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Research Article

Comparatively Low End-of-Life Care Self-Efficacy Among Junior Nurses in the Operating Room in China: A Cross-Sectional Survey

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Abstract

Objective: To explore the current situation of end-of-life care self-efficacy of junior nurses in the operating room of a tertiary general hospital and the factors affecting it, and to provide a basis for improving the quality of end-of-life care services for junior nurses in the operating room.

Methods: A cross-sectional survey of 185 clinical nurses in a tertiary general hospital in Guangdong Province was conducted using a convenience sampling method, a general information questionnaire, and the End-of-Life Care Self-Efficacy Scale (EOLPMSS).

Results: The total score of end-of-life care self-efficacy of junior nurses in the operating room was (64.07±17.22), and regression analysis showed that gender, department, whether they had received training courses related to hospice education, whether they had bereavement experience, and their attitudes toward death were the influencing factors of end-of-life care self-efficacy ($P<0.05$).

Conclusions: The end-of-life care self-efficacy of junior nurses in the operating room is at a low level. It is recommended that nursing managers develop a rotation plan for special wards during the standardized training of junior nurses, and develop an end-of-life care competency enhancement course that meets the characteristics of the operating room, so as to improve the end-of-life care self-efficacy of nurses in the operating room.

Keywords: End-of-life care; Influencing factors; Low seniority; Operating room nurses; Self-efficacy

Introduction

Hospice care, also known as hospice care, is a comprehensive "people-oriented" nursing care model that provides active care for patients with no hope of cure, and improves the quality of life of patients and their families as much as possible and to the best extent possible [1,2]. China's end-of-life care started late, and is in the budding stage now, with fewer end-of-life care education and training courses, and a complete and mature system has not been constructed [3], and insufficient knowledge reserves and lack of end-of-life care experience led to low self-efficacy of nurses in the face of terminally ill patients, which affects the end-of-life experience of terminally ill patients.

Self-efficacy is a person's confidence in his ability to successfully accomplish a particular task Self-efficiency [1] It is an early determinant of behavioral responses to challenging experiences such as hospice care [4]. There are fewer national and international studies on hospice self-efficacy among operating

room nurses, but with the growth in organ donation acquisition and organ transplantation [5,6] and the need for and promotion of palliative surgical care for patients with malignant tumors [7,8], the exposure of operating room nurses to patients with end-of-life illnesses has increased dramatically. Low seniority nurses make up the majority of the nursing team and are an important new force on the nursing team, and initial guidance and training are an important part of improving the service quality of the nursing team. The level of end-of-life care self-efficacy of low seniority nurses can influence the quality of end-of-life care nursing services in the operating room. Self-efficacy is a major influence on the core competencies of nurses in the operating room [9], and nurses with high self-efficacy are more motivated to work and have stronger core competencies [10]. Therefore, this study focuses on understanding the current status of end-of-life care self-efficacy of low seniority nurses in the operating room and analyzing its influencing factors to improve the quality of end-of-life care services of nurses in the operating room, to improve the quality of patient's survival in the terminal period, and to provide new ideas for the nursing training in the operating room.

Methods

Study Design

A convenience sampling method was used to distribute questionnaires for the survey from March 2023 to June 2023 among the operating room nurses who met the criteria in a tertiary general hospital in Guangdong Province.

Inclusion criteria:①have obtained the license to practice nursing;②voluntarily participate in this study, with normal reading and comprehension.③Fixed operating room nursing position, working hours ≤ 5 years, ≥ 3 months. Exclusion criteria:①Nurses in non-clinical work positions;②Long-term vacation or study away from home for ≥3 months.

Research Methodology

Research Tools

(1) General information Revised with reference to Guo Xiaoyan [11] based on age, ethnicity, years of clinical work, marital status, religious beliefs, participation in hospice education courses within one year, experience of accompanying family members in passing away, whether they thought about the pain of the terminally ill patient outside of work, and their attitudes toward death.

(2) End-of-life and post-mortem self-efficacy scales (EOLPMSS) The scale was developed by Carol E. Conley [12] in 2023. It consists of 18 items in 4 dimensions: recognizing death (5 items), caring for the body (6 items), comforting family (4 items), and taking care of oneself (3 items).The mean of the EOLPMSS items indicates the participant's confidence level, with higher scores representing higher levels of self-efficacy. A score of 90-100 indicates a "very high" confidence level, 80-89 "high," 70-79 "medium," 70-79 "medium," and 70-79 "low" confidence levels. A score of 90-100 indicates a "very high" confidence level, 80-89 a "high" confidence level, 70-79 a "medium" confidence level, 60-69 a "low" confidence level, and 59 and below a "very low" confidence level. "Very low." The scale had good reliability and validity with a Cronbach's alpha coefficient of 0.938.

