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RESEARCH

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The death education needs of patients with advanced cancer: a qualitative research

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Abstract

Background Cancer remains a global health concern, with nearly 20 million new cancer cases and approximately 10 million cancer-related deaths reported in 2020.An increasing number of individuals with advanced-stage cancer are likely to confront the reality of mortality.In China, cancer-related deaths hold the top position among factors contributing to resident mortality, accounting for nearly a quarter of all deaths. Patients with advanced-stage cancer contend with both physical challenges such as pain, physical decline, and functional impairments, as well as psychological issues including death anxiety, fear of death, and feelings of meaninglessness and hopelessness during disease treatment. Death education serves as a method to educate patients on coping with death, alleviating death-related anxieties and fears, and approaching death calmly, thereby facilitating a peaceful end-of-life experience. Currently, there is a dearth of death education content tailored to patients'specific circumstances in China. Consequently, this study aims to explore the content of death education needs among patients with advanced-stage cancer in China.

Methods A qualitative research based on phenomenology was used to select 19 patients with advanced cancer from November 2022 to June 2023. Semi-structured interviews were used to interview, and Colaizzi 7-step analysis method was used to organize and analyze the data.

Results Six themes were extracted: 1. Death cognition and education; 2. Life review; 3. Ethics of death; 4. End-of-life decision-making; 5. Social support; 6. Disease treatment.

Conclusions Patients with advanced-stage cancer face significant distress caused by their illness and the prospect of death. This distress can impact their quality of life and even influence treatment decisions. It's essential to comprehensively assess the current state and needs of patients, engaging in ongoing interventions tailored to individual patient circumstances. This approach involves implementing targeted death education content and methods.

When executing death education, it's imperative to consider the patient's knowledge framework and their level of acceptance. Integrating the patient's disease progression and treatment, as well as addressing their negative emotional states, becomes crucial for enhancing the patient's overall well-being and quality of life.

Keywords Advanced cancer, Death education needs, Qualitative research

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Introduction

The global burden of cancer remains alarmingly high, with nearly 20 million new cancer cases and approximately 10 million cancer-related deaths reported in 2020 [1], A growing number of cancer patients are likely to face the prospect of death. In China, the population of cancer patients is substantial, and cancer-related deaths rank first among the causes of mortality, accounting for nearly a quarter of all deaths [2]. Given the increasing number of individuals worldwide who may face terminal illness and the ongoing integration of diverse cultures driven by economic development, this paper aims to provide insights into the cultural considerations for terminal cancer patients in various regions across the globe.

As of 2021,the quality of death among advanced cancer patients in China ranked 53rd out of 81 countries or regions globally. The overall quality of death was placed in the middle-to-lower range, indicating the need for improvement. Addressing this issue necessitates implementing a series of measures, including death education tailored to the specific circumstances of patients [3, 4].

Patients with advanced-stage cancer endure both physical and psychological suffering due to the disease and its treatments, encompassing cancer-related pain, death anxiety, and fear of death. Death education serves as a method to impart peaceful acceptance of death to these patients, effectively reducing their fear and anxiety surrounding death while enhancing their overall quality of life [5]. Death education helps terminal cancer patients better understand and approach death, allowing them to cherish life, focus on familial bonds, and actively participate in their treatment. This proactive engagement enables patients to more effectively cope with negative emotions, face disease treatment and the end of life with positivity, rather than passively and unpreparedly. The implementation of death education is influenced by factors such as traditional culture, personal experiences, and cognitive biases [6]. In recent years, increasing attention has been given to the concept of a good death for patients. Although research in this field began earlier in other countries, there are relatively few reports on the need for death education among terminal cancer patients in China due to traditional taboos surrounding death. Therefore, understanding these needs is a crucial step for the effective implementation of death education. Therefore, understanding the death education needs of late-stage cancer patients becomes a necessary step for the effective implementation of death education.

