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Coping with cancer pain: a qualitative study to explore pain perception and self-coping strategies of patients with cancer in Sri Lanka

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ABSTRACT

Pain is one of the most debilitating symptoms of cancer, substantially diminishing one's quality of life. The level of pain experienced is eventually determined by the pain coping strategies adopted by patients individually. The awareness of the 'self-coping methods of pain' of individual patients would be beneficial for the multidisciplinary pain team to consider such methods when planning future interventions to manage pain.

Objectives This study explores the pain perception and coping strategies used by patients with cancer pain in Sri Lanka.

Design A descriptive qualitative study.

Setting Pain management unit, Apeksha Hospital, Maharagama, Sri Lanka.

Participants The study was conducted among purposively selected patients with cancer and registered at the pain management unit. 21 semi-structured interviews were conducted until data saturation. Data were analysed using Graneheim and Lundman's content analysis method.

Results Most participants were between 51 and 60 years old and identified as Sinhalese Buddhists. The study's findings revealed two subthemes under 'Understanding pain', namely 'Physical and emotional impact' and 'Cultural and spiritual interpretations', and five subthemes under 'Coping strategies for living with pain', namely 'Medication and self-control', 'Seeking spiritual support', 'Receiving social support', 'Exploring alternative treatments' and 'Adapting daily life'.

Conclusion Coping strategies were adopted especially in achieving essential life aspirations and participating in preferred activities. Goals or activities were often adjusted to fall within their health limits. Acceptance and progress in life were considered more important than pain control. We recommend giving due consideration to the 'self-coping strategies' of individual patients in designing interventions to mitigate cancer pain.

INTRODUCTION

Pain is the most common and complex symptom experienced at various points in the cancer journey, both pretreatment and post-treatment. Cancer treatments or the tumour itself can directly or indirectly cause cancer pain.[1] Pain is the most distressing and intolerable symptom for patients with cancer, and its intensity increases as the disease progresses.[2] Patients with cancer who have longstanding pain experience significantly worse quality of life compared with those with less persistent pain. This deterioration is due to decreased function, increased emotional distress and heightened depressive symptoms, creating a vicious cycle that further impacts their well-being.[3]

Quality of life in this context refers to the overall well-being encompassing physical health, emotional state, level of independence, social relationships, personal beliefs and their relationship to salient features of the environment. Predicting the effectiveness of pain interventions requires understanding patients' beliefs about pain, their perception of pain and their current coping strategies. Unrealistic or negative thoughts about pain can exacerbate the pain experience, emotional distress, decreased daily activity, decreased functional outcome, decreased length of stay and increased medication

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The study's qualitative approach and in-depth exploration of cancer patient's pain perception and coping strategies, provide a nuanced understanding of patients' experiences.
- ⇒ The inclusion of a diverse range of patients with cancer ensures variability in experiences and contributes to a more comprehensive understanding of the coping strategies across various contexts.
- ⇒ The study's methodological rigour includes interviewing until theoretical saturation, having the same investigator conduct all interviews and addressing potential translation issues to improve data reliability and credibility.
- ⇒ The study is limited to the cultural context of Sri Lanka, and the findings may not be readily applicable to other cultural contexts.

dependence.[4] When a disease cannot be cured, patients may still benefit from pain interventions to enhance their quality of life.[5]

Studies have shown that personal experiences with pain and individual coping strategies significantly influence how patients adapt to pain.[6] Research indicates that individuals experiencing persistent pain are very likely to develop coping skills to help manage their pain. For example, a study by Turk and Monarch found that a high percentage of chronic pain patients report using various coping strategies to deal with their pain.[7] However, it is important to note that not all coping and adaptive strategies employed by people with chronic pain are beneficial from a psychological or physical perspective.[8] Some pain-relieving techniques can exacerbate pain.[6] Therefore, it is critical to understand how patients react to and cope with pain. While coping skills may not necessarily reduce the pain itself, they can significantly modify the impact of pain, helping patients manage the emotional and psychological stress associated with chronic pain. Coping strategies are based on cognitive, emotional and behavioural responses to overcome health threats. Coping skills may positively impact treatment outcomes and survival rates of patients with cancer.[9] Furthermore, advanced disease can significantly affect the physical and psychological well-being of patients, often resulting in a reduced quality of life and increased emotional distress. Although it is not inevitable that advanced disease leads to mental instability, patients may experience heightened anxiety, depression or psychological distress.[10] Coping strategies based on behavioural and psychological mechanisms help people manage their stress and improve their quality of life. Therefore, supporting and encouraging adaptive pain coping skills can benefit patients with cancer, even in the advanced and incurable stages of their disease.[11] Currently, coping support is included in interventions for patients with advanced cancer.[12 13] These interventions can also be tailored to align with patients' self-coping strategies.