Survey Methodology

Through the questionnaire star (https://www.wjx.cn/) platform to meet the inclusion conditions of the nurses issued electronic questionnaires, and explain the purpose, significance and confidentiality of this study, the questionnaire content to set a unified description of the anonymous completion of the study by the subject, the background set the questionnaire of the same IP address or micro-signal can only be a single answer. Answers were mandatory to ensure the completeness of the questionnaire. After completing the survey, two researchers jointly checked the invalid questionnaires. A total of 204 questionnaires were recovered, 185 valid questionnaires, with an effective recovery rate of 90.69%.

Statistical Methods

After the raw data was exported from the background of the questionnaire star, the data were statistically analyzed using SPSS 22.0 statistical software. Measurement data were expressed as $\bar{x}\pm s$; t-test or ANOVA was used for one-way analysis; multiple linear regression analysis was used for hospice self-efficacy influencing factors. Differences were considered statistically significant at $P < 0.05$.

Results

Univariate analysis of general information and end-of-life care self-efficacy of low seniority nurses in the operating room See Table 1.

Items	Frequency (n)	Percentage	Self-efficacy score (points, $\bar{x}\pm s$)	Statistical value	P value
Gender				t=2.265	0.025
Male	38	20.5	58.50±16.28		
Female	147	79.5	65.52±17.22		
Age				F=1.083	0.341
23 years old and under	12	6.5	63.72±17.79		
24-26 years old	148	80.0	63.31±17.24		
27 years and over	25	13.5	68.78±16.78		
Ethnic group				t=0.078	0.938
Han ethnic group	175	94.6	64.05±17.45		
National Minority	10	5.4	64.49±13.36		
Only child				t=0.432	0.666
Yes	25	13.5	65.46±15.56		
No	160	86.5	63.86±17.50		
education attainment				t=0.227	0.821
undergraduate (adjective)	182	98.4	64.11±17.34		
Master's degree or above	3	1.6	61.83±8.44		
Have rotated through emergency, critical care, and oncology related departments				t=2.837	0.005
No	117	63.2	61.387±17.34		
Yes	68	36.8	68.698±16.11		
Years of clinical experience				F=1.843	0.122
3 months < work experience ≤ 1 year	11	5.9	71.07±21.68		
1 year < work experience ≤ 2 years	23	12.4	56.14±13.03		
2 year < work experience ≤ 3 years	67	36.2	65.51±18.76		
3 year < work experience ≤ 4 years	64	34.6	63.90±15.38		
4 year < work experience ≤ 5 years	20	10.8	65.08±17.58		
Marital status				t=0.758	0.456
Married	21	11.4	60.89±20.91		
Unmarried	164	88.6	64.48±16.72		
Religion				t=1.895	0.060
Yes	10	11.4	54.11±11.74		
No	175	94.6	64.64±17.33		
Previous training programs related to hospice education				F=7.644	0.001
Took specialized courses on end-of-life and dying	47	25.4	71.80±18.08		
Has not taken a course specifically on end-of-life and death, but has been covered in other course trainings	95	51.4	62.68±15.67		

Never been exposed to knowledge about dying and death	43	23.2	58.70±17.06		
Accompanying family members in their passing experience.				t=1.903	0.059
Yes	65	35.1	67.15±14.94		
No	120	64.9	62.41±18.18		
Current experience				F=3.219	0.042
No terminally ill family members	160	11.9	62.98±17.06		
Terminally ill family member (expected to live less than 6 months)	3	1.6	82.48±6.34		
Just lost a close family member	22	86.5	69.53±17.39		
Do you think about the suffering of the terminally ill while you're at work?				t=1.707	0.090
Yes	126	68.1	65.55±17.90		
No	59	31.9	60.93±15.35		
Attitudes towards death				F=3.469	0.033
Afraid	38	20.5	59.51±17.33		
Evade	20	10.8	58.66±17.53		
Accept	127	68.6	66.29±16.81		

Table 1: Univariate analysis of general information and end-of-life care self-efficacy of low seniority nurses in the operating room (n=185).

Hospice self-efficacy scores of operating room nurses See Table 2.