With the advancement of socioeconomic conditions, the quality of life and quality of death for patients with advanced-stage cancer have gradually garnered more attention. In March 2023, the Chinese government released the “Opinions on Further Improving the Medical and Health Service System” [7], In August 2020, the World Health Organization released the “Palliative Care” guidelines, emphasizing the provision of comprehensive physical, psychological, and social support to individuals, including terminal cancer patients, to enhance their quality of life during the end-of-life period. This has set new planning and requirements for the provision of palliative care [8]. Death education, which improves patients’ understanding of death and their quality of life, has garnered significant attention. This study employs a phenomenological qualitative research method to understand patients’ needs for death education from their perspective, providing a reference for the implementation of such education.

Methods

Design and participants

Qualitative research based on phenomenology [9], the main purpose is to highlight patients’experiences and reactions to relevant events through patients’descriptions of their own experiences, and researchers extract and summarize patients’views. Therefore, we selected patients with advanced cancer to conduct a phenomenological study in order to understand the needs of patients for death education in the face of possible death during treatment. This study was conducted in the Second Affiliated Hospital of Zunyi Medical University, and the reporting standards for qualitative research were strictly followed [10].

19 patients with advanced cancer treated in our hospital were selected. The inclusion criteria were as follows: (1) advanced cancer patients with stage II and III confirmed by histopathology; (2)aged ≥ 18 years; (3)have certain language expression ability; (4)knowing their diagnosis and condition; (5)accepting death-related topics. Exclusion criteria: (1)patients with other serious diseases; (2)confusion or accompanied by mental disorder or incompatibility. Drop-out criteria: The patient requested to withdraw from the study. A total of 21 patients were contacted in this study, of which 2 patients withdrew from the study because the topic caused patients to recall or associate with other things and felt uncomfortable. They changed the topic on the spot and contacted the bed nurse for emotional counseling. Data processing and theme extraction were carried out on the day of interview until no new themes appeared, and finally 19 patients were included.

Ethical considerations

This study was carried out in strict accordance with the provisions of the Declaration of Helsinki and relevant guidelines. All patients had agreed to conduct the study in a quiet and comfortable room after informed consent. Patients were free to participate or withdraw from the study. Ethics batch number: KLLY-2022-149.

Data collection

On the basis of a large number of relevant literature, after a group discussion including an oncology nursing expert and a head nurse in the oncology department, a patient was selected for pre-interview to revise the outline, and the interview outline was determined as follows (Suppl. file 1).: (1)Have you thought about death since your diagnosis? How does it feel? (2)Do you know about death education before? (3)How do you know and understand death? (4)What do you think you should do to prepare for death? What help can you get? (5)What do you think death education should include?

The researcher is a postgraduate student. After fully learning the knowledge and interview skills related to death and death education, an oncologist presided over the scene simulation of the interview with the patient to learn and master the interview skills and control related factors. The researchers selected patients in advance by purposive sampling, and negotiated the time and place of the interview with the patients. Most of the time was at 3:30 p.m. after the patients had less treatment and had a break at noon. If there was no one else in the ward, the nearest ward was selected to reduce the pressure caused by the patient's environmental adaptation. The interviews lasted from 26 to 55 min. All the interviews were conducted by one researcher, and the whole process was recorded in the field. The focus was on the patients'views and understanding of death and the corresponding death education needs during the disease treatment since diagnosis.

Data analysis

19 interviews were conducted between November 2022 and June 2023 and transcribed within 24 h of the interviews. On the day after the interview, two researchers used Colaizzi's 7-step method to analyze and sort out the data and refine the theme until the theme repeated and no new themes appeared [9].

In this article, the patient number is P(1–19), and the quote of the patient is indicated by".

Quality control

In this paper, a variety of methods are adopted for quality control from the process and result extraction. After strict training and simulated interviews, researchers can fully explore the experiences and thoughts of patients, but they do not guide patients. The analysis of interview data was conducted simultaneously with the interviews, and two researchers independently refined the themes of the interview data and confirmed each other. The interviews were stopped when the analysis themes reached saturation and cross-confirmed the corresponding themes and raw data until consensus was reached and the themes were representative and easy to understand.

