Journal of Multidisciplinary Healthcare Dovepress

Open Access Full Text Article ORIGINAL RESEARCH

Factors Influencing Coping with Death Competence Among Chinese Oncology Nurses: A National Cross-Sectional Study

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Purpose: To identify the factors affecting Chinese oncology nurses' competency in coping with death, and their relationship with death attitudes and educational needs.

Methods: A national cross-sectional descriptive study was conducted using an online survey of Chinese oncology nurses. Data were collected using the Coping with Death, Death Attitude Profile–Revised, and Death Education Needs Scales. A Pearson's correlation analysis was used to examine the relationships among the research variables. A multiple linear regression analysis was used to analyze the factors influencing coping with death.

Results: The total score of coping with death was 133.57±26.78, showing a moderate coping level among Chinese oncology nurses. The Pearson's correlation analysis showed that death attitude was significantly and positively correlated with coping with death competence, and there was a statistically significant positive relationship between coping with death competence and death education needs. Years of oncology care experience, bereavement experience, death attitude, and death education needs were identified as statistically significant factors influencing competency in coping with death. These factors explained 30.6% of the differences in coping with death.

Conclusion: This study found that oncology nurses in China exhibited moderate levels of death coping competence, which needs to be improved to provide higher-quality end-of-life care. Further, death attitude and education needs were important factors affecting participants' coping with death competence. Tailored death education programs and continuing education on death should be provided for oncology nurses, to encourage them to actively participate in death competence-related training and promote an attitude of natural acceptance of death and positive care for terminally ill patients. In the future, virtual reality technology could complete course implementation designs with immersive, conceptual, and interactive characteristics, to enhance the death-coping education program. Nurses with less experience in oncology care and bereavement should improve their competency in coping with death.

Keywords: death competence, death attitudes, death education, oncology nurses

Introduction

As a result of traditional Chinese culture and philosophy, people tend to consider death a taboo topic.[1] For example, open discussions with dying patients regarding their terminal illnesses are often avoided.[2] Oncology nurses are healthcare professionals who have the most exposure to terminally ill patients and experience with patient deaths. Oncology nurses' coping with death competence (CDC) impacts the quality of life of terminally ill patients with cancer, and affects their physical and mental well-being.[3] Galiana et al[4] pointed out that when facing scenarios of separation and loss of life, the suffering of patients and the grief of bereaved family members often cause varying degrees of anxiety and helplessness among nurses. Moreover, their own emotions can be easily affected by the sadness and sorrow they witness, which may adversely affect their daily lives and the quality of end-of-life care.[5]

Received: 22 August 2024
Accepted: 15 October 2024
Published: 17 October 2024

Well-developed CDC is beneficial for oncology nurses' mental and physical health, as it can reduce adverse emotional experiences, such as burnout[6] and compassion fatigue.[7] Several nurses (15–40%)[8] experience persistent grief reactions after patient deaths. Moreover, in their study of 90 nurses working in intensive care units and cardiovascular wards, Kim et al[9] observed that nearly 30% of nurses exhibited insufficient CDC. Furthermore, a qualitative systematic review[10] outlined the various measures that nurses can take when confronted with patient death. Paradis et al[11] emphasized that death anxiety hinders CDC, whereas negative attitudes toward death may affect coping competency. However, Povedano et al[12] showed that nurses with positive attitudes toward death possessed a superior ability to cope with death. Compelling evidence from an Australian survey[13] revealed that nurses who received death education had better overall CDC than those who did not. These findings underscore the importance of providing relevant continuous educational support to nurses in China.

Death attitudes refer mainly to a personal attitudinal response to death, which is an evaluative and stabilizing psychological response.[14] Death attitude is multidimensional and can generally be classified as either positive or negative.[15] When nurses hold a positive attitude toward death, they approach end-of-life patient care with greater initiative and engagement.[16] If they adopt a negative attitude toward death, they may purposely avoid or exclude terminally ill patients, or hinder the acquisition of death-related knowledge and skills. Death education refers to educational activities and experiences aimed at assisting individuals in effectively confronting and handling death events.[17] It involves engaging individuals in discussions about the meaning of and attitudes toward death, dying, bereavement, and grief. Through these discussions, individuals are guided to face death. Death education also helps individuals understand the meaning of life and accept the end of life,[18] ultimately fostering positive attitudes toward death and developing coping behaviors. CDC comprises a series of measures and responses used by individuals to cope with death.[19] These include the techniques employed, corresponding to adaptive behaviors, attitudes, and deeply held beliefs. Coping with death is emotionally difficult for most nurses.[20] They may feel uncomfortable talking to dying patients and their families. Poor handling of patient deaths has been shown to increase compassion fatigue among nurses,[21] which is believed to have a negative impact on the quality of end-of-life care.