Primary coping mechanisms are 'problem' and 'emotion' focused. Problem-oriented tactics consist of acts that reduce or alter stressful circumstances. Emotion-focused strategies aim to regulate the emotional effects of stress and achieve affective and emotional equilibrium.[14 15]

It is important to note that coping support is not limited to patients with advanced cancer. In many healthcare systems, including those in developed countries, coping support is available at various stages of the cancer journey, from prediagnosis to post-treatment.[12 13] However, the availability and scope of these services can vary significantly depending on the healthcare infrastructure and resources of a particular country.

Meegoda *et al* conducted a descriptive cross-sectional study in Sri Lanka among 124 patients with cancer, and the majority (68%) reported pain relief as the most common reason for their readmissions.[16] In Sri Lanka, where this study is based, coping support may be more prominently featured in interventions for patients with advanced cancer due to resource limitations. Supporting and encouraging adaptive pain coping skills can benefit patients with cancer, even in advanced and incurable stages of their disease.[11] These interventions can also be tailored to align with patients' self-coping strategies. Since pain is a unique and subjective experience, using structured quantitative data to investigate pain perception and coping strategies in patients with cancer is insufficient. Given the varying cultural, religious and economic contexts of Sri Lankan society, descriptive research is necessary to enhance and deepen comprehension of pain perception and coping strategies, among Sri Lankan patients with cancer.[17] This could assist in determining how best pain coping methods among patients with cancer in Sri Lanka can be supported. The present study was conducted in the absence of sufficient information and scientific literature on the 'pain perception' and 'self-coping strategies' of patients with cancer in Sri Lanka.

MATERIALS AND METHODS

Study design

A qualitative descriptive study was undertaken to explore the individual coping strategies of patients suffering from cancer pain in Sri Lanka. This study takes a constructivist approach, recognising the subjective aspect of patients with cancer' pain experiences and aiming to understand varied interpretations given to these experiences by people.

Study setting and participants

The study employed purposive sampling to ensure a diverse and representative sample of patients with cancer experiencing pain who visited the Pain Management Unit of the premier cancer hospital in Sri Lanka, Apeksha Hospital, Maharagama. The inclusion criteria were carefully selected to identify participants who could provide rich, relevant data on coping strategies. Specifically, patients aged 18 and older with cancer-related pain and pain scores of 3 or higher on a Numerical Rating Scale (NRS) were recruited. NRS was a 0–10 scale, where 0 represented 'no pain' and 10 represented 'worst possible pain'. This criterion ensured that all participants were experiencing significant pain, making their coping strategies particularly pertinent to the research objectives. Purposive sampling was implemented to capture a wide range of experiences and perspectives. The principal investigator intentionally selected participants varying in age, sex, educational level, cancer type and treatment stage. This approach ensured that the sample reflected the heterogeneity of the broader population of patients with cancer.

Patients were required to be Sinhala-speaking and to provide informed written consent, ensuring they could fully understand the study's purpose and consent process. Exclusion criteria included patients with pain of non-cancerous origin, mental illness or brain metastases, as these conditions could introduce confounding variables that might obscure the specific coping strategies related to cancer pain.

During the recruitment process, patients who met the inclusion criteria were identified from the Pain Management Unit at Apeksha Hospital. Among those who consented, the principal investigator selected participants to ensure a diverse sample. This selection considered demographic and clinical characteristics to ensure a broad representation of experiences. In this study, theoretical saturation was achieved when the semi-structured interviews with 21 participants yielded no new themes or significant variations in the data.

Study instruments

The semi-structured interview guide (online supplemental file 1) was developed through an extensive literature review and refined by subject experts. The guide was pretested on five patients with cancer pain to ensure its effectiveness. During this pretesting, it was found that some probing questions were too complex for participants to answer easily, necessitating re-wording for clarity and simplicity. Additionally, the pretest aimed to determine whether the interview questions elicited responses that broadly covered the topic areas of interest. The goal was not to find 'right' or 'wrong' answers but to ensure that the questions were effective in capturing the full range of participants' experiences and perspectives on the topics being studied. The pretest also identified issues related to interview duration and transcription. Based on the feedback from this pretesting, the interview guide was updated to simplify complex questions, ensure comprehensive coverage of relevant topics, and address logistical issues related to interview time and transcription.

