ORIGINAL ARTICLE

Psychiatry and Clinical Psychopharmacology 2025;35(1):60-68
DOI:10.5152/pcp.2025.24924

Awareness and Attitude Toward Hospice and Palliative Care Among Healthcare Professionals in a Tertiary Hospital in China

Lu Wei*, Zhenrong Xu*, Ying Chen, Yanhong Gao

Department of Geriatrics, Xinhua Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai, China

**Lu Wei and Zhenrong Xu contributed equally to this article*

ABSTRACT

Background: This study aimed to investigate the awareness and attitude toward hospice and palliative care among healthcare professionals in a tertiary hospital in China.

Methods: A convenience sampling method was utilized to collect data from healthcare professionals in a tertiary hospital in Shanghai, China. A self-designed questionnaire was employed with reference to existing tools. The survey collected participants' demographic information, previous training experience, as well as assessed their knowledge and attitudes toward hospice and palliative care.

Results: Two hundred nineteen participants were recruited. One hundred seventy-two individuals (78.5%) demonstrated awareness of hospice and palliative care. Compared to staff in other sections, healthcare professionals in the geriatrics department exhibited significantly higher levels of awareness ($P = .011$). Only 47 individuals (21.5%) reported having received prior training in hospice and palliative care. Two hundred nine participants (95.4%) expressed demands for further training in the related field. Further analysis revealed significant differences in the overall scores of hospice and palliative care attitudes among healthcare professionals with different educational backgrounds ($P = .036$). Professionals with master's and doctoral degrees scored significantly higher than those with bachelor's degrees. Healthcare professionals between the ages of 36 and 45 demonstrated higher scores than their younger counterparts, particularly in domains related to the perception and usage of hospice and palliative care ($P = .020$). Physicians in the geriatrics department exhibited significantly higher scores than nurses regarding attitudes toward illness and individuals with end-stage diseases.

Conclusion: Healthcare professionals in tertiary hospitals possess a certain level of awareness and recognition of hospice and palliative care. This will provide an important basis for the promotion of hospice and palliative care in tertiary hospitals. Tertiary hospitals should establish hospice and palliative training centers, organize multidisciplinary cooperation teams, and carry out life and death education starting with healthcare professionals.

ARTICLE HISTORY

Received: July 8, 2024
Revision Requested: July 21, 2024
Last Revision Received: November 13, 2024
Accepted: November 17, 2024
Publication Date: March 17, 2025

INTRODUCTION

Hospice and palliative care provide comprehensive and compassionate support for individuals facing life-limiting illnesses and have been shown to improve quality of life and symptom burden and to be cost-neutral or cost-effective.[1-3]

According to the World Health Organization (WHO), of the 40 million people who require palliative care worldwide, only 14% receive it, most of whom live in high-income countries.[4] In 2015, more than half of individuals among the 56.2 million deaths experienced serious health-related suffering, while an additional 35.5 million individuals encountered significant health-related suffering attributable to life-threatening and life-limiting conditions.[5]

In recent years, there has been a growing recognition of the importance of hospice and palliative care services worldwide.[6] In developed countries like the United States, hospice and palliative care have been recognized as subspecialties by regulatory bodies, allowing physicians from various specialties to receive specialized education and training in this field.[7]

In 2014, the WHO introduced an initiative titled "Strengthening of Palliative Care as a Component of Integrated Treatment throughout the Life Course," with a particular emphasis on addressing the service gap in low and middle-income countries.[8] The gradual improvement in the living standards of the Chinese people and the

Corresponding author: Yanhong Gao, e-mail: gaoyanhong@xinhuamed.com.cn

Cite this article as: Wei L, Xu Z, Chen Y, Gao Y. Awareness and attitude toward hospice and palliative care among healthcare professionals in a tertiary hospital in China. *Psychiatry Clin Psychopharmacol*. 2025;35(1):60-68.

yearly increase in the incidence of chronic diseases and cancer have led to a sharp increase in the demand for high-quality hospice and palliative care.[9,10] In line with international guidelines, global initiatives, and domestic demands, Chinese government authorities have also issued guidelines and policies to promote the development and implementation of hospice and palliative care throughout the country.[11] Despite the growing need, the provision of these services in China is still relatively limited.[12] Even with significant social development and a rapidly evolving healthcare system, talking about death remains a taboo in China.[13]

