



Original Article

Factors Associated with Attitude and Knowledge Toward Hospice Palliative Care Among Medical Caregivers[☆]



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SUMMARY

Background: The present study aimed to explore the attitude and knowledge toward hospice palliative care among medical caregivers in Taiwan.

Methods: A cross-sectional questionnaire survey was conducted among medical staff attending a hospice palliative care conference.

Results: Overall, 163 of 232 questionnaires were valid. Based on the results, 54.9% of opinions on who has the right to sign a Hospice Palliative Care Declaration for an autonomous patient was consistent with the Taiwan Hospice Palliative Care Article; 91.4% of opinions on whether a life-sustaining therapy has been authorized to withhold was consistent with the article, compared with only 28.3% of opinions on whether a life-sustaining therapy has been authorized to withdraw. The capability of medical staff to provide these three procedures was varied (Cochran's $Q = 121.150$, $p < 0.001$). The medical staff who were aged > 32.5 years (odds ratio = 0.41; 95% confidence interval, 0.22–0.90; $p < 0.01$), and whose work experience was > 9 years (odds ratio = 0.52; 95% confidence interval, 0.27–0.97; $p < 0.05$) tended to approach patients' informed consent of Hospice Palliative Care Declaration precisely.

Conclusion: Life and work experience improve the accuracy of medical staff in providing hospice palliative care. A culture-based, case-oriented continuing education program and a timely revision of the Hospice Palliative Care Article are recommended to increase the consistency between the principle and the practice of hospice palliative care.

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1. Introduction

It is widely accepted that patients' autonomy guides medical care^{1–3}. Since the 1960s, this principle has also been applied to hospice palliative care^{2,4}. However, medical uncertainty—such as the definition of medical futility, the legality of withholding and withdrawing therapy, and artificial nutrition termination—has been a challenge for patients and medical staff when making decisions for end-of-life (EOL) care^{2,4}. Additionally, fear, sense of guilt, and preference differences among the patients and their family

members further increase the conflict during hospice palliative care¹. Medical professionals are expected to deliver the most benefit to patients. Hence, equipping medical staff with knowledge for hospice care and skill to resolve conflict is crucial to provide patients with good EOL care^{1,2,5}.

The Natural Death Act worldwide has ensured patients' dignity in EOL^{6–8}. In 2000, the Taiwan Hospice Palliative Care Article, based on the spirit of the Natural Death Act, was legislated to guide medical staff in resolving conflict in hospice palliative care^{7,9,10}. According to the World Health Organization, palliative care is defined as active total care for patients with incurable diseases. Therefore, quality of life is the aim of hospice palliative care^{11–13}. Recent data have shown that legal support for EOL decision-making ameliorates the burden on patients, their families, and medical caregivers, which improves the quality of EOL care^{12,14,15}. Several studies have also shown that accurate decision making enhanced patients' satisfaction with their EOL^{14,16}.

Accordingly, this study was aimed to explore the attitude and knowledge toward hospice palliative care among medical caregivers, and the accuracy associated factors in clinical practice.

2. Materials and methods

2.1. Study population

The target population consisted of 600 health professionals in Taiwan, who attended national conferences regarding the topic of hospice palliative care in 2010. Before the courses began, the questionnaires were sent to the participants. The study was examined and approved by the Human Research Ethics Committee.

2.2. Measurements

The questionnaire was based on the Taiwan Hospice Palliative Care Article, which was legislated in Taiwan in May 2000⁷, and revised in November 2002. The content of the article is that "When a cure is not possible for a disease confirmed by two doctors, the patient has the right to request Do-Not-Resuscitate." Revision of the article further defines the differences in authorization between the requirement of withholding and withdrawing a life-sustaining therapy while the patient is in hospice palliative care. To the end of the study, 2010 October 31, withholding a therapy can be authorized by patients and their legal representatives, whereas withdrawing a therapy can only be determined by the patients themselves.

The questionnaire was designed and tested for content validity by a panel composed of five medical personnel specializing in hospice palliative care. The main theme of this study was the attitude and knowledge toward hospice palliative care among medical caregivers, therefore, the questions were designed to evaluate how they provided hospice palliative care, which was centered on the following issues: withholding and withdrawing life-sustaining therapy, patient autonomy, the definition of no cure diseases, the definition of an optimal duration for a foreseeable death of a disease, and what procedures life-sustaining management should include. In this study, we focused on the first part of the questionnaire.