Data collection

The principal investigator, who is both a qualified nurse and an experienced qualitative researcher, conducted semi-structured interviews with 21 participants using an interview guide between December 2018 and April 2019, until theoretical data saturation was achieved. Data saturation is a concept in qualitative research that refers to the point at which no new information or themes are observed in the data.[18] This means that additional interviews no longer contribute to new insights or variations in the themes being studied. In this study, data saturation was reached when no new topics emerged in the interviews, and no additional themes were generated from the data. Given that interviews and data analysis were conducted concurrently, data saturation was identified through ongoing analysis. The research team continuously reviewed and coded the interview transcripts, and once it was observed that subsequent interviews were not producing new themes or significant new information, data saturation was considered achieved.

The interviewer introduced herself, explained the interview's objective using an information sheet and allowed participants time to consider before providing informed consent. The informant was guaranteed that the information would be kept confidential and that their identity would never be disclosed in any written documentation. It was emphasised that he/she had the freedom to speak any opinion without fear of condemnation. The word 'cancer' or any synonym with a comparable meaning was deliberately avoided to reduce distress for the informant. The term 'the sickness treated at this hospital' was employed instead. The informant admitted that clinical professionals would only be informed when necessary. Consent from the informant was requested in such instances. Before the interview, each participant provided informed written consent, including permission to record the session. The interviews took place in a quiet room at the pain clinic or in a separate area in the hospital to ensure participants' comfort and privacy.

During the interviews, non-verbal indicators were observed to gain a deeper understanding of the participants' experiences and emotions. Non-verbal cues, such as facial expressions, body language and gestures, can provide valuable insights into a participant's feelings and attitudes that may not be fully captured through verbal responses alone. Observing these indicators helped the interviewer to interpret the emotional context of the responses and to probe further when necessary.

Notes on non-verbal indicators were taken during the interviews and were later used in the data analysis process to complement and enhance the understanding of the verbal data. The interviewer endeavoured to remain open and impartial throughout the interviews, meaning she consciously maintained a neutral stance, actively listened without expressing personal opinions or judgements, and allowed participants to share their experiences and perspectives freely. The interviews ranged from 30 to 60 min in duration.

Data analysis

Qualitative data were processed using Granehiem and Lundman's content analysis methods.[19] The data collection and analysis were conducted simultaneously to allow for continuous refinement of the research process and identification of emerging themes.

All interviews were audio-recorded and then transcribed verbatim. The transcriptions were checked against the audio recordings for accuracy and completeness. The transcripts were read multiple times by the principal investigator to become thoroughly familiar with the data and to identify initial impressions. Each transcript was reviewed immediately after transcription to identify meaningful units of text. These units of meaning, such as phrases, sentences or paragraphs relevant to the research questions, were highlighted and assigned initial codes. The initial codes were grouped into categories based on similarities and patterns identified in the data. This involved organising codes into broader categories that reflected the key aspects of the data. As new interviews were conducted, the ongoing analysis allowed for the integration of new data with existing categories and codes. This iterative process helped in refining the categories and identifying any new themes that emerged. After coding several transcripts, the codes were reviewed and integrated into the data set as a whole. This step involved comparing and merging codes across all transcripts to ensure consistency and comprehensiveness. Within each category, subcategories were developed to further organise the data into more specific themes. This step helped in understanding the nuances and variations within each category. The categories and subcategories were analysed to identify overarching themes. These themes represented the latent meanings and central ideas that emerged from the data. The themes were interpreted and refined through discussion among the researchers until a consensus was reached.

Trustworthiness

The data's reliability was assessed using Guba and Lincoln's guidelines.[20] To achieve credibility, the following steps were incorporated into the process; the principal investigator (PI) spent significant time in the field, developing strong relationships with participants, which helped build trust and obtain rich, in-depth data; two cancer pain patients who did not participate in the study reviewed the codes and themes to ensure they accurately represented their experiences; the use of multiple sources of data (interviews with diverse participants) and multiple researchers in the coding process helped to verify the findings and reduce bias; further external qualitative research experts reviewed the units of meaning, codes, subcategories, categories and themes, and provided feedback that was incorporated into the final analysis.