As an important force in hospice and palliative care, healthcare professionals may become the guide and advocate of patients' decision-making and play an important role in the timing of patients' receiving hospice and palliative care. Understanding the awareness and attitude of healthcare professionals toward hospice and palliative care is crucial for enhancing the overall quality of hospice and palliative care in China. It allows for identifying gaps in education and training, highlighting misconceptions, and developing targeted interventions to improve the delivery of these vital services.[14]

Previous studies, in Chinese or English literature, focus mainly on perceptions of nursing staff, medical students, and health workforces from community healthcare settings.[15] However, there is a notable lack of research on healthcare professionals in tertiary hospitals, which are recognized as academic hubs and primary healthcare options for patients in China. Therefore, there is a need for further investigation and exploration of the perspectives of healthcare professionals in tertiary hospitals to gain a more comprehensive understanding of the current landscape of hospice and palliative care in these crucial healthcare settings.

This article presents the findings of a study conducted in a tertiary hospital in the Shanghai metropolitan area, which has been designated as one of the national pilot programs for hospice and palliative care development in China. The aim of this study was to assess the knowledge, awareness, and attitudes of healthcare professionals in tertiary hospitals toward end-of-life and palliative care, and to understand the cognitive blindness of tertiary hospitals toward end-of-life and palliative care among healthcare professionals, so as to provide a number of reference bases for the future development of end-of-life and palliative care in tertiary hospitals.

MATERIAL AND METHODS

Study Design and Participants

A survey was conducted among healthcare professionals, including 219 medical and nursing staff from Xinhua Hospital, Shanghai Jiao Tong University School of Medicine Hospital between October 5 and November 5 2022. The inclusion criteria were determined by: (1) working as a physician or nurse at Xinhua Hospital, Shanghai Jiao Tong University School of Medicine Hospital with full-time employment during the study and (2) voluntarily agreeing to participate in the study and giving informed consent.

Survey Instrument Design and Measurement

A self-designed questionnaire was utilized, drawing upon an extensive review of relevant literature. Several previous tools, such as frommelt attitudes toward care of the dying and the palliative care knowledge test[16] were referred to when designing the instrument. Then, the questionnaire was piloted among 20 volunteers in the geriatric department. It was subsequently modified and finalized based on consultations with experts and feedback from pilot study participants regarding any unclear items or technical flaws. The instrument was administered in Chinese. The estimated time to complete the questionnaire was 15 minutes. Interviewers were present throughout the questionnaire for this study.

The final version of the questionnaire consisted of 4 sections, namely sociodemographic characteristics (including gender, age, occupation, education level, years of working, and religious beliefs), source and demand of hospice and palliative care education (including previous training experience and willingness for future education), awareness of hospice and palliative care, and attitudes toward hospice and palliative care.

The participants' knowledge of hospice and palliative care was evaluated through specific questions: (1) "Do you think hospice and palliative care is the same as euthanasia?", (2) "Who is the intended recipient of hospice and palliative care?", (3) "What is the purpose of hospice and palliative care?", (4) "What is the range of services provided by hospice and palliative care?" Each question was scored on a binary scale, with a score of 1 assigned for a correct answer. An incorrect response or the selection of "Have no idea" received a score of 0. The cognition score for hospice and palliative care was obtained by summing the scores for all 6 items, ranging from 0 to 6. Awareness rate = (Number of people with cognitive scores other than 0/n) × 100%.

The attitude survey on hospice and palliative care comprised 20 questions that were grouped into 3 distinct but related dimensions. Dimension 1 focused on attitudes and beliefs pertaining to death. Dimension 2 examined attitudes toward illness and individuals with end-stage diseases. Dimension 3 involved the perception of hospice and palliative care and the usage of services thereof. Participants were instructed to rate their responses using a Likert 5-point scale, ranging from "strongly agree (5 points)" to "strongly disagree (0 points)." Participants' responses were aggregated, with a higher

score indicating a more positive attitude toward hospice and palliative care.