Results

There were 19 participants,11 males and 8 females, with a mean age of 48 years. They were from 4 different ethnic groups in China, including 1 Miao,1 Gelao,3 Tujia, and the remaining 14 were Han. Among them,1 was unmarried,1 was married but not legally married, and the remaining 17 were married. Education level:2 were college degree,4 were high school, and the remaining 13 were junior high school or below. The duration of illness at the time of the interview ranged from 1 to 52 months, with an average of 11.2 months. Seven patients received radiotherapy,7 received chemotherapy,1 received follow-up,3 received concurrent chemoradiotherapy, and 1 received concurrent chemoradiotherapy and targeted therapy. The demographic characteristics of the respondents are shown in Table 1.

Finally, six themes were identified: 1. Death cognition and education; 2. Life review; 3. Ethics of death; 4. End-of-life decision-making; 5. Social support; 6. Disease treatment.

Death cognition and education

The cognition of death and the attitudes towards it among advanced cancer patients are shaped by their individual experiences. Understanding their unique perspectives is crucial for comprehending their approach to death education and summarizing the corresponding educational needs.

Learning about life and death studies

Through a deep understanding of illness and death, patients accumulate their own experiences and insights. These experiences enable them to better cope with the challenges of disease and death, enhancing their psychological resilience. P2: "Since I found out about my illness, I've learned some things about disease and death. Now I hope to live to sixty or seventy years old, or even longer."P19: "It's important to be open-minded, accept new things, and understand illness and death. However, unnecessary worries should be reduced, and one should focus on how to take good care of themselves."P3: "I think we all have to face the reality of death sooner or later."P11: "During these months in the hospital, I've realized that it's important to maintain a good attitude, not to worry too much, and to understand that death is a natural part of life."

Improving attitudes toward death and increasing acceptance

Some patients have misconceptions about the potential fatality of their illness, highlighting the need to change their perspectives on death to increase acceptance. P1: "Doctor, I think mindset is very important. For people

Table 1 Data of the respondents

serial number	gender	age	marital status	education level	diagnosis	treatment	duration of illness(months)
P1	male	55	Married	junior high school	Left lung squamous cell carcinoma after chemotherapy	radiotherapy	8
P2	female	63	Married	primary school	right lung cancer	chemotherapy	1
P3	male	67	Married	primary school	Right lung squamous cell carcinoma	radiotherapy	17
P4	male	51	Married	junior high school	Small cell lung cancer of the left lung	chemotherapy	7
P5	female	39	Married	junior college	left upper lobe adenocarcinoma	Radiation and Chemotherapy and Targeted Therapy	1
P6	male	33	Married	high school	Thymus cancer	chemotherapy	3
P7	female	34	Married	high school	right breast cancer	radiotherapy	10
P8	male	63	Married	primary school	left lung cancer	chemotherapy	15
P9	male	57	Married	junior high school	Right upper lung squamous cell carcinoma	radiotherapy	22
P10	male	59	Married	junior high school	Left lung squamous cell carcinoma after chemotherapy	concurrent chemoradiotherapy	8
P11	male	72	Married	primary school	left lung cancer	chemotherapy	4
P12	female	20	Married status(undocumented)	junior college	chest wall spindle cell tumor	radiotherapy	15
P13	female	46	Married	primary school	nasopharyngeal carcinoma	chemotherapy	3
P14	male	34	Married	junior high school	Recurrence of Ewing's sarcoma in the retromolar area after chemotherapy	chemotherapy	11
P15	male	18	unmarried	high school	Pulmonary metastases after surgery for tibial Ewing sarcoma after chemotherapy	Postoperative review	52
P16	male	41	Married	junior high school	Parotid myoepithelial carcinoma	concurrent chemoradiotherapy	4
P17	female	57	Married	primary school	endometrial cancer surgery	radiotherapy	25
P18	female	36	Married	high school	Cervical squamous cell carcinoma	concurrent chemoradiotherapy	5
P19	female	70	Married	primary school	Cervical squamous cell carcinoma	radiotherapy	2

like us, talking about this issue can be overwhelming. Thinking about death can be very distressing."

