**Appendix 1.** Variables Assignment in Multiple Correspondence Analyses

|  |  |
| --- | --- |
| **Variables** | **Assignment** |
| **Independent Variable** | Gender | male =1, female =0 |
| age | included as a continuous variable |
| Nationality | han =1, non-han =0 |
| Belief | yes =1, no=0 |
| Education | bachelor or above =3, college=2, high school=1, middle school or less=0 |
| Professional title | senior=4, vice-senior=3, intermediate=2, junior=1, none =0 |
| Commonweal character | public=1, non-public =0 |
| Experience of death witness | yes=1, no=0 |
| Willingness on providing hospice care | yes=1, no=0 |
| Experience in providing hospice care | yes=1, no=0 |
| Marriage | unmarried | yes=1, no=0 |
| married | yes=1, no=0 |
| divorced or widowed | yes=1, no=0 |
| City | A | yes=1, no=0 |
| B | yes=1, no=0 |
| C | yes=1, no=0 |
| D | yes=1, no=0 |
| E | yes=1, no=0 |
| Job | administrator | yes=1, no=0 |
| doctor | yes=1, no=0 |
| nurse | yes=1, no=0 |
| medical technician | yes=1, no=0 |
| organization type | secondary or above  | yes=1, no=0 |
| CHC or THC | yes=1, no=0 |
| specialized hospital | yes=1, no=0 |
| rehabilitation nursing  | yes=1, no=0 |
| **Dependent Variable** | Knowledge | right=1，wrong =0 |
| Attitude | totally agree=5, partly agree =4, neutral/nonsense=3, partly disagree=2, totally disagree=1 |
| Confidence | very confidence=5, rather=4, nonsense=3, little=2, rather not=1 |
| Self-report practice | always/ every time=5, often=4, occasionally=3, rarely=2, never=1 |

**Appendix 2. Health Providers’ Knowledge, Attitude and Practice of Hospice Care (KAPHC) Scale in China (Chinese version interpreted into English for easier reading)**

Hospice care (palliative care) has become an increasingly concerned social issue. This scale is to survey your basic status of Knowledge, Attitude and Practice of Hospice Care to provide the scientific evidence for guiding future training and practice of hospice care in China. The questionnaire is voluntary and anonymous. It may cost you five to eight minutes. Thanks for your support and cooperation.

**Demographic Sheet**

1. Affiliation \_\_\_\_\_\_\_\_(institute)\_\_\_\_\_\_\_(department)
2. Job: ○ General physician ○ Nurse ○ Administrator ○ Other (please specify) \_\_\_\_\_
3. Gender: ○ Male ○ Female
4. Age: \_\_\_\_\_\_\_\_(years old)
5. Marriage status: ○ Unmarried ○ Married ○ Divorced or widowed
6. Nationality: ○ Han ○Minorities
7. Religious Belief: ○ Buddhism ○Taoism ○Christian

○ Catholicism ○ Mohammedanism ○none

1. Educational status: ○ bachelor or above ○ high school or vocational college ○ junior middle school or less
2. Profession title: ○ senior ○ intermediate ○ junior ○ none
3. Have you ever seen the death process of end-of-life patient or relatives?

○ yes ○ no

1. Have you provided any hospice care service?

○ yes ○ no, but plan to soon. ○ no, and have no plan to.

If yes:

11-1. the service you provide is: ○ full-time ○part-time

11-2.How many years have you served? ­­\_\_\_\_\_year(s) (please fill round numbers)

11-3. How many end-of-life patients did you take care of in recent one year?

○ 0 person ○ \_\_\_\_\_\_person(s)

1. Your current access to knowledge of hospice care: (Multiple-choice question)

○ none □ medical staff □professional training □media like television, radio, internet or magazines □ people around

1. Have you received any training program in hospice care before?

○ yes ○ no

13-1. If yes, what types of train have you received? (Multiple-choice question)

□ educational training □post qualification training □ adult education project □unit training □ further education □ online self-study

1. Are you willing to participate in hospice care?

○yes ○ no

15-1. If yes, your main consideration is:

○ It’s task from superior. ○It’s my duty. ○My religious belief. ○It’s charitable.

15-2. If no, your main consideration is:

○ It’s stressful. ○ Low salary. ○Unvalued. ○ Meaningless. ○ Blind-alley job.

