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Nursing Students Knowledge of Palliative Care at a Medical University in China: A Cross-Sectional Study

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Abstract

Purpose: The aim of this study was to investigate palliative care knowledge among nursing students and analyze their influencing factors in China. **Methodology:** A cross-sectional, questionnaire-based survey consisted of 1168 nursing students, and was surveyed from November 2020 and January 2021 in China. The data were collected by using the "demographic characteristics form" and "Palliative Care Quiz for Nursing" (PCQN). Frequencies and percentages were used to describe the basic demographic variables, and medians and quartiles were used to describe knowledge scores. **Results:** The median palliative care knowledge score was 11.00 (9.00, 12.00), indicating a generally poor knowledge of palliative care. Nursing students were found to have insufficient knowledge and experience and had deficits in the use of painkillers, psychosocial and spiritual care dimensions. In addition, the level of knowledge of nursing students is influenced by their personal background, level of education, and clinical practice experience. **Conclusion:** Our findings reflect the deficiencies in nursing students' knowledge of palliative care and attention of nursing educators should be drawn to palliative care education. Major medical schools should add palliative care expertise to the undergraduate education of nursing students to provide a supply of talent for palliative care services and promote the development of palliative care education, services, and careers in China.

Subject Areas

Nursing, Palliative Care

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Keywords

Nursing Students, Palliative Care, Knowledge, Nursing Education

1. Introduction

China has officially entered an aging society since 1999, and the growth rate and growth rate of the elderly population are very amazing [1]. According to the data from China's seventh population census in 2020, the total number of people aged 60 and above in China has reached 264 million, accounting for 18.7%, and the elderly aged 65 and over account for 13.5% [2]. The aging level reaches 20.3% in 2024, starting the transition to the moderate aging stage [3]. The increase in China's elderly population means more attention and focus on health care services for the elderly. According to the global cancer burden data released by the International Agency for Research on Cancer (IARC) of the World Health Organization, there were 19.29 million new cancer cases in the world in 2020, of which 4.57 million were new cancers in China, accounting for 23.7% of the world, ranking first in the world [4]. In 2014, the disease distribution data released by the International Palliative Care Alliance (WPCA) for adult palliative care needs ranked second among cancer patients, accounting for 34.01% [5]. The demand for Palliative care for these cancer patients is enormous, urgent and realistic.

According to WHO, palliative care could be defined as "an approach that improves the quality of life of patients and their families facing the problem associated with a life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual" [6]. The main tasks of palliative care include: providing effective pain and other symptom control; identifying the psychological, social, and spiritual needs of patients and families and developing holistic care plans based on those needs; appropriately applying therapeutic communication skills to counsel and support patients and families; respecting patients' wishes and facilitating ethical and regulatory treatment decisions; and supporting families during periods of loss, grief, and bereavement [7]. Palliative care is a nursing service measure that has emerged in recent years, interpreting the concept of "excellent death", emphasizing that in the final stage of the patient's life [7] [8], through the professional knowledge of the nursing staff and comprehensive nursing methods, guide the patient and his family to face the disease, and solve psychological and physiological problems for them, so as to improve the quality of life before the patient's death, alleviate the pain, ensure that the patient can leave calmly, and help the patient's family face the death of relatives with a peaceful attitude, and give all-round care [7] [9].

China's policy is actively carrying out the construction of palliative care services and palliative care institutions, but palliative care talents are still in short

supply, especially nursing staff. Nursing staff is the core personnel of the multidisciplinary cooperative palliative care team, plays an important role in Palliative care services, and plays a particularly important role in the provision and implementation of palliative care services [10] [11].

Nursing students are future caregivers [12], and the level of awareness of Palliative care among nursing students will affect the quality of care for future terminally ill patients [13]. In terms of nursing education, the cultivation of Palliative care talents is particularly important, but judging from the current status of palliative care education in medical colleges in China, many medical colleges have not incorporated palliative care into the education system of nursing students [14] [15].

