



RESEARCH ARTICLE

Detailed Curriculum Needs of Higher Education Students Regarding Death Education in Mainland China: A Scoping Review

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ABSTRACT

The objective of this scoping review was to investigate the distinct requirements of higher education students in mainland China regarding death education courses. This scoping study has identified and documented the existing research information regarding the necessity of death education courses, as seen by higher education students in mainland China. The purpose was to identify any gaps in evidence and literature for future research. A thorough literature search was undertaken in June 2024, encompassing both Chinese and English languages. Five library databases were utilised, covering the period from 2005 to 2024. Following a rigorous two-step evaluation process conducted by two reviewers, following pre-established criteria for inclusion, a total of 23 publications were selected. These articles consisted of 20 Chinese studies and 3 English studies. The data from each study were extracted, documented, and analysed using thematic analysis of the content of the included publications and quantitative analysis of the scoping review. These publications disclose the requirements of mainland China higher education students about course instructors, as well as their requirements for course objectives, content, teaching methods, teaching formats, and teaching assessment systems. The requirements of students in various fields and grade levels varies, as do the needs of students with varying expectations of death education and diverse circumstances surrounding the death day. Hence, educators must to thoroughly examine the requirements of pupils and develop focused and effective curricula. Future research should focus on refining the specific requirements of students at different grade levels and academic disciplines. Additionally, it should investigate adaptable and varied teaching and assessment approaches to boost the effectiveness of the structured death education curriculum system.

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INTRODUCTION

From the perspective of death education researchers, death is considered a fundamental aspect of life for every individual. Therefore, if death is not taken into consideration, it becomes impossible to

educate about life. (Carr, 2015)The key principle in teaching is that educational endeavors must address the most crucial aspects of human existence.(Kellehear, 2015; Testoni et al., 2020)For these apparent reasons, death education is deemed essential for every conscious being.(de la Herrán Gascón et al., 2019)

Indeed, from an international perspective, death is not unfamiliar to schools and educational institutions. For experienced educators and professors, death education is not a novelty (Roberts, 2020). Research reveals that the origins of "death education" can be traced back to the 1920s, and from 1928 onwards, it has undergone stages of germination, exploration, development, promotion, and standardization on an international scale (Fonseca and Testoni, 2012; Pine, 1977). According to data analysis, as early as 1978, at least 938 universities in the United States offered death education courses as part of the training for healthcare professionals (Durlak, 2015).

The implementation of death education courses in mainland China began in the late 1980s when scholars translated and published foreign articles on death education, drawing academic attention and marking the initial phase of death education in mainland China (Wang et al., 2004). Within traditional Confucian culture in China, attitudes toward death, such as avoiding discussions on "rebirth and death" and understanding the unknown aspects of life, have been characterized by taboo and avoidance measures (Wang Y.L., 2020). Consequently, there is a scarcity of articles on death education, lacking continuity and systematization (Wang et al., 2004).

In the 20th century, research on death education in mainland China was limited, lacking in-depth studies on the theory and practice of death education. However, in the early 21st century, an increase in violent events, such as suicides and violent injuries, especially among higher education students and young people, led to societal phenomena such as a lack of meaning in life and disregard for life, garnering public attention. Researchers gradually recognized the absence of death and life-related education in ideological and political education, increasing focus on death education. However, as a relatively new research field, death education in mainland China still has many gaps that scholars need to explore further in terms of theoretical research and practical applications (Wang et al., 2004).There is a growing agreement among a specific group of people that mainland China should prioritise the development of death education courses. In fact, some researchers have gone as far as suggesting that death education should be incorporated into China's national education system(Wang Y.L., 2020).Nevertheless, there is a lack of unanimous agreement over the specific type of death instruction curriculum that should be implemented.

Nevertheless, it is crucial to do a suitable assessment of the educational needs for a death course in order to direct the creation of a thorough strategy for death education. By conducting an investigation and comprehending the requirements and anticipations of the students regarding the course, we can guarantee that the course is relevant and useful, enabling students to effectively use their acquired knowledge and fulfil their developmental requirements.

The purpose of this scoping review is to identify and document the existing articles that discuss the necessity of death education courses from the viewpoint of higher education students. Additionally, it aims to identify areas where further research is needed in the field of death education and provide guidance for the future planning and development of death education courses for educators, education managers, and education policy makers.

METHODS

Protocol

A scoping review, based on the methodology proposed by Arksey and O'Malley (2005), was done between March and May 2024. The current scoping review will be outlined below, consisting of five

stages: The research process involves five key steps: 1) Formulating the research topic, 2) Identifying pertinent studies, 3) Selecting the appropriate studies, 4) Organising and summarising the collected data, and 5) Applying an analytical approach (Arksey and O'Malley, 2005). Scoping reviews are particularly useful for identifying areas with little randomised controlled trials and growing evidence. Therefore, studies with various study designs can be incorporated within a scoping review (Levac et al., 2010) A scoping review was necessary for the current study because the available literature on the topic of 'Death Education Needs of Higher Education Students in Mainland China' was limited. The study aimed to explore the need for a death education curriculum for higher education students, considering various factors such as course content, teaching methods, learning resources, assessment methods, student backgrounds, and industry needs. Scoping reviews have the ability to thoroughly gather and arrange this wide-ranging information, offering a holistic viewpoint. The review was not registered. The article adhered to the PRISMA-ScR checklist (Tricco et al., 2018).

Eligibility criteria

Scoping reviews adopt a comprehensive approach and encompass all available literature, irrespective of research design, subject, or quality. To address the research inquiry "What are the needs on death education curriculum of higher education students in mainland China?" The qualifying criteria were formulated to precisely delineate the objective of the review and provide guidance to the reviewers in determining which articles to incorporate. The qualifying criteria were formulated based on the JBI (2015) principles, employing the Participants, Concept, and Context acronym.

- **Participants:** Higher education students from diverse majors, who possess the suitable viewpoint to address the educational necessity of death education courses. No professional filtration method was employed.
- **Concept:** The primary concept examined was the necessity of death education courses for students in higher education, gathered through interviews, surveys, or thorough field work observations. The investigations included explicit mentions of the word "need," as well as its synonyms or implicit references.
- **Context:** This pertains to universities and colleges in Mainland China, excluding Hong Kong, Taiwan, and Macau. The focus is on death education and courses related to it. Articles that incorporated death education and education on life and mental health were included if they provided clear information about death education or a curriculum on death education.
- **The following items were excluded:** literature reviews, master's theses, articles written in languages other than English and Chinese, editorials, letters, comments, and studies done exclusively in Hong Kong, Macau, and/or Taiwan. Existing research solely examines mortality without addressing death education and its associated requirements. Additionally, there are studies that acknowledge the necessity for death education but lack empirical data to substantiate their claims. Furthermore, there are studies that are not relevant to college or university students.

Information sources and search strategy

In order to address our research inquiries, we conducted a comprehensive search for scholarly articles that specifically examine death education curricula in mainland China. The search was limited to the period between January 1, 2005, and June 10, 2024. We utilized four prominent international databases, namely Web of Science, ProQuest, Scopus, and PubMed, as well as one Chinese knowledge resource database called the China National Knowledge Infrastructure (CNKI). The conclusive investigation was carried out in June 2024. The final search utilized the following terms: death education OR bereavement education OR grief education OR death awareness OR death

attitudes OR death literature OR death cognition OR death emotion OR coping with death OR death behavioral states OR psychological aspects of death; higher education OR university OR college; Need OR Needs OR Prioritize OR Demand; mainland China OR China+; encompassing all study designs and incorporating both English and Chinese papers A total of 505 items were identified in the initial searches. The articles were downloaded into Endnote 21, then consolidated, and any duplicates were removed, resulting in a total of 25 articles. The search procedure is depicted in Appendix 1.

Study selection process and charting

The primary author determined the inclusion of a work by a two-step screening process: initially, by reviewing the title and abstract of the paper, and subsequently, by reading the entire document. The second author conducted an audit of the search and selection processes to ensure that the inclusion of articles was impartial and thorough.

The rejected articles were either blatantly unrelated or failed to meet one or more of the inclusion requirements, albeit addressing the issue in a generic manner.

