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Stress and coping strategies of cancer among adult cancer patients in Hawassa University comprehensive specialized hospital cancer centre in 2024: patient, family and health professional perspective

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Abstract

Background Cancer causes stress that impairs overall health of clients, their family members and health providers regardless of its stage. Despite the presence of various types of coping strategies to improve quality of life of patients, their family members and health providers, little is explored about the issue in the study area.

Objective To explore the lived experience of stress and coping strategies of cancer among patients, their family members and health care providers at cancer treatment centre of Hawassa University comprehensive specialized hospital.

Methods Phenomenological study design was conducted to understand the lived experience of stress and coping strategies of people with cancer, their family members and health providers. Twenty patients with their respective family care giver were interviewed followed by two focus groups discussions of health professionals. Study participants were selected purposively. After verbatim transcription and coding, mixed thematic analysis was conducted using Microsoft word.

Results A total of three main themes have been emerged during analysis: stress, coping strategies and interaction. Each of the main themes was further categorized into patient, family member and health provider perspectives. From client perspective stress can be categorized into: emotional, physical, mental and behavioural stress. Emotional stress, financial hardship and behavioural stress are the dominant cause of stress among family members. Health providers describe emotional strain and lack of infrastructure is the key source of stress. Almost all patients adopted active coping strategies such as accepting the realities, seeking support, religious values, being creative. Providing support, being spiritual and strengthening bond with the families were clearly explained coping strategies among patients. In addition team work and physical care are among the coping mechanism of health providers. Regarding interaction and dynamism, Client-family interaction was manifested as hiding information, advocacy, decision making,

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role change and social and emotional support categories. On the other hand, client provider interaction manifested as showed communication, holistic care, cooperation and building trust.

Conclusion Patients with cancer suffered from many different stress types. They applied multiple positive forms of coping strategies. The findings enrich the limited existing literature on this understudied population and provide direction for the future development of interventions to improve their psychological well-being.

Keywords Stress, Coping strategies, Interaction and dynamism, Cancer, Hawassa, Ethiopia

Background

Globally, an estimated 14.1 million cancer diagnoses and 8.2 million cancer deaths occurred in 2012 [1]. The absence of cancer screening and related services results into late diagnosis and treatment [2–4]. Proper diagnosis and treatment of cancer is challenging in most developing countries [39]. Regardless of the stage, individuals who diagnosed for cancer are stressed both psychologically and emotionally [5]. For example, patients experience intense stress over the period of illness, largely due to increasing physical symptom, emotional distress, body image disturbance, and disrupted daily activities [18].

The stress leads to many significant adverse outcomes, such as increased risk of depression and suicide, deteriorating social relationships, lower self-esteem, lower libido, decreased sexual satisfaction and decreased neurocognitive [6–9]. Particularly, stigmatization and social isolation in relation to particular diagnoses of cancer is thought to be due to breaching social taboos or engaging in unacceptable behaviours in the community [10], ignoring early signs and symptoms [11], and lack of resources to cover treatment costs [12, 13].

Coping is broadly conceptualised as a person's attempts to manage stressful circumstances, along with the ascribed meaning or interpretation given to such circumstances [14]. Coping may be comprised of external (e.g. information seeking, engaging social support networks) and internal (e.g. humour, cognitive re-framing) strategies [15]. People adopted various adaptive (positive) and maladaptive (negative) coping strategies to manage stress during the pandemic. Seeking information, seeking support and comfort, attributing causes to events, taking impulsive action, avoiding confrontation are active coping strategies [26]. Coping strategies adopted by cancer patients are not fixed in stone. It changes with the trajectory of the disease. As the disease progresses, many of these patients lean on acceptance and problem-focused coping, but some of them adopt negative coping like denial. Such coping strategies are associated with multiple outcomes, including impact on quality of life, depression and anxiety symptoms, understanding of disease prognosis, and care at the end of life [26]. Several coping strategies can be employed in stressful conditions, and the strategies implemented depend on both individual's cognitive appraisal and emotional status [27]. Coping flexibility involves ability to change, and adapt coping strategies over time and across different stressful conditions. Therefore, some strategies work effectively than others depending on the circumstances [16].

In Ethiopia, an estimated 77,352 new cancer cases and over 51,865 related deaths were reported in 2020 [17]. Cancer patients present at health facilities at advanced stages of the disease [18]. The disclosure of bad news to patients is discouraged by family members, who often believe that it may lead to unnecessary distress, loss of hope, and worsen their ill relative's condition [25]. Distress ranges from normal fears, worry, and sadness to disabling problems such as clinical depression, generalized anxiety, panic, isolation, or a spiritual or existential crisis [19]. As a result of distress symptoms and psychiatric problems, maladaptive coping and abnormal illness behaviour occur [20].