This study investigates the mastery of palliative care knowledge of nursing students in a higher medical college in Chongqing and analyzes its influencing factors, so as to provide some constructive suggestions for the cultivation of palliative care nursing talents.

2. Methods

2.1. Study Design

This descriptive and cross-sectional study was conducted between November 2020 and January 2021.

2.2. Participants, Samples and Settings

The sample consisted of 1074 undergraduate nursing students and 94 nursing postgraduates from Chongqing Medical University. The participants were included if they meet the following inclusion criteria: 1) a student enrolled in the undergraduate nursing programme or the graduate nursing programme at Chongqing Medical University; 2) participate voluntarily; 3) correctly understand the context of the questionnaire and no reading disorder. Nursing students were stratified by grade, and then two classes were randomly selected from each grade for nursing undergraduate's sample, while nursing postgraduates were randomly selected from each grade.

2.3. Instrumentation

The survey was conducted using the questionnaire survey method, which was utilized to gather two parts data about the demographic profile of the participants and to assess their palliative care knowledge. The first part obtained demographic characteristics data, which included gender, nationality, religion belief, grade, physical condition, education degree, birthplace, annual household income, attitudes towards the nursing profession and personal experience.

The second part of the questionnaire was a revised Chinese version of the Palliative Care Quiz for Nursing (PCQN). Ross *et al.* [16] developed the original questionnaire, which is widely used around the world [17], and Zou *et al.* [18] translated it into Chinese and validated in nurses. The Palliative care quiz

(PCQN) was developed by Professor Ross in 1996, consisting of 20 entries and includes three main dimensions: principles of palliative care, control of pain and other symptoms, and psychosocial support. On the basis of this scale, entries 1, 3, 4, 5, 7, 9, 12, 13, 14, 16, 18 and 20 were retained; plus entries 1, 3, 4, 7, 12, 18, 19 and 20 of PCQN-R-C, considering the difference between nursing students and nurses, this study made minor adjustments to PCQN and reclassified its 20 questions into four categories: 1) principles of palliative care (5 items), 2) pain and symptom management (5 items), 3) use of painkillers (5 items), 4) psychological and spiritual care (5 items). The respondents select "true," "false" or "do not know" for each item. Then answers were coded as follows: 1 = correct, 0 = incorrect, or "I do not know." [19]. Total scores for the PCQN-R-C range from 0 - 20. The internal consistency of the PCQN-R-C in this study was very good (Cronbach's alpha = 0.883), coefficient of variation in palliative care knowledge was 28.8%.

2.4. Data Collection

Data collection was performed from December 2020 to January 2021 by the researchers. The purpose of the study and instructions to fill the questionnaires were explained to the students. Then the questionnaires were administered to the students who agreed to participate, and questionnaires were collected on the spot after they completed it independently.

2.5. Statistical Analysis

The investigated data were statistically analyzed with SPSS 26.0 software. The normality test and homogeneity of variance test were performed on the PCQN scores, which showed that the scores were not normally distributed and homogeneous in variance. Frequencies and percentages were used to describe categorical variables, and medians and quartiles were used to describe knowledge scores. $p < 0.05$ was considered statistically significant, with a 95% confidence interval.

2.6. Ethical Considerations

This study maintains the anonymity of all the participants, who can opt whether or not to participate. Formal written consent was obtained from all participants. We further guaranteed that the identity of the participants will not be disclosed and that their answers will be confidential. Ethical approval for the project was gained from the ethics committees of Chongqing Medical University.

3. Results

3.1. Demographic Characteristics

Eventually, 1168 nursing students took part in this study. As shown in **Table 1**, the majority of participants were female (89.2%), ethnic Han (90.8%) and not religious (99.6%). A high proportion of participants were undergraduate nursing

students (92.0%). Most of the participants were inexperienced in patient care and clinical practice experiences. Other detailed demographics are listed in Table 1.

Table 1. Demographic characteristics of the participants (N = 1168).