The responses to the questionnaire were then graded and scored as 1 = strong agreement to 5 = strong disagreement. To evaluate the medical caregivers' hospice palliative practice accuracy, the choice of each question was further dichotomized into two categories: consistency versus inconsistency. The medical staff who chose strong disagreement or disagreement for each question tended to stick to the Taiwan Hospice Palliative Care Article during hospice palliative practice; hence, these two choices were categorized as consistency; by contrast, neutral, agreement, or strong agreement were categorized as inconsistency.

The content validity index¹⁷ of the final version of this questionnaire was 0.99, which is based on the opinion of the five review panelists. Reliability was assessed using the test–retest method. Among the registered nurses specializing in intensive care, 93.33% (28/30) gave the same response to the questionnaire in two separate administrations within 2 weeks¹⁸.

2.3. Statistical analysis

Data management and statistical analysis were performed using SPSS version 17.0 (SPSS Inc., Chicago, IL, USA). A frequency distribution was used to describe the demographic data and the distribution of each variable. Goodness-of-fit test was used to evaluate the equality between two categories of each question. Cochran's Q test analyses were used to assess the differences of the consistency rate between the options of medical staff and the law among these questions. Odds ratios (ORs) with 95% confidence intervals (CIs) and chi-square test were used to review the correlation between the consistency rate of each question, and the demographic variables—including age, years of work experience, sex, work task, work specialty, ward type, education level, religious affiliation, and location of facility.

3. Results

3.1. Demographic properties

In total, 232 of 600 (38.6%) participants agreed to fill out the questionnaires, of which 163 (163/232 = 70.2%) were considered valid. Among these individuals, the average age was 34.2 ± 6.7 years; the majority comprised nurses (95.0%); their specialties covered internal medicine, surgery, gynecology, pediatrics, and hospice care; their work experience ranged from 6 months to 36 years; 93.8% of them came from northern Taiwan; and 53.9% had a specific religious belief.

3.2. Opinions of medical staff on hospice palliative practice and the consistency between opinions of medical staff and Taiwan Hospice Palliative Care Article

The results of the questionnaire revealed that 89 of 162 (54.9%) participants disagreed with the idea of obtaining an informed consent of Hospice Palliative Care Declaration from a legal representative of an autonomous patient. With a Hospice Palliative Care Declaration signed by a legal representative of an unconscious patient, 149 of 163 (91.4%) participants disagreed to operate a cardiopulmonary resuscitation on this patient; 46 of 162 (28.3%) participants disagreed to withdraw a life-sustaining therapy from this patient (Fig. 1).

The study results discovered that 54.9% of opinions on who has the right to sign a Hospice Palliative Care Declaration for an autonomous patient was consistent with the Taiwan Hospice Palliative Care Article, when the patient is autonomous; 91.4% of opinions on whether a life-sustaining therapy has been authorized to withhold was consistent with the article; only 28.3% of opinions on whether a life-sustaining therapy has been authorized to withdraw was consistent with it (Fig. 1). The results showed that the participants have a different capability of providing different hospice palliative care procedures (Cochran's $Q = 121.150$, $p < 0.001$; Fig. 1).

3.3. Factors influencing hospice palliative care performance among medical staff

The study showed that the gynecology and pediatric specialists tended to have lower accuracy compared with the other groups