In Ethiopia, national cancer control strategies are developed based on the WHO global cancer control strategy that incorporates cancer prevention, screening, diagnosis, treatment, and palliative care for cancer population [21]. Family caregivers (FC), e.g. partners, relatives and friends who care for the patient, are a key resource for the well-being of terminally ill patients, but also by their assistance and active involvement in treatment decisions and care planning [22]. In the trajectory of an incurable, progressive disease, patients and their family care giver are confronted with many difficult decisions influencing further care planning and quality of life, such as decisions about life-prolonging treatment, medically assisted nutrition and hydration, transitions in care, or the place of care and death [23–25]. Patients' families play an important role in the treatment process, covering travel, treatment costs [6, 23], decision making and breaking bad news [24]. Hence clients could understand the impact of their treatment and improve self-care [19, 20]. Doctors and nurses are in short supply and oncology services are scarce [26].Health providers should counsel cancer clients order to improve their independence and quality of life [19]. A lack of coordinated care can lead to fragmented care, patients getting "lost" in the system and failing to access appropriate services and unplanned health utilisation [21, 22]. However, sense of hopelessness and anxiety are the predominant barriers of health seeking behaviour in Ethiopia [27]. Few previous quantitative studies tried to show various types of stress and coping strategies in Ethiopia [28]. Exploring stress and coping strategies for cancer client will also take an interest in their lived experience and to focus directly in their view. Furthermore, the existing studies mainly focused on solely on children and their parents perspective [28]. Qualitative approach is useful in this context, aiming describing and understanding complex phenomena in depth [29]. Therefore, the main aim of this study is to explore the lived experience of cancer patient, family members and health providers about their stress, coping strategies and interaction in cancer treatment centre of HUCSH, Ethiopia.

Materials and methods

Description of the study area

This study was done in Hawassa University Comprehensive Specialized Hospital Cancer Treatment Centre (HUCSH-CTC). It is the sole regional comprehensive cancer centre, serving 25 million people from Sidama, Oromia, South, and Somali regions. HUCSH is, a teaching and tertiary hospital, has 520 in-patient beds. In 2013, the Breast Cancer Unit was established having 6 beds and few professionals who took short term cancer training. Currently, cancer treatment centre has two medical oncologists, two oncology nurses, 20 nurses, a pharmacist, and holds BC tumour boards with international collaborators quarterly [30].

Study approach and period and

This qualitative research approach was conducted using a phenomenological study design, which provides a description of human experience. Phenomenological research seeks to describe experienced phenomenon and to obtain a view of people's motivations and actions [31, 32]. It is useful in studying participants' lived experiences of a phenomenon from patients, family members and health care providers' perspective [33]. We conducted focus group discussions (FGDs) to encourage the group dynamics and to generate collective experiences, views and perceptions about stress and coping mechanism of cancer [34]. This study was done from May 1 to July 30/2024.

Participants and requirement

The study was done Adult cancer patients who came for treatment in cancer treatment care in HUCSH, their nominated family members and health care professionals who work in cancer centre. The participants in this study were patients, family members and health providers above the legal age (18 and above years old), cognitively able to participate and available during data collection period and were judged to give adequate information were included in this study. Family members who were have prolonged and active engagement in the care of patients and are judged to be better communicative were selected by one of the health provider. Health providers were purposely selected based on work experience and their role in the cancer centre. Health providers who had more than two years of work experience and had managerial role were selected first.

Sampling technique

The planned sample size was thirty cancer patients and thirty members of their families. However, we have achieved data saturation at twenty patients and their corresponding family member. Study participants were chosen purposively [34]. The family member were selected based on their availability at the time of data collection but if there were more than one family member, we have selected the one who can give detail information based on the experience, education and ability for smooth communication. Health professionals who were available during data collection were included in the focused group discussion. The sample size was determined based on information saturation; recurrent patterns became evident in the study participants' narrations [35].

In the existing qualitative researches, 6–8 focus groups are generally included, with 6–8 participants in each group [36, 37]. Two focused group discussion, consisting of six members each were selected for this study. To maximize information richness, Purposeful sampling was applied to select health provider in the study. An attempt was made to achieve the maximum variation of participants by including genders, different age groups, educational attainment, and role in the cancer centre.

Data collection

After recruitment, the participants were contacted by the first author to arrange for the time and place of the interview sessions. The in-depth, semi-structured interviews were conducted according to the participants' time in a private room at private hospital room to allow the participants to freely answer the questions. Face to face interview method was employed to explore information about their lived experience from clients and their families. The guide was developed by the research team following a thorough literature review and initial key informant interviews (See S1. file). It was first developed in English and then translated to the local language (Amharic) to facilitate communication with participants. We have applied effective probing technique get depth data in order to facilitate participant description of their experiences. All interviews were conducted within the hospital setting during the day; and lasted 40–60 min. All interviews were tape-recorded and transcribed verbatim and translated into English. All information was de-identified under transcription. Transcripts and translations were cross-checked for accuracy and consistency. Appropriate written notes were also taken in the event the audio recorder could not capture content during the interviews. The information on the interview guide includes types of stress, coping strategies and their interaction and dynamism. Separate interviews were also conducted with different interview guide among nominated caregivers to understand stress, coping strategies employed and their interaction with patients and health providers in the cancer centre. Lastly, focus group discussion was used to gather insights into stress and coping strategies of health professionals.

Data analysis

Employing the processes of thematic analysis [38, 39], data analysis was done concurrently with data collection. This helped to achieve data saturation. The analysis was conducted based on the six thematic analysis phases of Braun and Clarke [40], which included: (i) familiarizing yourself with the data, (ii) generating initial codes, (iii) searching for themes, reviewing themes, (v) defining and naming themes and (vi) reproducing the report [41]. Data analysis was done alongside data collection. The recorded interviews were transcribed verbatim and read several times to understand exactly what the participants said by two independent coders. First, codes were assigned to meaningful chunks after carefully getting the essence of the data. We have done coding using Ms Word line by line. Verbatim transcripts were analysed using a framework approach [42]. The Framework Method for the management and analysis of qualitative data has been used since the 1980s [42]. In this framework, a set of codes organised into categories that have been jointly developed by researchers involved in analysis that can be used to manage and organise the data. The researchers kept logs for reviews to ensure that participants' views were truly represented. Discussions were done among the researchers on the themes generated, and ensured that the data were free of personal biases. The themes were then put under the various objectives set for the study: stress, coping strategy, interaction and dynamism. Any differences in the coding were resolved by consensual agreement of all authors.