Assessment of quality

The current scoping review methodological guidelines do not require a formal quality assessment of eligible articles to ensure valuable insights reported in lower quality studies are not excluded. However, a quality assessment was conducted in this review to assist in validating the quality of the literature. All eligible articles are retained in this scoping review regardless of their quality. In the event of any conflicts arising during the screening process, the two authors engaged in discussions regarding the inclusion or exclusion of certain elements until a consensus was ultimately established.

Data extraction and charting

According to the PRISMA flow chart (Moher et al., 2009) in Figure 1, a total of 505 records were found in the five databases. Out of these, 25 duplicates were removed, and 352 entries were discarded based on their title and abstract. Subsequently, the remaining 128 records were obtained and thoroughly examined for assessment purposes. Aside from three records lacking complete text, we eliminated 96 research papers based on the exclusion criteria and ultimately reviewed 23 papers for analysis. Out of the total of 28 articles, 20 were carried out in Chinese, while the remaining 3 were conducted in English. All of the research was conducted only in mainland China.

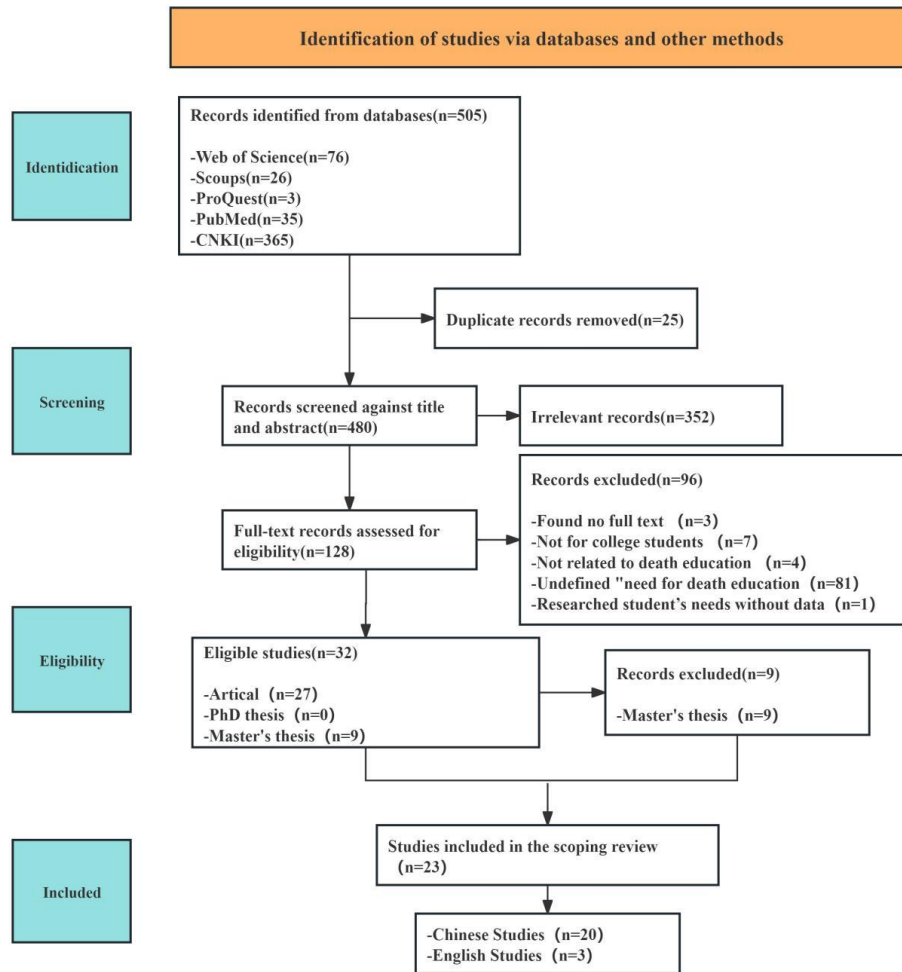


Figure 1. From Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/> (Page et al., 2020)

Synthesis

The analysis seeks to offer a comprehensive understanding of the knowledge in the field (Aromataris and Munn, 2020). The analysis phase comprises two main components: firstly, doing a comprehensive analysis of the data, which involves both descriptive numerical summary analysis and qualitative thematic analysis; and secondly, presenting the findings by organizing them into themes that are relevant to the research objectives (Levac et al., 2010). The descriptive summary analysis is derived from the data chart, while the qualitative theme analysis is influenced by Braun and Clark's work (Braun and Clarke, 2006). The results section presents a descriptive summary analysis in the form of "study characteristics". The technique of theme analysis involves iteratively reading the article to develop comprehension of the study and cultivate familiarity with the empirical information. Secondly, the study's primary findings are being compared in order to identify the differences linked to the research objectives. Additionally, preliminary themes are being constructed based on the coded material. Furthermore, the authors collectively agree upon an analysis procedure in which the ideas are thoroughly analyzed and expanded upon. During the analysis, the authors consistently contrasted the themes they developed and the articles they included to ensure that the

themes accurately represented the substance of the articles and that the built themes addressed the study's objective. The themes and sub-themes were further developed, clearly defined, and assigned names, as shown in Table 1.

The synthesis of quantitative and qualitative data was conducted using the qualitative method of analyzing quantitative data. The data obtained from the quantitative investigation was transformed into "text descriptions" to be combined with the qualitative data. Qualitative analysis entails the process of interpreting quantitative data using narrative means. The numerical data in the themes aligns with and reinforces the significant concepts and views put forward in the interpretative and critical paradigms, and vice versa (Creswell and Clark, 2017; Lizarondo et al., 2019). Using this analytical methodology, we will now provide a concise overview of the studies that were included in the analysis (as shown in Table 2) and highlight the key conclusions of this study.

Table1: Themes and Sub-themes

Themes	Sub-themes
Needs for teachers	Positive attitude towards death; Good communication skills; Rich professional knowledge; Systematic training and teaching skills; Skills in coping with death and emotional support
Needs for Curriculum Purpose	Understand the nature and significance of death; Improve professional work ability; Face death scientifically and calmly
Needs for Curriculum Contents	The nature and meaning of death; End-of-life care and practical skills; Psychological and emotional support; Ethical and legal issues
Needs for Curriculum Delivery Formats and Methods	Curriculum lectures and special lectures Film and multimedia teaching Scenario simulation and case analysis Personal experience and participation in practical activities
Needs for Curriculum Evaluation Methods	Curriculum paper Unrestricted examination
Needs for Curriculum Schedule	Frequency Hours Start time Flexible

Table 2: Summary of included studies

NO.	Title	Author /Research Location /Published Year	Journal (Year: Impact Factor)	Purpose	Informants	Methodology	Findings in relation to Students' Needs for Death Education Curriculum	Students' Needs for Death Education Curriculum
1	The construction of a college student death education system of "living towards death" - based on a survey of college students' death education needs	Wang, Shandong, 2015	Modern Educational Science·Higher Education Research (2015:0.81)	Construction of a college student death education system	2672 college students	Questionnaire survey	85.71% of college students believe that death education is necessary, but only 5.7% have received death education in school.	<p>Needs for Educators : Specialized teachers</p> <p>Curriculum Purposes : No empirical answers</p> <p>Curriculum Contents:The meaning, nature, causes, moral and ethical aspects of death, life course, etc.</p> <p>Curriculum Delivery Formats:Lectures, courses</p> <p>Curriculum Delivery Methods:No empirical answers</p> <p>Curriculum Evaluation Methods:No empirical answers</p> <p>Curriculum Schedule:Not mentioned</p>
2	Death education on demands of College students and related influencing factors	Huang et al., Hunan 2020	Chinese Journal of Preventive Medicine (2021: 1.402)	Analysis of the current situation of college students' demand for death education and its influencing factors	1254 college students	Questionnaire survey	The research subjects have a great demand for death education (58.05%)	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Not mentioned</p> <p>Curriculum Delivery Formats:Film and television appreciation,</p>