Validation of Survey Instrument

The survey instruments used in this study demonstrated high internal consistency with a Cronbach's α coefficient of 0.904 and retest reliability of 0.84. Additionally, the χ^2/df value is 2.589, the Normed Fit Index (NFI) value is 0.853, the Incremental Fit Index (IFI) value is 0.905, the confirmatory factor analysis (CFI) value is 0.903, and the root mean square error of approximation (RMSEA) value is 0.078, suggesting that the questionnaire tool has high levels of internal consistency, retest reliability, and model fit, indicating that it has high reliability and validity.

Sample Size Calculation

The following equation was used to calculate sample size:

$$n_0 = \frac{z_{\alpha/2}^2 S^2}{d^2}$$

In this formula, n_0 is the sample size, $z_{\alpha/2}$ is the confidence level, S^2 is the variance of the population, and d is the absolute sampling error. For this study, with a 7% sampling error at the 95% confidence level, the maximum estimated sample size is 196 when the population variance reaches the upper limit, i.e., $S^2 = 1/4$.

Survey Administration

Wen Juan Xing, an online questionnaire platform similar to SurveyMonkey, was used to record the survey results. Each participant's responses were automatically recorded into the online database upon submission. Due to technical constraints of the survey platform, participants could not review or change their answers after submission. To prevent multiple entries from a single individual, browser cookies were used to assign a unique identifier for each entry.

Recruitment Process and Access to Questionnaire

The link and QR code of the survey were distributed via WeChat "Moments," a social media platform similar to Twitter or Facebook. Participants were able to freely and voluntarily share the link or QR code with their colleagues in XX Hospital. Only completed questionnaires were analyzed. Participants who terminated their answers without completing the entire survey were considered to have withdrawn their consent and opted out of the research. Such data were not captured by the survey platform nor further analyzed.

Ethics

This study was approved by the Ethics Committee of Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine (XHEC-D-2023-040, Mar. 8, 2023). Each participant was informed and signed the consent forms for the study electronically before proceeding to the questionnaire. This study is completely voluntary. There were no monetary or non-monetary incentives for participants. To ensure confidentiality, the questionnaire did not collect any sensitive information that could disclose the identity of participants.

Data Analysis

Statistical Package for Social Sciences (SPSS) software version 21.0 (IBM SPSS Corp.; Armonk, NY, USA) version was used to analyze the data. Descriptive statistics, such as frequency and percentage, were used to summarize categorical data, while continuous variables were presented as mean ± standard deviation (SD). In this study, the Kolmogorov–Smirnov test and Shapiro–Wilk test were used to determine whether the data were normally distributed or not. An independent *t*-test was performed for 2-group comparisons, and an analysis of variance test was performed for comparisons involving more than 2 groups.

RESULTS

Sociodemographic Characteristics

A total of 219 health professionals participated in the study, comprising 36 males (16.4%) and 183 females (83.6%). All the responses were completed, and no repeated entries were detected by cookies. The majority of participants fell within the age groups of 26-35 (39.3%) and 36-45 (32.9%). The sample comprised 39 physicians (17.8%) from the geriatric department, 64 physicians (29.2%) from various other departments, 59 nurses (26.9%) specializing in geriatrics, and 57 nurses (26%) working in other different departments. Educational backgrounds varied, with 45.7% holding a bachelor's degree and 21.9% holding a master's degree. Working experience ranged from 5 years or less (33.3%) to 16 years or more (25.6%). The majority of participants (91.3%) reported no religious affiliation. See Table 1 for detailed sociodemographic characteristics.

Knowledge Acquisition

The main methods for acquiring knowledge about hospice and palliative care among the participants were hospital-based training or online continuing medical education courses (55.7%), followed by media sources such as books, newspapers, television, or online media (44.3%), and engagement in social activities (30.6%). The proportion of respondents receiving hospice and palliative care training was relatively low. The majority (172, 78.5%) of the participants had never received any form of training. Among those who received training, 33 (15.1%) had only attended a single session. Concurrently, the demand for training was evident among the study participants. A significant majority of the respondents (95.4%) acknowledged a perceived deficiency in knowledge pertaining to hospice

