics concerning the nature of psychological issues in this region. Initial discussions with oncologists and other medical staff working with cancer patients revealed a lack of counselling and psychotherapeutic treatments, apart from psychiatric interventions for severe mental health problems among these patients. As a result, this research was undertaken to address these gaps and benefit both patients and palliative care service providers.

Objectives

The objectives of this study were;

- to assess the prevalence and severity of psychological distress

among cancer patients in the North Central Province of Sri Lanka.

- to identify the variances in distress levels among cancer patients by age, gender, and education in this region.
- to provide evidence-based recommendations, based on the study results, for psychological care services in the oncological setting in this region.

Methodology

This study was conducted as a quantitative research, analysing the psychological distress of cancer patients using statistical methods. The research sample consisted of sixty participants recruited from the Teaching Hospital Anuradhapura and Cancer Care Hospice Anuradhapura. The participants included various types of cancers, such as oral, cervical, lung, rectal, oesophageal, and breast cancers, and they were undergoing treatments like chemotherapy, radiotherapy, and drug treatments. Some had also undergone surgeries on the head, neck, or breast to control cancer spread. The sample was recruited after obtaining formal consent from the hospital and cancer care hospice authorities, as well as written consent from the participants.

A brief demographic questionnaire and the Sinhala version of the General Health Questionnaire (GHQ 30) (Abeyseena et al., 2012) were used to collect data. The GHQ has been used in previous studies to assess psychological

distress in cancer patients in Sri Lanka (Weeratunga et al., 2016) and in many other countries. It is recommended as a suitable psychometric tool for evaluating symptoms of distress (Carlson & Bultz, 2003). The scoring uses a 4-point Likert scale from 0 (less than usual) to 3 (much more than usual). The minimum score is 0, and the maximum is 90. GHQ scores above 15 indicate distress, while scores over 20 suggest severe psychological problems. Scores below 15 are considered to show no evidence of psychological distress.

The IBM SPSS Statistics 25 software was utilised for data analysis. Descriptive statistics were calculated for all variables. Cronbach's alpha was employed to assess the reliability and internal consistency of the GHQ-30 Sinhala version for this study sample, and GHQ scores were analysed using frequency and descriptive methods. Additionally, an independent-samples t-test and a one-way ANOVA were used to determine whether there were significant differences in psychological distress levels (GHQ scores) by gender, age, or level of education.

Data analysis

The demographic details of participants included age, gender, marital status, children and their ages, education level, occupation, and religion. The results of the demographic data analysis are presented in Table 1. The total sample consisted of 60 participants who were clinically diagnosed with cancer and receiving medical treatment. The mean age of the participants was 61.22 years,

ranging from 30 to 81 years, with 54% under 60 years and around 22% over 71 years. Sixty per cent of the sample were males, and the remaining were females, with a large majority being married and having children. Regarding their educational levels, 70% had not received formal education beyond Ordinary Level, and only 13% had completed education up to Advanced Level. However, more than 58% were currently employed, around 17% were retired, and the remainder were not engaged in any occupation at present. Most of the participants were Buddhist (95%), with few others from the Roman Catholic and Islamic faiths.

Table 1: Demographic data analysis

Total sample(N)		60
Age (years)	Mean	61.22
	Minimum	30
	Maximum	81
	Range	50
Number of each age group	60	27 (45%)
	61-70	20 (33.3%)
	71	13 (21.7%)
Gender	Male	36 (60%)
	Female	24 (40%)
Marital status	Unmarried	05 (08.3%)
	Married	53 (88.3%)
	Separate	02 (03.3%)
Children	Yes	55 (91.7%)
	No	05 (08.3%)
Education	O/L not completed	42 (70%)
	O/L completed	10 (16.7%)
	A/L completed	08 (13.3%)
Occupation	Retired	10 (16.7%)
	Occupied	35 (58.3%)
	Not occupied	15 (25%)
Religion	Buddhist	57 (95%)
	Roman Catholic	02 (3.3%)
	Islam	01 (1.7%)

