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Validity and Reliability Measurement of the Knowledge and Attitude Survey Regarding Pain Tool Vietnamese Version

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ABSTRACT

Introduction: Knowledge and attitude regarding pain management is one of the factors with the highest predictive value and it can explain 69% of nurses' s pain management practice [2]. Therefore, a standard tool to measure the pain management knowledge and attitude of nurses in Vietnam is needed.

Objective: Testing the validity and reliability of the Knowledge and attitudes survey regarding pain tool Vietnamese version (KASRP -V), so as to measure the nurse's pain management knowledge level in Vietnam

Method: The psychometric properties testing of KASRP tool Vietnamese version has undergone a strict standardization process including testing for content validity, discriminant validity, test-retest reliability, internal consistency reliability. 6 experts assessed the content validity. 50 nurses and 73 nursing students were selected to collect data for the discriminant validity testing. Thirty nurses out of 50 nurses were selected to collect data for the internal consistency reliability and test-retest reliability testing.

Results: The KASRP tool Vietnamese version includes 41 items, the CVI index for each item ranged from 0.83-1, S-CVI=0.996. The discriminant validity was verified because there was a difference in knowledge scores between the group of nurses with experience in patient care and the group of 4th years nursing students (Z=-2.256, *p*=0.01).. Internal consistency reliability was measured by Cronbach alpha score. The Cronbach alpha value of each item ranged from 0.885 - 0.887 and the total score was 0.888. The correlation coefficient between each item with the total ranged from 0.300 - 0.446. The ICC score = 0.977 (with 95% CI=0.631-0.994, *p* = .000) was measured to assess test-retest reliability

Conclusion: This evaluation of the KASRP -V demonstrated acceptable validity and reliability

KEYWORDS*:* Pain, knowledge, attitude, pain management, validity, reliability.

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INTRODUCTION

To improve the quality of nursing practice, knowledge and attitude is one of the factors that play an extremely important role in promoting effective nursing practice. Especially in the area of pain management, knowledge and attitude related to pain management was a major barrier for nurses to implement effective pain management[1], and it was one of the factors with the highest predictive value and it explained 69% of nurses' practice in pain management[2]. However, studies across the world show that there are still a lot of nurses who have inadequate attitudes and knowledge on pain management. For instance, the frequency was 70.1% in Saudi Arabia[3], was 66.6% in Iran[4] and was 77,8% to 94% of the studies in which nurses have inadequate attitudes and knowledge about pain management[5], [6].

There are many tools to measure nurses' pain management knowledge and attitude such as: Clinical Pain Knowledge[7]; Pediatric Healthcare Providers' Knowledge and Attitude Survey Regarding Pain[8]; Pain knowledge and attitudes[9]; Knowledge and attitudes survey regarding pain tool (KASRP)[10]; EBP-knowledge, attitude, behavior questionnaire" (EBP-KABQ)[11];. Among these tools above, we choose the KASRP tool[10] to carry out validation in the Vietnamese context because it is a quality tool, and it has been validated and used routinely in many countries around the world to measure nurses' pain management knowledge and attitude in various countries such as America[10] , China[12] , Turkey[13], , Korea[14] and Vietnam[5], [6].

In Vietnam, the KASRP tool[10] has been widely used in research to assess pain management knowledge and attitude on nurses in different health care settings examples nurses at National Geriatric Hospital[6], nurses at the Institute of Trauma and Orthopedics, Viet Duc Hospital[5], nurses at the Oncology Hospital[15]. However, we have not found any studies that evaluate the validity and reliability of the KASRP tool using a rigorous validation process before being applied in a large nursing study in Vietnam. Among these above studies were conducted in Vietnam, only the study of the authors Nguyen, Dang, Nguyen & colleagues (2021) assessed the viability of the translation tool by translating KASRP into Vietnamese and evaluating its viability. The outcomes demonstrated that this technology guaranteed the technique, time, and duration of the data collection as well as the translation tool is simple enough for Vietnamese nurses to understand[6]. To ensure that the tool meets the standards of accurately measuring the pain management knowledge and attitude level among nurses in Vietnam, we carry out this study aim to evaluate the validity and reliability of the KASRP tool Vietnamese version.