Transferability was achieved through the selection of a purposeful diverse sample of participants with a wide range of experiences, enhancing the potential for the findings to be applicable to other similar settings.

The dependability of the study was achieved through maintaining detailed records of the research process, including data collection and analysis procedures, were maintained which allows others to follow the research steps and verify the study's findings. Further, multiple transcripts were reviewed and coded by the PI, and the codes were compared and refined to ensure consistency and reliability in the coding process. External qualitative research experts reviewed the research process and findings, offering an additional layer of scrutiny to enhance reliability.

The PI maintained a reflexive journal to document personal reflections, potential biases and decisions made throughout the research process, and field notes helped to ensure that the findings were grounded in the data rather than influenced by the researcher's preconceptions and achieved confirmability of the study.

Patient and public involvement

None.

Table 1 Themes and subthemes emerged in patients with cancer with pain (n=21)

Themes	Subthemes
Understanding pain	Physical and emotional impact
	Cultural and spiritual interpretations
Coping strategies for living with pain	Medication and self-control
	Seeking spiritual support
	Receiving social support
	Adapting daily life
	Exploring alternative treatments lifestyle

RESULTS

The majority of the participants (n=21) were Sinhala Buddhists between the ages of 51 and 60. There were 12 (57.1%) females and 16 (76.2%) married people. The majority of participants earned less than LKR 5000 per month and had attended grades 6–11. Among the participants, 57% reported experiencing pain for 3 months or longer, and 52% had cancer for less than 1 year. The demographic characteristics of the study participants are shown in online supplemental table 1.

Understanding pain

This theme encompasses participants' descriptions of their pain experiences and the cultural and spiritual contexts influencing their perceptions. It includes two subthemes: 'Physical and emotional impact' and 'Cultural and spiritual interpretations' as summarised in table 1.

The severity of pain in patients with cancer ranged from mild to severe. Most people described their pain as unpleasant and distressing, with negative physical and emotional consequences. Participants expressed various reactions to their pain. The intensity of the pain made participants feel helpless and hopeless, and many believed cancer and pain were synonymous. Online supplemental table 2 shows the meaning units, codes and categories under theme 1: Understanding pain.

Physical and emotional impact

Participants reported excruciating pain. It was their primary concern. Significant cancer pain was deemed to be difficult to bear. Some have tried to commit suicide as a result of unbearable pain. Some argue that it is better to die than to endure this pain. Some claim that having cancer is tolerable yet painless.

> When the pain is unbearable, I think living is also a problem. I still wonder why I live. So, when the pain comes, it is so difficult. (A female aged 60–70 years old with cancer in the pancreas)
>
> It is so hard … not to let this kind of pain happen again … not even to an enemy …. (A male participant aged 60–70 years with cancer in the rectum)

> I cannot bear this pain anymore …. (A male participant aged 60–70 years old with cancer in the bladder)

Cultural and spiritual interpretations

The cultural and spiritual beliefs of participants influenced their perceptions of pain. Patients tried to find the cause of their disease, although they felt uncertain about it. However, some patients thought that cancer and pain were their destiny. Buddhist people tend to believe that this pain is due to the sins they have committed in their previous births. While some doubt about 'why this has happened to me'?

> These are sins of previous births. More than this, the thieves attacked even Arahat Mugalan thero [one of the Buddha's closest disciples] because of previous sins … Nobody can stop this … We have to face them. (A male participant aged 60–70 years old with cancer in the bladder)
>
> When the pain rises, I am thinking is this a 'karma' [how a person's deeds in this and prior realms of existence affect their fate in subsequent existences] which I had done in a previous birth. Otherwise, according to my knowledge, I have not made any misdeeds in this birth. (A female aged 50–60 years old with breast cancer)
>
> I have not done any misdeeds in this birth according to my knowledge … why this has happened to me? (A male participant aged 20–30 years old)

Coping strategies for living with pain

Individuals were motivated to achieve important life aspirations and participate in preferred activities. Goals or activities were frequently modified to align with their current health status. The majority believed that acceptance and progress in life were more important than indulging in complete pain control. Therefore, they used to practice several self-coping strategies to live with pain. This theme includes five subthemes: 'Medication and self-control', 'Seeking spiritual support', 'Receiving social support', 'Adapting daily life' and 'Exploring alternative treatments'. 'The meaning units, codes and categories under theme 2: Coping strategies for living with pain are shown in online supplemental table 3.