The themes were then put under the various objectives set for the study. Reflexive thematic analysis was used to identify themes and sub-themes by grouping related codes. The main methodology covered was mixed analysis. First, a deductive analysis was done based on preliminary analysis and iterative reading of the data followed by inductive analysis. This involved constantly comparing newly emerging themes from the data with a pre-established framework. Thick verbatim quotations were also used to back the findings of the study which brought alive the true experiences of study participants. A framework analytical approach was used for data analysis. The steps of this analysis were as follows: familiarization with data and coding, identifying a thematic framework, sorting quotes, placing quotes under the thematic category and Mapping and interpreting. Several quotes in the transcripts could be identified with multiple themes and the process was reiterated in order to avoid overlooking any emerging themes [43]. The coding process continued until all the data were exhausted. The coders identified themes and sub-themes from the data. When all the themes, subthemes, and nodes were determined, they were discussed and reviewed by all authors to ensure the accuracy and were used to form the final themes [40].

Trustworthiness

Credibility, dependability, conformability and authenticity were used to ensure the trustworthiness of the study [44].

Dependability of the study

To make the study finding consistent and reliable, the data collections were in a private and secure setting. Under the analysis, the research team interprets the finding from the participants with evidence.

Credibility of the study

To ensure the credibility of the finding, the research team familiarizes with the data by repeatedly listening to the audio record, and reading the transcribed data. Each member of the research team checks the data transcribed by another member. The lead author (BTN) initially analyzed the data, and the second author (YA) confirmed the findings to ensure that the respondents' realities were accurately and truly represented, with discourse discussed.

Confirm ability

The finding of this study is objectively reflected information collected from participants.

Transferability of the study

To ensure transferability of the study within other contexts the research teams described details on selected participants and used appropriate methods to get their deep insight on their experience. Replication of the study and potential applicability of the findings in similar setting was achieved by detailed description of the study setting, design, methodology as well as the respondents' background. Further, taking detailed field notes at each interview and discussion of study findings among authors ensured auditability of the study.

Ethical consideration and consent to participate

The 1964 Helsinki Declaration and its subsequent amendments, as well as equivalent ethical standards, were followed in all procedures carried out in studies involving human participants, whether they were national or institutional research committees. The Institutional Review Board of Hawassa University College of Medicine and Health Science gave its approval to the study. On March 10, 2023, the study was given ethical approval under reference number IRB/392/15. To protect the identities of the study participants, the transcripts and audio files were anonymised. An information sheet containing the purpose of the study, procedures, possible risks, and benefits, compensations, who to contact, and affirmation of confidentiality, privacy, and autonomy, was provided to the study participants. The interviewer sought oral informed consent from the participants as approved by the IRB without any penalty. This indicated their decision to voluntarily participate in our study after having read and understood the terms of reference. Consent for take part in the research and audiotape recordings were obtained. All the cases were ensured that their confidentiality will be preserved in the research. The audio files and transcripts were encrypted to prevent unauthorised persons from having access to the data.

Table 1 Socio-demographic status of clients with cancer in Hawassa university comprehensive specialized hospital Cancer treatment centre, in 2024. (*n* = 20)

Variables	Category	Count	Frequency
Age	Less than 20 years	1	5%
	20–29 years	2	10%
	30–39 years	8	40%
	40–49 years	6	30%
	50–59 years	2	10%
	More than 60 years	1	5%
Duration of disease	Less than 12 months	6	30%
	12–52 months	8	40%
	More than 52 months	6	30%
Sex	Male	10	50%
	Female	10	50%
Educational status	No formal education	1	5%
	Formal education	1	5%
	Secondary education	8	40%
	Tertiary education	10	50%
Religion	Orthodox	8	40%
	Protestant	12	60%
Occupation	Unemployed	6	30%
	Employed	8	40%
	Self-employed	6	30%
Type of cancer	Cervical cancer	4	20%
	Lung cancer	2	10%
	Breast cancer	2	10%
	Duodenum cancer	2	10%
	Lymphoma	4	20%
	Others	4	20%

Results

Demographic characteristics of study participants

A total of twenty voluntary cancer patients with their corresponding family members were interviewed in this study. The interview lasted between 15 and 40 min (mean 27.5 min). All interviews were took place in cancer treatment centre. Table one represents socio-demographic characteristics of cancer client. Cancer patients were from age range of 18–71 years (M = 38, SD = 7.4). The median time since diagnosis was 3 years. All clients had undergone different stage of cancer treatment. Cervical cancer and lymphoma comprises the higher proportion consisting of 4(20%) of all types of cancer. Breast, lung and duodenum cancer make up one-third proportion of total cancer patients. One out of five patients is affected by the remaining cancer types. Half of clients (50%) in this study were females. Regarding education, half of patients were educated up to tertiary education. One client family member (nominated career) for each client was interviewed (See Table 1). The mean age of family members was 39.4 years. Majorities (70%) of the study family care takers were males. Exactly half of the family members were took tertiary education. Most (70%) of patients' family members were employed. Two out of five patients were cared by their spouse. Furthermore, a total of 12 health providers were interviewed through focused group discussion each consisting of six members (see Table 2).