P4: "My son often video calls me, and I always reassure him that everything is fine. I feel that death is far away and won't happen unexpectedly."P10: "When people die, they turn to dust. Talking about death only burdens our children, so I don't think about it."P15: "You can't avoid getting sick; mindset is the most important thing. If your mindset is bad, won't the illness just get worse?"P6: "I don't have any particular thoughts about death. Life goes on as it should."

Life review

advanced cancer patients, during the final phase of their lives, engage in reflective contemplation of their past experiences, fostering profound thoughts on the meaning of life, personal goals, and intrinsic value.

Recalling memorable experiences and significant achievements

Reflecting on their moments of glory helps patients feel that their lives have been meaningful. P10: "Cancer doesn't matter to me. During the Sino-Vietnamese War, if I had gone a bit earlier, I would have joined my comrades. I've already lived an extra thirty or forty years."As parents, patients find comfort in knowing that they don't need to worry much about their children, who have become their greatest achievements. P1: "There's nothing to worry about with my children. I have no concerns, no financial pressures. They are my life's achievements. I live each day as it comes, seek treatment, and eat what I want."

Fulfilling life goals and realizing personal value

Patients express a desire to spend more time with their children during their lifetime and hope to leave a lasting impression. They wish to be remembered by their children through specific achievements. P12: "My daughter is still young (1 year old). I hope to be more involved in her growth."P9: "My grandson is still little. I want to live a few more years so he can remember me."P13: "I don't need to live too long. It's enough to outlive my elderly parents and raise my children. I haven't thought much about death; maybe a miracle will happen."Patients recall moments shared with their children and grandchildren, highlighting the emotional connection and sense of responsibility between generations. This underscores their value and cherished place within the family. P17: "I want to see my grandson grow up a bit more, so I need to keep up with my treatment until he gets married."P14: "I don't want to disrupt my work. I hope to have a stable income."

Ethical issues of death

During the terminal stage, late-stage cancer patients focus on aspects such as the quality of their life and the preservation of their dignity.

Patients' desire for a dignified death: understanding ethical and legal issues

Patients wish to spend their final days with dignity and comfort, receiving respect and care. They seek to maintain a high quality of life and preserve their dignity at the time of death. P8: "At this stage, everyone faces illness or death. I feel that resuscitation is too painful; if it allows me to live well for another six months, then it's worth it."P1: "Living well each day is what matters. If you lose the ability to care for yourself, even with medical support, living longer has no meaning."These sentiments reflect their needs for informed decision-making in medical care. Therefore, it is crucial for them to understand the ethical and legal issues related to death.

End-of-life decisions

Late-stage cancer patients actively engage in discussions concerning their medical condition, treatment choices, and changes in their health. The alignment of medical decisions and procedures with their own wishes and thoughts is crucial. They express a need to participate in and take the lead in decision-making processes related to their medical care.

Patient awareness of their condition

Patients sometimes learn about their condition inadvertently when doctors and family members do not communicate directly with them, reflecting their passive acceptance of medical decisions and speculative understanding of their illness.

P2: "Everything was discussed with my daughter-in-law. She handled the treatment plan, and eventually, I found out about it."P10: "When I was at the county hospital, the doctor mentioned some issues with my lungs. Then, the family and doctors decided to transfer me here. Once I entered the hospital, I suspected I had lung cancer."It is important for patients to be informed about their condition at an appropriate time, so they can actively engage in their care and decision-making. Patients believe that knowing their diagnosis helps them better prepare to face challenges, reflecting a calm and rational approach to life and destiny. P15: "Initially, my parents were informed about the illness, but I wasn't told. Later, when the condition progressed, I was the first to know. I think it's better to understand my condition so I can be better prepared to deal with it."