Demographic	N	%	Demographic	N	%
Genders	-	-	**Nationality**	-	-
Male	126	10.8	Ethnic Han	1061	90.8
Female	1042	89.2	Minority	107	9.2
Religious belief	-	-	**Educational levels**	-	-
YES	5	0.4	Undergraduate	1074	92.0
NO	1163	99.6	Postgraduate	94	8.0
Grade	-	-	**Physical conditions**	-	-
Freshman	338	28.9	Healthy	896	76.7
Sophomore	301	25.8	Subhealthy	260	22.3
Junior	219	18.8	Unhealthy	12	1.0
Senior	216	18.5	**Attitude towards nursing major**	-	-
Grade 1 master	45	3.9	Like	308	26.4
Grade 2 master	26	2.2	Neutral	783	67.0
Grade 3 master	23	2.0	Dislike	77	6.6
Birthplace	-	-	**Annual family income**	-	-
Provincial capital	291	24.9	<50 k	550	47.1
Prefecture city	86	7.4	50 k - 100 k	432	37.0
County seat or small town	401	34.3	100 k - 300 k	165	14.1
Countryside	390	33.4	>300 k	21	1.8
Clinical practices in hospitals	-	-	**Medical-related volunteer service**	-	-
YES	438	37.5	YES	548	46.9
NO	730	62.5	NO	620	53.1
I have had a serious illness experience	-	-	**Family member with a terminal illness**	-	-
YES	46	3.9	YES	348	29.8
NO	1122	96.1	NO	820	70.2
Care for dying family members	-	-	**Contact with severe patients**	-	-
YES	555	47.5	YES	433	37.1
NO	613	52.5	NO	735	62.9
Care for dying patients	-	-	**Attend a funeral**	-	-
YES	182	15.6	YES	833	75.6
NO	986	84.4	NO	285	24.4

3.2. Palliative Care Knowledge

Table 2 shows that the median palliative care knowledge score was 11.00 (9.00, 12.00) with scores ranging from 0 to 18, indicating a generally poor knowledge of palliative care.

Table 3 shows the top five and bottom five entries for the correct rate of all palliative care knowledge entries. The top 5 correct nursing students' knowledge of palliative care all had 900 or more correct and greater than 80% correct. The lowest correct rate was even as low as 2.5%, and the others were all less than 12% correct.

Table 2. Scores of palliative care knowledge among nursing students.

	median	P_{25}	P_{75}	scoring rate	maximum	minimum
Total of palliative care knowledge	11.00	9.00	12.00	50.3%	18.00	0
Principles of palliative care	4.00	3.00	4.00	65.5%	5.00	0
Pain and symptom management	3.00	3.00	4.00	61.2%	5.00	0
Use of painkillers	1.00	1.00	2.00	29.9%	5.00	0
Psychologicaland spiritual care	2.00	2.00	3.00	43.3%	5.00	0

Table 3. Correct rate of knowledge of palliative care in the top five and bottom five.

Scale item	Subscale	Dimension	Correct (N)	Correct Rat (%)
Top 5 correct rates				
10	Adjuvant therapies are important in managing pain. (T)	Pain and symptom management	1047	89.6
20	Terminal patients are prone to fear, denial, anxiety, depression and despair and other psychological states. (T)	Psychosocial and spiritual care	1019	87.2
17	The extent of the disease determines the method of pain treatment. (F)	Pain and symptom management	1009	86.4
7	Pain is a common symptom of terminally ill patients, especially cancer patients. (T)	Pain and symptom management	986	84.4
3	Palliative care includes many services such as medical care, nursing, psychological counseling and death education. (T)	Principles of palliative care	950	81.3
The last 5 digits of the correct rate				
6	It is crucial for family members to remain at the bedside until death occurs. (F)	Psychosocial and spiritual care	29	2.5
13	Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain. (F)	Use of painkillers	44	3.8
16	The provision of palliative care requires emotional detachment. (F)	Psychosocial and spiritual care	54	4.6
11	The extent of the disease determines the method of pain treatment. (F)	Pain and symptom management	107	9.2
9	The use of placebos is appropriate in the treatment of some types of pain. (F)	Use of painkillers	131	11.2