Medication and self-control

Many participants used pain medication given by the clinic regularly, and some reported good efficacy and believed that it was the best way to control pain. Many have practiced some distraction methods that may be unique to themselves to achieve pain relief.

> I used to go to a shop nearby my home and used to have a chat with the shop owner when the next medication time is due … Otherwise, I go for a walk with my kitten and puppy … it helps me with pain relief. (A male participant aged 20–30 years old)
>
> I always try to do something in my garden … Otherwise, talk to somebody. If I stay alone or do nothing, the pain is high. So. I always try to pay attention to whatever the thing. However, I cannot do things like reading a book. I cannot be seated at a place for some time. (A male participant aged 60–70 years old with prostate cancer)
>
> I do not let others know that I am in pain because my mom is scared. [Her mother is 80 years old and bedridden] … So, I bear upon tight somehow. When the pain is unbearable only, I shout. (A female aged 60–70 years old with back pain)

Seeking spiritual support

Religious and spiritual activities provided comfort and relief for many participants. They tried to be more religious and spiritual. Most of the Buddhist informants started understanding the teachings of Buddhist philosophy. Most of the informants tried to make up their minds with religious teachings. With the uncertainty of recovery, most of them worried about the future. Many have stated that they tend to do more religious activities after getting this disease and pain and believed it would give them relief.

> I offer flowers, light oil lamps, every morning and evening to Lord Buddha … it gives me happiness. The sight of an oil lamp itself is a great relief mentally. (A male participant aged 60–70 years old with prostate cancer)
>
> The only thing I can do now is pray to Jesus to heal me. I am always praying. I pray when I get unbearable pain or sadness. Then I feel a bit at ease. (A male participant with liver cancer)
>
> The only thing I can beg from God is to make me healthy. Right now, God is the only person there for me to ask whatever …. When I have unbearable pain, grief, or problem, I pray. God will surely heal me. I know I am going to get up again …. (A participant believes in Christianity)

Receiving social support

Patients reported that having assistance from relatives and friends alleviated their emotions of isolation and withdrawal. Most informants were happy about the support extended by family members, relatives, neighbours and friends at the workplace. Most of the participants were aware of the importance of interpersonal relationships and expressed their appreciation during the interviews. As with any other person, patients with cancer pain value their social network.

> It relieves the pain a little bit when talking with somebody. Others tend to look after me after I got this disease … People in my workplace too helped me a lot … it is a great relief for me. (A female aged 40–50 years old with breast cancer)
>
> I feel relieved of pain if somebody massages my legs … My younger sister will massage my legs when I am screaming with pain. She is applying hot water and

> massaging well. Then I feel better … (A female aged 30–40 years old with leg pain)

Adapting daily life

Participants mentioned 'adjusting' their behaviours to try to prevent pain, such as avoiding tasks that cause pain, but they were also reluctant to allow pain to control their function. Numerous individuals tolerate pain to keep their functionality. Many participants had changed their lifestyles to find relief from pain. They described these pain-modifying processes as working 'with' their pain, including day planning and pain-relieving activities. Certain individuals, particularly those with comorbidities, paced their actions.

> I used to do my work slowly when the pain goes off … After taking drugs, little pain relief is there … Then only I can do whatever the household works little by little … (A female aged 40–50 years old with breast cancer)
>
> I adjusted the time of taking drugs a little bit. I am taking night medication around 11 pm, which is due at 8 pm. Moreover, I used to go to bed around 11 pm. Then I can sleep without pain till morning. Otherwise, I wake up around 2–3 am with pain. After that, I cannot sleep …. (A male participant aged 20–30 years old)
>
> If I were to go somewhere, I used to get the drugs and go or plan the visit to come back before the time of due medication … Otherwise, avoid going anywhere … Most of the time, I used to stay at home because of pain. (A female aged 50–60 years old with breast cancer)

Exploring alternative treatments

Patients employed alternative treatment methods to alleviate their pain, such as massage, acupuncture and other non-pharmacological methods, adjustments to daily life to self-manage cancer pain. Even though the majority of patients received satisfactory pain relief with the pain medications obtained from the clinic, some of the informants wanted to try other traditional or alternative methods to get full recovery from pain and illness.