As frontline clinical workers and end-of-life care providers, nurses often deal with patient deaths. However, owing to the influence of traditional Chinese culture regarding life and death—which is, simply put, the "joy of life and fear of death"—death negatively affects oncology nurses. It is therefore essential to investigate nurses' attitudes toward death, their competency in coping with death, and their need for death education, all of which directly affect the quality of end-of-life care. Research on death has predominantly focused on the levels of death attitudes among nurses, with only a few qualitative studies[22,23] evaluating the barriers and facilitators of nurses' coping competencies toward death. Zheng et al[24] showed that new graduate nurses scored low in CDC, with 86.6% reporting that they did not receive training in caring for dying patients. Povedano-Jimenez's[25] survey of 534 Spanish nurses found that 61.2% of the respondents had strong competency in coping with death. Although the literature on coping with death in the nursing field is extensive, few studies have focused on Chinese oncology nurses; how Chinese cultural attitudes toward death, coupled with the unique challenges faced by oncology patients, influence CDC among oncology nurses remains largely unexplored. Furthermore, the roles of death education support and societal taboos in discussing death in oncology nursing in China have not been adequately examined. Therefore, this study seeks to fill this gap by investigating the specific attitudes toward death and the educational needs of Chinese oncology nurses, to help them learn how to cope with death, and to offer novel insights into a relatively under-researched area. This study therefore aimed to investigate death attitudes, CDC, and death education needs among oncology nurses; identify factors that affect CDC; and provide suggestions and guidance for implementing death education in clinical settings in China.

Methods

Study Design

This national cross-sectional descriptive study was conducted using online surveys. The Reporting of Observational Studies in Epidemiology (STROBE) checklist was used for the reporting.

Participants and Sample Size

This study was conducted using an electronic questionnaire survey at the National Oncology Nursing Conference held by the Chinese Nursing Association in Changsha, Hunan Province, from July 28 to July 30, 2023. The inclusion criteria were as follows: (1) nurses who had received a certificate of nursing practice, (2) who had more than one year of work experience, and (3) who provided informed consent and participated voluntarily in this study. Nurses with further training or internships were excluded from the study. Kendall's cross-sectional investigation was used to calculate the sample size, as follows: N = independent variables × (5–10). The independent variables included sociodemographic information, Coping with Death Scale (CDS) score (eight dimensions), Death Attitude Profile–Revised Scale (DAP-R) score (two dimensions), and Death Education Needs Scale (DENS) score (eight dimensions). Our study included 25 variables; therefore, the sample size should be N = 25(5–10). Given the potentially invalid questionnaire rate, 150–300 participants were necessary to obtain sufficient data for the analysis.

Data Collection

Wenjuanxing (https://www.wjx.cn/) was used to distribute an electronic convenience sampling questionnaire. The researcher informed the participants of the purpose, method, content, and inclusion and exclusion criteria of the research objectives; explained the purpose, significance, and filling method of the investigation, using unified guidelines; and maintained anonymity and confidentiality, based on the informed consent of the survey subjects. All questions were compulsory, and incomplete questions were not submitted. To ensure the integrity and authenticity of the survey data, two researchers completed the questionnaire before the formal survey; the survey took at least a minute to complete and each mobile device IP address could only submit once. In total, 650 questionnaires were collected within the stipulated timeframe. After excluding 30 invalid questionnaires, 620 were included, an effective response rate of 95.4%.

Measures

Sociodemographic Characteristics

Sociodemographic characteristics included sex, age, education level, hospital level, years of work experience in oncology care, religion, and experience of bereavement.

Coping with Death Scale (CDS)

The CDS was designed by Bugen et al[26] in 1981 and translated into Chinese by Zeng et al.[27] The high Cronbach's alpha of the translated version (0.92) supports its internal consistency, making it a robust tool for measuring CDC among Chinese nurses. The scale includes 30 items across eight dimensions: death acceptance, death processing, death thinking and expression, funeral processing, life inspection, loss processing, ability to discuss others' deaths, and ability to discuss death. Items were answered on a 7-point Likert scale, from 1 = "Completely disagree" to 7 = "Completely agree." The total possible score ranged from 30 to 210. The higher the total score, the stronger the ability to cope with death. The higher the subscale score, the more inclined the coping method.

