ORIGINAL ARTICLE

Recognition of Palliative Care in Chinese Clinicians: How They Feel and What They Know

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Key words: palliative care; recognition; China; oncologist

Objective To investigate doctors' feelings when providing medical care to end-stage patients, and their understanding as well as reflection about theoretical concepts of palliative medicine.

Methods Questionnaires were delivered through a social networking platform to 1500 clinicians of different specialties in 10 provinces of China. It covered issues of background information, self-assessment of familiarity to palliative care, prior training history, emotional attitude toward end-stage patients, and the reflections on clinical practice. Logistic regression analysis and chi-square test were used to analyse the categorical variables.

Results There were 379 clinicians who completed the questionnaires and submitted successfully. Among them, 66.8% (253/379) had attended palliative care training courses more than twice; 66.8% (253/379) clinicians perceived powerless feeling when facing end-stage patients. We found that the education on palliative medicine was significantly associated to doctors' better comprehension on the concept of palliative care ($OR=6.923$, $P=0.002$). Doctors who were more familiar with palliative medicine were less likely to perceive powerless feelings ($\chi^2=13.015$, $P<0.001$), and would be more likely to concern about patients and their family members in their clinical work ($\chi^2=28.754$, $P<0.001$, $\chi^2=24.406$, $P<0.001$).

Conclusion The powerless feeling is prevalent in Chinese doctors when facing end-stage patients. Palliative care help them overcome the negative feelings and act more caring in clinic. More careful designed educational strategies that adapt to Chinese actual situation are needed to improve doctors' cognition on palliative care.

A research on global disease burden, published in 2016 on *The Lancet*, suggested that the life expectancy has been elongated to 72.5 years old, and chronic non-infectious diseases accounted for 72.3% of the total death world-

wide.¹ Contemporary health condition puts forward an important issue—the care of dying. The 2015 Quality of Death Index, published by The Economist Intelligence Unit, took the hospice environment, staff numbers and skills, care affordability and quality into account to compare the death quality of citizens in 80 countries. China ranked the 71st and was reported to be “facing difficulties from slow adoption of palliative care and a rapidly aging population”, which indicating palliative care as an increasingly urgent issue in China.²

Palliative care emphasizes the comprehensive treatment of physical, psychological, social and spiritual

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care for the end-stage patients in aims of improving life quality of patients and their family members. This concept, initiated decades ago, has been advanced rapidly in developed countries, but is low accepted in developing countries, including China. Barriers for developing palliative care in China do exist.³ The shortage of professional palliative care staff is significant. It is of great importance to promote the recognition of the concept in Chinese clinicians and improve their clinical skills in practicing palliative care. The goals of the present study is to survey the doctors' feeling when facing end-stage patients and their perception of theoretical concept of palliative medicine.

MATERIALS AND METHODS

Questionnaire design and survey conduction

We delivered a self-designed questionnaire survey to 1500 clinicians in 10 provinces of China through WeChat online. The questionnaire contains 16 questions covering the aspects of background information of the subjects (Q1-7), prior educational history on hospice and palliative care (Q8,9), personal experience (Q10-12), self-assessment of familiarity to palliative

care and living will(Q13,14), emotional attitude to the end-stage patients (Q15), and reflection on clinical practice (Q16-18). Contents of the questionnaire is shown in **Table 1**.

Statistical analysis

Percentage and proportion were used to describe enumeration data. Logistic regression analysis was used for determining which factor was associated with the perception in palliative medicine. Chi-squared analysis was used to explore the impacts of perception in palliative medicine on the clinical management for the end-stage patients. Statistic analyses were performed using SPSS (version 21.0). A *P* value less than 0.05 was considered statistically significant.

RESULTS

The characteristics of responding doctors

There were 379 responders who completed all the questions and submitted data successfully. Among them, 272 (71.8%) were doctors majored in the Medical oncology, 9 (2.4%) from the Surgical oncology, 26 (6.9%) from the Radiotherapy, 21 (5.5%) from the