> I took 'Sinhala beheth' [conventional treatment method] from 'vedamahaththaya', [the person who is practicing conventional treatment method] and not only these drugs. I went everywhere … They gave oil to apply … it works … When I get pain, I ask my son to apply some oil … then the pain subsides. (A male participant aged 60–70 years old)
>
> I did 'yantra mantra adurukam' [a type of custom practiced by ancestors believing to have some power of curing] to get relief. They gave 'kashaya' [a type of beverage given by Ayurvedic treatment method]. However, I did not get complete relief. If somebody tells me that place is good, I will go there and see. (A male participant with back pain)

DISCUSSION

The two major themes highlight the participants' perceptions of pain and the self-coping strategies they employed to manage it to the best of their abilities. The majority had experienced moderate to severe pain. Irrespective of religion or race, many participants attempted to interpret the pain perceived in the context of religious/cultural beliefs. The majority were Buddhists, and they believed that the pain was due to misdeeds done in the previous births. Catholics and Muslims believed that it was the wish of God. Despite their self-confidence to withstand or manage less intense levels of pain, the majority experienced a sense of helplessness at some point in their lives when confronted with episodes of unbearable pain. 'Why me?' is a question that eight of the participants ponder. Similar statements were reported in the literature.[21] Some patients see God as their saviour from illness, while others believe that God caused their illness as a punishment or a test of faith.[22 23]

In general, patients tried to maintain normalcy by tolerating some degree of pain. Participants had unique coping styles, strategies and preferences for living with pain. 'Medication and self-control', 'Seeking spiritual support', 'Receiving social support', 'Adapting daily life' and 'Exploring alternative treatments' have emerged as subthemes in this study. Meanwhile, they perceived pain under two subthemes: 'Physical and emotional impact' and 'Cultural and spiritual interpretations'.

In a study done in Thailand, the most prevalent coping strategies among breast cancer survivors were reported as social support.[24] Similarly, a qualitative study conducted among newly diagnosed patients with breast cancer in Iran revealed several prevalent self-coping mechanisms. These included religious approaches and spiritual fighting, various thoughts about the disease (positive thinking, hope, intentional forgetfulness; negative thinking: hopelessness, fear), accepting the disease (both active and passive acceptance), and finding support from social and cultural factors.[25] These coping mechanisms are comparable to our findings, highlighting the importance of social support and religious approaches in coping with cancer.

Research has shown that participants adapt to pain and use various activities as coping strategies. Boström *et al* found that engaging in activities helped participants manage their pain. Although pain can limit activity, being active was identified as an effective coping mechanism.[26] For instance, some participants reported that engaging in work or physical activities provided pain relief. Distraction as a pain management strategy is well-documented in the literature distraction techniques, such as focusing on activities, can reduce the pain perception by diverting attention away from the pain itself.[27]

Religious practices, such as chanting Buddhist sutras or listening to Buddhist chants, also served as distraction methods that helped participants find inner calm and cope with their pain. Xu *et al* observed a similar phenomenon among Chinese participants, where religious practices were used to manage pain and provide emotional comfort.[28] The use of faith and religious practices as coping mechanisms is widespread, regardless of specific religious affiliations. This indicates that religious and spiritual practices can serve as powerful tools for distraction and emotional support in pain management.

Several participants reported using alternative treatments such as massage, acupuncture and traditional medicine alongside their prescribed pain medications. Recent research supports the efficacy of some alternative treatments in managing cancer pain. For instance, a systematic review and meta-analysis conducted by Chiu *et al* demonstrated that acupuncture is effective in reducing cancer-related pain and enhancing quality of life.[29] Another study by Miladinia *et al* indicated that massage therapy can significantly alleviate pain and enhance the well-being among patients with cancer.[30] Studies suggest that modern medicine combined with conventional treatments can effectively reduce cancer pain intensity and prevalence.[31]

However, while some alternative treatments can be beneficial, their use should be carefully considered and integrated with conventional medical treatments to ensure safety and effectiveness. Patients often turn to alternative treatments due to dissatisfaction with conventional pain management or a desire for more holistic care approaches.[32] Healthcare providers should be aware of these preferences and discuss potential benefits and risks with patients, ensuring an informed and balanced approach to pain management.

In the context of Sri Lanka, traditional medicine and alternative treatments are deeply rooted in cultural practices and beliefs. The use of ayurvedic treatments, for instance, is common among Sri Lankan patients with cancer seeking pain relief.[33] Understanding and respecting these cultural practices can enhance patient–provider communication and support more comprehensive pain management strategies.