**Knowledge Sheet**

Please indicate the right answer and fill in the corresponding number.

|  |  |  |
| --- | --- | --- |
| **No.** | **Items** | **option** |
| 1a | Hospice care is respecting natural death, but not shortening the life of patients. 1)Yes 2)No 3)Don’t know | 　 |
| 2 | The provision of hospice care requires emotional detachment. 1)Yes 2)No 3)Don’t know | 　 |
| 3 | Psychological, social, and spiritual problems are paramount to the palliative care team who give appropriate consultation and management. 1)Yes 2)No 3)Don’t know | 　 |
| 4a | It is vital for family members to stay at the bedside until a death occurs. 1)Yes 2)No 3)Don’t know | 　 |
| 5a | Losing a distant relative is easier to get over the pain than losing someone close. 1)Yes 2)No 3)Don’t know | 　 |
| 6 | Three steps make up the WHO analgesic ladder. 1)Yes 2)No 3)Don’t know | 　 |
| 7a | Drug addiction is a major problem when chronic morphine is used to treat pain. 1)Yes 2)No 3)Don’t know | 　 |
| 8 | The hospice care team provides bereavement support for the family after the patient’s death. 1)Yes 2)No 3)Don’t know | 　 |
| 9 | Home hospice care is in line with China’s folk customs. 1)Yes 2)No 3)Don’t know | 　 |
| 10 | For child bereavement care, children can attend funerals and even participate in preparations. 1)Yes 2)No 3)Don’t know | 　 |
| 11 | During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea. 1)Yes 2)No 3)Don’t know | 　 |
| 12 | To use Mirabilite in Shenque acupoint application can relieve ascites. 1)Yes 2)No 3)Don’t know | 　 |
| 13 | Pain threshold is lowered by fatigue or anxiety. 1)Yes 2)No 3)Don’t know | 　 |
| 14 | Men generally reconcile their grief more quickly than women. 1)Yes 2)No 3)Don’t know | 　 |
| 15 | Individuals who are taking opioids should also follow a bowel regime. 1)Yes 2)No 3)Don’t know | 　 |
| 16a | A placebo is appropriate in some types of pain treatment. 1)Yes 2)No 3)Don’t know | 　 |
| 17 | To strengthen the construction of hospice care institutions was written into the "healthy China 2030" plan. 1)Yes 2)No 3)Don’t know | 　 |
| 18a | A physician's written consent or consent to hospice care for a terminally ill patient is not kept together with the medical record. 1)Yes 2)No 3)Don’t know | 　 |
| 19 | The most authoritative guidelines on health care planning recommend that hospice care should be provided by: 1)specialized multi-professional hospice care team that includes the family’s GP 2)GPs 3)Multi-professional hospital team led by a pain therapist 4)Specialized nursing staff in collaboration with an anesthetist 5)Specialized nursing staff | 　 |
| 20a | Which of the following is not a common side effect of anesthetics: 1)Nausea 2)Sedation 3)Respiratory depression 4)Constipation 5)Myoclonus | 　 |
| 21 | Morphine point injections can be used to relieve cancer pain in the terminal period. 1)Yes 2)No 3)Don’t know | 　 |
| 22 | The purposes of melodic therapy are not including: 1) to relieve physical pain 2) entertainment 3) to express emotions 4) to evoke memories 5) to comfort grief | 　 |

a Items deleted in final edition.

**Attitudes Sheet**

Which answer corresponds to your own personal feelings about the attitude presented, please fill in the corresponding number in the blank. The meaning of number is:

1=totally disagree, 2=partly disagree, 3=neutral/nonsense, 4=partly agree, 5=totally agree”.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Items** | **1** | **2** | **3** | **4** | **5** |
| 1. Perception of the threats from the worsening conditions of advanced patients is: | 　 |
| 1.1 | Uncomfortable to take care of advanced cancer patients. | 　 | 　 | 　 | 　 | 　 |
| 1.2 | Hopeless for the cure. | 　 | 　 | 　 | 　 | 　 |
| 1.3 | Unable to easily face dying process and distress. | 　 | 　 | 　 | 　 | 　 |
| 1.4 | Makes me feel weakness. | 　 | 　 | 　 | 　 | 　 |
| 1.5 | I feel guilty when amine patient dies. | 　 | 　 | 　 | 　 | 　 |
| 2. Perception of the benefits for the life quality promotion is: |
| 2.1 | Able to promote life quality and keep the dignity. | 　 | 　 | 　 | 　 | 　 |
| 2.2 | Able to die peacefully and have a good death. | 　 | 　 | 　 | 　 | 　 |
| 2.3 | Having care and accompanied by medical team. | 　 | 　 | 　 | 　 | 　 |
| 2.4 | Emotional support. | 　 | 　 | 　 | 　 | 　 |
| 2.5 | Able to have family support. | 　 | 　 | 　 | 　 | 　 |
| 3. Perception of the benefits for better death preparation is: |
| 3.1 | Respect for patient’s religion and burial rites. | 　 | 　 | 　 | 　 | 　 |
| 3.2 | Help to die at home. | 　 | 　 | 　 | 　 | 　 |
| 3.3 | Better communication with advanced patients. | 　 | 　 | 　 | 　 | 　 |
| 3.4 | Help medical staff to take care of patients better. | 　 | 　 | 　 | 　 | 　 |
| 3.5 | Avoid the idea of euthanasia. | 　 | 　 | 　 | 　 | 　 |
| 4. Perception of the barriers to provide palliative care is: |
| 4.1 | Shorten patient’s life, just like euthanasia. | 　 | 　 | 　 | 　 | 　 |
| 4.2 | No active treatment for physical symptoms. | 　 | 　 | 　 | 　 | 　 |
| 4.3 | Make patients feel hopeless. | 　 | 　 | 　 | 　 | 　 |
| 4.4 | Advanced patients have many difficult symptoms. | 　 | 　 | 　 | 　 | 　 |
| 4.5 | Keep providing long-term hospice care service will lose enthusiasm. | 　 | 　 | 　 | 　 | 　 |
| 5. Subjective norms for provision of hospice care: |
| 5.1 | It is meaningful. | 　 | 　 | 　 | 　 | 　 |
| 5.2 | I experienced the death of my family member, which affected me to provide hospice care. | 　 | 　 | 　 | 　 | 　 |
| 5.3 | It is a part of duty on medical staff. | 　 | 　 | 　 | 　 | 　 |
| 5.4 | With the approval and support of department leader, colleagues, relatives and friends, I was encouraged to provide hospice care. | 　 | 　 | 　 | 　 | 　 |