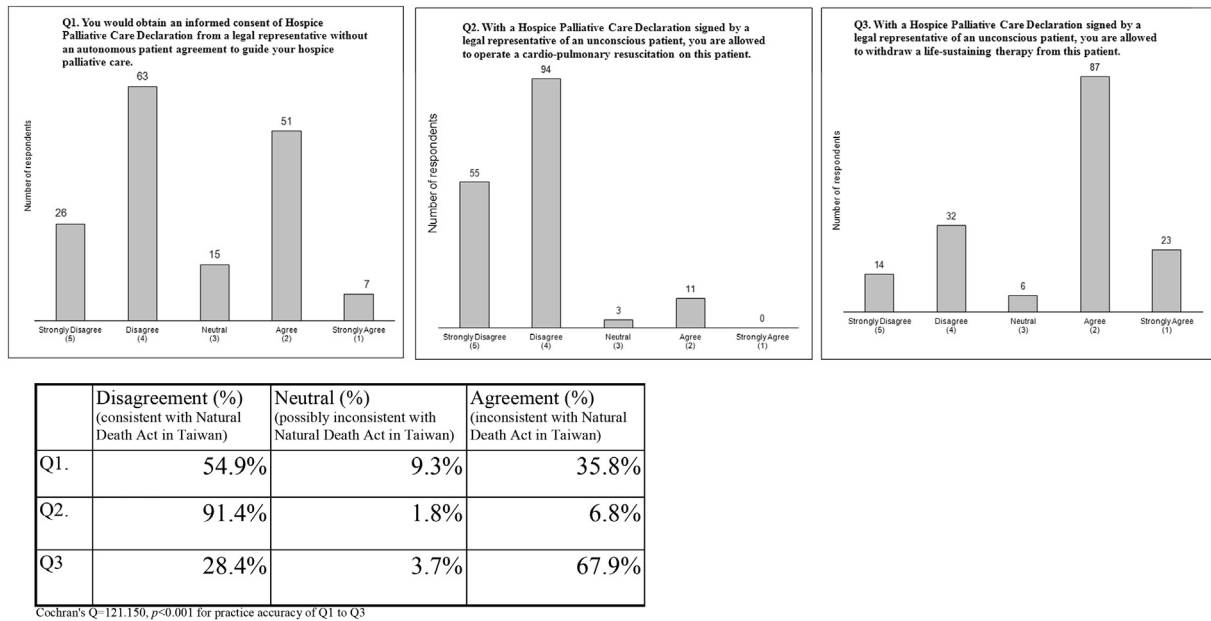


Fig. 1. Relationships between participants' opinions on hospice palliative care and the Taiwan Hospice Palliative Care Article.

($p = 0.05$; Table 1). Regression analysis further revealed that a participant who is aged < 32 years (OR = 0.41; 95% CI, 0.22–0.90; $p < 0.01$; Table 2), whose work experience is < 9 years (OR = 0.52; 95% CI, 0.27–0.97; $p = 0.04$; Table 2), and who has worked in intensive care units and preoperation rooms (OR = 0.52; 95% CI, 0.28–0.98; $p = 0.04$; Table 2) tended to obtain an informed consent of Hospice Palliative Care Declaration from a legal representative of a patient, even if the patient is autonomous.

For withholding therapy, regression analysis showed that a small proportion of the gynecology and pediatric specialists (OR = 0.23; 95% CI, 0.07–0.77; $p = 0.01$; Table 2), or of those who worked in regular wards (OR = 0.23; 95% CI, 0.07–0.77; $p < 0.01$; Table 2) would not choose to perform cardiopulmonary resuscitation on an unconscious patient, even when the Hospice Palliative Care Declaration was signed by the legal representative of the patient.

For withdrawing therapy, most opinions were inconsistent with the Taiwan Hospice Palliative Care Article; however, the opinions of those who self-identified as Buddhist were more consistent with the article (OR = 2.25; 95% CI, 1.06–4.75; $p = 0.03$; Table 2).

4. Discussion

Knowledge of medicolegal ethics is essential for the accurate practice of hospice palliative care^{16,19–22}. It also serves as a guide to resolve conflicts of interest in EOL care. Scientists believe that medical staff should equip with medicolegal ethics to improve the quality of EOL care^{2,14,16,23,24}.

The lack of medicolegal knowledge on the part of the medical staff can be a barrier in providing hospice palliative care^{25,26}. Experts have turned attention toward the improvement of medicolegal ethics education^{26–29}. A previous study has demonstrated that medical staff may not be familiar with all the concepts of the Natural Death Act⁷. In this study, the accuracy rate of hospice practice in descending order was withholding a life-sustaining therapy, truth-telling for Hospice Palliative Care Declaration

Table 1

Demographic characteristics of the participants.