Key themes

The presentation of our results is structured by three themes: (1) what are causes of stress and their types for client, family and health provider from each perspective and their interaction; (2) what are the coping strategies employed to overcome stress from client, family and health provider viewpoint; and (3) what are the interaction and dynamism among patients, families and health providers.

Stress causes/types

Stress among patients

The period following a diagnosis of cancer was experienced as particularly stressful for patients and their family members. The cancer clients included in this study was struggling with at least one type of stress at the time of data collection: 'physical', 'mental', 'emotional' and 'behavioural'.

Table 2 Socio-demographic characteristics of families of cancer patient in HUCSH cancer treatment center in 2023/24

Variables	Count	Percentage
Age		
20–29 years	8	40%
30–39 years	4	20%
40–49 years	4	20%
Sex		
Male	14	70%
Female	6	30%
Educational status		
Primary	4	20%
Secondary	6	40%
Tertiary	10	50%
Religion		
Orthodox	12	60%
Protestant	8	40%
Occupation		
Employed	12	70%
Non-employed	6	30%
Relationship with patient		
Father	2	10%
Sister	2	10%
Brother	6	30%
Spouse	8	40%
Child	2	10%

Emotional stress

When information is disclosed about the disease at the first glance, 15 out of 20 clients tend to be shocked, ashamed and terrified with the news.

For example a 40-years-old man client state as:

> *'I was really shocked while I was informed having the disease for the first time because I have a little information about the disease previously (Male 1, patient).*

However, a 70 years -old client has accepted the bad news without any surprise;

> *'Well, first I am not sure whether I have got the disease or not. However, I have some doubt that I might get it one time because I have smoked for 51 years continuously. I know that the probability for lung cancer would be high for smokers (male17, client)'.*

Such descriptions indicate that the clients who have better information about the cause of cancer could easily accept the diagnosis and less stressed.

Physical stress

Ten out of twenty clients were impacted with physical stress showing with many symptoms and drug effect: diarrhoea, loss of appetite, and vomiting.

A 38 old-man from rural district in West Arsi state the following;

> *'I am suffering from abdominal cramp, fatigue and pointing pain (Male, client 3)'.*

On the other hand, one of the clients explicitly mentioned he had no any symptom affecting his daily lives.

> *'There was no any problem which significantly affects me till now: I do not know exactly but I suppose it might be from the type of disease itself (male, client).*

Such narration indicate that the level of physical stress highly depend on some other factors like type of cancer, stage and psychology.

Stress among family member

Emotional stress

Regarding about nominated career, 12 out of 20 of family members were influenced by emotional stress type.

A 35 years old female attendee first explains her feeling followed by her opinion about the disease as follows;

> *'I was shocked when I heard that my brother has got cancer. I think cancer is a very difficult disease especially if the treatment is delayed (F6, female)'.*

On the contrary; when families explain genetics as the cause of cancer, the tendency of emotional stress is reduced.

> *'In fact, I was no surprised when I hear my brothers' cancer news because I had my sister dead of similar disease before (F1, male).*

These descriptions indicate that early anticipation and awareness of cause cancer could make the family member accept the diagnosis easily and ready to help clients.

Behavioural stress

A few of the study participants manifested with long term effect of stress such as memory loss, difficulty in make decisions, constantly worry, difficult sleeping and aggression.

> *'I feel worried and threatened after I heard the bad news because my brother did not get any disease throughout my life' (Fm2, female).*

Families described being in high distress when they could not act according to their moral expectations and values due to perceived external or internal constraints.

Financial hardship

Another shared experience was related to the financial hardships caused by patients and family members losing their jobs and by out-of-pocket cancer-related expenditures.

> *'The client is my younger brother so I bought medicine, pay for transport and spend money on necessary item when needed. I am providing important bedside care ignoring my daily activities on farm (male, fm4)'.*

Stress among health care providing

Emotional strain

Based on the description of the situation by health providers, most of them are stressed due to poor progress or final outcome of cancer disease.

> *'Actually, for me there is a lot of burden because the clients expect to heal so they came to cancer centre after spending all their property. However, we get discouraged by final outcome (Female, HP 4)'.*

Challenges in managing care

Majorities of health providers agree with challenge with challenge of providing appropriate care which stem from client load and lack of resource.

> *'From our perspective, the client load, exposure for toxic chemotherapy drugs and prolonged working hours induce stress on providers (male 3, HP)'.*

Lack of infrastructure

Most health professionals mentioned that working in cancer centre which lacks some necessary infrastructure expose them for stress.

> *'If I start from the location of the cancer centre, there is no shops in the surrounding, no road and cafeteria this makes the care to be inconvenient for the clients' (female 3, HP).*

Coping strategies employed by the study participants

Study participants in the present sample identified a range of coping strategy for cancer. Most of coping strategies mentioned by the study participants were positive coping strategies, however; avoidance coping strategies are rarely described.

By cancer patients

Being realistic, creative activities, religious values and seeking support group were the key coping mechanism of cancer among cancer patients.

Being realistic

Accepting the reality that patients really have got the disease would be the first step in successful treatment.

> *'Finally, I am convinced that if the existence of the problem is actually confirmed, I want to live for my children, [my uterus] can be removed at any time. I accepted news with silence' (female, C2).*

Despite the above speech, one of the health providers has raised the contradictory idea as follows;

> *'When we break the bad news, there are some denials from patients (Male, HP3).*

The way patients respond to a cancer diagnosis can vary greatly, and it often depends on several psychological, emotional, and situational factors.

Creative activities

There is various ways of creative activities mentioned by patients to cope up symptoms. These includes seeking advice, be involved in community organization for support and starting own business to afford various expenses.