Table 4 summarizes the association between participant demographic characteristics and palliative care knowledge. Grades ($p < 0.001$), experience of clinical practices in hospitals ($p < 0.001$), experience of medical-related volunteer service ($p < 0.001$) and experience of caring for dying patients ($p < 0.001$) were the strongest predictors of knowledge about principles of palliative care. Genders ($p < 0.001$), grades ($p < 0.001$), experience of clinical practices in hospitals ($p < 0.001$), experience of medical-related volunteer service ($p < 0.001$), experience of contacting with severe patients ($p < 0.001$) and experience of caring for dying patients ($p < 0.001$) were the strongest predictors of knowledge about pain and symptom management. Grades ($p < 0.001$) and experience of clinical practices in hospitals ($p < 0.001$) have an effect on pain and symptom management. Thus, these findings suggest that all of the examined demographic characteristics, only psychological and spiritual care, were not significantly associated with level of palliative care knowledge (Table 4).

Table 4. Association between the demographic profile and palliative care knowledge of participants (N = 1168).

	Psychologicaland spiritual care			Principles of palliative care			Pain and symptom management			Use of painkillers		
	Me	Z/H	*P*	*Me*	Z/H	*P*	*Me*	Z/H	P	*Me*	Z/H	*P*
Genders	-	–0.757	0.449	-	–2.558	–0.011	-	–3.683	0.000	-	–3.048	0.002
Male	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Female	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
Nationalities	-	–0.245	0.807	-	–3.194	0.001	-	–2.350	0.019	-	–0.075	0.940
ethnic Han	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
Minority	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Birthplace	-	4.928	0.177	-	12.549	0.006	-	0.565	0.904	-	5.611	0.132
Provincial capital	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
Prefecture city	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
County seat or small town	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
Countryside	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Annual family income	-	6.680	0.083	-	14.887	0.002	-	6.077	0.108	-	1.977	0.577
<50k	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
50 k - 100 k	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
100 k - 300 k	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
>300 k	2.00	-	-	4.00	-	-	4.00	-	-	2.00	-	-
Physical conditions	-	3.749	0.153	-	7.697	0.021	-	2.355	0.308	-	10.184	0.006
Healthy	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
Subhealthy	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Unhealthy	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-

Continued

Grades	-	7.626	0.106	-	23.016	0.000	-	71.737	0.000	-	20.754	0.000
Freshman	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Sophomore	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
Junior	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
Senior	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
Postgraduate	2.00	-	-	4.00	-	-	4.00	-	-	2.00	-	-
Attitude towards nursing major	-	11.675	0.003	-	2.337	0.311	-	0.247	0.884	-	4.955	0.084
Like	2.00	-	-	4.00		-	3.00	-	-	2.00	-	-
Neutral	2.00	-	-	4.00	-	-	3.00	-	-	1.00	-	-
Dislike	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Experience of clinical practices in hospitals	-	–0.303	0.762		–5.463	0.000	-	–6.579	0.000	-	–4.265	0.000
YES	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
NO	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Experience of medical-related volunteer service	-	–0.428	0.669	-	–3.320	0.001	-	–4.401	0.000	-	–3.107	0.002
YES	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
NO	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Experience of contacting with severe patients	-	–0.518	0.604	-	–5.160	0.000	-	–6.393	0.000	-	–2.047	0.041
YES	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
NO	2.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-
Experience of caring for dying patients	-	–0.437	0.662	-	–4.269	0.000	-	–3.985	0.000	-	–3.030	0.002
YES	2.00	-	-	4.00	-	-	3.00	-	-	2.00	-	-
NO	3.00	-	-	3.00	-	-	3.00	-	-	1.00	-	-

*P < 0.05.

4. Discussion

This study investigated the aspects of palliative care knowledge among nursing students. To some extent, the results of these data reflect the problems in palliative care education for nursing students in China. The results of this study revealed a general lack of palliative care knowledge among nursing students. Although students knew the general content of palliative care, most of them failed to know the concept of palliative care accurately [20], and most students' knowledge about palliative care came from other sources than our textbooks. The results of a study of medical schools in Shanghai [14], and Inner Mongolia [15],

China, also reflect a lack of palliative care knowledge among nursing students.