Demographic variables	Mean \pm SD	
Age (y)	34.20 \pm 6.72 Range: 24–59	
Years of work experience (Y)	10.10 \pm 7.02 Range: 0.5–36	
Sex	Number	%
Male	8	4.91
Female	155	95.09
Work task		
Doctor chemist social worker	8	4.91
Senior RN	125	76.69
Junior RN	30	18.4
Work specialty		
Internal medicine or palliative care	67	41.1
Surgery	58	35.58
Gynecology or pediatrics	23	14.12
Other fields ^a	15	9.20
Ward		
Hospice units	10	6.13
Intensive care units and operation room	68	41.72
Regular wards	64	39.27
Other stations ^b	21	12.88
Education		
University and graduate school	97	59.51
College and below	66	40.49
Religious affiliation		
Buddhism	40	24.54
Taoism	33	20.25
Christianity	14	7.98
No denomination	1	0.61
None	75	46.01
Institution location		
Other area	10	6.13
Northern area ^c	153	93.87

RN = registered nurse; SD = standard deviation.

^a Family medicine, nursing home, cosmetic center, home care unit, and health examination center.

^b Outpatient units such as outpatient department, outpatient therapeutic room, cosmetic center, home care unit, health examination center, and nursing home.

^c The Northern area includes Taipei City and County, Tao Yuen County.

Table 2
Regression analysis of factors related to the hospice palliative care practice accuracy.

	Q1. You would obtain an informed consent of Hospice Palliative Care Declaration from a legal representative without an autonomous patient agreement to guide your hospice palliative care.				Q2. With a Hospice Palliative Care Declaration signed by a legal representative of an unconscious patient, you are allowed to perform cardiopulmonary resuscitation on this patient.				Q3. With a Hospice Palliative Care Declaration signed by a legal representative of an unconscious patient, you are allowed to withdraw a life-sustaining therapy from this patient.			
	N		OR (A:B) (95% CI)	p	N		OR (A:B) (95% CI)	p	N		OR (A:B) (95% CI)	p
	Consistency	Inconsistency			Consistency	Inconsistency			Consistency	Inconsistency		
≤ 32 y old	33	42	0.41	<0.01 ^a	70	7	0.89	ns	22	55	1.02	ns
> 33 y old	57	30	(0.22–0.90)		79	7	(0.30–2.65)		24	61	(0.51–2.01)	
≤ 9 y working experience	39	43	0.52	0.04 ^a	76	7	1.04	ns	26	57	1.35	ns
> 9 y working experience	51	29	(0.27–0.97)		73	7	(0.35–3.11)		20	59	(0.68–2.68)	
Male	3	5	0.46	ns	6	2	0.25	ns	2	6	0.83	ns
Female	87	67	(0.11–2.00)		143	12	(0.05–1.39)		44	110	(0.16–4.29)	
Doctor/chemist/social worker	4	4	0.79	ns	1	7	0.25	ns	1	7	0.35	ns
Others	86	68	(0.19–3.28)		45	109	(0.05–1.39)		45	109	(0.04–2.89)	
Junior RN	17	13	1.06	ns	28	2	1.39	ns	9	21	1.10	ns
Others	73	59	(0.48–2.35)		121	12	(0.29–6.56)		37	95	(0.49–2.11)	
Senior RN	69	55	1.02	ns	115	10	1.02	ns	36	88	1.15	ns
Others	21	17	(0.49–2.11)		34	4	(0.40–4.59)		10	28	(0.51–2.60)	
Staffs expert in internal medicine or palliative care	42	26	1.55	ns	65	3	2.84	ns	22	44	1.50	ns
Others	48	46	(0.82–2.92)		84	11	(0.76–10.5)		24	72	(0.75–2.99)	
Staffs expert in the surgical field	32	24	1.10	ns	52	6	0.71	ns	13	45	0.62	ns
Others	58	48	(0.57–2.12)		97	8	(0.24–2.17)		33	71	(0.30–1.31)	
Staffs expert in gynecology or pediatrics	10	13	0.57	ns	17	5	0.23	0.01 ^a	5	18	0.66	ns
Others	80	59	(0.23–1.38)		132	9	(0.07–0.77)		41	98	(0.23–1.91)	
Staffs expert in other fields ^b	6	9	0.50	ns	15	0	1.10	ns	6	9	1.78	ns
Others	84	63	(0.17–1.48)		134	14	(1.05–1.16)		40	107	(0.60–5.33)	
Hospice units	8	2	3.41	ns	10	0	1.10	ns	2	8	0.61	ns
Others	82	70	(0.7–16.61)		139	14	(1.05–1.16)		44	108	(0.13–3.01)	
Intensive care units and preoperation room	32	37	0.52	0.04 ^a	65	3	2.84	ns	22	45	1.45	ns
Others	58	35	(0.28–0.98)		84	11	(0.76–10.5)		24	71	(0.73–2.88)	
Regular wards	41	21	2.03	0.03 ^a	54	10	0.23	<0.01 ^a	15	49	0.66	ns
Others	49	51	(1.05–3.92)		95	4	(0.07–0.77)		31	67	(0.32–1.36)	
University or graduated school	33	33	0.68	ns	63	4	1.83	ns	15	52	0.60	ns
College	57	39	(0.36–1.29)		86	10	(0.55–6.11)		31	64	(0.29–1.22)	
Buddhism	21	20	0.79	ns	35	5	0.55	ns	17	24	2.25	0.03 ^a
Others	69	52	(0.39–1.61)		114	9	(0.17–1.76)		29	92	(1.06–4.75)	
Taoism	21	10	1.89	ns	31	1	3.42	ns	11	21	3.42	ns
Others	69	62	(0.83–4.32)		118	13	(0.43–27.1)		35	95	(0.62–3.25)	
Christianity	9	3	2.56	ns	9	3	0.24	0.07 ^c	2	10	0.48	ns
Others	81	69	(0.67–9.81)		140	11	(0.06–0.99)		44	106	(1.10–2.29)	
None	38	37	0.70	ns	70	5	1.62	ns	16	57	0.54	0.09 ^a
Others	51	35	(0.38–1.32)		78	9	(0.52–5.05)		30	58	(0.27–1.10)	
Northern area ^d	84	69	0.61	Ns	140	14	0.91	ns	44	109	1.41	ns
Others	6	3	(0.15–2.52)		9	0	(0.87–0.96)				(0.28–7.07)	