N = sample size O/L = Ordinary Level; A/L = Advanced Level

Table2: GHQ scores of the sample

Cronbach's Alpha (a)	.958
Mean GHQ	53.41
SD	19.44
Minimum	05
Maximum	83

Table 3: GHQ 30 score categories: severity and gender-wise

As shown in Table 3 of the data from participants obtained using the GHQ-30, a large majority (91.7%) of the total sample (N=60) indicated evidence of severe psychological distress (GHQ>20), and 5% of the participants showed evidence of mild psychological distress (GHQ score between 16-20). However, only 3.3% of the total sample reported GHQ scores below 15, indicating no evidence of psychological distress. This information highlights that there is a high risk of psychological distress among diagnosed cancer patients in this region, and there is a significant need for psychological counselling, psychotherapy, and empathetic palliative care services.

	Total Sample (N=60)			Male (N=36)			Female (N=24)		
Scores	less	mild	severe	less	mild	Severe	less	mild	severe
	02	03	55	01	01	34	1	02	21
	(3.3%)	(5%)	(91.7%)	(2.8%)	(2.8%)	(94.4%)	(4.2%)	(8.3%)	(87.5%)

* less = score is below 15no distress; * mild = score is in between 16 to 20; * severe = score is in betwe
to 90

Table 4: GHQ scores by age group

When attributed to gender differences in distress levels among the participants, nearly 94% of males reported severe psychological distress symptoms, while 87.5% of females reported similar results. Additionally, only one male and one female in the sample reported a GHQ score below 15 (Table 3). Furthermore, an independent samples t-test was conducted to compare GHQ scores between males and females. Levene's test indicated that the assumption of equal variances was met, $F(1, 58) = 0.027, p = .870$, and there was no statistically significant difference in GHQ scores between males ($M = 56.83, SD = 18.84$) and females ($M = 48.29, SD = 19.61$); $t(58) = 1.69, p = .096, 95\% CI [-1.56, 18.64]$. The results suggest that gender is not associated with the vulnerability to psychological distress or the severity of distress among cancer patients.

As presented in Table 4, participants in the sample were grouped by age for the statistical analysis. All participants under 60 reported mild or severe levels of distress, while a few participants aged between 61 and 70, and those over 71, reported no distress. Ninety-five per cent of the 61-70 year-olds and more than eighty-four per cent of the participants over 71 year-old reported

Scores	Total Sample (N=60)			Male (N=36)			Female (N=24)		
	less	mild	severe	less	mild	Severe	less	mild	severe
	02	03	55	01	01	34	1	02	21
	(3.3%)	(5%)	(91.7%)	(2.8%)	(2.8%)	(94.4%)	(4.2%)	(8.3%)	(87.5%)

* less = score is below 15no distress; * mild = score is in between 16 to 20; * severe = score is in between 21 to 90

A one-way ANOVA was used to compare GHQ scores across three age groups: 30–60, 61–70, and 71–80, and no statistically significant difference was observed in GHQ scores among the groups ($F(2, 57) = 0.270, p = .764$). Post hoc comparisons with the Games-Howell test confirmed that none of the age groups differed significantly in distress levels. Therefore, this suggests that psychological distress among cancer patients, as measured by GHQ-30, remains relatively similar and stable across different age groups within this population. Despite expectations that older adults might experience either higher or lower distress levels due to life stage factors, the results of this study do not indicate a significant relationship between age and distress.

Furthermore, a one-way analysis of variance (ANOVA) was carried out to examine whether psychological distress levels (GHQ scores) differed according to the participants' education levels as classified during data collection: O/L not completed, O/L completed, and A/L completed. The findings showed that the effect of education level on psychological distress was not statistically significant ($F(2, 57) = 1.01, p = .371$) and the post hoc comparisons using the Games-Howell test confirmed that there were no significant differences in GHQ scores among any of the education groups in this study's sample.

Discussion

According to the results of the GHQ scores, it was found that most participants suffered from severe psychological

distress, while only a few experienced mild distress. Therefore, psychological distress is identified as a serious problem affecting the mental health of cancer patients. As shown by Abeysena et al. (2012), the GHQ-30 questionnaire includes items that identify five factors of psychological morbidity: depression, loss of confidence, insomnia, social dysfunction, and anxiety. Consequently, these cancer patients are experiencing various psychological issues, which can be discussed within the symptoms of psychological distress. Therefore, psychological support through counselling, psychotherapy, and psychiatric treatments, where applicable, is recommended as essential for cancer patients, similar to medical treatments for cancer.