Involvement in medical decision-making

Patients show continuous concern and emphasis on their treatment plans, with a particular worry about the suffering and burden associated with a decline in self-care abilities. P16: "After discovering the gene mutation, I am concerned about how to proceed with treatment. If the treatment is ineffective, it would be a burden not only on myself but also on my family." P10: "I have high blood pressure, a cerebral infarction, and lumbar disc herniation. The doctor recommended radiotherapy, and I am very concerned about how long I would need to be hospitalized and whether I can afford it." P12: "Cancer should be treated if possible. For targeted therapy, I will continue if I can afford it economically. However, if I become paralyzed and unable to care for myself, it may not be worth pursuing."

Advance directives

Patients express a desire for their funerals to be conducted in a meaningful and dignified manner, with a formal farewell ceremony. P9: "I believe death is a farewell to this world. My siblings arranged a grand funeral for our parents, and I would like to leave in a similarly grand way." Due to the inability to be with her daughter for a long period, she chose the child's grandmother as one of the caregivers. P12: "Currently, my daughter is being looked after by her grandmother. I feel reassured with her help because her father is often away for work, and the grandmother is still young and capable of providing good care."

Social support

This refers to the ability of patients with advanced cancer to reasonably utilize relevant resources, such as family, friends, and healthcare teams, to cope with and alleviate their physical and psychological burdens, thereby enhancing their resilience against the disease.

Family support and emotional expression

Family members play a crucial role, actively taking care of and arranging medical matters, demonstrating care and responsibility towards the patient. P2: "After I fell ill, my daughter-in-law insisted that I receive treatment. I really hope she can take care of me." The patient expressed gratitude towards his father and sons for their care and support, noting that this support makes him feel warm. He also mentioned the financial support from his children, highlighting the love and solidarity among family members. P9: "My two sons are very filial, taking turns to look after me. When I pass away, it will be easier for them." P19: "When I got sick and hadn't even mentioned hospitalization, each of my children transferred ten or twenty thousand yuan to me."

Communication and companionship from family and friends

In the face of illness and death, the companionship, support, and understanding of family and friends are particularly important, having a positive impact on the patient's emotional and psychological health. P1: "Seeing the patient in bed 4 feeling uncomfortable and upset, and then getting angry at his wife who was taking care of him, doesn't solve anything. Proper communication is very important." P7: "Just visiting more often and family calling more frequently makes me feel much more content." P9: "Sleeping with my grandson, he asked me what was wrong. I told him my chest hurt from the radiation therapy, and he said, 'Grandpa, my chest is fine. Ask the doctor to give you mine, and then you won't hurt.' Hearing this brought tears to my eyes." The companionship and support of family and friends help patients maintain an optimistic and strong attitude. P17: "Talking to my family every day about what we did and ate makes the time pass quickly." P18: "I was afraid this illness couldn't be cured and wanted to give up, but my friends kept encouraging me to seek treatment. Now, I call them every day to chat."

Disease treatment

Late-stage cancer patients proactively seek to understand changes in their medical condition, corresponding treatments, and strategies for managing pain and emotions. This proactive approach enables them to actively address the significant impact that the illness has on their physical and mental well-being.

Illness treatment and emotional needs

Patients believe that personal emotions, attitudes, and a proper perspective on life and death are crucial during the treatment process, significantly impacting the effectiveness of their treatment. P1: "Considering treatment and life issues, if you don't take care of yourself, no doctor can treat you well. When you go to the hospital, just follow the doctor's advice." P4: "Healthcare workers should pay more attention to patients, understanding our condition and thoughts. That would make us very satisfied."

Pain management

Patients consider being free from pain crucial during illness treatment and in facing death. P5: "What I want most now is to control the pain." P9: "One shouldn't just focus on fearing pain all day; it's important to find ways to cope with it." P15: "Everyone will die sooner or later. I don't think there's anything to be sad about. Reducing the suffering from pain is the most important thing."