								<p>case analysis, lectures, etc.</p> <p>Curriculum Delivery Methods:Face-to-face teaching combined with online teaching</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Most college students choose to attend classes once a week for several consecutive weeks.</p>
3	Analysis of the attitudes of medical students towards death and their needs for life and death education in a certain university	Xia et al., Guang dong, 2011	China Higher Medical Education (2011: 1.30)	Understanding the attitudes of college students towards death and their needs for life and death education	293 college students	Cluster sampling questionnaire	82.3% hope to learn more about death	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Learn more about death-related topics,Want to understand the nature and significance of death</p> <p>Curriculum Contents:No empirical answer</p> <p>Curriculum Delivery Formats:Offer elective courses, expert lectures, etc.</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
4	Study on attitude towards death of nursing students and cognitive	Huang., Jiangsu, 2014	Nursing Research (2014: 1.37)	Understanding the attitudes towards death and the	359 nursing students	Questionnaire survey	Nursing students have a high demand for death education, especially interns have a more urgent need. It is	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p>

	status quo on death education			cognition and needs of death education of nursing freshmen and interns			recommended that a complete death education system should be established in medical schools	<p>Curriculum Contents:Not mentioned</p> <p>Curriculum Delivery Formats:Mass media, elective courses, expert lectures, books, death experience, etc.</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
5	Survey and analysis of the death education needs of 802 undergraduate nursing students	Peng et al., Sichuan, 2017	Journal of Nursing (2017: 1.71)	Understanding the current status of death education needs of undergraduate nursing students	802 undergraduate nursing students	Questionnaire survey	Nursing students have a high level of demand for death education	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Help nursing students deal with death correctly and improve nursing quality</p> <p>Curriculum Contents:Not mentioned</p> <p>Curriculum Delivery Formats: video teaching films, course lectures, scenario simulations, etc.</p> <p>Curriculum Delivery Methods:No empirical answer</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
6	Survey on the current status of the needs of 233	Zhang et al., Jiangsu, 2018	Journal of Nursing (2018:1.70)	Understanding the needs of nursing	233 undergraduate nursing students	Questionnaire survey	The content requirements score for death	<p>Needs for Educators:Not mentioned</p>

	undergraduate nursing students for death education content			students for death education content			education is high.	<p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:The three items with the highest scores are informing the way of death, the psychology of the dying, and helping the dying face death.</p> <p>Curriculum Delivery Formats:Not mentioned</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
7	Requirements of the life attitude and death education in 233 nursing students and its correlation	Wan et al., Jiangsu, (2018: 1.41)	Journal of Clinical and Pathological Research	To explore the current status of nursing students' life attitude and death education needs and their correlation	233 nursing students	Questionnaire survey	Students' "life autonomy" and other aspects are correlated with death education needs. Death education needs = $0.413 \times \text{love and care} + 0.456 \times \text{death attitude} + 123.048$.	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:"End-of-life care and death preparation" are the contents that nursing students of all grades need to learn urgently.Third-year nursing students also realize the importance of ethics-related knowledge, and "attitudes of all ages towards death", "suicide-related issues" and "ethical issues" have become the contents that fourth-year nursing</p>

								<p>students hope to master.</p> <p>Curriculum Delivery Formats:No empirical answer</p> <p>Curriculum Delivery Methods:No empirical answer</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
8	<p>Survey on the attitude towards death and death education needs of clinical medical students - Taking Sanquan College of Xinxiang Medical College as an example</p>	<p>Zhang, Henan, 2018</p>	<p>Health Vocational Education (2018: 0.8)</p>	<p>Understanding the attitude towards death and death education needs of clinical medical students</p>	<p>268 clinical medical students</p>	<p>Questionnaire survey</p>	<p>98% of students have a high demand for death education</p>	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Let themselves face death calmly, help patients' families accept the death of patients, improve professional ability or better care for terminally ill patients, etc.</p> <p>Curriculum Contents:No empirical answer</p> <p>Curriculum Delivery Formats:Classroom teaching, special lectures</p> <p>Curriculum Delivery Methods:No empirical answer</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>

9	Attitudes toward and Demands of Death Education of Medical Undergraduates in Shanghai	Cao et al., Shanghai, 2018	Journal of Nursing (2018:1.068)	Survey on the needs and attitudes of undergraduate students in medical colleges in Shanghai towards death education	1488 undergraduates	Questionnaire survey	Undergraduate students in medical colleges have a high demand for death education (92.2%)	<p>Needs for Educators:1177 (79.10%) medical students chose "having a correct attitude towards death", 1122 (75.40%) chose "having good communication conditions", 1044 (70.16%) chose "having knowledge related to death", and 1006 (67.61%) chose "having knowledge related to hospice care". In addition, medical students believe that the course lecturers should be mainly those who have received systematic training in death education knowledge and teaching skills, and those with death care professional qualifications, such as undertakers and funeral attendants, can participate in teaching and share rich care experience and clinical cases.</p> <p>Curriculum Purposes:Help medical students establish a scientific attitude towards death. After entering internship, medical students can apply what they have learned to better deal with death events and doctor-patient relationships,</p>
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								<p>and deepen their understanding of the relationship between death education and life.</p> <p>Curriculum Contents:Not mentioned</p> <p>Curriculum Delivery Formats:Elective courses (48.05%), compulsory courses (30.78%)</p> <p>Curriculum Delivery Methods:Case analysis method, personal experience method, scenario simulation method</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:</p> <p>1164 (78.23%) medical students chose "during school", of which the highest proportion of 388 (26.08%) believed that the course should be offered in the "freshman year". The class hours for death education are set at (21.63±19.68) hours, and the highest proportion of those who chose "20" hours is 599 (37.57%).</p>
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10	Study on the Demand and Implementation of Death Education by Medical Students	Zhou et al., Yunnan, 2020	Comparative Study on Cultural Innovation (2020: 0.103)	Investigation on the cognition and demand of medical students of Kunming Medical University for death education knowledge	224 medical students of Kunming Medical University	Interview and questionnaire survey	The medical students of this school have a high demand for death education, but 92.42% of the medical students of this school have not studied systematic death education courses.	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:No empirical answer</p> <p>Curriculum Contents:Emotional education related to the nature of death, death and dying emotions, death and dying debugging skills training, etc.</p> <p>Curriculum Delivery Formats:Infiltrate into various subjects, visit death museums, watch videos related to death education, etc.</p> <p>Curriculum Delivery Methods:Random teaching method, personal experience method, appreciation and discussion method, etc.</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
11	Current status and research on medical students' death education	Fan , Sichuan, 2020	Medical Teaching Management (2020: 1.93)	Understand the current status of medical students facing death/dying patients in clinical work, the current status and needs of death	165 medical students	Questionnaire, Psychological Projection Experiment	96.3% of the respondents believed that it was necessary to carry out death education for clinical medical students, but only 7.9% of the respondents had received systematic death education	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Professional ability to deal with death/dying patients, reduce psychological pressure in the face of death</p> <p>Curriculum Contents:Professional ability to deal with death/dying patients, adjust</p>

				education				<p>psychological pressure in the face of death, and handle doctor-patient relationship</p> <p>Curriculum Delivery Formats:No empirical answer</p> <p>Curriculum Delivery Methods:No empirical answer</p> <p>Curriculum Evaluation Methods:No empirical answer</p> <p>Curriculum Schedule:Not mentioned</p>
12	Attitudes toward and Perceptions of Educational Needs for End-of-Life Care among Health Professionals Students: A Cross-Sectional Study in China	Song et al., Shanghai, 2021	Journal of Pain and Symptom Management (2021: 5.297)	Identify the potential classification of health professions students' needs for end-of-life care education	1048 health professions students	Multi-point cross-sectional survey	Two classes of perceptions of end-of-life care educational needs were identified: medium-need group and high-need group, with interindividual variability in perceptions of educational needs	<p>Needs for Educators:A positive attitude toward death, communication skills, and knowledge of death were regarded as the most important competencies for the teachers.</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Family members' feelings about the patient's condition, the psychological needs of the dying and the dying, and their own negative emotional processing.</p> <p>Curriculum Delivery Formats:Case analysis method, scenario simulation method, etc.</p> <p>Curriculum Delivery Methods:Case analysis method,</p>