Table 1. Design and the contents of questionnaire in the survey

Basic information	Q1	Your age
	Q2	Your specialty
	Q3	Do you have membership of a palliative care association
	Q4	What is the type of hospital you are working in
	Q5	Where does the hospital you are working locate (Beijing, others)
	Q6	How long is your clinical experience as a doctor (<15 years, ≥15 years)
	Q7	Your religion
Prior training history	Q8	How many times have you ever attended palliative care training (<2 times, or ≥2 times)
	Q9	Have you ever attended education course on death? (true or false)
Personal experiences	Q10	Self-experience in family member's death (true or false)
	Q11	Talking about death at physician's own home (never, tried to avoid, discussed reluctantly, or discussed openly)
	Q12	Number of patient's death each month?
Self-assessment of familiarity	Q13	Are you familiar with palliative care?
	Q14	Are you familiar with the Living Will?
Emotional attitude	Q15	How do you feel when facing end-stage patients (multiple choices)
Reflection on their clinical practice	Q16	Patients' own opinion was considered when discussing treatment with patients' family.
	Q17	Agree that doctor should concern about patients' family members?
	Q18	Which is better way to treat end-stage patients? (traditional care, or palliative care)

Note:Q13, score from 0-5, larger score means more familiar; Q14, score from 1-3, representing not understand, heard but have no idea, and being familiar with the concept, respectively; Q15, multiple choices, including worried, want to escape, powerless, confused, scared, confident, anxious, hopeless; Q16: score from 1-4, representing never, occasionally, sometimes and always, respectively; Q17, score from 1 to 5, larger score means more likely to agree.

Traditional Chinese Medicine, and 51 (13.5%) from other specialties. Of 379 participants, 110 (29.0%) were member of palliative care association of their specialties, 321 (84.7%) were working in tertiary hospitals, 303(80.0%) were from cities or regions other than the capital city, Beijing, 201 (53.0%) have a professional working experience over 15 years, and 325 (85.8%) were non-religious professionals.

There were 253 (66.8%) doctors who have attended at least 2 palliative medicine lectures, while only 83 (21.9%) had ever received education on death. In terms of personal experience, 300 (79.2%) subjects experienced family member's death, while only 128 (33.8%) described "open" atmosphere when talking about death at home. About 134 (35.3%) clinicians claimed that chemotherapy was performed in over 70% of their patients, and 137 (36.1%) reported more than 2 cases of death per month.

The emotional attitude toward end-stage patients

There were 253 (66.8%) clinicians in the survey who felt "powerless" when facing end-stage patients. 37.8% of them claimed "confused" in this process, and 23.5% perceived "hopeless" feeling when facing end-stage patient (Fig. 1).

Doctors were less likely to perceive powerless feeling when facing end-stage patients in sub-groups who hold membership of a palliative care association ($P=0.003$), who had attended courses on palliative care more than twice ($P=0.001$), course on the death ($P<0.001$), who had experience of family member's death ($P=0.031$) and who had working experience over 15 years ($P=0.022$). The powerless feeling were not distributed differently in subgroups of doctors' special-

ty, religion, hospital levels, and location of their hospital, atmosphere of talking about death, and number of patients' death each month (Table 2).

Doctors' familiarity to the palliative care and the living will

Among 379 subjects, less than 30% thought they were familiar with the concept of palliative care (defined as score ≥ 4), and approximately 20% subjects claimed they knew the living will (defined as score ≥ 3). Doctors who hold membership of palliative care association showed better familiarity to palliative care ($OR=3.228$, $P<0.001$) and the living will ($OR=3.062$, $P=0.007$). Doctors who had ever attended educational course on palliative medicine or course on the death were more familiar with the living will and had better understanding of the palliative care (Table 3).

Impacts of doctor's perception on clinical practice

Doctors who are familiar or unfamiliar with concept of palliative care perceived different reflections on their clinical practice. Doctors who claimed familiar with palliative medicine concerned about patients' family more than those not ($\chi^2=24.406$, $P<0.001$), and were more willing to consider patients' own preference for the treatment ($\chi^2=28.754$, $P<0.001$), and were more apt to adopt the palliative care ($\chi^2=10.764$, $P<0.01$). The data also suggested that doctors knowing more about palliative care were less likely to have powerless feeling when facing end-stage patients ($\chi^2=13.015$, $P<0.001$) (Table 4).

DISCUSSION

Palliative medicine was introduced into China in 1980s. Compared to the development of institutions and services of palliative care in China, whereas, the acceptance of this concept by clinical doctors has still been unsatisfied. According to a study summarizing the total acceptance rate of palliative care, the overall acceptance proportion in Chinese ranged from 25.3% to 86.6%.⁴ A survey conducted in China in terminal cancer patients indicated that only 56.2% patients and 67.1% family members accepted palliative care.⁵ Moreover, Chinese medical professionals are short of knowledge and clinical skills in palliative care. Compared to Austrian interns, remarkably less Chinese interns were familiar to the theoretical concepts of pain management and palliative medicine.^{6,7} Another survey,

Figure 1. Feelings of doctors when facing end-stage patients.