Table 1. Sociodemographic Characteristics, Awareness and Cognitive Score of Hospice and Palliative Care (n = 219)

	n (%)	Awareness Rate* (%)	Cognitive Score	*P*
Total	219	78.5	1.80 ± 0.97	
Gender				
Male	36/219 (16.4)	66.7	1.56 ± 0.81	.103
Female	183/219 (83.6)	80.9	1.85 ± 1.00	
Age (years old)				
≤25	37/219 (16.9)	75.7	1.92 ± 1.09	.246
26-35	86/219 (39.3)	73.3	1.64 ± 1.04	
36-45	72/219 (32.9)	80.6	1.89 ± 0.81	
≥46	24/219 (11.0)	95.8	1.96 ± 0.95	
Occupation				
Doctor in geriatric department	39/219 (17.8)	100	2.15 ± 0.90	.076
Doctor in other departments	64/219 (29.2)	73.4	1.67 ± 0.91	
Nurse in geriatric department	59/219 (26.9)	83.1	1.81 ± 1.07	
Nurse in other departments	57/219 (26.0)	64.9	1.70 ± 0.94	
Education				
Junior college and below	38/219 (17.4)	78.9	1.53 ± 0.92	.227
Undergraduate	100/219 (45.7)	72.0	1.83 ± 1.04	
Post-graduate (Master's)	48/219 (21.9)	85.4	1.96 ± 0.85	
Post-graduate (Doctor's or above)	33/219 (15.1)	87.9	1.82 ± 0.95	
Years of experience				
≤5 years	73/219 (33.3)	74.0	1.71 ± 1.09	.756
6-10 years	33/219 (15.1)	75.8	1.79 ± 0.89	
11-15 years	57/219 (26.0)	82.5	1.84 ± 0.94	
≥16 years	56/219 (25.6)	82.1	1.89 ± 0.91	
Religious belief				
Yes	19/219 (8.7)	89.5	1.84 ± 0.83	.865
No	200/219 (91.3)	77.5	1.80 ± 0.99	

*The awareness rate indicates the percentage of patients in this group who demonstrated awareness of hospice and palliative care.

and palliative care. Among their training needs, the top 4 domains were psychotherapy (84.9%), communication skills (68.9%), symptom control and management (46.6%), and medical ethics (43.4%). The awareness rate is shown in Table 1.

Awareness and Cognitive Score of Hospice Palliative Care

Table 1 shows participants' cognitive scores of hospice and palliative care. One hundred seventy-two participants (78.5%) demonstrated awareness of hospice and palliative care. Notably, staff from the geriatric department exhibited a significantly higher awareness rate compared to those from other departments (χ^2 = 18.637, P < .001). However, no significant differences in awareness rates were observed based on factors such as gender, age, education level, years of experience, and religious belief among the respondents. The average score for the 4 cognitive questions of hospice and palliative care was 1.80 ± 0.97. There was no significant difference among participants of different genders, ages, departments, educational levels, years of experience, or religious beliefs (P = .103, .246, .076, .227, .756, .865). The lowest accuracy was found on the questions concerning the intended recipients of hospice and palliative care and the service range provided by hospice and palliative care (Table 2).

Attitude Toward Hospice and Palliative Care

The attitudes of healthcare professionals toward hospice and palliative care varied, with scores ranging from 37 to 100 (83.85 ± 10.38). Significant differences were observed based on education levels (P < .001), where participants with master's or doctoral degrees had higher scores compared to those with bachelor's degrees or below. Age group analysis revealed significant differences in dimension 3, i.e., perception of hospice and palliative care and the usage of service (P < .001). Healthcare professionals aged between 36 and 45 had higher scores than other subgroups. Physicians from the geriatric department scored higher than nurses in attitudes toward illness and individuals with end-stage diseases (P < .001). However, no significant differences were found between subgroups based on gender, working experience, or religious belief (Table 3).

Validation of Survey Instrument

In this study, the SRMR model fit indices were examined where CFI was found suitable (CFI = 0.903) and NFI was not suitable (NFI = 0.853).