								scenario simulation method, etc. Curriculum Evaluation Methods: Not mentioned Curriculum Schedule: Not mentioned
13	Demand survey and discussion on the death education course of a certain military medical university	Feng et al., Shanghai, 2021	China Higher Medical Education (2021: 1.30)	Investigate the cognition and demand of medical students in a certain military medical university for death education	488 medical students	Online electronic questionnaire survey	Medical students in the school have a high demand for death education. The demand of medical students who have undergone clinical internship is higher than that of those who have not undergone internship. Students require the establishment of a death education course system that meets the professional needs of military academies	Needs for Educators: Not mentioned Curriculum Purposes: Improve medical students' scientific understanding and deep understanding of death Curriculum Contents: The nature of death, different views on death, views on death in different age groups, death and end-of-life care, etc. Curriculum Delivery Formats: Classroom teaching, clinical internship, situational experience, observation and discussion Curriculum Delivery Methods: No empirical answer Curriculum Evaluation Methods: Not mentioned Curriculum Schedule: Not mentioned
14	Real experience of hospice care in	Ke et al., Guangdong, 2021	Vocational Medical Education and Modern	Understanding the real experie	20 vocational nursing interns	Semi-structured	Nursing students will experience complex	Needs for Educators: Not mentioned

	higher vocational nursing students: A qualitative study		Nursing (2021: 1.23)	nance of vocational nursing interns during the implementation of end-of-life care		in-depth interviews	emotional changes during the end-of-life care process, lack of knowledge and skills in end-of-life care, low willingness to choose a career, and desire to obtain more relevant educational support	<p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Knowledge and steps of end-of-life care, etc.</p> <p>Curriculum Delivery Formats:Video screening, social news discussion and knowledge lectures, etc.</p> <p>Curriculum Delivery Methods:Simulated practice or internship</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
15	Survey and analysis of medical students' demand for death education - taking Beijing as an example	Zhang et al., Beijing, 2022	Medical Education Management (2022: 1.93)	Understand the demand and current situation of medical students in Beijing for death education	328 medical students in medical schools in Beijing	Questionnaire survey	Most medical students hope to have death education courses	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Further grasp the importance of healthy life, correctly understand the quality and quantity of life, correctly understand the nature and meaning of death, and then eliminate or alleviate the fear of death.</p> <p>Curriculum Contents:Death and life culture, the nature of death, etc.</p> <p>Curriculum Delivery Formats:Compulsory courses and interest-based elective courses in parallel</p> <p>Curriculum Delivery</p>

								<p>Methods:Course teaching method and activity experience method in parallel</p> <p>Curriculum Evaluation Methods:Writing course papers, open-book exams, etc.</p> <p>Curriculum Schedule:38. 32% of medical students believe that middle school is the most suitable age for death education.</p>
16	A qualitative study of phenomenology of perspectives of student nurses: experience of death in clinical practice	Zhou et al., Hunan, 2022	BMC Nursing (2022: 3.256)	To describe the experiences of student nurses in confronting the death of their patients, and to understand and how they cope with these events and to what extent there are unmet needs that can be addressed in their training	19 nursing students	Interpretive phenomenological analysis	Students need support in dealing with emotional experiences related to patient death, and training should focus on coping mechanisms and professional growth	<p>Needs for Educators:students hope tutor will teach them with skills of training on dealing with death and emotional support</p> <p>Curriculum Purposes: Help students cope with death in internships and at work better</p> <p>Curriculum Contents:Practical emotional experiences and positive coping techniques for dealing with death</p> <p>Curriculum Delivery Formats:Not mentioned</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>

17	Ethical challenges of death faced by nursing undergraduates in clinical practice: A qualitative study Pingting	Zhu et al., Shandong, Jiangsu, 2022	Nurse Education Today (2022: 3.96)	Exploring the ethical challenges faced by nursing undergraduates when facing death or dying patients	35 nursing undergraduates	Phenomenological qualitative method	Students face multiple challenges when caring for death or dying patients	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Prepare nursing students to deal with patients who are dead or dying</p> <p>Curriculum Contents:Psychological adjustment ability, rescue knowledge and skills, communication knowledge and skills of bereavement care, etc.</p> <p>Curriculum Delivery Formats:Not mentioned</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
18	Analysis of Perception and Need for Death Education among Different Grades Nursing Students in Higher Vocational Education	Xu et al., Jiangsu, 2023	Health Vocational Education (2023: 1.13)	Understand the cognition and needs of different grades nursing students in higher vocational education for death education	986 higher vocational nursing students	Questionnaire	Nursing students have significant demand for death education, and nursing students of different grades have different needs for death education.	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Hospice care, death psychology, etc.</p> <p>Curriculum Delivery Formats:There are significant differences in the needs of higher vocational nursing students of different grades for the forms and methods of</p>

								<p>death education (P<0.05). Regarding the form of death education, most senior nursing students hope to infiltrate death education into multiple disciplines, followed by setting up special lectures (especially sophomore nursing students). Most sophomore and junior nursing students recommended using Chaoxing Learning Channel to watch teaching videos and related film and television materials, but only 26.89% of nursing students chose offline teaching.</p> <p>Curriculum Delivery Methods: Fresh man and junior nursing students mostly choose case analysis and clinical practice. Sophomore students are more interested in reading books related to death education.</p> <p>Curriculum Evaluation Methods: Not mentioned</p> <p>Curriculum Schedule: Not mentioned</p>
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19	Analysis on the current situation of death education needs of higher vocational nursing students	Xu et al., Jiangsu, 2023	Journal of Taizhou Vocational and Technical College (2023: 0.61)	Understand the current needs and influencing factors of death education among higher vocational nursing students	986 higher vocational nursing students	Questionnaire	Vocational nursing students of different grades have significant differences in their needs for the forms and methods of death education	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Not mentioned</p> <p>Curriculum Delivery Formats:Integrating death education into multiple disciplines and offering special lectures, etc.Watch teaching videos and film and television materials online; online video teaching, etc.</p> <p>Curriculum Delivery Methods:Case analysis, visit experience, etc.</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
20	Research on the Demand for Death Education of Higher Vocational Nursing Students	Fu et al., Hunan, 2019	China Higher Medical Education (2019: 1.30)	Understanding the Demand for Death Education of Higher Vocational Nursing Students	300 Higher Vocational Nursing Students	Questionnaire Survey	87.7% of higher vocational nursing students said that it is necessary for schools to offer death education courses	<p>Needs for Educators:Educators should include death education content in course design</p> <p>Curriculum Purposes:Learn death education courses to better serve patients in future work</p> <p>Curriculum Contents:Love and care, life autonomy, ideals, etc.</p> <p>Curriculum Delivery Formats:Not mentioned</p>

								<p>Curriculum Delivery Methods:Film screening, social news discussion, etc.</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
21	Qualitative study on nursing undergraduate interns' experience of patient death and educational needs	Huang et al., Yunnan, 2023	Health Vocational Education (2023: 1.13)	Investigating nursing undergraduate interns' experience of patient death and educational needs	12 nursing undergraduate interns	Phenomenological method of qualitative research	Nursing undergraduate interns have more complex psychological feelings after experiencing patient death, lack corresponding knowledge and ability, and have a strong desire for death-related education and training	<p>Needs for Educators:Theoretical and practical guidance by the teaching teacher</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Observation of the condition and symptom management of dying patients, self-protection when nursing dying and dying patients, communication with the family members of dying and dying patients and psychological care, etc.</p> <p>Curriculum Delivery Formats:Course teaching, theoretical and practical guidance by the teaching teacher</p> <p>Curriculum Delivery Methods:Not mentioned</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>

22	Qualitative study on the emotional experience of intern higher vocational nursing students when facing death	Zhu et al., Zhejiang 2021	Chinese General Nursing (2021: 1.53)	Exploring the emotional experience of intern higher vocational nursing students when facing death	20 Intern higher vocational nursing students	Descriptive qualitative research methods	Higher vocational nursing students have a great demand for life and death education	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:Not mentioned</p> <p>Curriculum Contents:Practical knowledge such as grief counseling, psychological adjustment, and interpersonal communication with dying patients and their families</p> <p>Curriculum Delivery Formats:Theme activities, fun games</p> <p>Curriculum Delivery Methods:Activity participation method, etc.</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:Not mentioned</p>
23	Investigation on Death Attitude and Death Education Needs of Nursing Undergraduates in Southwest China	Li et al., Chongqing, 2024	Health Vocational Education (2024: 0.8)	Understanding the death attitude, death education needs and current situation of undergraduate nursing students in Southwest China	649 undergraduate nursing students in Southwest China	Questionnaire survey	Death attitude will affect the needs of undergraduate nursing students for death education. 91.22% of undergraduate nursing students have never experienced death education training	<p>Needs for Educators:Not mentioned</p> <p>Curriculum Purposes:No empirical answer</p> <p>Curriculum Contents:Different death attitudes have some tendencies in the content of death education. Neutral recipients tend to have a general understanding of death education, escapist recipients tend to have a near-death experience, and</p>