METHODOLOGY

Before testing the validity and reliability of the KASRP tool Vietnamese version, we wrote a letter and received the approval of the authors Nguyen, Dang, Nguyen & colleagues who conducted translation and evaluate the feasibility of the KASRP tool in Vietnam.

Research design

A cross-sectional descriptive study was applied and conducted at Hai Duong Medical Technical University Hospital and Hai Duong Provincial General Hospital from February to March, 2022.

As KARPS receive 2 forms of true or false answers, the evaluation of structural validity by factor analysis will probably get artificial results[16]. On the other hand, the original authors also pointed out that the KASRP tool was designed for discriminant validity analysis[10]. So, the psychological properties of the final Vietnamese version of KASRP tool were tested for content validity, discriminant validity, internal consistency and test-retest reliability.

Research tool

KASRP tool was developed in 1987 and widely used from 1987 to present. This tool has been revised over the years to reflect changes in pain management practice and was last revised in 2014 by Ferrell, McCaffery.(2014)[10]. The tool has 22 true-false questions, 15 multi-choice questions, and 2 case studies with 2 questions for each case. Content validity was established by experts' assessment. The content of this tool is drawn from current standards for pain management such as the American Pain Association, the World Health Organization, and the National Comprehensive Cancer Network's Pain Guidelines. Construct validity was established by comparing the scores of nurses at different professional levels such as students, recent graduates, oncology nurses, fellows and senior pain specialists. Tools are valued for discriminating between levels of expertise and had a good internal consistency (Cronbach's alpha > .70), test-retest reliability (r>0.8)[10]. Nguyen, Dang, Nguyen, et al. (2021) applied the standard translation procedure and conducted a pre-pilot study on 20 nurses to evaluate the feasibility of the translation tool in Vietnam context. The results showed that the tool ensured the feasibility about method, time and length of the data collection as well as easily understood[6]. Details of KASRP tool English version and KASRP tool Vietnamese version were added in Appendix

Study sample and sample size

Mearsuring content validity value based on experts' opinions. Number and criteria for selecting experts based on recommendations of Armstrong, Cohen, Eriksen, et al. (2005)[17]. In this study, we selected 6 experts including phycians and nurses who have master degree or higher and have more than 10 years of experience in research and clinical. They work in different places, and field areas.

According to the recommendation by Gunawan, Marzilli, Aungs. (2021), the sample size for the study to test the discriminant validity rate question-to-response ratio of 1:3[18]. The KARPS questionnaire has 41 items, so the minimum sample size is 123 people. As recommended by Ferrell, & McCaffery (2014), to assess discriminant validity by comparing score differences between nurses with different professional qualifications such as nurses and nursing students[10]. So, the study subjects included 50 nurses with at least 3 years of experience in patient care who work at Hai Duong Provincial General Hospital and Hai Duong Medical Technical University Hospital, and 73 4th-year nursing students.

Thirty nurses were selected from among 50 nurses participating in the discriminant validity test to collected data measured intenal consistency reliability and test - retest reliability This sample size was recommended by Burns,

Grove (2005)[19]. Test - retest reliability was assessed twice on the same subject, 2 weeks apart[14].

Data analysis

The 6 experts rate the content validity of each item by assigning a score from 1 to 4. 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = very relevant. Scores of item must be 3 or 4 to be considered relevant. The content validity index of each item (I-CVI) and scales - content validity index(S-CVI) were calculated by using the formula below

I- CVI $=\frac{number\ of\ experts\ who\ rated\ the\ items\ with\ 3\ or\ 4}{Total\ experts}$

S-CVI $=\frac{total\ items\ were\ assigned\ with\ relevant}{Total\ items}$The acceptance score for I-CVI is at least 0.78 and S-CVI is 0.9[20], [21].