Discussion

Fostering understanding and acceptance of death in advanced cancer patients

A patient's understanding of illness and death, coupled with factors such as educational background, may lead to varying attitudes towards death education, ranging from acceptance to skepticism or even rejection [11]. Attitudes towards death significantly influence discussions on the topic. While addressing death necessitates patients' comprehension of their medical condition, treatment, and prognosis, family members may perceive serious illnesses like tumors as unbearable, leading to the concealment of the disease and, in some cases, making critical decisions on behalf of the patient [12]. These dynamics hinder the initiation of death education.

Patients with advanced-stage cancer frequently grapple with a profound and weighty apprehension of mortality throughout their course of disease treatment, underscoring a pressing need for death education. Interviews conducted in Canada revealed that the primary stressors patients face when confronting death are profound fear of dying, uncertainty about the future, and physical and emotional suffering [13]. Enhancing patients'comprehension of death and their approach to confronting it is imperative, aiming to alleviate fear and helplessness as they approach the end of life, while bolstering their receptivity to discussions surrounding mortality. Drawing from their wealth of life experiences, these patients often exhibit a relatively composed and rational perspective towards illness and the inevitable event of death. Their reservoir of knowledge and personal encounters contributes to their composed demeanor when contending with the concept of mortality.

When contending with their own ailment and mortality, patients'requirements for death education are manifold and undergo an evolution over time, influenced by their cognitive framework, societal interactions, personal history, and their present medical condition. Engagements with patients are inherently diverse and necessitate educators well-versed in experience, scientific inquiry, and proficient in monitoring. This result aligns with the accentuation on integrating the cultural context of patients into death education [4]. To elevate the caliber of the dying process, it is pivotal to tailor to patients'requisites across different phases and varying situations, with an emphasis on prioritizing viewpoints from the patients'vantage point [14]. Approaches such as"Peace of Mind Tea Talks" [15] offer precise interventions within the realm of death education. Additionally, these strategies contribute to an insightful grasp of individual needs, thereby fortifying the efficacy of subsequent interventions by adapting them to the distinctive circumstances of each patient.

Facilitating profound life reflection for patients with advanced cancer prior to end-of-life

Studies indicate that a decline in a sense of purpose in life among patients with advanced cancer leads to increased death anxiety [16]. Patients show a keen interest in reflecting on their experiences, which can help regulate their mindset [17]. Patients engage in contemplation of profound experiences and notable accomplishments from their past, fulfilling personal aspirations and reaffirming their significance to their families. Amid their illness, this retrospective introspection empowers them to address the present and future with enhanced purpose. For patients who are also parents, the weight of their illness surpasses the physical limitations; they are burdened by concerns about burdening their families due to their reduced ability to contribute. Fearing adverse impacts on their children, these patients grapple with guilt and perceive themselves as a liability to their families. In certain instances, they even withhold crucial information and reduce their daily interactions with their children in an effort to minimize their influence.

Within a family-centered care framework, the provision of robust family support is indispensable to alleviate parental anxieties and diminish potential adverse effects on their children. This complex consideration presents a challenge for healthcare professionals. The communication needs between patients and their families in this study mirror those identified in a Swedish inquiry [18]. Among terminally ill patients who are parents, many are hesitant to broach the topic of death with their families. Fearing that such discussions might negatively impact their children's education and well-being, they choose to shield their children from the truth, carrying the emotional burden alone.

Educators in death education must intensify their focus on both patients and their families. Guiding patients to engage in family dialogues, initiating proactive family interventions, and initiating conversations about prognoses are of paramount importance. Subsequent end-of-life decisions should reflect the patients'preferences while also taking into account the input of their families. Ultimately, comprehensive family support, combined with the comforting presence of loved ones, fosters a tranquil transition from this world, thereby enhancing the quality of the patient's end-of-life journey.