In this study, the decision was made to avoid using the term ‘cancer’ during interviews to minimise distress for participants. Instead, phrases like ‘the sickness treated at this hospital’ were used. This decision may have helped participants feel less anxious and more willing to share their thoughts and feelings, potentially leading to richer and more valid data. It demonstrated sensitivity to the emotional state of participants, fostering trust and openness. On the other hand, avoiding the term ‘cancer’ could have affected the specificity and depth of the responses. Participants might have provided more general answers, potentially missing out on more direct and nuanced discussions about their cancer-related pain and experiences. This could impact the study’s ability to fully capture the complexities of coping with cancer pain.

Concurrent data collection and analysis allowed iterative refinement of the interview guide, early identification of themes and increased flexibility in adapting the study based on emerging data, while it has some limitations; time and resource intensive, risk of bias influencing subsequent interviews, complexity in managing and integrating data.

Despite the strengths of this study, we wish to acknowledge several methodological limitations. The qualitative approach, while suitable for exploring individual experiences, involves subjective interpretation that can introduce bias. The sample, drawn from a single institution (Apeksha Hospital, Sri Lanka), may limit the generalisability of the findings. Despite efforts to include a diverse range of participants, the results may not represent all patients with cancer experiencing pain in different settings or cultural contexts. The use of semi-structured interviews depends on the interviewer’s skills and neutrality, potentially introducing interviewer bias. Although pretesting of the interview guide aimed to mitigate this, some nuances of participants’ experiences may have been overlooked. Despite the use of member checks and external expert reviews, the subjective nature of the coding and categorisation process can influence the analysis. In this study, the PI endeavoured to remain open and impartial throughout the data collection and analysis phases. However, while the development of strong relationships with participants was beneficial for gaining trust and obtaining richer data, it may have also introduced potential biases. These limitations provide context for interpreting the findings and highlight the need for further research to confirm and expand on the insights gained from this study. Future research could benefit from incorporating multiple sites and employing mixed methods.

Conclusions and recommendations

Cancer pain was perceived as unpleasant, distressing and impacting negatively on the overall quality of life. The study revealed the self-devised coping strategies used with positive outcomes to obtain relief from cancer pain and associated suffering. The strategies adopted were multidimensional, predominantly shaped by the individual’s culture, religion and beliefs, and were often adjusted within the constraints of their underlying health status, ultimately aiding in their ability to progress in life. Our findings favour taking individual perceptions of pain and self-coping strategies into account when planning and adopting measures to minimise the impact of cancer pain on the physical and psychosocial well-being of patients with cancer. More research is needed to understand the effectiveness and integration of alternative treatments in managing cancer pain, especially within the cultural context of Sri Lanka. Furthermore, it is recommended to develop and test integrated care models that blend conventional and alternative treatments, specifically tailored to the cultural and healthcare context of Sri Lanka.

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Patient consent for publication Consent obtained directly from patient(s)