> *'I started little business in home. I feel good when I think that I cover my cost without forcing my family (Female10, client)'.*

When clients engage in this type of creative activities, they can benefited from cancer patients reclaim a sense of agency, find purpose, connect with others, and cope with the emotional and psychological aspects of their diagnosis.

Religious values

Spiritually plays a key role in most societies of Ethiopia in coping with cancer. Spirituality can provide comfort, hope, and a sense of meaning during a difficult time. They tried to accomplish many spiritual activities like praying privately, holy water baptism.

A 33 years old woman states the role of spirituality as follows;

> *'I am thinking that [this disease] is not for good. However, God can assist me to pass it. I believe that God will look at me, hear my voice and mercy upon me (Female, C 4)'.*

Besides the client, one of the nurses confirmed this issue as follows;

> *'Some clients need to pray and request us to call religious leaders (male, HP3)'.*

Spirituality can helps individuals navigate the complexities of cancer treatment and their diagnosis with a sense of inner peace, purpose, and a belief that there is more to life than their illness.

Seeking support group

The way cancer patients seek and accept treatment support can vary widely depending on a range of personal, cultural, psychological, and situational factors. Some patients may be very proactive in seeking support, while others may be more hesitant or avoidant. Patients' narratives about seeking support were richer and more varied. They emphasized three different levels of support: no support, partial and full support.

> *'All individuals currently stand for him/her; I could not expect help from others (female, c3).*
> *'My family supported me despite their limited capacity to meet their own need (male, c5).*
> *'I cannot explain the contribution of my family; I am standing with their help through this complexity (Male, c7)'.*

By families

Most families adopted positive coping strategy like emotional and practical support, being spiritual and strengthening relation.

Emotional support

Majority of family members explains that they provide emotional support.

> *'I want to reassure and provide help based on the advice and recommendation of the physicians. I try to guide him for keeping his lifestyle good with the disease (Male, f1).*

Practical support

The majority of participants spoke positively about their family members as providers of physical, emotional and financial support, and about the challenges they faced as caregivers.

> *'I am the bread winner of the family that I work hard and assist her providing money for various costs. My wife did what I told to her since I am educated (male, c5).*

Many participants indicated that families became united and stronger after their diagnosis and that this support helped their mood and self-esteem:

Spiritual and existential

Many family members was assuming that this disease cannot be cured unless the will of God.

> *'I think any person can get any type of disease at any time. If we die or heal it is up to God (female, f5).*

Strengthening relationship

Many nominated career mentioned that strong family client bod has immense impact on the healing quality life of cancer client. Therefore, they maintain positive relation with them.

> *'Despite my father strong speech to live longer, I can understand that from his feeling and facial expression he lost hope. In general, it is better to make strong bond among family member (male, fm3).*

By health providers

Reliance on institutional protocols

Some of the health providers rely on the institutional protocol to cope up their stress and relieve their client stress.

One of the nurses claimed the following statement;

> *'We have no any guideline as the country but we have informal criteria which we follow as standard. We give priority for very serious clients (Male, Hp4).*

Team work

Most health providers mentioned that teamwork was the best solution to relieve their and clients' stress effectively. *For example, the head of nurse states as follows;*

> *'Perhaps, I think the team of health providers working in this cancer client are the gifted one. Unless we cooperate together for better outcome, we cannot be successful (Male 3, Hp)'.*

Physical care

Provision of physical care at health institution is the main role of health providers in Ethiopia whereas it is the main role of family member at home.

One of the old nurses who has lots of experience in cancer treatment claims the following,

> *'We also provide the client counselling abut cancer and its medication related and diet. There are also disease related side effects we give care (female, Hp9).*

Interaction and dynamism among the study participants

Client-family

Relationships had an important place in patients' discourse.

Hiding information

The family members included in this study described that they prefer to hide information from patient after they heard the diagnosis from health provider.

> *'First, I decided not to tell the true story for my brother for seeking of keeping emotional well-being (female, fm2)'.*
> *Family members do this to keep patients emotional stable. Whereas, patients hide information, expressing worries about being perceived and treated differently.*

Support and advocacy

Most of the family members believe that support and advocacy should be maintained through cancer patient care process from family members.

> *'My wife listen my advice and respect my decisions. She became happy and satisfied when I am involved on all activities in supporting her (Male, Fm6).*

Decision making

Family involvement in decision-making may start before, and continue after, the consultation. Family influence over the decision varies on a spectrum from passive to dominant.

> *'Yes, I am the highly influencer in the family specifically the client has accepted my advice since I am the educated and elder brother (male, fm4)'.*

Many factors may influence level of family involvement-patient, family, cultural, relationship, decisional.

Role change

Family caregivers of people with advanced cancer can provide extensive support to the patient.

> *'Of course, my father had five children. All of us are employed and economical secured. We all are collaborated to assist him. Despite the fact that we tried to reassure him multiple times (male, fm1).*

However, the role is not well defined and their experiences are poorly understood.

Emotional support

Although both patients and their families spoke of having to cope with a range of emotions following a cancer diagnosis, including fear, anger, and shock, a sense of helplessness was particularly evident for nominated career.

> *'I feel just as scared by your cancer as you do. Cancer diagnosis means a stressful and challenging time for all family members. It influences deeply family coexistence and relationships. You may be anxious, helpless and frightened (Male 3, FM)'.*

Social support

Different form of support was mentioned as coping strategies for cancer patients. There are many forms of support and they can be gained from professionals, families and community members.