DISCUSSION

This is a research study that evaluates awareness and attitudes toward hospice and palliative care among healthcare professionals in tertiary hospitals in China. This provides valuable insights into the current state of awareness and attitudes of the workforce within this specific healthcare setting. Furthermore, the study expands upon prior training by incorporating specific inquiries related to knowledge acquisition, such as the frequency and methods of obtaining information in the field of hospice and palliative care. This addition adds depth and richness to the re-education courses within this specialized area.

In the survey, nearly four-fifths of participants were aware of hospice and palliative care. Staff from the geriatric

Table 2. Cognitive Questions of Hospice and Palliative Care (n=219)

Question	Accuracy (%)	Average Score
Q1 Do you think hospice and palliative care is the same as euthanasia?	173 (79.0)	0.79 ± 0.408
Q2 Who is the intended recipient of hospice and palliative care?	54 (24.7)	0.25 ± 0.432
Q3 What is the purpose of hospice and palliative care?	132 (60.3)	0.60 ± 0.490
Q4 What is the range of services provided by hospice and palliative care?	36 (16.4)	0.16 ± 0.371

department exhibited a significantly higher rate, and the attitude scores of geriatricians toward patients with end-stage diseases were higher than those of nurses. This may be due to the fact that doctors may have learned more systematically about the overall management of diseases and patients' psychology during their medical education, and they may have a more in-depth understanding of the connotations and importance of clinical care, which may make it easier for them to show a better attitude toward patients with end-stage diseases. With the development of healthcare, the number of patients who die from various chronic diseases such as malignant tumors, cardiovascular diseases, and respiratory system diseases is increasing year by year. Geriatric medical staff may encounter various elderly patients in the terminal state of disease in their daily duties, so they will contact and think about hospice and palliative care earlier than other departments. Hospice and palliative care encompass the holistic needs of patients of all ages approaching the end of life and are not just limited to older patients.[17,18] Although there are hospice and palliative wards and outpatient clinics in some large tertiary hospitals in China, most specialist doctors in tertiary hospitals focus on specialist work and do not consider it their duty to help terminally ill patients relieve "whole-person suffering."[19] Tertiary hospitals can take advantage of multi-disciplinary strengths to form interdisciplinary teams and conduct multidisciplinary team management for end-stage patients. Specialists such as geriatricians, oncologists, pediatricians, dietitians, rehabilitators, and pharmacists can be grouped into multidisciplinary teams to impart knowledge of hospice and palliative care to the healthcare professionals of relevant departments, patients, and family members through joint consultation in hospitals. This approach not only provides patients and their families with comprehensive and individualized services but also integrates the concepts of hospice and palliative care into different disciplines.

The findings demonstrate a high level of awareness regarding hospice and palliative care, but in-depth knowledge of hospice and palliative care is unsatisfactory. These findings align with previous investigations conducted in Scotland and Southeast Asian nations.[20,21] 78.5% of our participants have not yet received any palliative care training, even those with a master's or doctoral degree, which is similar to a previous study in Vietnam (72.7%)[21] and much higher than results in Poland.[22] The absence of adequate training in hospice and palliative care may contribute to limited knowledge among healthcare professionals, potentially hindering the delivery of high-quality hospice and palliative care to patients. Hospice and palliative care is a novel interdisciplinary field that integrates theoretical knowledge and practical skills from multiple disciplines. Updating and training in hospice and palliative care knowledge is crucial for improving the quality of hospice and palliative care services. A survey of the provision of hospice and palliative care courses in 282 medical schools in China revealed that only 11 out of 173 respondent schools offered dedicated courses on hospice and palliative care, while 18 schools integrated the content of hospice and palliative care courses into other courses.[23] Compared to developed countries in Europe and America, hospice and palliative care education in Chinese higher medical schools is still relatively scarce.[24,25] The course of hospice and palliative care only includes ethics, laws and regulations, historical background, treatment, etc., while it involves less in communication skills, life and death views, bereavement care, clinical practice, and other aspects, which cannot meet the needs of the current medical model.[26] Continuing education in hospice and palliative care in China is also severely lacking, with most healthcare professionals engaged in hospice and palliative care not having not received professional education and training, and the questions in this study about the intended recipients of hospice and palliative care and the range of services provided by hospice and palliative care were the least accurate. As a result, the quality of hospice and palliative care services varies greatly.[27] In addition, the need for training was evident among the participants in this study, with the vast majority of respondents (95.4%) identifying themselves as lacking knowledge related to hospice and palliative care. Tertiary hospitals can rely on their own scientific research and teaching resources to improve work standards and processes, train relevant personnel, and guide the specific work of various institutions. Establishing hospice and palliative care continuing education and training centers, and regularly conducting hospice and palliative care continuing education and periodic assessments for healthcare professionals in hospitals at all levels is essential.