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REFERENCES

1 Caraceni A, Shkodra M. Cancer Pain Assessment and Classification. *Cancers (Basel)* 2019;11:510.
2 Akin Korhan E, Yildirim Y, Uyar M, *et al*. Examination of pain experiences of cancer patients in western Turkey: a phenomenological study. *Holist Nurs Pract* 2013;27:358–65.
3 Green CR, Hart-Johnson T, Loeffler DR. Cancer-related chronic pain: examining quality of life in diverse cancer survivors. *Cancer* 2011;117:1994–2003.
4 Turk DC, Wilson HD. Fear of pain as a prognostic factor in chronic pain: conceptual models, assessment, and treatment implications. *Curr Pain Headache Rep* 2010;14:88–95.
5 Wells N, Pasero C, McCaffery M. Improving the quality of care through pain assessment and management. In: Hughes RG, ed. *Patient safety and quality: an evidence-based handbook for nurses*. Rockville: Agency for Healthcare Research and Quality (US), 2008.
6 Noyman-Veksler G, Lerman SF, Joiner TE, *et al*. Role of Pain-Based Catastrophizing in Pain, Disability, Distress, and Suicidal Ideation. *Psychiatry (Abingdon)* 2017;80:155–70.
7 Turk DC, Monarch ES. Biopsychosocial perspective on chronic pain. In: Turk DC, Gatchel RJ, eds. *Psychological approaches to pain management: a practitioner's handbook, 2nd edn*. The Guilford Press, 2022: 3.
8 Litt MD, Tennen H. What are the most effective coping strategies for managing chronic pain? *Pain Manag* 2015;5:403–6.
9 Guariglia L, Ieraci S, Villani V, *et al*. Coping Style in Glioma Patients and Their Caregiver: Evaluation During Disease Trajectory. *Front Neurol* 2021;12:709132.
10 Smith HR. Depression in cancer patients: Pathogenesis, implications and treatment (Review). *Oncol Lett* 2015;9:1509–14.
11 Greer JA, Jacobs JM, El-Jawahri A, *et al*. Role of Patient Coping Strategies in Understanding the Effects of Early Palliative Care on Quality of Life and Mood. *J Clin Oncol* 2018;36:53–60.
12 von Heymann-Horan AB, Puggaard LB, Nissen KG, *et al*. Dyadic psychological intervention for patients with cancer and caregivers in home-based specialized palliative care: The Domus model. *Pall Supp Care* 2018;16:189–97.
13 Walshe C, Roberts D, Appleton L, *et al*. Coping Well with Advanced Cancer: A Serial Qualitative Interview Study with Patients and Family Carers. *PLoS One* 2017;12:e0169071.
14 Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: a theoretically based approach. *J Pers Soc Psychol* 1989;56:267–83.
15 Carver CS, Pozo C, Harris SD, *et al*. How coping mediates the effect of optimism on distress: a study of women with early stage breast cancer. *J Pers Soc Psychol* 1993;65:375–90.
16 Meegoda L, Fernando S, Sivayogan S, *et al*. Perceived palliative care needs of cancer patients, nurses, and domiciliary care providers at a National Cancer Referral Facility, Sri-Lanka. 2015.
17 Chen LM, Miaskowski C, Dodd M, *et al*. Concepts within the Chinese culture that influence the cancer pain experience. *Cancer Nurs* 2008;31:103–8.
18 Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods* 2006;18:59–82.
19 Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today* 2004;24:105–12.
20 Guba EG, Lincoln YS. *Effective evaluation, 1st edn*. San Francisco: Jossey-Bass Publishers, 1981.
21 Ghahramanian A, Markani AK, Davoodi A, *et al*. Spiritual Needs of Patients with Cancer Referred to Alinasab and Shahid Ghazi Tabatabaie Hospitals of Tabriz, Iran. *Asian Pac J Cancer Prev* 2016;17:3105–9.
22 Elsner F, Schmidt J, Rajagopal MR, *et al*. Psychosocial and Spiritual Problems of Terminally Ill Patients in Kerala, India. *Future Oncol* 2012;8:1183–91.
23 Hsiao SM, Gau ML, Ingleton C, *et al*. An exploration of spiritual needs of Taiwanese patients with advanced cancer during the therapeutic processes. *J Clin Nurs* 2011;20:950–9.
24 Wonghongkul T, Dechaprom N, Phumivichuvate L, *et al*. Uncertainty appraisal coping and quality of life in breast cancer survivors. *Cancer Nurs* 2006;29:250–7.
25 Taleghani F, Yekta ZP, Nasrabadi AN. Coping with breast cancer in newly diagnosed Iranian women. *J Adv Nurs* 2006;54:265–72; .
26 Boström B, Sandh M, Lundberg D, *et al*. Cancer-related pain in palliative care: patients' perceptions of pain management. *J Adv Nurs* 2004;45:410–9.
27 Eccleston C, Crombez G. Pain demands attention: a cognitive-affective model of the interruptive function of pain. *Psychol Bull* 1999;125:356–66.
28 Xu X, Cheng Q, Ou M, *et al*. Pain acceptance in cancer patients with chronic pain in Hunan, China: A qualitative study. *Int J Nurs Sci* 2019;6:385–91.
29 Chiu HY, Hsieh YJ, Tsai PS. Systematic review and meta-analysis of acupuncture to reduce cancer-related pain. *Eur J Cancer Care (Engl)* 2017;26.
30 Miladinia M, Baraz S, Zarea K, *et al*. Massage Therapy in Patients With Cancer Pain: A Review on Palliative Care. *Jundishapur J Chronic Dis Care* 2016;6.
31 Lee J-W, Lee WB, Kim W, *et al*. Traditional herbal medicine for cancer pain: a systematic review and meta-analysis. *Complement Ther Med* 2015;23:265–74.
32 Horneber M, Bueschel G, Dennert G, *et al*. How many cancer patients use complementary and alternative medicine: a systematic review and metaanalysis. *Integr Cancer Ther* 2012;11:187–203.
33 Perera PK. Traditional Medicine-based Therapies for Cancer Management. *Syst Rev Pharm* 2019;10:90–2.