A 38-year-old man put priority for support from his families as follows:

> *'I cannot explain the contribution of my family in their advice and money' (male, C 6).*

A 40-year-old man the describes the support of family members, and community member;

> *'Despite these challenges, I hope my brothers, family members and 'edir' (local supporting groups) will stand with me' (Male, C1).*

However, a 35 years old female patient claimed that she could not get health professional support as she expected as follows;

> *Although I understand the difference in the behaviour of each health professional, nurse in duty in this hospital treats me inappropriately. (Female, C2)*

Client-provider relationship

The second dimension of interaction and dynamism theme is client provider relationship. This aspect of interaction was most clearly articulated by both patients and health givers.

Communication

Communication between cancer patient and health giver is crucial for ensuring positive patient experiences. This study explored various aspects of communication dynamics: verbal communication, health education and emotional support.

Verbal communication

The provision of information to cancer patients and their families within the context of obligation for full disclosure can reduce anxiety or frustration depending on the way of disclosure.

> *A 38 female patient explain the following about verbal communication;*
> *'I have no any information about the disease previously. After reassuring me, the physician told me that the stage of the disease is at low stage and easy to manage. I feel less stressed (Female, C 7)'.*
> *On the other hand, a 35 years old nurse mentioned the gap in communication;*
> *'First of all, there are a lot of gaps in communicating patients. Specifically, they have to be told in appropriate way because thy endanger themselves (Female, HP 1)'.*

Patients expressed a desire for nurses to engage in meaningful dialogs, providing a safe space where patients can express their emotions and concerns.

Health education

Patient education emerged as a pivotal component of the nurse-patient relationship.

> *'We advise the drug awareness and mediation awareness. Although the counselling service is inadequate, we tried to advice the client as much as possible (male, hp1).*

Emotional support

Nonverbal gestures, such as hand-holding, expressions of affection and sympathy, and the provision of comfort, were highly valued.

> *'First of all, clients who came for treatment in this cancer canter have many challenges. Hence, these challenges are expected to be managed by the health provider through emotional support (Female, Hp5).*

Holistic care approach

Integrated cancer care refers to a holistic approach to cancer treatment that combines conventional medical treatments (like surgery, chemotherapy, and radiation) with complementary therapies (such as nutrition counselling, acupuncture, massage therapy, psychological support, and mind-body interventions).

Most health providers believed that the care for cancer patients should be integrated.

> *'As the cancer treatment care, this needs a holistic care. Some may need especial care. We provide here only chemotherapy, we also started radiotherapy. However, patients should receive nutritional, psychosocial care also (male, Hp3)'.*

By integrating conventional treatments with complementary therapies and offering personalized support, integrated cancer care helps empower patients, reduce stress, improve coping mechanisms, and foster holistic healing, both during and after treatment.

Cooperation

Nurses also stressed the value of interdisciplinary collaboration in providing cancer care for patients.

> *'Working with physicians by collaboration for better health outcome with good team spirit is another fascinating quality that we proud of (Male, Hp5).*

This theme highlights how healthcare professionals can offer a more holistic approach by working together, addressing the physical, emotional, and social health of older patients.

Building trust

Building trust facilitates open communication, allowing patients to share their concerns, preferences, and life stories, which in turn informs personalized care planning.

> *'First of all what I make to emphasis is that we need to build trust among clients (m2, hp).*

The convergence of these experiences underscores the pivotal role of trust in enhancing nurse-patient interactions, leading to more effective and tailored care strategies.

Discussion

This qualitative study provides rich insight into stress and coping strategies about cancer client, health providers and family members. Our study identified three main themes on the basis of taxonomy for understanding stress and coping mechanism: Stress, coping strategies, interaction and dynamism.

Each key is sub-divided into four sub-themes: patient perspective, from family perspective, from health provider perspective and interaction and dynamics.

From patient perspective, the main cause of stress can be categorized into four categories: emotional, physical, cognitive and behavioural stress. This finding is parallel with the previous study [45]. Each type of stress—physical, emotional, mental, and behavioural—can influence a patient's experience with cancer, their treatment outcomes, and their overall well-being. Severe stress in any of these categories can affect overall well-being and may require professional intervention. The intensity of stress can escalate when not managed, and it can impact various areas of life [46]. Patients are stressed from a combined effect of diseases, treatments, malnutrition, hormonal changes and sleep deprivation, often leaving them feeling exhausted, weak and in pain. Patients need for symptom control, mainly pain and fatigue is considered a priority [47, 48].

Psychological stress among patients is usually associated with negative life changes. Changes are stressful because they require us to adjust to new circumstances. Experiencing too many changes within a brief time period often creates the idea that we are not in control of events. This perception contributes to low self-esteem and may even contribute to the development of anxiety or depression [49].

Family caregivers are a pivotal source for quality of life, well-being and quality of care in terminally ill patients. However, they are also affected by caring for the patient and may be affected by significant physical and psychosocial burden [22].

In this study, from family perspective the main cause of the stress emerged from emotional stress, financial hardship and behavioural stress.

Family members were really shocked when they heard the bad news while other did not show any surprise. This finding was supported by previous study which states that family of cancer patients were exposed for emotional problems including helplessness, uncertainty, and hopelessness [50, 51].

Family member of patient financial hardship is the predominant source of stress directly and indirectly. This finding correlates with previous studies which indicate that financial hardship has been associated with poor psychological well-being and worse quality of life in a range of cancers [52–55]. Furthermore, survivors may be vulnerable to material financial hardships [56] due to out-of-pocket costs as a result of the cancer diagnosis and income lost work absence during cancer treatment and rehabilitation [57].