								<p>trending recipients tend to have a death ethics and law.</p> <p>Curriculum Delivery Formats:School education, mass media, books, newspapers, etc.</p> <p>Curriculum Delivery Methods:Face-to-face teaching, online teaching, etc.</p> <p>Curriculum Evaluation Methods:Not mentioned</p> <p>Curriculum Schedule:149 persons (59.84%) want flexible training time, 71 (28.51%) want once a week, and 29 (11.65%) want various times.</p>
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RESULTS

Investigate the attributes or qualities

A total of 23 investigations were carried out from 2011 to 2024, with data being collected from 2005 to 2024. The research were conducted in several locations in China, such as Shandong, Jiangsu, Hunan, Sichuan, and Shanghai. The publications were published in reputable journals such as Modern Educational Science, Higher Education Research, Chinese Journal of Preventive Medicine, Chinese Higher Medical Education, Nursing Research, and Journal of Nursing. These journals have impact factors ranging from 0.103 to 5.297.

19 research specifically examined students' requirements for death education courses, whereas one study analysed students' demands for death education courses by assessing the barriers and difficulties in implementing such courses (Zhu et al., 2022). Additionally, three research conducted by Song et al. (2021), Ke and Xiao (2021), and Zhu et al. (2021) examine the actual experiences and emotional responses of students when confronted with death. These studies shed light on the need of death education courses for students.

Regarding the individuals participating, a total of 12,010 participants were included in 23 investigations. This group consisted of 3,782 nursing students (including 52 interns), 1,048 health professional students, and 5,707 university students from various fields of study. The majority of studies did not make reference to any theoretical framework. Fifteen studies provided a precise definition of death education (Cao et al., 2018; Fan et al., 2020; Feng et al., 2021; Fu et al., 2019; Huang et al., 2023; Huang, 2014; Huang et al., 2020; Peng et al., 2017; Wan et al., 2018; Wang, 2015; Xu et al., 2023; Zhang,2018; Zhang et al., 2022; Zhang et al., 2018). Additionally, one study referred to it as

"life and death education" (Xia et al., 2011) and discussed the content of death education. Five research examined death education in the context of palliative care and death care. These studies emphasised the importance of providing nursing and medical students with coping techniques for dealing with death, both for the benefit of dying individuals and their families. The following papers have been cited: Song et al., 2021; Zhou et al., 2022; Zhu et al., 2022; Ke and Xiao, 2021; Zhu et al., 2021.

Out of the studies mentioned, 17 utilised a quantitative research design. Among these, 4 studies employed standardised questionnaires (Song et al., 2021; Li et al., 2024; Wan et al., 2018; Xia et al., 2011), 3 studies used self-designed questionnaires (Xu et al., 2023; Zhang, 2018; Zhang et al., 2018), and 5 studies utilised both standardised and self-designed questionnaires (Cao et al., 2018; Huang, 2014; Huang et al., 2020; Peng et al., 2011). One study employed both a self-made questionnaire and a projective experiment (Fan et al., 2020), while four studies did not provide specific details about the research tools or their sources (Feng et al., 2021; Fu et al., 2019; Wang, 2015; Zhang and Kou, 2022). Five studies employed qualitative research analysis, with all of them utilising semi-structured interviews. Four of the studies employed phenomenological analysis methods (Zhou et al., 2022; Zhu et al., 2022; Huang et al., 2023; Ke and Xiao, 2021), while one study employed a descriptive analysis method (Zhu et al., 2021). A study conducted by Zhou et al. (2020) employed a mixed methodology approach, which involved the use of questionnaires and semi-structured interviews. Typically, a significant quantity of quantitative studies put forth explicit justifications for outcome measurements and statistical analytic techniques. The majority of qualitative research included concise descriptions of the interview questions and also outlined the analysis technique. Nevertheless, none of the three studies that utilised self-created survey instruments provided any details regarding the process of developing their instruments. Furthermore, none of these investigations included questionnaires. Studies employing experimental research methodologies solely referenced projective inquiries and experimental outcomes, without providing a detailed account of the experimental procedure. Overall, all studies exhibited a deficiency in contemplation of the research methods and provided only concise remarks regarding the limitations of the research methodologies.

Twenty studies failed to mention any constraints, while the remaining three research acknowledged restrictions to different extents. Three studies identified limitations pertaining to sample characteristics, including sample size and generalizability (Song et al., 2021; Zhou et al., 2022; Zhu et al., 2022), while one study specifically highlighted difficulties in the sampling process (Song et al., 2021).

Needs for teachers

First, they must have a correct attitude towards death and be able to guide students to face death issues in a positive way. According to Song et al. (2021) and Cao et al. (2018), this approach is crucial.

Second, they must have excellent communication skills and be able to communicate and discuss with students effectively. This is in line with the findings of Song et al. (2021) and Cao et al. (2018).

Third, educators need to have rich professional knowledge. Only if they have a deep understanding of death-related knowledge can they systematically impart it to students. Most medical students hope that their education has a rich knowledge of hospice care and can guide them in the practice of hospice care (Cao et al., 2018). Researchers, on the other hand, emphasize that it is important for educators to have rich knowledge about death and end-of-life care, but from the perspective of student needs, a positive attitude towards death is considered more important than knowledge (Song et al., 2021).

Fourth, teachers should receive systematic training and have sufficient teaching skills. Students believe that course lecturers should mainly be those who have received systematic training in death education knowledge and teaching skills, while those with death care professional qualifications,

such as embalmers and funeral workers, can also participate in teaching and share rich care experiences and clinical cases. (Cao et al., 2018)

Fifth, teachers should possess the skills to cope with death and provide emotional support. They should also be able to teach students how to cope with death events, share practical emotional experiences, offer emotional support, and assist students in overcoming the challenges posed by death events in their actual work environments. In fact, many nursing students pursuing internships have experienced unforgettable clinical death events. According to their description, unforgettable death experiences not only affect nursing students' emotions, bringing them negative feelings of fear and helplessness, but also affect other aspects of nurses' lives, including cognition, somatization, habits, and occupations. For example, at the cognitive level, some nursing students are obsessed with patient deaths and frequently recall death. Some nursing students begin to question whether they can be competent for future professional work and whether they can cope with such deaths. Some other nursing students stated that their living habits have changed as a result of patient death. For instance, they have developed irregular eating habits or have completely stopped eating meat. Some other students have shown that after experiencing death events, they will avoid contact with dying patients and clinical situations where patient death has occurred or is expected to occur. When hospitalized patients in similar situations require assistance, they often hesitate and feel fearful. Therefore, many nursing students in internships claim that they have a need for death education and look forward to receiving support from teachers. Students said that they hope their mentors can listen to their voices and tell them about practical emotional experiences and positive coping methods, especially when they feel depressed after experiencing the death of a patient. (Zhou et al., 2022)

Needs for curriculum purpose

Understand the nature and meaning of death. According to the survey, the majority of college students want to learn more about death-related topics and understand the nature and meaning of death (Feng et al., 2021; Xia et al., 2011). Some respondents said that correctly understanding the nature and meaning of death in death education courses can eliminate or alleviate the fear of death (Zhang and Kou, 2022). For medical students, starting death education courses as early as possible and deepening their understanding of the relationship between death education and life will not only help medical students establish a scientific attitude towards death and face life positively, but also enable medical students to apply what they have learned after entering internships and better handle death events and doctor-patient relationships. (Cao et al., 2018)

Improve your professional work skills. This is primarily applicable to nursing students and medical students. The specific purpose is to help students better handle death events and doctor-patient relationships during internships and work, apply what they have learned, and improve their practical operational ability to handle death events involving hospice care, near-death treatment, and doctor-patient communication. This information is based on studies conducted by Zhou et al., 2022; Zhu et al., 2022; Cao et al., 2018; Fan et al., 2020; Fu et al., 2019; Peng et al., 2017; and Zhang, 2018.