Because both group of nurses and nursing students had not normal distribution data and had different distribution shapes, the Mann-Whitney U test was used to analyze the data. Compare the mean rank difference between nursing and nursing students ($p \leq 0.05$)

Using the Cronbach Alpha coefficient to measure the internal consistence reliability of KASRP-V. A Cronbach alpha value of 0.70 - 0.79 was considered acceptable, 0.80 - 0.89 was good, and 0.90 or higher was very good. Besides, the item-total correlation coefficient was tested for the uniformity of the overall scale. The item-total correlation coefficient ranged from 0.3 to 0.7, indicating that the item is acceptable. If the coefficient is less than 0.3 then the entries are removed and if the coefficient is greater than 0.7, it indicates repetition[22]

Intraclass Correlation Coefficient (ICC) two-way mix model, absolute agreement was used to evaluate the test-retest reliability of questionnaire. The value of ICC was also evaluated according to the criterion <0.5 (poor reliability, a value from 0.5 to 0.75 indicates average reliability, a value from 0.75 to 0.9 indicates good reliability and values greater than 0.90 indicate very good reliability[23], [24].

Statistical analysis was performed using excel and SPSS statistics software, version 25. Statistical significance level with *p* value less than or equal to 0.05.

RESULTS

Experts participated in assessing the value of content validity

The experts participated in the assessment of content validity include 6 experts: 1 expert is Associate professional phycian who has 35 clinical experiences in the field of pain relief for patients and is a lecturer, 1 expert is a specialist in oncology with more than 10 years of experience in treating patients, 2 experts who are nursing doctors with more than 10 years of experience in nursing research and training nursing students, 2 clinical nurses with a master's degree have over 10 years of experience in caring for surgical and oncology patients, and teaching nursing students in clinical.

Subjects participated in the discriminant validity testing

Among the 123 participants, female was the majority of 108 people (87.8%), there were 50 nurses (40.7%) had more than 3 years of experience in patient care, and 73 4th-year nursing students (59.3%). 50(100%) nurses participated in this study had a university degree or higher . Especially, 100% nurses and 4th-year nursing students have not taken any courses related to pain management. The details were presented in Table 1

Table 1. Characteristics of participants in the discriminant validity(N=123)

No	Characteristics	n	%
1	Sex - Male - Female	 15 108	 12.2 87.8
2	Academic level - 4th year student - Diploma and college - University - Master level or higher	 73 0 41 9	 59.3 0.0 33.3 7.4
3	Years of experience - 4th year student - 3- 5 years - 5-10 years $-\geq 10$ years	 73 14 28 8	 59.3 11.4 22.8 6.5
4	Attended pain management training courses - No - Yes	 123 0	 100 0

Subjects participated in the reliability testing

The 30 nurses participated in the pilot study in which most of nurses were female 86.7% (n=26), had a university degrees 70.0% (n=21), 5-10 years of experience 63.3% (n=19), especially 100% (n= 30) of nurses participating in this study have not attended any training course related to pain management. The details characteristics of the study participants were described in Table 2.

Table 2. Characteristics of participants in the reliability testing

No	Characteristics	n	%
1	Sex - Male - Female	 4 26	 13.3 86.7
2	Academic level - Diploma and college - University - Master level or higher	 0 21 9	 0.0 70.0 30.0
3	Years of experience - 3- 5 years - 5-10 years – ≥ 10 years	 4 19 7	 13.4 63.3 23.3
4	Attended pain management training courses - No - Yes	 30 0	 100 0

The content validity value of the KASRP tool Vietnamese version.

41 items in the KASPR-V tool were selected for content validity assessment by 6 experts. Most of the items were scored by experts from 3-4, which means that they were rated at a relevant level. Only the item 20th had an expert rating of 1 point, and the remaining 5 experts all gave score of 3-4. Thus, the CVI score of the item 20th was 0.83, and the remaining 40 items had a CVI of 1. S-CVI score = [(0.83 x 1) + (40 x1)] : 41 = 0.996. The details were shown in Table 3 below.