Opinion varies among family members regarding their feeling when they hear the bad news about their relatives. Most of them were disturbed by the news while few of them describe it as normal event. Previous study indicated that family members of patients who have undergone advanced care planning report decreased stress, anxiety and depression during the bereavement period [58]. The main difference might be associated with this finding is due to information accessibility and expectation and preparedness.

Stress at work is one of the major psychosocial risks at work. Work-related stress is a problem and is of great concern to employees, employers, psychologists and counsellors [59]. Stress contributes to health problems in nurses and decreases their efficiency, imposing a direct economic cost on employers and great impact on patients' care [60].

From health provider perspective include challenge in managing care; emotional strain and lack of infrastructure are the main pillars of causes of stress in this study. Most study participants confront difficulty in care management process due to client load, lack of resource and prolonged working hours. This finding is consistent with previous study done in Australia [61]. Cancer is a complex condition that often requires multiple coordinated interventions provided by a variety of health professionals over prolonged periods of time [62]. A lack of coordinated care can lead to fragmented care, patients getting "lost" in the system and failing to access appropriate services, as well as more unplanned health utilisation [63, 64]. Most of the health providers mentioned that they are emotionally traumatized by the final outcome of the disease. This finding is similar with previous finding [65].

Coping involves adjusting to unusual demands or stressors, requiring greater effort and energy than what's needed in the daily routines of life. Experts agree that coping is a process rather than an event. Coping encompasses cognitive and behavioural efforts to reduce or adapt to stressful conditions and associated emotional distress [66].

People differ in particular styles of coping or prefer to use certain coping strategies over others. These differences in coping styles usually reflect differences in personality. Rigidity in coping is less likely to help than is flexibility in coping — being able to fit the most appropriate coping strategy to the demands of different situations. However, some situations that require coping are likely to elicit similar coping responses from most people. These mechanisms include challenging oneself to lower expectations, asking others for help or assistance, taking responsibility for the situation, engaging in problem-solving, maintaining emotionally supportive relationships, maintaining emotional composure, or alternatively, expressing distressing emotions, challenging previously held beliefs that are no longer adaptive, directly attempting to change the source of stress, distancing oneself from the source of stress, or viewing the problem through a religious perspective [67].

According to transactional model of stress and coping, stress results from an individual's assessment of the stressor, its threat, and whether they have the necessary cognitive and behavioural resources to manage the stressor. Our coping mechanisms and psychological responses to stress are triggered. The model suggests that coping strategies can be either problem focused or emotion focused. Problem-focused coping involves actively addressing the stressor, while emotion-focused coping involves managing the emotions associated with the stressor [68]. Almost all patients adopted active coping strategies rather than passively see to continue such as accepting the realities, seeking support, religious values.

Persons who use active coping strategies typically view themselves as in control, hold positive self-views, and adopt a proactive, optimistic and self-reliant approach to managing life stressors.

However, a few of them still apply some problem based approach like seeking social support and being creative. Hence, the strategies that are applied by the study participants are actually the mix of both problem and emotion focused coping mechanism. Problem-focused coping as "coping that is aimed at managing or altering the problem causing the distress" and emotion-focused coping as "coping that is directed at regulating emotional responses to the problem" [68]. Not only is disentangling the nature and outcomes of each strategy difficult, but some actions are used both to solve the problem and regulate emotion, and some actions, such as seeking social support, do not clearly reflect either type of strategy [69]. This finding is in contrary with pervious study done in Addis Ababa [28]. This might be due to variation in advice and counselling of patients and families in the current study.

Stress is considered a natural part of life and makes coping necessary. In clinic it is important to consider that it is not only stress that affects the patient's health. How the patient handles stress is equally important [70]. If coping is ineffective, stress may have damaging consequences for the individual's health and social functioning; but on the other hand if coping is effective, stress can remain under control [71].

Patient families use the following coping strategies: providing support, being spiritual and strengthening bond with the client. This indicates that a mix of emotion based and problem based coping strategies in this study. With emotion-focused coping strategies, the situation does not change but our perception of it does. These strategies are great to use when we have little ability to control what happens like cancer disease. They help us see stressors as a challenge instead of a threat. Sometimes there is nothing we can do to change a situation, but often we can find an opportunity to take action and change the circumstances we face. Solution-focused coping strategies can be very effective for stress relief [72].

This finding goes in line with other studies conducted in Nepal, Malaysia and Pakistan [46–48]. This strategy is associated with improved client well-being [73, 74]. This might be associated participants with different income level, types of cancer and stage of disease. All coping strategies are created equal [75].

Health professionals use team work, physical care and rely on institutional protocol to cope up with work related stress on them Based on transactional theory, two dimensions influence the experience of stress: workload/job demands and the degree of control employees have over work tasks. The combination of high demand and low control increases the likelihood of high stress. Social support within the office has protective properties that moderate the relationship between demand and control [68]. Social support (team work) is crucial for managing anxiety, because it helps ease feelings of anxiety and helps develop solutions to stressful environments. Social support is not limited to only immediate family and friends but includes colleagues and health care professionals [76]. There is nothing more calming than spending quality time with another human being who makes you feel safe and understood. In fact, face-to-face interaction triggers a cascade of hormones that counteracts the body's defensive "fight-or-flight" response. It's nature's natural stress reliever. Specifically, seeking support from people was found to be the main stress coping strategy. This finding is in agreement with finding of previous study [77]. This strategy seems to fit with the long tradition and culture of Ethiopia.