The analysis of the survey results shows that medical students do not handle dying patients; they manage them well, and their psychological condition is poor. For example, Fan's 2020 study showed that only a small number of clinical medicine professionals (18.01%) believed that they could rationally and professionally handle dying patients in clinical practice, and they urgently needed death education courses to help them improve their professional ability to handle death/dying patients. (Fan et al., 2020)

When a patient's death occurs, most nursing students feel unprepared. Although nursing students have learned theoretical knowledge and technical skills in college, they have complicated feelings when facing the sudden changes in the condition of terminally ill patients. Almost all trainees feel

that they are not capable of rescuing patients. The tense atmosphere at the rescue site will make trainees flustered, unable to perform standardized operations and better assist clinical nurses. (Zhu et al., 2022) Moreover, nursing students find it difficult to provide bereavement care when patients die. Many participants feel sad and uncertain. They cannot encourage the patients' families to express their feelings and provide psychological support, so they hope that teachers in school or in the hospital can teach them how to face death, how to comfort the families of the deceased, and how to adjust their mentality (Fu et al., 2019).

Face death scientifically and calmly. The main purposes are as follows: first, to help college students deepen their understanding of the relationship between life and death, establish a scientific attitude towards death, and reduce fear and anxiety about death. (Zhang et al., 2022) According to the survey, the most prominent emotion of nursing students when experiencing patient death and caring for terminally ill patients is fear of death, and they long for the comfort of teachers' help. Some nursing students who have experienced death events said that their attitudes towards death have changed. The death experience has promoted their growth in life and survival. Some students can accept death with a calm mind: "Maybe these things make me understand that survival or destruction is not a problem, but a fact. Death has been determined by nature. Some students began to pay more attention to improving their health and became more aware of the preciousness of life. (Zhou et al., 2022) Other studies have shown that students who think death education is important urgently need death education courses to cultivate their positive attitudes towards death and reduce their levels of death anxiety. (Song et al., 2021)

Second, help medical and nursing students better deal with death and doctor-patient relationships during internships and work, and help patients' families accept the death of their patients. In a study conducted in Sichuan Province, more than half of medical students believed that the most important area of improvement in their clinical treatment of dying or dead patients or facing patients' families was doctor-patient communication. (Fan et al., 2020) Nursing students found that it was difficult to provide bereavement care when patients died. Many students felt sad and overwhelmed, and they were unable to encourage patients' families to express their feelings and provide psychological support. (Zhu et al., 2022)

Needs for curriculum contents

We can extract the following four core codes from the empirical information about course content requirements provided by 23 studies: the nature and meaning of death, hospice care and practical skills, psychological and emotional support, and ethical and legal issues.

"The nature and meaning of death" encompasses various aspects such as the meaning, nature, causes, moral and ethical aspects of death, and the life course. For instance, the nature of death, varying perspectives on death, perspectives on death at different ages, and the culture surrounding death and life are all included in this discussion. This discussion draws upon the work of Feng Zhengzhe et al., 2021, and Wang Shilei, 2015. Nursing students of all grades urgently need to learn the content of "Hospice care and practical skills." It encompasses the knowledge and procedures of hospice care, the observation of the condition and symptom management of dying patients, self-protection during the care of dying and deceased patients, as well as the communication skills and knowledge required for bereavement care. According to several studies (Zhou et al., 2022; Zhu et al., 2022; Huang et al., 2023; Ke and Xiao, 2021; Zhu et al., 2021), "Psychological and emotional support" refers to assisting the dying to face death, paying attention to and caring for the family members' feelings about the patient's condition, meeting the patient's psychological needs, and their own negative emotional processing. This encompasses various services such as grief counseling, palliative care, euthanasia, emotional education on death and dying emotions, and training on death and dying adjustment skills, among others. (Zhu et al., 2022, Huang et al., 2023, and Zhu et al., 2021). "Ethical and legal issues"

include legal issues and ethical relationships in death, funeral knowledge, etc. (Feng et al., 2021; Li et al., 2024).

In terms of college students' demand for course content, the following three points require special attention: First, in the dimension of course content, students' needs have a corresponding order of importance. For example, Wang surveyed 2,672 college students in Shandong Province in 2015 and found that their needs for death education course content were mainly: the meaning, nature and causes of death, morality and ethics, life course, legal and economic aspects of death and grief counseling, organ transplantation and donation, death culture and death taboos, and the interpretation of death in medicine, biology and literature and art. Among them, the meaning, nature and causes of death ranked first and were needed by students (Wang, 2015).

Second, students of different grades have different needs for death education content. For example, a survey conducted by Wan et al. in Nanjing, Jiangsu in 2018 showed that "hospice care and death preparation" is a content that nursing students of all grades urgently need to learn. In addition, third-year nursing students also realize the importance of ethics-related knowledge. "Attitudes of all ages towards death", "suicide-related issues" and "ethical issues" are the contents that fourth-year nursing students hope to master. (Wan et al., 2018)

Third, students with different attitudes towards death have different needs for death education content. Li et al. (2024) showed that neutral acceptance, avoidance acceptance and tendency acceptance of undergraduate nursing students were positively correlated with the demand for death education, while fear of death and death avoidance were negatively correlated. Specifically, neutral acceptors had a higher demand for an introduction to death education ($r=0.583$, $P<0.05$), avoidance acceptors had a higher demand for near-death experience ($r=0.387$, $P<0.05$), and tendency acceptors had a higher demand for death ethics and law ($r=0.392$, $P<0.05$). Those who fear death have a higher negative correlation with the demand for funeral culture ($r=-0.125$, $P<0.01$), and those who avoid death have a higher negative correlation with the demand for near-death experience ($r=-0.351$, $P<0.01$). Therefore, when determining the content of death education, educators must comprehensively investigate the characteristics of students' needs and provide targeted and efficient death education courses. (Li et al., 2024)

Needs for curriculum delivery formats and methods

Based on the requirements of course structure and methodology, it can be succinctly stated that the course should integrate a range of instructional approaches in order to cater to the different learning needs of students and enhance their overall comprehension and capacity to apply knowledge. Traditional classroom lectures and special lectures remain crucial instructional strategies that facilitate the establishment of a strong theoretical basis for students through methodical information transmission. (Huang et al., 2020; Li et al., 2024; Xu et al., 2023) Simultaneously, the curriculum should provide both optional and mandatory courses, incorporate adaptable learning approaches, and empower students to select the suitable course category based on their interests and requirements. (Cao et al., 2018; Xia et al., 2011). Film, television, and multimedia instruction are also essential. By including film and television appreciation, educational videos, film exhibitions, seeing death education-related films, and utilising mass media, the learning material becomes more dynamic and visually stimulating, hence improving students' engagement and involvement. (Huang, 2014; Zhou et al., 2020) Furthermore, the utilisation of scenario simulation and case analysis can significantly enhance students' practical and problem-solving skills. By analysing real-life events and engaging in simulated scenarios, students can enhance their comprehension and develop effective strategies to navigate hurdles encountered in practical circumstances. (Huang et al., 2020; Ke and Xiao, 2021). In order to enhance students' holistic comprehension of many disciplinary backgrounds, it is recommended that the course incorporate death education into multidisciplinary instruction (Xu et al., 2023). By incorporating hands-on experiences such as visits to death museums, clinical

internships, themed exercises, and enjoyable games, students have the opportunity to not only acquire theoretical knowledge but also develop and enhance their practical skills. (Feng et al., 2021; Zhang and Kou, 2022; Zhu et al., 2021) By employing various teaching modalities and techniques, students can get a more complete comprehension of all facets of death education and improve their practical application skills for their future professions.

According to the course content requirements, students of various grades have varying demands for the types and approaches of death instruction. In their study titled "Analysis of Perception and Need for Death Education among Different Grades Nursing Students in Higher Vocational Education," Xu et al. found statistically significant variations in the types and approaches of death education among higher vocational nursing students of varying academic levels ($P < 0.05$). Many senior nursing students aspire to integrate death education into other fields, and then organise specialised lectures. The majority of second-year and third-year students highly advocate utilising Chaoxing Learning as a platform for accessing instructional films and relevant audiovisual resources. First-year and third-year students have a preference for analysing cases and engaging in clinical practice, whereas second-year students have a preference for reading literature that pertain to death education. The researchers concluded that freshman nursing students, who are new to medicine, can be stimulated in their interest in learning through narrative cases. Junior nursing students, who have experienced clinical internships, recognise the importance of case learning and clinical practice. Sophomore nursing students, who face academic pressure and clinical internships, are more inclined to read relevant books. (Xu et al., 2023) Hence, educators must thoroughly assess students' requirements and offer death education courses that are tailored, effective, and suitable by carefully considering the form and approach of death education.