Delving into ethical challenges and conflicting values encountered by patients with advanced cancer

Studies indicate that poor quality of life and severe negative emotions can lead patients to have thoughts of hastened death and diminish their sense of dignity [19]. When faced with the prospect of death, patients hold the aspiration for a departure that is painless, serene, and imbued with dignity. To fulfill the objective of facilitating a tranquil transition that aligns with patients'desires, it becomes imperative to offer guidance on end-of-life matters in particular contexts, such as medical settings. Patients ought to be informed about their inherent rights, pertinent legalities, and established protocols associated with the end-of-life journey.

Providers of death education should undergo comprehensive training. Firstly, patients'comprehension of mortality encompasses factors ranging from their medical condition and psychological state to the support systems they have in place, family dynamics, personal history, and beyond. Secondly, due to influences such as cultural traditions and individual beliefs, patients might harbor hesitations about engaging in conversations regarding mortality. Educators must possess adept communication skills, effective instructional methods tailored for imparting end-of-life education, and tactful approaches to initiate discourse on this subject. Lastly, within a defined scope, educators wield the potential to influence both patients and their families. Considering the recurrent nature of hospitalizations among individuals grappling with cancer, it is advisable to implement a sustained and longitudinal educational program tailored for this specific cohort of patients.

Assisting patients with advanced cancer in making end-of-life choices aligned with personal preferences

During the process of diagnosing and treating their illness, patients often find that information about their disease is not always delivered in a way that meets their individual needs. Consequently, many patients take it upon themselves to gain a comprehensive understanding of their medical condition. As they come to terms with the idea of a peaceful transition from this life, actively participating in decisions concerning their medical treatment becomes of utmost importance. They seek well-defined strategies for both their medical interventions and end-of-life care. A more comprehensive decision-making system between patients and healthcare providers, as well as between healthcare professionals and family members, along with advance medical directives, is needed [20].

Patients grappling with advanced cancer not only confront the undeniable reality of mortality but also contend with the challenges posed by treatments and the disease itself. Balancing this acknowledgment of impending death with the stressors arising from the illness and its management can lead to a reduction in their overall quality of life. This, in conjunction with their wish to spare their families any potential burden, may sometimes lead to contemplation of hastening their own passing, necessitating careful attention to any indications of a desire for an expedited demise.

Within the framework of a patient-centered care approach, this study underscores that patients articulate certain preferences for their remaining time, such as a high quality of life and a peaceful, natural end. Consequently, they should play an active role in decisions related to their medical care and caregiving. In order to facilitate effective discussions about end-of-life matters, patients should be equipped with a solid comprehension of their illness and a clear understanding of the implications of mortality, including a firm grasp of their disease status.

Establishing a social support network for patients in advanced stages of cancer, offering emotional and psychological assistance

Dutiful and devoted children bring immense comfort and inspiration to their parents. In the eyes of patients, filial piety represents a natural and inherent virtue deeply rooted in tradition. Even when confronted with adversity, patients are able to face it without regret. Patients have an urgent need for the companionship and support of family and friends, allowing them to express their emotions and needs in a genuine manner, so as to avoid inadvertently complicating matters through excessive carefulness. Communication centered around the patient and their spouse will be more conducive to discussing end-of-life issues and improving preparedness for death [21].

When providing education on the topic of death, it is crucial to approach it from multiple angles to address the spiritual needs of patients comprehensively. This involves redirecting the patients'focus, cultivating a strong social network, fostering family support, and ensuring appropriate medical care. Simultaneously, actively seeking and establishing hope and setting personal goals play vital roles within death education. Educators must tailor their approach to each patient's individual circumstances, employing diverse methods to provide education that elevates the patients'mental well-being and consequently enhances their overall quality of life.

Integrating information about disease treatment into end-of-life education to assist patients in making informed decisions

Patients should learn to manage their emotional and physical states, including sleep and negative emotions, to better reduce their desire for hastened death [22]. The core content of end-of-life education revolves around fostering a positive understanding of the disease and its corresponding treatments, necessitating a constructive mindset and a harmonious doctor-patient relationship, all while addressing patients'emotional needs toward healthcare providers. For patients, achieving a peaceful passage in the dying process involves not only minimizing death-related anxiety and depression but also effectively managing their physiological symptoms such as pain. They need to possess the capability and confidence to confront potential adverse emotions that may arise.