Death Attitude Profile—Revised Scale (DAP-R)

The DAP-R scale was developed by Wong et al.[28] The Chinese version was translated and culturally adjusted by Tang et al[29] in 2014, using Brislin's cross-cultural principles. The scale includes 5 dimensions and 32 items divided into negative and positive attitudes. Negative attitudes include the two dimensions of fear of death (seven items) and death avoidance (five items), whereas positive attitudes include nature. There were three dimensions: acceptance (five items), escape acceptance (five items), and approach acceptance (10 items). Different items are rated on a 5-point Likert scale from 1 = "Strongly disagree" to 5 = "Strongly agree." The total possible score ranged from 32 to 160 points; the higher the score on a certain dimension of the scale, the more the individual's death attitude tended toward that dimension. Given that attitudes toward death can vary significantly across cultures, particularly in Chinese society—where discussing death is often considered a taboo—this scale is considered particularly relevant. Its adaptation to Chinese culture

ensures that the questions are sensitive to these cultural nuances, and its overall reliability (Cronbach's alpha = 0.875) makes it suitable for measuring attitudes within this population.

Death Education Needs Scale (DENS)

The DENS was used to measure the current status of individual death education needs. This scale was compiled by Feng in 2011.[17] As Chinese nurses might have unique educational requirements, due to cultural differences in how death is perceived and handled, it provides a comprehensive overview of these needs. A high internal consistency (Cronbach's alpha = 0.973) indicated that it could reliably assess the needs of domestic nurses. The scale includes 50 items in eight dimensions: an introduction to death education (seven items); philosophy, religion, and folklore views on death (six items); death attitudes of all age groups (four items); near-death nursing (16 items); loss and grief care (four items); funeral-related issues (four items); suicide-related issues (four items); and ethics and law of death-related issues (five items). Different items were rated on a 5-point Likert scale, from 1 = "very unnecessary" to 5 = "very necessary." The total scale score ranged from 50 to 250 points; the higher the score, the greater the individual's need for education about death.

Statistical Analysis

Data were entered and checked by two researchers, and IBM SPSS (V.26.0; IBM Corp.) software was used for data statistics and analysis. Measurement data, such as death attitude, CDC, and death education need scores were tested for normality and were found to be consistent with normality. Continuous variables are expressed as mean ± standard deviation (SD). An independent *t*-test and analysis of variance were used for the univariate analysis to evaluate and compare differences in CDC. A Pearson's correlation analysis was used to explore the correlations among death attitudes, CDC, and death education needs. Multiple linear regression analyses of the factors influencing CDC ($P<0.05$) were considered statistically significant.

Ethical Considerations

This study was approved by the Ethics Committee of the authors' affiliate institution (CS2023527). This study was conducted in accordance with the principles of the Declaration of Helsinki and followed the relevant guidelines and regulations. All participants provided informed consent before participation.

Results

Demographic Information

A total of 620 oncology nurses were included in this study, of which 612 were female, and whose ages ranged from 23 to 47 years, with a mean age of 32.07 years (±5.32). Additionally, 81.1% had a bachelor's degree, 79.4% were from tertiary hospitals, 39.0% had 5–10 years of work experience in oncology care, 93.2% did not follow a religion, and 55.8% had no bereavement experience. Table 1 presents the demographic characteristics of the participants.

Relationship between CDC, Death Attitude, and Death Education Needs

The Pearson's correlation analysis showed that death attitude was positively correlated with CDC (r=0.453, $P<0.01$), and that there was a positive relationship between CDC and death education needs (r=0.405, $P< 0.01$; Table 2).

Univariate Analysis

Nurses who worked in tertiary hospitals ($F=6.224$, $P=0.002$), those who had been working in oncology care for a long time ($F=5.563$, $P=0.004$), and those with experience of bereavement ($t=4.065$, $P<0.001$) had higher CDC scores. No significant differences in CDC scores were found based on sex, age, educational level, or religion.