EOLPMSS item	Mean	Median	SD	IQR25%
Notify appropriate individuals	87.65	100	29.98	81
Identify the body	78.52	82	24.61	70
Withhold treatment	77.63	82	22.04	65
Remove drains, tubes, or catheters	73.56	80	26.21	57.5
Console family members	72.12	78	24.40	58
Cope with your feelings	71.56	77	24.15	57
Recognize impending death	69.19	76	21.64	58
Wash the body	67.60	72	27.86	49.5
Position the body	67.30	73	28.33	50.5
Recognize after death body changes	61.8	64	28.38	40
Prepare the room for visitors	60.98	67	30.91	35
Cope with your feelings	59.87	61	28.23	40
Withdraw treatment	55.50	60	31.54	29
Transfer the body	55.31	60	32.71	22
Listen for an absent heart rate	51.09	50	35.10	20

Discuss the death with an RN	49.23	51	29.64	21.5
Determine the need for an autopsy	48.28	49	29.98	21
Provide culturally appropriate care	46.13	47	30.20	19

Table 2: Hospice self-efficacy scores of operating room nurses (n=185).

Results for Each Dimension of Hospice Self-Efficacy for operating room Nursing See Table 3.

EOLPMSS dimension	Mean	Median	SD	IQR25%
Recognizing Death	68.21	68.8	16.13	57.6
cadaver care	66.18	68.67	22.00	52.75
Self-care	60.22	60.67	21.50	44.33
Consolation of relatives	58.64	60.00	23.70	40.00
self-efficacy	64.07	64.56	17.22	51.22

Table 3: Hospice Self-efficacy Scores for Each Dimension of End-of-Life Care for operating room Nurses (n=185).

Multiple stepwise regression analysis of the factors influencing the self-efficacy of the operating room nurses in end-of-life care See Table 4.

Item	B value	SE value	β value	t value	P value
A constant (math.)	21.665	7.747	-	2.797	0.006
Gender	5.402	2.926	0.127	1.846	0.066
Have rotated through emergency, critical care, and oncology related departments	6.758	2.451	0.190	2.757	0.006
Previous training programs related to hospice education	6.005	1.694	0.244	3.544	0.001
Accompanying family members in their passing experience.	2.278	1.813	0.087	1.256	0.211
Attitudes towards death	3.417	1.446	0.162	2.362	0.019

Note:R=0.408，R^2=0.166，align R^2=0.143；F=7.131，P＜0.005

Table 4: Multiple stepwise regression analysis of the factors influencing the self-efficacy of the operating room nurses in end-of-life care (n=185).

Discussion

End-of-life care self-efficacy is at a low level among junior nurses in the operating room

The total score of end-of-life care self-efficacy of operating room nurses was (64.07±17.22), which was at a low level overall, lower than the results of the studies by Peng Jing [13] and Shen Yang [14], and was related to the limitations of the working environment in the operating room, and the low involvement of low seniority nurses in the process of caring for end-stage patients. Self-efficacy has a positive impact on nursing engagement [15], suggesting that managers should pay attention to the development of end-of-life care self-efficacy among low seniority nurses. In this study, the scores of the four dimensions of hospice self-efficacy in the dimension of taking care of oneself and comforting the family were lower than the total self-efficacy scores, indicating that low self-efficacy for emotion regulation of junior nurses in the operating room is related to their lack of awareness of end-of-life care, which is in line with the study of Li Fangfang [16]; and the low level of confidence in communicating with family members of terminally ill patients (low experience and self-confidence), which is in line with the results of the study such as Hsu Yinghua [17], etc. similar. Terminally ill patients have complex internal activities when they are near death, and they need more psychological comfort. Clinical nurses can learn from foreign mature communication models [18] and use them to communicate with terminally ill patients and their families, so as to better understand the psychological needs of terminally ill patients and their families at this time, and provide them with better care.

Factors influencing end-of-life Care Self-Efficacy Among Operating Room Nurses

Gender The self-efficacy of male nurses in this study was lower than that of female nurses, which is consistent with the study of Zhang Qianqian et al [19], probably because male nurses get a lower sense of identity in nursing work, and are prone to low self-esteem and lack of self-confidence when faced with a difficult situation at work [20]. On the other hand, nursing work is more detailed, compared to female nurses, male nurses are more difficult to obtain a sense of accomplishment in nursing work, especially when facing terminal patients and families, they are not good at dealing with emotions, and they are not confident enough to give emotional support to their families. It is suggested that managers can actively play the advantages of male nurses in physical strength and emergency response ability according to their own advantages in the operating room, cultivate male hospice specialist nurses and management talents, provide confidence for male nurses' career development, and then improve male nurses' self-efficacy.