Needs for curriculum evaluation methods

There is a scarcity of study regarding the requirements of students when it comes to approaches for evaluating courses. The sole survey done by Zhang et al. in Beijing specifically addressed the empirical requirements of students regarding evaluation methodologies for death education courses. Based on the study, students primarily prefer to be assessed through the completion of written course papers and open-book examinations. (Zhang and Kou, 2022) Writing course papers enables students to engage in thorough study and analysis on subjects pertaining to death education, showcasing their comprehension of course material and capacity for independent thought. Open-book examinations permit students to refer to resources while taking the exam, with the aim of assessing their understanding of the subject matter and their ability to apply it to real-world situations. These evaluation methods can assess not only students' theoretical knowledge but also their practical application abilities, providing a holistic reflection of students' learning outcomes. Currently, there is a scarcity of study regarding the requirements of students in terms of course evaluation methods. Subsequent investigations should systematically and comprehensively examine the effects of various assessment techniques on students' educational achievements, encompassing course papers, open-book exams, project presentations, practical assessments, and other modalities.

Needs for curriculum schedule

Frequency of the course. According to certain studies, the majority of college students and medical students typically enrol in classes that meet once a week for several consecutive weeks. This frequency enables students to consistently engage with and contemplate death education-related material over an extended period, so facilitating the internalisation of knowledge and the deepening of understanding. Having classes once a week at a regular frequency can prevent students from being overwhelmed and maintain a consistent and organised course structure. (Huang et al., 2020)

Duration of the course. Several studies have indicated that students consistently express a strong inclination to request an increased allocation of hours for death education classes. The mean class

duration is 21.63 ± 19.68 hours, with the biggest percentage of students selecting 20 hours. These findings indicate that students generally perceive 20 hours as an appropriate amount of time for learning, allowing them to acquire and master the necessary knowledge and skills in death education without interfering with their other coursework and learning obligations. (Cao et al., 2018)

Opening hours of the course. Research has indicated that a majority of medical students (78.23%) advocate for the inclusion of death education courses in college curriculum. Among them, the largest percentage (26.08%) specifically recommend offering these courses in the first year. This demonstrates that providing death education classes during the initial years of college can establish a solid groundwork for students, equipping them with the ability to comprehend and utilise this knowledge effectively in future studies and practical applications. (Cao et al., 2018) Simultaneously, 38.32% of medical students advocate for death education to be introduced during middle school, indicating that these students believe that early exposure to death education is crucial for developing accurate perceptions and attitudes towards death. (Zhang and Kou, 2022)

Adaptable training schedule. Students have varying requirements for scheduling training sessions. In Li et al.'s study, 59.84% of students expressed a desire for flexible training time in order to accommodate their hectic study schedules, whereas 28.51% of students indicated a preference for a regular course schedule of once a week. This indicates that students desire increased flexibility in their demanding academic and personal schedules in order to effectively manage death education courses alongside other learning responsibilities. (Li et al., 2024)

DISCUSSION

Principal findings

This scoping study identified 23 articles that discussed the necessity of death education courses from the viewpoint of a diverse group of higher education students in mainland China. The higher education cohort consisted of students from several disciplines, including medical students at all levels, nursing students, and students pursuing other degrees. The study revealed areas of research that have not been explored in the existing literature. This will help future researchers gain a deeper understanding of the importance of death education courses for higher education students in mainland China. The data for this study was collected from various regions in mainland China, including Shandong, Shanghai, Sichuan, and Hunan.

Despite variations in research focus and aims, this scoping review identified a common thread among all the research conducted. Regarding research ideas, the current research results can be categorised into two main approaches. The first approach involves directly investigating the needs of students for death education, primarily through the use of questionnaires, interviews, and similar methods (Cao et al., 2018). The research material typically encompasses the curriculum, instructional techniques, assessment methodologies, and course scheduling that students desire to acquire. For instance, explore the requirements of students on topics like the concept and significance of death, hospice care, psychiatric assistance, ethical and legal concerns, and ascertain their preferences for various instructional approaches such as traditional classroom lectures, scenario-based simulations, and audiovisual teaching materials. (Zhou et al., 2022 ;Fenget al., 2021). Another approach is to explore issues or impediments. This approach centres on the identification and analysis of the diverse issues and obstacles that students face when obtaining death education (Zhou et al., 2022). By comprehending these challenges, it is possible to indirectly deduce the requirements of pupils and develop more focused teaching approaches. For instance, examining the psychological stress and emotional obstacles experienced by students when confronted with terminally ill patients, evaluating their deficiencies in understanding and managing near-death situations, and assessing the hurdles encountered during real-life medical procedures (Zhu et al., 2022). These investigations can identify

students' requirements for emotional support, training in practical operational skills, and other related needs.

Furthermore, when examining research findings, it is evident that students have various requirements for death education courses. These requirements can be categorised into several dimensions, including the need for qualified teachers, clearly defined goals for the course, appropriate course content, effective implementation methods, suitable evaluation techniques, and a well-planned schedule for course delivery. This pertains to the fundamental principles of courses in curriculum and instructional research. Although the 23 research results lack a description of the theoretical basis, it can be inferred that they were conducted within the framework of classic curriculum theory research, such as Tyler's Formula Model of Educational Objective (Tyler, 2013) and Kern's Six-step Approach (Kern et al. 2009).

Nevertheless, the research priorities of each dimension varies from one study to another and from various student viewpoints. Zhang et al.'s study, titled "A Survey on the Current Demand Status of 233 Undergraduate Nursing Students for Death Education Content," explicitly aimed to empirically describe the course content (Zhang et al., 2018). The survey conducted by Song et al., Huang et al., and Ke et al. focused on the requirements of students with medical and nursing backgrounds, specifically in relation to their need for hospice care education (Song et al., 2021; Huang et al., 2023; Ke and Xiao, 2021).

Various grades are also regarded as a determining element. Varied grades necessitate distinct death education course content, form, and procedures owing to diverse learning stages and scholastic pressures. The reference is from a paper written by Wan Li and colleagues in 2018. Furthermore, it is crucial to address varying death education requirements and the anxiety associated with death education. They influence students' learning expectations on the content of the death education course. (Li et al., 2024; Xu et al., 2023)

Death education courses should thoroughly take into account the requirements and peculiarities of pupils. Optimal educators should possess a proper disposition towards mortality, adept communication abilities, extensive expertise in their field, structured training and instructional techniques, as well as the capacity to handle mortality and offer emotional assistance (Song et al., 2021; Cao et al., 2018; Zhou et al., 2022). The course should include topics such as the concept and significance of death, providing care at the end of life, acquiring practical skills, offering psychological and emotional support, and addressing ethical and legal concerns (Feng et al., 2021; Zhou et al., 2022; Zhu et al., 2022; Li et al., 2024). The course should incorporate a blend of classroom lectures, special lectures, elective courses, and compulsory courses. It should also include film and multimedia teaching, scenario simulation, case analysis, as well as multidisciplinary integration and practical activities (Huang et al., 2020; Cao et al., 2018; Huang, 2014; Xu et al., 2023). Typically, students have a tendency to participate in classes on a weekly basis, dedicating an average of 20 hours to their studies. Additionally, they express a desire to enrol in courses during the initial phases of their college education (Cao et al., 2018; Huang et al., 2020). The evaluation methods employed consist of course papers and open-book exams. However, additional research is required to investigate their influence on learning outcomes (Zhang and Kou, 2022).