Table 2. Analysis of clinicians characteristics and the powerless feeling when facing end-stage patient

Characteristics	<i>n</i>	(%)	Feel powerless (<i>n</i>)		χ^2	<i>P</i>
			Yes	No		
Specialty						
Medical oncology	272	71.8	176	96	1.822	0.185
Others	107	28.2	77	30		
Member of a palliative care association						
Yes	110	29.0	61	49	8.917	0.003
No	269	71.0	192	77		
Hospital level						
Tertiary hospital	321	84.7	211	110	0.988	0.365
Non-teritary hospital	58	15.3	42	16		
Location of hospital						
Beijing	76	20.1	49	27	0.223	0.683
Non-capital cities	303	80.0	204	99		
Working experience						
≤15 years	201	53.0	145	56	5.591	0.022
>15 years	178	47.0	108	70		
Religion						
Non-religious	325	85.0	214	111	0.848	0.436
Religious	54	15.0	39	15		
Previous attended palliative care course						
≥2 times	253	66.8	155	98	10.334	0.001
<2 times	126	33.2	98	28		
Whether attended courses on the death						
Yes	83	21.9	38	45	21.061	<0.001
No	296	78.1	215	81		
Whether experienced family member's death						
Yes	300	79.2	192	108	4.921	0.031
No	79	20.8	61	18		
Atmosphere talking about death at home						
Openly	128	33.8	78	50	2.947	0.106
Seldom	251	66.2	175	76		
Number of patient death						
>2 cases/ month	144	38.0	92	52	0.859	0.370
≤2 cases/ month	235	62.0	161	74		
sum	379	100	253	126		

conducted at a tertiary hospital in Shanghai revealed lack of knowledge in appropriate using morphine in Chinese professionals.⁸ These studies indicated that despite the development of palliative care in China, there exists an urgent issue for medical educators: how the acceptance of palliative care in Chinese doctors can be improved.

The present survey showed that 66.8% Chinese doctors felt powerless when facing end-stage patients. The powerless feeling in Chinese doctors originated from the subsistent clinical situation in China. Many Chinese oncologists want to "cure" patients

with radiotherapy or chemotherapy at all expense till the end of patient life.⁹ End-stage patients suffer from so-called life-saving treatment, such as blood transfusions, albumin infusion, or high dosages of antibiotics, as well as the side effects of chemotherapy. As we know, for end-stage cancer patients with chemotherapy, morphine is the most commonly used opioid in clinic. However, 66% medical professionals did not fully understand the dosage principle of morphine according to a survey conducted in Chinese doctors.¹⁰ In terms of pain management, although the World Health Organization advocates using opioids to

Table 3. Impact factors on the understanding of the palliative care and the living will in Chinese doctors (*n*=379)

Characteristics of doctors	Palliative care		Living will	
	OR	P value	OR	P value
Age	0.999	0.949	0.975	0.340
Specialty	1.042	0.920	0.823	0.687
Religion	1.270	0.599	1.225	0.700
Member of palliative care associations	3.228	<0.001	3.062	0.007
Hospital level	2.710	0.066	2.171	0.264
location of working hospital	1.529	0.254	1.825	0.159
Years of working experience	1.292	0.476	1.022	0.969
Attending courses on palliative care	6.923	0.002	1.781	0.409
Attending courses on the death	5.582	<0.001	7.340	<0.001
Experienced family member's death	0.829	0.649	1.202	0.746
Atmosphere when talking about death at home	1.468	0.237	1.657	0.194
Number of patient death each month	1.332	0.372	1.039	0.923

Reference category of each variates: specialty:others; religion: non-religious; member of palliative care associations: no; hospital level: non-tertiary hospital; working place: non-capital cities; working experience: ≤15 years; attending courses on palliative care: ≤2 times; attending courses on death: no; experienced family member's death: no; atmosphere when talking about death at home: seldom; number of patient death: ≤2 cases/ month.