Table 3: The content validity value of the KASPR Vietnamese version

Items	CVI score(N=6)
Item 1	1
Item 2	1
Item 3	1
Item 4	1
Item 5	1
Item 6	1
Item 7	1
Item 8	1
Item 9	1
Item 10	1
Item 11	1
Item 12	1
Item 13	1
Item 14	1
Item 15	1
Item 16	1
Item 17	1
Item 18	1
Item 19	1
Item 20	0.83
Item 21	1

Item 22	1
Item 23	1
Item 24	1
Item 25	1
Item 26	1
Item 27	1
Item 28	1
Item 29	1
Item 30	1
Item.31	1
Item 32	1
Item 33	1
Item 34	1
Item 35	1
Item 36	1
Item 37	1
Item 38a	1
Item 38b	1
Item 39a	1
Item 39b	1

The discriminant validity of KASRP tool Vietnamese version

The participants of the study were divided into 2 groups with experience and no experience in patient care: participants in the group of nurses have have at least 3 years of experience in patient care (n=50), and the group of students (n=73). The difference in scores between the two groups was applied to evaluate the discriminant validity of the tool. The results show that the Mean Rank score of the nursing group is 71.88, which is higher than that of the nursing student group, which is 55.23, Z = -2.56, p = 0.01. The details were presentd in Table 4

Table 4: The discriminant validity of KASRP tool Vietnamese version

	Participants	N	Mean Rank	Z	*p*value
Knowledge and attitude score	Nurses	50	71.88	-2.56	0.01
	Students	73	55.23		
	Total	123			

The reliability

To evaluate the reliability of the tool, two values of internal reliability and test-retest reliability were used. 41 items of the KASRP-V were calculated with Cronbach alpha coefficients. The Cronbach alpha value of each item ranged from 0.885 - 0.887 and the total scale was 0.888. The correlation coefficient between each item with the total ranged from 0.300 - 0.446. The details were presented in Table 5 .

Table 5: Internal consistency reliability of KASPR tool Vietnamese version

Items	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item 1	70,671	.321	.887
Item 2	70,489	.326	.887
Item 3	70.372	.325	.887
Item 4	70.230	.306	.887
Item 5	70.240	.300	.887
Item 6	69,283	.413	.885
Item 7	69,082	.436	.885
Item 8	69,082	.436	.885
Item 9	69,495	.386	.886

Item 10	69,706	.362	.886
Item 11	69,151	.446	.885
Item 12	69.826	.383	.886
Item 13	69.826	.383	.886
Item 14	70.185	.317	.887
Item 15	69,697	.388	.886
Item 16	69,840	.360	.886
Item 17	69.289	.411	.885
Item 18	69,857	.367	.886
Item 19	69.195	.433	.885
Item 20	70.372	.325	.887
Item 21	70.171	.308	.887
Item 22	70.286	.305	.887
Item 23	70.064	.341	.887
Item 24	69,220	.420	.885
Item 25	69,013	.445	.885
Item 26	69.426	.436	.885
Item 27	69,614	.428	.885
Item 28	69,909	.351	.886
Item 29	69.275	.417	.885
Item 30	69.528	.399	.886
Item.31	69,614	.428	.885
Item 32	69,085	.437	.885
Item 33	69,964	.333	.887
Item 34	69,609	.382	.886
Item 35	70.148	.322	.887
Item 36	69,482	.392	.886
Item 37	70.064	.341	.887
Item 38a	69.426	.436	.885
Item 38b	69,292	.412	.885
Item 39a	69.195	.433	.885
Item 39b	69,620	.375	.886

Test-retest reliability was determined on a sample of 30 nurses over 2 times assessment in 2 weeks apart. The mean score of knowledge and attitude for the first assessment: 18.06 ± 8.55, the second assessment: 20.13 ± 8.49. The results of repeated reliability assessment had intraclass correlation coefficient ICC = 0.977 (95% CI= 0.631-0.994*;* *p*=000). The details of the results were presented in Table 6 .

Table 6: Test-retest reliability of the KARPS tool Vietnamese version

		95% confidence interval		F Test with True Value 0			
	ICC	About below	About above	Value	df1	df2	*p*value
Average Measures	.977	.631	.994	110.019	29	29	.000

DISCUSSION

KASRP tool Vietnamese version has been translated and evaluated the feasibility of the tool according to a standard procedure to produced the final Vietnamese version by Nguyen, Dang, Nguyen, et al. (2021)[6].The process of validating has gone through many steps of the validating process.