Have rotated through emergency, critical care, and oncology-related departments End-of-life care self-efficacy was generally higher among operating room nurses with special rotational training experiences than among those without. The study showed [21] that death self-efficacy of oncology hospital nurses was generally at a moderate level, and was higher than the self-efficacy of the less senior nurses in the operating room in this study. Nurses with experience in units related to acute and critical care (mainly including emergency department, oncology, ICU and other units) have more opportunities to face death and care for dying patients, and therefore have more experience in end-of-life care and more end-of-life care competence, which helps nurses to enhance their self-efficacy [22]. End-of-life care competency is an important part of nursing core competency, which belongs to the scope of core competency of nursing staff and is also part of the mastery of operating room nurses. Therefore, it is recommended that nursing administrators develop a corresponding and reasonable interdepartmental rotation plan for low seniority nursing staff in the operating room during the standardized training period to increase end-of-life care experiences, improve self-efficacy, and enhance the comprehensive competence of nurses in the operating room at the same time.

Have rotated through emergency, critical care, and oncology related departments Whether or not they have received hospice-related courses is the main influencing factor on the level of self-efficacy in end-of-life care, which is consistent with the results of the study by Xu Yinghua [23], indicating that the training of hospice-related courses has an enhancing effect on the end-of-life care ability of nurses. The study by Sun Xianghong [24] and others also confirmed that end-of-life care education can enable nursing staff to better understand the nature of death, establish a correct view of death and attitude toward death, provide effective guidance and assistance for the care of terminal patients, and enhance the quality of life of patients in the terminal period, suggesting that managers can develop a rotation plan for acute and critical care and oncology-related departments during the standardized training of junior nurses to improve the quality of life of junior nurses' self-efficacy in facing terminal patients.

In addition, with the popularization of the concept of organ donation and the continuous development and improvement of the working system of deceased organ donation in various countries, deceased organ donation remains the main source of organ transplantation [6]. Therefore, the probability of operating room nurses facing terminal and dying patients increases, and organ transplantation surgery puts higher requirements on nurses in terms of ethics, law, psychology, communication, and clinical nursing experience, suggesting that administrators need to introduce professional psychologists and legal experts to provide systematic and professional training for them in future end-of-life care training courses, so as to make the training of operating room nurses more scientific and comprehensive [25].

Accompanying family members in their passing experience. The findings showed that current experience of bereavement was an important factor influencing end-of-life care self-efficacy of low seniority nurses in the operating room, which is consistent with the findings of Li Shuo [22] and others. It indicates that nurses are better able to appreciate patients' needs and empathize better with family members of terminally ill patients after experiencing the process of bereavement firsthand. The death of a loved one makes nurses accumulate experience in end-of-life care, think about and summarize their experiences in life and apply them in the clinic, so that they can have more self-confidence and empathy in caring for terminally ill patients, and have a higher sense of self-efficacy, which also indicates that the social background of nurses also influences their clinical nursing ability.

Attitudes towards death the degree of positivity in nurses' attitudes toward death is an influential factor in the level of self-efficacy in end-of-life care. Nurses' attitudes toward caring for terminally ill patients were significantly positively correlated with natural acceptance of death, but negatively correlated with fear of death, avoidance of death, convergent acceptance, and flight from acceptance; therefore, nurses who were openly accepting of death had more positive attitudes toward caring for terminally ill patients, and were more able to proactively and confidently perform hospice care [17,26]. For junior nurses, establishing a correct outlook on life and life and death is an important part of conducting nursing care, and death and end-of-life related educational programs and trainings are an important way to face death correctly. It is suggested that nursing administrators can regularly organize multi-level, multi-modal, and multi-channel death education courses and

lectures to improve low seniority nurses' knowledge of death, which in turn improves nurses' end-of-life care self-efficacy.

Conclusions

In summary, the hospice self-efficacy of operating room nurses was at a low level, and gender, department, whether they had received hospice education-related training courses in the past, current experience and attitude toward death were the main influencing factors. It is recommended that managers develop a multidisciplinary rotation program during the standardized training of junior nurses; develop a hospice training program that meets the clinical work characteristics of junior nurses in the operating room; and help junior nurses establish a correct view of death by conducting death education-related courses, etc., so as to improve the knowledge of junior nurses in the operating room about end-of-life care in a multidimensional and multi-faceted way, increase their self-efficacy, and enhance the quality of end-of-life care for patients. quality of hospice care.

Limitations

The shortcoming of this study is that the survey population is limited to a tertiary general hospital in Guangdong Province with a small sample size, and the sample size will be expanded later to carry out a multi-center, multi-level hospital study to further validate the end-of-life care self-efficacy of junior nurses in the operating room.

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