Table 4. Familiarity to the Palliative care and doctors' reflection on patients management (*n*=379)

Questions and responses	Familiar with palliative care		χ^2	<i>P</i> value
	Yes (<i>n</i> =90) <i>n</i> (%)	No (<i>n</i> =289) <i>n</i> (%)		
Q15: How do you feel when facing end-stage patients?				
Powerless	46(51.1)	207(71.6)	13.015	<0.001
Others	44(48.9)	82(28.4)		
Q16: Do you considert patients' own willing for treatment?				
1	2(2.2)	18(6.2)	28.754	<0.001
2	8(8.9)	78(27.0)		
3	33(36.7)	121(41.9)		
4	47(52.2)	72(24.9)		
Q17: Do you agree that doctors should concern about patients' family members?				
1	0(0)	4(1.4)	24.406	<0.001
2	1(1.1)	7(2.4)		
3	6(6.7)	60(20.8)		
4	12(13.3)	74(25.6)		
5	71(78.9)	144(49.8)		
Q18: Which do you think is better way to treat end-stage patients?				
Palliative care	86(95.6)	236(81.6)	10.764	0.005
Traditional care	4(4.4)	53(18.4)		

relieve severe cancer pain, Chinese oncologists were reluctant to use opioids in fear of drug addiction and respiratory depression. Overaggressive treatment may weaken patients and even shorten their lives; additionally, it also causes financial burden for patients' family. The irreversible life ceasing with limited benefits of multiple choices of therapeutic methods in tradi-

tional care contributes to the negative feelings in Chinese clinicians.

Palliative medicine emphasizes comprehensive care for patients health of mental, physical, as well as soul. It not only helps control patients' pain, but also release doctors' burden.⁶ To improve the life quality of end stage patients and their family in China, Chinese

doctors need to practice palliative medicine in end stage patients care. There are two issues that need to be addressed.

Firstly, how the comprehension of palliative care helps releasing doctor's negative feelings? The present study showed doctors who had better understandings of palliative care were less likely to feel powerless when facing end stage patients. Our results also suggested that through training courses on palliative care, doctors concern more about their patients and patients' family. They were more willing to consider patients' own opinion on the treatment, and take care of patients' family members. Additionally, doctors who know palliative medicine were found to be more sensitive to identify this concept in their practice, and are more willing to spontaneously apply it in patients care. These results suggested the importance of palliative medicine education in alleviating negative feelings of clinicians when caring end-stage patients.

Secondly, how to improve doctors' comprehension of this concept? The present study suggested cognition degree for palliative care is determined by several factors. Attending training courses on palliative medicine and on the death were related to better understanding of palliative care and the living will. This result indicated the current education programs on palliative care in China do have disseminated the concept in the country and facilitated Chinese doctors to learn the concept. Moreover, more efforts should be made to promote education on palliative care to more doctors in wider range of specialties and to improve the efficiency of training program, so that more trainee clinicians can practice palliative care in their clinical work, and more terminal patients can get benefits of it with good life quality as a result.

Nowadays, education on palliative medicine has been increasingly carried out all over the world. In England, the palliative care education curriculum comprise basics of palliative care, pain and symptom management, psychosocial and spiritual aspects, ethical and legal issues, communication, teamwork and self-reflection. There are multiple teaching formats, such as lectures, small group discussion, case studying, watching movies, role playing.¹¹ In US, up to 99% medical schools offer palliative care courses in 2010, with topics covering 18 aspects including communication, pain management, living will, and so on.¹² In Chinese Taiwan, clinical practice of palliative care for inpatient is added to palliative medicine training curriculum

to enhance clinical experience in a real situation.¹³ Through adopting experiences outside the country, and with a deep understand of Chinese doctors' perception and reflection on palliative medicine, we are able to safely plan the upcoming training course on palliative medicine in China.

The present study explores the basic cognition about palliative care in Chinese clinicians. The study was performed with some limitations. The questionnaire was delivered to participants of lectures (training course) who were actually interested in this concept, which cause bias of specimen in this study and should be taken into account when interpreting the results. Secondly, cognition of palliative care was measured subjectively in this survey. Questions on detailed knowledge of palliative care are needed to precisely evaluation doctors' understanding. Further studies should focus on how to improve doctors' acceptance to palliative care and how to encourage doctors to voluntarily practice palliative care in their dialy work.

In conclusion, the powerless feeling is prevalent in Chinese doctors when facing end stage patients. The overall comprehension and knowledge on palliative care are still unsatisfied. More education strategies with careful designation that adapt to actual situations of the country are needed to improve doctors' cognition of palliative care.

Conflict of interest statement

All authors have no conflict of interests disclosed.

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