To facilitate the implementation of end-of-life education, several strategies can be employed. Firstly, tailoring the communication of relevant medical conditions to patients'individual preferences and characteristics [23], while gaining insights into their comprehension of the disease, attitudes toward treatment, and expectations regarding prognosis. Subsequently, engaging trusted physicians and nurses in comprehensive prognostic discussions with patients and their families [24]. Lastly, enabling patients to make medical care decisions with due consideration of input from their family members [25]. death education empowers patients to actively participate in medical care decisions, guides them in understanding the disease and the concept of death. Ultimately, this promotes the widespread adoption of end-of-life education and facilitates patients'serene acceptance of inevitable mortality.

Limitations and recommendations

Due to time constraints in our research, the primary focus of this study is on late-stage cancer patients currently receiving treatment at a tertiary comprehensive hospital in Zunyi City, Guizhou Province. The sample size is relatively small and confined to Zunyi City, excluding late-stage cancer patients from other regions and hospitals. As a result, the representativeness of the research samples is somewhat limited.

It is recommended to adopt a follow-up observation approach for the participants, such as observing those who mention their children, to assess both short-term and long-term impacts. Timely education and intervention should be provided when a lack of knowledge related to death education is identified among patients. Establishing specialized end-of-life education groups within departments is advisable. These groups can address the challenges of implementing death education by offering comprehensive prognostic communication to patients and their families from the initial diagnosis and hospital admission, thereby reducing the difficulties associated with conducting death education. Additionally, conducting targeted and individualized death education for specific cases can enhance patients'preparedness for death, followed by continuous tracking. During the terminal phase, efforts can be directed towards enhancing patients'quality of life.

Conclusion

Patients with advanced-stage cancer often grapple with profound distress while navigating the complexities of disease treatment and confronting the reality of death. A significant portion of these patients tend to shy away from discussions about mortality, holding onto hopes of recovery, and often lack comprehensive preparation for disease progression and potential outcomes. Consequently, there is a pressing need to provide end-of-life education to these individuals, in order to facilitate an adjustment in their perspectives on death, alleviate death-related anxiety and fear, safeguard their quality of life in the terminal phase, and enable them to approach the end of life with equanimity.

The comprehension of death and the demand for end-of-life education among patients with advanced-stage cancer display considerable diversity, continually evolving throughout the course of disease progression. In response to this dynamic context, educators tasked with delivering end-of-life education should thoroughly assess each patient's situation and tailor their approach accordingly. To better address these diverse needs, it is advisable to establish interdisciplinary death education teams within medical institutions, encompassing professionals from medical, nursing, and psychological therapy domains. Through this collaborative approach, a more effective understanding of patients'comprehensive end-of-life education requirements, spanning from diagnosis to the terminal phase, can be achieved. Concurrently, proactive interventions can be implemented to enhance patients'quality of life and cultivate inner serenity as they approach the end of life.

Supplementary Information

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Supplementary Material 1

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Author contributions

Shenghuan Yang: study design, interviewer, data collection and analysis, draft writing, review and editing. Yonghong Li: research guidance, interview guidance, supervision, review and editing, funding sources, project management. Chao Yan: Data collection and analysis, first draft review and revision, review and editing. Jing Li: Data collection and analysis, review and editor. Yinglu Feng: Data collection and analysis, review and editor. Huizini Hu: Data collection and analysis, review and editor.

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Data availability

Data used and/or analyzed during the current study are available from the corresponding authors upon reasonable request.

Declarations

Ethics approval and consent to participate

Ethical approval for this study was obtained from the Ethics Committee of Biomedical Research, Affiliated Hospital of Zunyi Medical University, Ethical Review Approval number: KLLY-2022-14. All patients had agreed to conduct the study in a quiet and comfortable room after informed consent. All research design and data collection pertaining to this study were conducted in accordance with the Declaration of Helsinki.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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