Most study participants in this study reported spirituality is other key coping strategies of clients, family members and health professionals. This finding is consistent with other studies [75]. The current study reports that accepting diagnosis of disease is the primary coping strategy for cancer. This finding is in line with a previous study done in China [78]. The main reason to failing to accept the result were mentioned as lack of trust on the diagnosis, myths about the cause of cancer, fear of stigma and discrimination and having ambition to be free from the disease. previous study also describe that fear to accept the reality misconceptions about symptoms, barriers in accessing healthcare, physical struggles, emotional turmoil, social issues, hope giving factors, sacrifice for family well-being, and emotional resilience [79]. In the case of cancer disease which you cannot change the stressor, the best way to cope with stress is to accept things as they are. Acceptance may be difficult, but in the long run, it's easier than railing against a situation you can't change. If patients do not have a clear understanding of their disease, its stage, and the treatment methods, and lack comprehensive information, it can weigh heavily on their minds, and may reduce their treatment compliance and effectiveness [80].

Regarding about the theme of interaction and dynamism, two sub-themes were emerged: client-family interaction and client provider interaction. Client-family interaction was manifested as hiding information, advocacy, decision making, role change and social and emotional support categories. On the other hand, client provider interaction and dynamism showed communication, holistic care, cooperation and building trust. The role of family-caregivers of patients with advanced cancer is complex and varied in providing symptom-related at home; often requiring family-caregivers to have diverse knowledge and skills in the management of a range of cancer-related symptoms. The health care providers-client interaction in this study is complex, dynamic, and relational, bidirectional, problem-solving and communicative. This finding consistent with previous finding [81]. Most of these interactions are positive while only few are negative.

Psychological support by establishing appropriate therapeutic communication between nurses and cancer patients in addition to making decisions and involving patients in the care process and also preventing the side effects of cancer treatments during the illness, especially in hospitalized patients, is necessary [82]. It exchanges the useful information and changes negative emotions and moods to positive and hopeful emotions [83]. Therefore, as one of the first health care providers who work closely with patients, nurses must learn how to use this supportive-communicative mechanism for these patients [84]. Communication is multifaceted, contains different strategies and is important for building trust and facilitating patient-centred care. This finding is consistent with the previous study [85]. Health providers who develop trusting relationships demonstrate a holistic approach to caring, show their understanding of patients' suffering, are aware of their unvoiced needs, provide comfort without actually being asked, and are reliable, proficient, competent and dedicated in their care [86].

Implication for practice, theory or policy

This study implies the integration of spiritual care on routine cancer care. Several studies have demonstrated that health providers neglect considering the spiritual and religious needs patients [87]. Despite the fact that these elements are crucial for relieving stress and have been shown to improve patient satisfaction [88]. Comprehensive care should be provided by a team of experts in the cancer centre. However, the issue here is not that oncologists or nurse should replace psychologists or psychiatrists [89].

Limitation of the study

Our qualitative study took place in three different study populations and included patients with various types of cancer. These points make our findings transferable to other cancer contexts. However, some limitations must be taken into consideration. First, this took place in Ethiopia, and caution is required in transposing our results to other places, especially Western countries, because cancer care depends strongly on the organization of the medical system as well as on the country's economy. Second, our recruitment process did not allow us to include patients who have dropped out of treatment or those using complementary or alternative treatment, although they are relatively frequent in this clinical population. This might have limited our findings. Finally, our results don't mention the influence of each type of cancer on stress and coping strategies. Further qualitative studies with specific cancer populations should be made to explore the extent of stress and its coping strategy on each type of cancer.

Conclusion

It can be clear that patients with cancer, their families and health providers are exposed for multiple type of stress. Most of the study participants in this study employed active coping strategies than negative strategies.

Effective communications, accepting the reality of having the disease, seeking support, being creative and involved in spiritual activities are the main coping strategies of patients. On the other hand, providing support, being spiritual and strengthening strong bond with the client were clearly explained coping strategies. Health professionals utilize team approach, physical care and rely on institutional protocol as the key strategies for relieving stress.

Recommendations

Federal minster of health

It would be essential to design policies which consist of holistic care for cancer patients. Moreover, the government should access all the chemotherapy drugs with fee or low cost to relive most of the client's stress. Furthermore, it could be essential to strengthen better and early diagnosis mechanism and radiotherapy care at the centre of diagnosis.

Community members

The members of the community should give unwavering support and treatment for clients with cancer. Furthermore, traditional community organization should be strengthened to support clients in crisis. Community awareness creation is mandatory for early treatment and avoidance of stigma and discrimination.

Health care providers

Health providers should provide multiple cares in the centre. Strong counselling and ethical care should be improved. Strong counselling should also be given for nominated career. Cancer patients and their family members want healthcare professionals to actively engage with and collaborate across disciplines to facilitate family involvement within the advance care planning process. Healthcare professionals should assess family's readiness to engage in advance care planning, and the time required to prepare them for the process.

Cancer treatment centre administrators

Cancer centre administrator should improve infrastructure of cancer treatment centre. Training should be given for health providers and improve integrated cancer treatment system including creating system to meet client's spiritual need.

Abbreviations

F	Family
C	Client
HP	Health Provider Focused Group Discussion
IDI	In depth Interview
HUCMHS	Hawassa University College of Medicine and Health Science

Supplementary Information

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Supplementary Material 1

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Author contributions

BT conceived and designed the study. BT and YA collected the data, analysed the data, wrote first and final draft. All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. All authors read and approved the final manuscript.

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Data availability

The datasets analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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