Multiple Linear Regression Analysis

The total CDC score of the oncology nurses was used as the dependent variable, the factors with statistically significant differences in one-way analysis ($P<0.05$) were used as the independent variables (Table 3 for the independent variable assignments), and multivariate linear regression analyses were performed (α in = 0.05, α out = 0.10). As shown in

Table 1 Demographic Characteristics of Chinese Oncology Nurses (n=620)

Demographic Characteristics	n (%)	Score (M±SD)	t/F	P
Gender			1.249	0.213
Male	612 (98.7)	139.45±32.63		
Female	8 (1.3)	136.45±26.79		
Age (years)			1.366	0.264
20–30	170 (27.4)	132.19±27.29		
31–40	380 (61.3)	142.15±33.76		
≥41	70 (11.3)	144.72±27.28		
Educational level			3.562	0.313
Junior college and below	87 (14.1)	135.50±24.77		
Bachelor's degree	503 (81.1)	131.16±27.28		
Master's degree and above	30 (4.8)	135.50±24.77		
Hospital level			6.224	0.002
Tertiary hospitals	492 (79.4)	148.36±31.11		
Secondary hospitals	86 (13.8)	134.17±24.28		
Primary hospitals	42 (6.8)	131.36±27.08		
Years of working experience in oncology care			5.563	0.004
≤1 year	51 (10.8)	131.92±28.75		
2–5 year	62 (35.7)	134.60±18.47		
5–10 year	83 (39.0)	138.76±24.97		
≥10 year	30 (15.5)	141.39±31.06		
Religion			1.215	0.226
No	578 (93.2)	137.24±27.63		
Yes	42 (6.8)	131.82±26.14		
Bereavement experience			4.065	<0.001
No	346 (55.8)	130.01±25.43		
Yes	274(44.2)	140.92±26.21		

Abbreviation: SD, standard deviation.

Table 2 Descriptive Statistics and the Inter-Correlation of Variables

	1	2	3	Mean	SD
1. Coping with death	1			133. 57	26. 78
2. Death attitude	0.453**	1		91.63	11.21
3. Death education needs	0.405**	0.357**	1	201.68	27.57

Note: **$P < 0.01$.

Table 3 Assignment of Independent Variables

Variables	Assignment Method
Hospital level	0= Tertiary hospitals, 1= Secondary hospitals, 2= Primary hospitals
Years of working experience in oncology care	0=≤1 year, 1= 2–5 year, 2= 5–10 year, 3=≥10 year
Bereavement experience	0=No, 1=Yes
Death attitude	Measure value
Death education needs	Measure value

Table 4, the results showed that years of work experience in oncology care, bereavement experience, death attitude, and death education needs were the main factors affecting Chinese oncology nurses' competency in coping with death, explaining 30.6% of the total variance.

Table 4 Multiple Linear Regression Analysis of Coping with Death

Variable	B	SE	Beta	T	P
Constant term	2.039	0.369	–	5.533	<0.001
Years of working experience in oncology care	0.188	0.083	0.188	2.260	0.026
Bereavement experience	0.338	0.107	0.259	3.13	0.002
Death attitude	0.258	0.106	0.201	2.423	0.017
Death education needs	0.315	0.154	0.192	2.048	0.043

Note: $P < 0.001$; $R^2 = 0.325$, adjusted $R^2 = 0.306$.
Abbreviations: β, beta; SE, standard error; *F*, 5.699.

Discussion

To the best of our knowledge, this is the first study to investigate the current CDC status of oncology nurses in China. This study showed that oncology nurses had a total CDC score of (133.57±26.78), indicating that Chinese oncology nurses' competency in coping with death was at an intermediate level. Povedano-Jimenez's[25] survey of 534 Spanish nurses found that 61.2% of the respondents had strong competency in coping with death; China's oncology nurses' CDC scores were comparatively lower than those in other countries, such as Spain. This may be attributed to differences in nursing education and professional development. China's nursing education system may focus more on technical skills or adherence to protocols than on fostering a strong sense of personal care and competence. Due to China's traditional cultural avoidance of discussing death, death education is not yet widespread among frontline oncology nurses. In contrast, Western countries emphasize the holistic aspects of patient care and professional development, leading to higher CDC scores.

The results of this study showed that nurses with more experience in oncology care have higher levels of CDC. With more work experience, oncology nurses come into contact with terminally ill patients and their families often, and therefore gain more experience in dealing with death, summarize and reflect on the process of dealing with death, and understand the needs of the patients and their families. This indicates that nurses should improve their CDC, to thereby enable them to face and deal with death more calmly. Oncology nurses' CDC is also affected by their bereavement experience, which is consistent with previous studies.[19] Nurses who have had bereavement experiences rationally think about the meaning of life and the nature of death when facing and dealing with the death of their patients. This stimulates the motivation and demand for learning about death, and increases the desire to obtain correct and effective death education, to improve CDC. The results showed that the main factors affecting Chinese oncology nurses' CDC explained 30.6% of the total variance. However, a proportion of this variation remains unexplained. It could be because of missing potential variables or the need for more complex model structures. Future research could involve identifying potential factors, refining data collection methods, and exploring more sophisticated modeling techniques to improve the explanatory power of the model.