Most of the previous research in various countries provides evidence supporting these findings, as earlier studies have shown a negative impact of psychological distress experienced by cancer patients, along with reduced quality of life, suicidal thoughts, attempts, suicide, or euthanasia, and the adverse effects on family members' well-being (Zabora et al., 1997; Weeratunga et al., 2016). A qualitative study conducted by Varanimmanonth and colleagues (2017) in Thailand revealed that cancer patients endure a high level of suffering, including hardship and struggles that cause physical and mental ordeals, emotional suffering such as frustration, grievances, tensions, or pressure, sudden encounters with change, anxiety, doubts, and questions about the future upon learning of the disease, as well as facing death, including preparing

themselves physically and mentally for cancer-induced death. Research by Foley and colleagues (2010) also indicated significant distress, anxiety, and depression among participants, providing evidence that aligns with this research.

Studies conducted within the Sri Lankan context further support the findings of this research. Weeratunga et al. (2016) found that a large majority of the cancer patients in their sample, recruited from the Southern Province of Sri Lanka, were suffering from severe levels of distress. Another study conducted by Mudduwa and Punchihewa (2011) in Sri Lanka also indicated that psychological distress was experienced by nearly 30% of their sample during the two years following the diagnosis of breast cancer, and nearly 48% of the sample had experienced psychological distress at some point during the period after diagnosis. According to research carried out by Alles and colleagues (2023), severe levels of anxiety (90.91%) and depression (89.77%) were prevalent among newly diagnosed cancer patients awaiting surgery. Therefore, most of the research evidence highlights the impact of psychological morbidity in cancer patients and emphasises the need for psychological counselling and therapeutic interventions to improve their mental health and well-being.

This study further examined whether vulnerability and distress levels, measured using the GHQ-30, varied by participants' age, gender, and education level. The findings indicated no statistically significant differences,

except for possible fluctuations in psychological distress across these variables. These non-significant results may be attributed to various factors. For example, most cancer patients may experience severe distress during treatment, and as the cancer progresses gradually, regardless of their age, gender, or educational status. Furthermore, socio-economic conditions in this region may also contribute to increased distress and the development of psychological morbidities among cancer patients, who need strong coping mechanisms. Additionally, the lack of significant findings regarding these variables could be due to the study's relatively small sample size. Being away from family, supportive networks, and loved ones, along with the physical and emotional upheaval caused by a new cancer diagnosis, may have heightened levels of psychological distress.

Limitations of the study

This study has several limitations. Firstly, the relatively small sample size may have reduced the statistical power to detect small and moderate differences in psychological distress levels across groups, such as gender, age, and education level, within the sample. Secondly, based on the data obtained, the variables examined were not evenly distributed throughout the sample, which could have affected the robustness of the statistical analysis. Additionally, most participants in this sample were newly diagnosed cancer patients undergoing treatments such as chemotherapy and surgery. These health and situational factors may have impacted the study's findings.

Conclusions

Based on the research findings, it can be concluded that nearly all cancer patients experience psychological distress, ranging from mild to severe symptoms. Generally, they suffer physically from pain caused by the illness and medical treatments, and mentally from emotions such as fear of death, low self-esteem, disappointment, and worry about unfulfilled responsibilities. Along with this distress, they display serious psychological issues like depression, loss of confidence, insomnia, social dysfunction, and anxiety, as revealed by the GHQ-30 measurement. Moreover, it can be concluded that age, gender, and level of education are not significantly linked to psychological distress, except for minor differences; distress levels are relatively consistent across these demographic variables. Furthermore, these findings emphasise the need for comprehensive mental health services for almost all cancer patients, rather than targeting a specific group based on the assumption that psychological distress is more likely at the early stages of diagnosis and treatment. It is also shown to be essential for them to relieve stress, reduce psychological distress, address specific issues affecting mental health, and improve their overall quality of life. Lastly, further studies with larger sample sizes are recommended to confirm these findings.

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