Knapp and Wallace *et al.* showed that the integration of palliative care education into nursing education is helpful to improve and increase nursing students' awareness of palliative care [21] [22]. The palliative care profession cannot develop without palliative care education, with all top public medical schools in the UK [23] successfully offering palliative care-related courses and making them mandatory for medical students, and the American Academy of Nursing [24] recommending the inclusion of palliative care in undergraduate nursing curricula in 2016, followed by Japan and Australia also established palliative care institutions and related curricula. In contrast, the preliminary survey of this study also showed that Chongqing Medical University has not yet developed a systematic palliative care curriculum and generally only embeds palliative care content in the nursing curriculum [14]. The educational gap between domestic and international education is very clearly felt, which is not conducive to the development of palliative care for Chinese nursing students at an already lagging pace.

The results for the four dimensions of correctness showed that most students did seem to possess good knowledge on the principles of palliative care dimension, which is somewhat encouraging [8]. Nursing students had low correct rates in two dimensions, use of painkillers and psychological and spiritual care, indicating deficiencies in nursing students' knowledge in these two areas. One reason is the absence of palliative care courses in the undergraduate education of nursing students, and another is the lack of clinical practice experience.

There were no top-five entries for the pain medication use dimension, only two entries in the bottom five (entry 13, entry 9), and the majority of students in this study had inadequate expertise in painkillers. Placebo treatment is effective in the treatment of chronic pain, but end-stage patients present with varying degrees of pain, and thus placebo cannot fully treat pain in end-stage patients [10]. The content of entry 13 involves expertise in the use of painkillers, which cannot be properly judged by nursing students who have not studied the relevant knowledge and participated in practice. Also the most important concern for end-stage patients is the quality of life at the end stage, while the use of pain medication is basic treatment for them, and addiction is no longer a primary issue relative to end-stage suffering.

Only one entry on the psychosocial and spiritual care dimension was in the top five, but two entries were in the bottom five, indicating that nursing students have poor knowledge of this dimension. One is that "It is crucial for family members to remain at the bedside until death occurs. (F)," and many studies have shown similar results [8] [10], with the vast majority being influenced by culture, especially traditional Chinese culture, which reflects the blood ties between family members and the belief that being by a loved one's side at the end of life is a way to bring his or her life to a successful conclusion and increase the patient's sense of well-being and satisfaction, laterally reflecting the importance

and role of death education for nursing students in the undergraduate curriculum. The second is "The provision of palliative care requires emotional detachment. (F)" The correct answer to this item is that nurses should empathize with patients' spiritual pain and let them find the meaning of survival; however, nursing students believe that they should stay calm, and that calm emotions will affect terminal patients' emotions, making them negative and other negative emotions, which is not conducive to terminal patients' psychological comfort, which is also a lack of knowledge in psychosocial and spiritual care among nursing students.

In addition, the level of knowledge of nursing students is influenced by their personal background, level of education, and clinical practice experience, so adding knowledge during the education of nursing students can be a great help for future palliative care-related careers and will help provide better quality palliative care [24]. The level of knowledge of nursing students can also be influenced by the educational qualifications received. The reason for the higher score of palliative care knowledge among nursing master's students than nursing undergraduates is that the lack of palliative care education leads to the lower score of palliative care knowledge among nursing undergraduates, and the second reason is that with the increase of education level, the expansion of knowledge, the increasing learning ability, understanding and acceptance ability, the learned knowledge system is more comprehensive, the vision is broader, the concept is newer, and the practice is more [22] [25] [26]. The higher the grade level the higher the knowledge score, further indicating that education is a facilitator of palliative care knowledge acquisition. The students in this study reflected a lack of clinical practice experience [27]. It is evident from the students' correctness of the knowledge entries that they can master the basic knowledge well, but there are deficiencies in the knowledge involving professional clinical practice. The Al Qadirehe and Chover-Sierra study exemplifies the need to improve knowledge in palliative care through internships, clinical simulations, and other forms [10] [17] [28]. Educational institutions should actively collaborate with medical institutions to provide nursing students with clinical practice opportunities to learn beyond the textbook or practice, which will help students gain a comprehensive understanding of professional knowledge to better provide palliative care services in the future.