CI = confidence interval; ns = no significance; OR = operating room; RN = registered nurse.

^a Pearson chi-square.

^b Family medicine, nursing home, cosmetic center, home care unit, and health examination center.

^c Fisher's exact test.

^d The Northern area included Taipei City and County, Tao Yuen County.

endorsement, and withdrawing a life-sustaining therapy, which was related to the type of palliative care.

Gynecology and pediatric specialists in this study tended to provide hospice palliative care less precisely. In 2009, the number of females who died due to maternal diseases and gynecologic malignancy in Taiwan was 104, which accounted for 0.07% of the total number of deaths; the number of patients aged < 20 years who died was 2212, which accounted for 2% of the total number of deaths³⁰. The relatively lower mortality number in children and females with gynecologic diseases may reduce the chance of medical staff to deal with EOL care, which results in diminishing the quality of hospice palliative care.

This study has shown the knowledge deficits of medical staff in providing hospice palliative care; however, life and work experience could help improve this. Experts have noted that education is essential to resolve this problem^{5,27,29}. Continuing palliative care education also enhances medical staff confidence in doing hospice palliative care, and decreases their anxiety during Do-Not-Resuscitate discussions^{31,32}. Therefore, we suggest that a regular culture-based and case-oriented education program be launched.

This study has likewise revealed the inconsistency between the medical staff opinions on hospice palliative care and Taiwan Hospice Palliative Care. Several studies have suggested that a mismatch between the law and customs for resuscitation decisions exists during law evolution^{6,32,33}. Therefore, the inconsistency discovered in this study may imply that the Taiwan Hospice Palliative Care Article is in need of revision to conform to the natives' requirement.

4.1. Limitations and contributions

The small sample size was the limitation of this study. Moreover, the second revision of the Taiwan Hospice Palliative Care Article was legislated in 2011. Again, a redefinition of the authorization of withdrawing a life-sustaining therapy is one of the most important changes in the revision. After that, patients' legal representatives can authorize withdrawing a therapy when the patients are unconscious. Whether this revision coincides more closely with the natives' requirement should be further evaluated.

This study has established a model to quantify the legal knowledge deficit in different concepts. It has also identified the factors influencing the accuracy of medical staff as they perform their tasks during hospice palliative care, which may provide an angle for medical ethical education and Hospice Palliative Care Article revision.

5. Conclusion

The accuracy of the practice of hospice palliative care is influenced by life and work experience. Therefore, a comprehensive, case-orientated continuing education program is suggested. Additionally, an amendment of the Taiwan Hospice Palliative Care Article according to the opinions of the medical staff is also recommended.

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