Medical and nursing students have distinct requirements for death education compared to typical college students. In order to effectively address the practical issues encountered in clinical practice, it is imperative for medical and nursing students to acquire a comprehensive understanding of professional skills such as hospice care, end-of-life therapy, and doctor-patient communication. The individuals anticipate that the course will offer chances for hands-on experiences and simulated situations to enhance their self-assurance and expertise in handling terminally ill patients and talking with their families (Cao et al., 2018; Zhou et al., 2022). Furthermore, it is imperative to provide

emotional support and psychological counselling to these students in order to alleviate professional stress and emotional burden associated with mortality events (Zhu et al., 2022).

Typical university students prioritise the philosophical significance, cultural context, and moral dilemmas around death. Their objective is to gain insight into the essence and significance of mortality through educational programmes, delve into the notions of existence and mortality as well as the worth of life, and consequently alleviate the apprehension and distress associated with death (Feng et al., 2021; Zhang and Kou, 2022). To cater to these students, the course can incorporate film, television, and multimedia education, as well as special lectures and optional courses. This will make the learning content more engaging and varied, hence increasing students' interest and participation in the learning process (Huang, 2014; Zhou et al., 2020).

Furthermore, pupils with varying perspectives on mortality possess distinct requirements when it comes to the material covered in the course. Research has indicated that adolescents who exhibit neutral acceptance, avoidance acceptance, and inclination acceptance possess distinct requirements for death instruction. Neutral acceptors exhibit a greater inclination towards acquiring a comprehensive understanding of death education, while avoidance acceptors demonstrate a stronger desire to explore near-death experiences. On the other hand, tendency acceptors display a heightened interest in delving into the realms of death ethics and legislation (Li et al., 2024). Individuals who fear death and actively try to avoid it exhibit a stronger negative association with the desire for funeral customs and experiences that simulate being close to death. Hence, when formulating curricula, educators must thoroughly examine the requirements of students and offer focused and effective courses on death instruction.

Future research should further delineate the distinct requirements of students across various grade levels and academic disciplines, and investigate further adaptable and varied instructional and assessment approaches. Prior to designing teaching content and methods, it is essential to undertake a comprehensive needs analysis for students of various grade levels in order to tailor the instruction to the specific characteristics of each stage. For instance, first-year students may require a greater foundation of fundamental and abstract knowledge, but fourth-year students may benefit from more comprehensive hands-on instruction and psychological assistance. Furthermore, there exist notable disparities in the requirements of students from various academic disciplines when it comes to death education. Medical and nursing students require enhanced proficiency in hospice care and psychological counselling, whereas regular college students may prioritise understanding the philosophical and cultural aspects of death. Further research should investigate the implementation of more adaptable course structures, such as online courses and hybrid teaching methods, to allow students the freedom to select learning materials based on their individual schedules. Regarding evaluation methods, besides conventional course papers and open-book exams, it is possible to incorporate diverse approaches such as project presentations, simulation exercises, and practical assessments to thoroughly assess students' proficiency in knowledge acquisition and practical application. By implementing these strategies, the calibre and efficacy of death education can be enhanced, enabling students to more effectively manage the difficulties associated with death and hospice care in their future professions.

Constraints of current research and recommendations for future research

In general, the current body of research has some deficiencies and constraints when it comes to addressing the necessity of death teaching. Primarily, the majority of studies concentrate on the death education requirements of medical and nursing students, but there is a scarcity of studies examining the demands of general college students in this area. Furthermore, current research tends to concentrate on specific elements, such as course content or teaching strategies, while neglecting the importance of course objectives, assessment, and scheduling. As a result, the research findings lack comprehensiveness and hinder the development of a comprehensive death education

curriculum system. Furthermore, the majority of studies primarily rely on quantitative analysis or the researcher's individual analysis, without engaging in comprehensive conversations that integrate both quantitative and qualitative research. For instance, while studies have demonstrated that various grade levels have distinct requirements for death education, there is a dearth of thorough investigation and empirical validation of the underlying causes of these disparities. Research has neglected to consider the influence of varying views towards death on the necessity for death education. Only a limited number of studies have briefly discussed this aspect, without thoroughly investigating the profound correlation between various attitudes towards death, degrees of fear related to death, and the requirements of the curriculum. Gender disparities have been given less consideration, despite the potential impact on students' course content and format preferences. Furthermore, the majority of studies only examine the immediate consequences and fail to monitor and assess the enduring consequences of death education courses. This hampers a thorough comprehension and sustained enhancement of the true influence of these courses over time.

Future research should broaden the sample size to encompass a wider range of college students and investigate their distinct requirements and difficulties in order to develop a more comprehensive curricular system for death teaching. Research should prioritise the objective of the course, evaluation techniques, and time organisation when developing a complete death education curriculum system. Employ a blend of quantitative and qualitative research methodologies to thoroughly investigate the underlying factors contributing to students' demands and challenges. By utilising a blend of questionnaires and comprehensive interviews, we can examine the distinct requirements and obstacles faced by children across all grade levels, genders, and backgrounds. Conduct additional research on the influence of various attitudes about mortality and levels of worry about death on the requirements of a course, and develop focused educational initiatives. Examine the influence of gender disparities on the desire for death education, and develop curriculum and instructional approaches that better align with the specific requirements of male and female learners. Conduct more investigation into the enduring consequences of death education courses, assess the enduring influence of these courses on students' professional trajectories and psychological well-being, and establish a scientific foundation for enhancing the courses. Analyse the variations in the requirements for death education among individuals with varied academic backgrounds, particularly non-medical students, with the aim of developing course material that can be more widely applied. These improvement measures will enable future research to gain a more thorough understanding of students' needs and challenges. This will facilitate the development of more scientifically and effectively designed death education courses. Additionally, these measures will provide substantial help to students in dealing with death and end-of-life care in practical settings.

LIMITATIONS

The present scoping review possesses both advantages and constraints. Scoping reviews are valuable for identifying and organising research areas that have limited randomised controlled trials and emerging evidence, like the investigation of the necessity of death education courses for higher education students in mainland China. These reviews can encompass studies with diverse research designs, as demonstrated by Levac et al. (2010). By incorporating grey literature into the review, it also brings attention to authoritative viewpoints from mainland China that were not present in the academic research literature. Only 23 identifiable studies were found throughout the search, hence no publications of low quality were excluded. Undoubtedly, the omission of quality assessment in a scoping review might be debated as a constraint due to the uncertainty around the quality of the outcome evidence. Nevertheless, in accordance with Levac et al. (2010), we acknowledge the difficulties associated with evaluating the quality of a scoping review. Specifically, we question how to properly assess the quality of discussion papers. The outcome evidence is not clearly explained, as part of the literature included in the study underwent quality assessment while others did not.

Furthermore, several studies that were included did not prioritise the primary objective of assessing the "demand for death education courses among higher education students". Indirect analysis of the demand for death education courses among higher education students can be conducted by examining their "death experience" and "emotional state towards death". This study's results offer a comprehensive perspective on the demand for death education courses among higher education students in mainland China. However, it is important to note that this can be viewed as both a strength and a limitation. On one hand, the broad view provided by the results is valuable. On the other hand, there is a potential risk of misinterpretation or excessive interpretation of the article, which could impact the applicability of the findings to other contexts beyond the studies included in this research.

CONCLUSION

The study demonstrated that the findings of this scoping review suggest the necessity of customising death education courses to cater to the individual requirements of pupils. The course for medical and nursing students should prioritise end-of-life care, near-death treatment, and doctor-patient communication skills. It should include practical hands-on experience and scenario simulations, while also emphasising emotional support and psychological counselling. Typical college students prioritise the philosophical, cultural, and ethical aspects of death. To enhance their interest in the subject, the course should include multimedia instruction and unique lectures. Furthermore, there are variations in the course preferences among students of varying academic levels and with diverse perspectives about mortality. Hence, it is imperative for educators to thoroughly examine the requirements of pupils and provide focused and effective curriculum. Future study should focus on refining the requirements of students from various grade levels and academic disciplines. Additionally, it should investigate adaptable and varied teaching and assessment approaches to strengthen the systematic curriculum for death education.

Authors' contributions

DSY originated the research concept and formulated the project's design. DSY conducted a screening of the papers as part of the research process to assess their eligibility for review. LJC examined the search and selection procedure to ensure that the inclusion of articles was unbiased and comprehensive. DSY authored the manuscript while LJC contributed to the study design, mentored DSY, and provided assistance in drafting and revising the manuscript. The final manuscript was read and approved by all writers.

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