Finally, it is very interesting that there are no factors influencing the psychosocial and spiritual care dimension, and there is a great need for increased research in this area in the future.

5. Limitation

The current study has some limitations. This study only investigated nursing students in one college of Chongqing Medical University, so it is difficult to represent all nursing students in Chongqing. Second, this is a cross-sectional study that only records students' knowledge levels at a specific grade and time.

6. Conclusion

In conclusion, this study found nursing students' knowledge to be inadequate and inexperienced. Nursing students were also found to have deficiencies in the use of painkillers and psychosocial and spiritual care dimensions among nursing students, and future palliative care education should include and enhance relevant expertise. In addition, the level of education and clinical practice experience also affects the level of knowledge of nursing students, and education in palliative care is necessary and should be enhanced in collaboration with medical institutions to provide nursing students with the possibility of more practice opportunities. Major medical schools should add palliative care expertise to the undergraduate education of nursing students to provide a supply of talent for palliative care services and promote the development of palliative care education, services, and careers in China. Finally, there is a need to further expand the study to understand the current state of palliative care knowledge acquisition among Chinese nursing students.

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Declaration of Competing Interest

The authors report no conflict of interest.

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Appendix

PCQN:

1. Palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration.
2. Morphine is the standard used to compare the analgesic effect of other opioids.
3. The extent of the disease determines the method of pain treatment.
4. Adjuvant therapies are important in managing pain.
5. It is crucial for family members to remain at the bedside until death occurs.
6. During the last days of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation.
7. Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain.
8. Individuals who are taking opioids should also follow a bowel regime.
9. The provision of palliative care requires emotional detachment.
10. During the terminal stages of an illness, drugs that can cause respiratory. depression are appropriate for the treatment of severe dyspnoea.
11. Men generally reconcile their grief more quickly than women.
12. The philosophy of palliative care is compatible with that of aggressive treatment.
13. The use of placebos is appropriate in the treatment of some types of pain.
14. In high doses, codeine causes more nausea and vomiting than morphine.
15. Suffering and physical pain are synonymous.
16. Demerol is not an effective analgesic in the control of chronic pain.
17. The accumulation of losses renders burnout inevitable for those who seek work in palliative care.
18. Manifestations of chronic pain are different from those of acute pain.
19. The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate.
20. The pain threshold is lowered by anxiety or fatigue.

PCQN-R-C:

1. Palliative care neither delays nor accelerates the death of the patient.
2. Palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration.
3. Palliative care includes many services such as medical care, nursing, psychological counseling and death education.
4. Psychological comfort is ineffective for patients with advanced disease.
5. The philosophy of palliative care is compatible with that of aggressive treatment.
6. It is crucial for family members to remain at the bedside until death occurs.
7. Pain is a common symptom of terminally ill patients, especially cancer patients.

8. The pain threshold is lowered by anxiety or fatigue.

9. The use of placebos is appropriate in the treatment of some types of pain.

10. Adjuvant therapies are important in managing pain.

11. The extent of the disease determines the method of pain treatment.

12. The basic principle of pain medication is to give it "by the clock" rather than “when necessary”.

13. Drug addiction is a major problem when morphine is used on a long-term basis for the management of pain.

14. In high doses, codeine causes more nausea and vomiting than morphine.

15. Demerol is not an effective analgesic in the control of chronic pain.

16. The provision of palliative care requires emotional detachment.

17. Manifestations of chronic pain are different from those of acute pain.

18. For medical staff engaged in palliative care, seeing patients die one by one is bound to produce burnout.

19. Palliative care is to help patients face death bravely and accept it peacefully.

20. Terminal patients are prone to fear, denial, anxiety, depression and despair and other psychological states.