Compared with previous studies,[28] healthcare professionals in this research had a higher sense of identity with hospice and palliative care, especially in the middle-aged group. Healthcare workers in this age group tend to come into

Table 3. Attitude Scores of Different Medical Workers on Hospice and Palliative Care (n=219)

	n	Total Score	Dimension 1[a]	Dimension 2[b]	Dimension 3[c]
Gender					
Male	36	84.75 ± 11.20	25.19 ± 4.08	24.53 ± 3.65	35.03 ± 5.14
Female	183	83.67 ± 10.24	24.50 ± 3.70	24.33 ± 3.50	34.83 ± 4.57
P		.570	.316	.756	.814
Age (years old)					
≤25	37	82.41 ± 9.93	24.54 ± 3.32	24.35 ± 3.30	33.51 ± 4.67
26-35	86	82.51 ± 11.45	24.17 ± 3.98	24.02 ± 3.82	34.31 ± 5.02
36-45	72	86.22 ± 9.41	25.42 ± 3.67	24.68 ± 3.42	36.13 ± 4.07
≥46	24	83.71 ± 10.04	23.92 ± 3.74	24.67 ± 3.02	35.13 ± 4.27
P		.122	.150	.665	.020 (age ≤ 25 years old vs 36-45 years old, *P*=.003; age ≤ 25 years old vs 26-35 years old, *P*=.410; age ≤ 25 years old vs ≥ 46 years old, *P*=.177; 26-35 years old vs 36-45 years old, *P*=.015; 26-35 years old vs ≥ 46 years old, *P*=.467; 36-45 years old vs ≥ 46 years old, *P*=0.306)
Occupation					
Doctor in geriatric department	39	84.59 ± 9.50	24.62 ± 3.69	24.69 ± 3.00	35.28 ± 4.38
Doctor in other departments	64	85.95 ± 9.95	25.81 ± 3.59	24.78 ± 3.40	35.36 ± 4.53
Nurse in geriatric department	59	82.88 ± 12.58	24.42 ± 4.34	24.27 ± 4.11	34.19 ± 5.34
Nurse in other departments	57	81.96 ± 8.56	24.47 ± 3.00	23.77 ± 3.30	34.72 ± 4.24
P		.156	.121	.410	.510
Education level					
Junior college and below	38	83.34 ± 9.29	24.00 ± 3.20	24.97 ± 3.09	34.37 ± 4.73
Undergraduate	100	82.02 ± 11.02	24.08 ± 3.97	23.65 ± 3.67	34.29 ± 4.87
Master	48	86.46 ± 9.11	25.75 ± 3.35	24.92 ± 3.23	35.79 ± 4.06
Doctor or above	33	86.15 ± 10.51	25.30 ± 3.98	25.03 ± 3.62	35.82 ± 4.57
P		.058	.036 (Junior college and below vs master, *P* = .016; junior college and below vs undergraduate, *P* = .912; junior college and below vs doctor or above, *P* = .028; undergraduate vs master, *P* = .013; undergraduate *vs* Doctor or above, *P* = .129; master vs undergraduate vs doctor or above, *P* = .584)	.053	.155
Working experience (years)					
≤5	73	82.85 ± 9.50	24.52 ± 3.32	24.15 ± 3.20	34.18 ± 4.65
6-10	33	81.76 ± 12.17	24.12 ± 3.86	23.70 ± 4.22	33.94 ± 5.18
11-15	57	84.63 ± 11.16	25.00 ± 4.34	24.53 ± 3.60	35.11 ± 4.80
≥16	56	85.57 ± 9.42	24.64 ± 3.69	24.88 ± 3.37	36.05 ± 3.99
P		.277	.752	.429	.082
Religious belief					
Yes	19	86.47 ± 9.05	25.58 ± 3.02	25.21 ± 2.64	35.68 ± 4.30
No	200	83.60 ± 10.49	24.53 ± 3.82	24.29 ± 3.58	34.79 ± 4.69
P		.251	.246	.276	.427