**Behaviors Sheet**

Please fill in the corresponding number in the blank, which corresponds to **1) your personal feelings about the confidence to provide hospice care services presented.**

In confidence items the meaning of number is:

1=rather non confident, 2=non confident, 3=neutral/nonsense, 4=confident, 5=rather confident.

**2) And in self-report behaviors items, please fill in the correspondent to your actual work (how often you performed) if you have had the hospice working experience (if don’t have any experience, please skip this part).**

The meaning of number is:

1=never, 2=rarely, 3=sometimes, 4=usually, 5=always.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1.How much confidence do you have?** | **1** | **2** | **3** | **4** | **5** |
| 1.1 | Alleviate pain and discomfort of dying patients? | 　 | 　 | 　 | 　 | 　 |
| 1.2 | Make pain assessment of patients? | 　 | 　 | 　 | 　 | 　 |
| 1.3 | Reduce unnecessary treatment costs? | 　 | 　 | 　 | 　 | 　 |
| 1.4 | Satisfy the physical and mental needs of dying patients? | 　 | 　 | 　 | 　 | 　 |
| 1.5 | Explain the expected dying process to the patient’s family? | 　 | 　 | 　 | 　 | 　 |
| 1.6 | Tell family specific things they can do to provide meaningful service to patients? | 　 | 　 | 　 | 　 | 　 |
| 1.7 | Understand the wishes and pain of family to help them? | 　 | 　 | 　 | 　 | 　 |
| 1.8 | Create good relationship between the medical staff and family members? | 　 | 　 | 　 | 　 | 　 |
| 1.9 | Coordinate the media resources of medical, social, psychological and spiritual care? | 　 | 　 | 　 | 　 | 　 |
| 1.10 | Help risk grieving families to get through better? | 　 | 　 | 　 | 　 | 　 |
| 1.11 | Guide the management of afterwards and funeral preparation for families? | 　 | 　 | 　 | 　 | 　 |
| **2. If you have hospice working experience, how often you performed?** | **1** | **2** | **3** | **4** | **5** |
| 2.1 | Alleviate pain and discomfort of dying patients? | 　 | 　 | 　 | 　 | 　 |
| 2.2 | Make pain assessment of patients? | 　 | 　 | 　 | 　 | 　 |
| 2.3 | Reduce unnecessary treatment costs? | 　 | 　 | 　 | 　 | 　 |
| 2.4 | Satisfy the physical and mental needs of dying patients? | 　 | 　 | 　 | 　 | 　 |
| 2.5 | Explain the expected dying process to the patient’s family? | 　 | 　 | 　 | 　 | 　 |
| 2.6 | Tell family specific things they can do to provide meaningful service to patients? | 　 | 　 | 　 | 　 | 　 |
| 2.7 | Understand the wishes and pain of family to help them? | 　 | 　 | 　 | 　 | 　 |
| 2.8 | Create good relationship between the medical staff and family members? | 　 | 　 | 　 | 　 | 　 |
| 2.9 | Coordinate the media resources of medical, social, psychological and spiritual care? | 　 | 　 | 　 | 　 | 　 |
| 2.10 | Help risk grieving families to get through better? | 　 | 　 | 　 | 　 | 　 |
| 2.11 | Guide the management of afterwards and funeral preparation for families? | 　 | 　 | 　 | 　 | 　 |

This is the end of the questionnaire. Thank you for your cooperation!