This study shows that the more positive the death attitude of oncology nurses, the stronger their CDC, and that death attitude can effectively predict CDC. However, we also found that oncology nurses' attitudes toward death were not optimistic. Positive attitudes toward death enable practitioners to face death openly, proactively address death-related issues with patients and their families, and reflect on the nature and meaning of life.[30] Additionally, when caring for dying patients, positive experiences, psychological stress adjustment, and skills in dealing with death-related events directly enhance the patient's quality of death. The influence of traditional Chinese culture on life and death—which is the "joy of life and fear of death"—and the lack of systematic training in death education has led some practitioners to avoid dealing with terminally ill patients or talking about their deaths. This, in turn, creates role conflicts and professional burnout in the face of death-related events, which impede the learning of knowledge and skills in death education, and lowers their CDC.

The results showed nurses' need for death education score to be (201.68±27.57), which indicates that nurses' need for death education was high, with the highest need for near-death care education. The correlation analysis showed that oncology nurses' death education needs were positively correlated with their CDC, indicating that the higher the death education needs of oncology nurses, the stronger their CDC. Because nurses are on the frontline of patient care, they are

more likely to be exposed to patient death. Nurses therefore experience stress reactions, sadness, difficulty forgetting about patient deaths, and insufficient time to deal with deaths.[18] This indicates that nurses have insufficient CDC to effectively deal with patient death. This indicates the urgent need for professional and effective death education and grief counseling, for nurses to cope with and manage deaths.

Death education in China was first proposed at the National Symposium on Euthanasia in 1988. However, it is still, to this day, in the stage of theoretical exploration and has not yet been incorporated into the medical education system. It is difficult for nurses to obtain systematic death education during their school years, and continuing education on death after joining the workforce is lacking. Therefore, it is essential for nurses to receive death education, and the demand for death education remains high. Previously reported findings suggest that death experiential workshops can improve medical personnel's self-competence in end-of-life care.[31] Raccichini et al[32] confirmed that death education workshops can enhance nurses' ability to manage death with greater confidence and professionalism. Hospital managers should be oriented to the needs of nurses' competence in death work, targeting death-related knowledge and skills training, exploring a practical death education and training model that meets China's national conditions, and conducting longitudinal studies to assess the long-term impact of death education on CDC. Death education and training should be based on nurses' characteristics and personal experiences, fully considering their years of experience and bereavement experience, and provide personalized and targeted death education and training to change nurses' attitudes toward death, and ultimately improve their competency in coping with death.

Limitations

This study used convenience sampling, rather than random sampling, which limits the generalizability of the findings. Convenience sampling can cause selection bias, meaning that the sample may not accurately represent the broader population. Owing to the sensitive nature of the topic, social desirability bias may distort the data, especially for topics involving personal beliefs, behaviors, or stigmatizing issues. Responses were obtained only from nurses who agreed to participate; the results of those who did not participate were unknown, which may also undermine the generalizability of the study results. Additionally, the participants were primarily oncology nurses from tertiary hospitals; this group may have received more training in death-related skills than oncology nurses from lower-level hospitals. Therefore, findings may differ among oncology nurses in different hospitals.

Conclusion

This study found that oncology nurses in China exhibited moderate levels of CDC, which must be improved to provide higher-quality end-of-life care. This study showed that death attitudes and education needs were important factors affecting CDC among Chinese oncology nurses. Hospital managers need to implement tailored death education programs, strengthen continuing education on death for oncology nurses, encourage them to actively participate in death-related training, and promote an attitude of acceptance of death and positive care for terminally ill patients. In the future, virtual reality technology can be used to complete course implementation designs with immersive, conceptual, and interactive characteristics, as part of the death-coping education program. Attention should also be paid to nurses with fewer years of work experience in oncology care and no bereavement experience, to improve their competency in coping with the deaths of terminally ill patients.

Acknowledgments

We would like to express our deepest gratitude to Dr. Yongqiang Yang and Dr. Xueqing Zhang for their invaluable contributions to this manuscript. Dr. Yongqiang Yang and Dr. Xueqing Zhang meticulously reviewed the manuscript, offering insightful revisions that enhanced the overall quality and rigor of the work.

Funding

This work was supported by the Natural Science Foundation of Hunan Province of China (2020JJ4417).

Disclosure

The authors report no conflicts of interest in this work.

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