[a]Attitudes and choices toward death.
[b]Attitudes on disease and end-stage patients.
[c]Perception of hospice and palliative care and the usage of service.

contact with more patients and experience more deaths. Their work responsibilities and family roles also change. These factors may deepen their understanding of the passing of life, making them more likely to identify with hospice and palliative care. In addition, social conventions may also influence conversations in clinics and intensive care units that often maintain a tradition of not discussing death openly, which may further reduce social familiarity with and understanding of death and dying.[29] Shunmuga Sundaram et al[30] study pointed out that most healthcare professionals were able to recognize that hospice and palliative care is not only about medical care, but also includes psychological, social, and spiritual support. They were able to recognize the special needs of terminally ill patients, such as relieving pain and providing emotional comfort. Wei et al[31] concluded that, in general, healthcare professionals with more than 10 years of seniority had a positive attitude toward end-of-life and palliative care as an important expression of humanistic care for patients. However, some younger healthcare professionals still attach relatively low importance to hospice and palliative care, possibly due to their lack of experience. Hospice and palliative care aim to help patients achieve a peaceful end of life. To achieve this, understanding death, cognitive awareness of death, and developing a correct view of death are essential prerequisites for implementing hospice and palliative care services. Death education not only promotes respect for and cherishing of life but also recognizes the boundaries of life. It helps people face death with a calm attitude, eliminates people's anxiety and fear of death, and enables them to face death peacefully.[32] Tertiary hospitals have abundant medical resources and academic leadership advantages, with fully equipped specialized departments and highly skilled health professionals. They are the first choice for patients with major illnesses seeking medical treatment. Currently, China has limited hospice and palliative care resources, and the vast majority of terminally ill patients still receive treatment in tertiary hospitals. Health professionals in tertiary hospitals play an important role in patients' disease decision-making and treatment plan development and have a significant impact on patients' choice of hospice and palliative care. Their cognitive attitude toward death and the extent of their knowledge reserves about death largely determine whether patients can improve the quality of death and the quality of life.[33] Starting with healthcare professionals in tertiary hospitals, promoting education on life and death is an important way to promote the concept of hospice and palliative care.

This study has several limitations. Firstly, the small sample size and single-center design possibly restrict the generalizability of the findings across diverse regions in China. Secondly, the current study only focuses on physicians and nurses and does not include other healthcare personnel, such as medical students, nursing students, and nursing assistants, who also interact with patients and may have an impact on their decisions regarding hospice palliative care. Thirdly, the study's cross-sectional design provides a snapshot of attitudes and knowledge at a specific point in time. It does not allow for an examination of changes over time. A longitudinal study design would provide more robust data and insights into the dynamic changes in attitudes toward hospice and palliative care. Fourth, there may be sampling bias in the survey process of this study, which may affect the reliability of the data to some extent.

Healthcare workers in tertiary hospitals generally have higher academic qualifications and professional knowledge, and have a certain degree of awareness and recognition of hospice and palliative care, which will be conducive to our efforts to promote tertiary hospitals to establish hospice and palliative care demonstration and training centers integrating clinical medical care, teaching, and scientific research, which are on par with international standards, and to actively carry out life-and-death education to further enhance the promotion of the concepts of hospice and palliative care. In the future, researchers may also attempt to provide more comprehensive and systematic care for terminally ill patients and their families through multidisciplinary collaboration.

Ethics Committee Approval: This study was approved by the Ethics Committee of Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine University (Approval No. XHEC-D-2023-040, Mar. 8, 2023).

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – L.W., Z.X.; Design – L.W., Z.X.; Supervision – Y.C., Y.G.; Resources – Y.C., Y.G.; Materials – L.W., Z.X.; Data Collection and/or Processing – L.W., Z.X.; Analysis and/or Interpretation – L.W., Z.X.; Literature Search – L.W., Z.X.; Writing – L.W., Z.X.; Critical Review – Y.C., Y.G.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

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