Firstly, the tool was evaluated for validity. Validity testing is very important to determine whether the instrument actually measures what it wants to measure[25]. To ensure the validity of the tool we performed a content validity assessment and discriminant validity. Content validity was assessed by 6 experts. 06 experts not only assessed the content validity, but also provided guidance if possible. The results show that the CVI index of each item ranged from 0.83 - 1 and the S- CVI = 0.996, indicating that the tool had good content value[20[, [21], [25]. This result was similar to the research conducted in China by Yu, Li, Lu, et

al. (2020) also presented that this tool had good content value with S-CVI = 0.97 and the CVI value of each item ranged from 0.9- 1.0[26] and KASRP Korean version, the I-CVI ranged from 0.73 to 1[14].

In addition to the content validity assessment, the contruct validity was also tested to ensure the strength validity of the tool. Contruct validity was performed by testing the discriminant validity by comparing the difference in scores between 2 groups of nurses and nursing students. The mean rank score of the nurses was 71.88, the nursing students was 55.23 (Z= -2.56, p = 0.01), indicating that the mean rank scores of the nurses was significantly higher than the nursing students, therefore the KASRP tool of the Vietnamese version had good discriminant validity[10]. Compared to previous studies as shown by Spanish version of Zuazua-Rico, et al. (2018) also pointed out a difference in mean scores between nursing students and palliative care nurses (p < .031)[27], Korean version of Kwon, Kim, Park, et al (2020) also showed that there was a difference in the mean score of knowledge and attitude between the two groups with and without trainning pain management (t=2.30, p=.024)[14], and the original version by Ferrell, & Mc Grant (2014) also presented that there was a difference in scores between different professional groups[10].

To ensure the reliability of the KASRP tool Vietnamese version, internal consistency reliability and test-retest reliability was tested. Cronbach alpha value was applied to measure the internal consistency reliability of the KASRP tool Vietnamese version. The cronbach alpha value of each item ranged from 0.885 - 0.887 , of the total scale was 0.888, this result proved that the Vietnamese version of the KASRP tool measured the same structure. Especially, the result documented that if remove any item of the 41 items, it did not increase the Cronbach alpha score of the KASRP tool of the Vietnamese version. The Item-Total Correlation equaled to $0.3 \leq 0.3 - 0.446 < 0.7$, indicating good homogeneity within the tool and there is no need to remove any items from this tool[22]. The results of this study were similar to previous studies of Ferrel, Mc. Grant (2014) on the original version with cronbach alpha >.07)[10], and the Chinese version with cronbach alpha = 0.74[26].

Test-retest reliability was assessed by using the ICC index. In this study, the ICC value = 0.977 (95% CI =.631-.994; p=.000), this result proved that the score between the two times had stability, indicating the KASRP tool Vietnamese version had very good reliability[23], [24]. This result was higher than the study of Zuazua-Rico, et al(2018) with ICC= .883 (95% CI = .812-.928)[27]. Compared to other version, the original version and Korean version also shown the KASRP-V had a good reliability with r>.08 and r =.079, respectively[10], [14]

The KASRP tool Vietnamese version has undergone a rigorous translation and adaptation process from English to Vietnamese, it has also demonstrated its psychological properties for the first time. However, some limitations in this study also need to be taken into account. Firstly, the subjects participating in the evaluation of discriminant validity and reliability of the tool were selected by convenience method. Especially, the sample size to evaluate the discriminant validity only reuses the minimum sample size in the ratio 1:3. As a result, these limitations may cause bias in this study. Therefore, further study should apply a larger sample size, and select the sample by random method

CONCLUSION

Statistical indicators reflected the validity and reliability of the KASRPS tool Vietnamese version are accepable in according to recommendations of the literature. This tool helps ensure initial quality and feasibility to measure pain management knowledge and attitude level of nurses in Vietnam.

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CONFLICT OF INTEREST

The authors confirm that there were no conflict of interest in this study.

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APPENDIX

A: English version of survey tool: Knowledge and Attitudes Survey tool Regarding Pain

No	**True/False – Circle the correct answer.**	
Q01	Vital signs are always reliable indicators of the intensity of a patient's pain	☐. True ☐. False
Q02	As their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.	☐. True ☐. False
Q03	Patients who can be distracted from pain usually do not have severe pain.	☐. True ☐. False
Q04	Patients may sleep in spite of severe pain.	☐. True ☐. False
Q05	Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.	☐. True ☐. False
Q06	Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months.	☐. True ☐. False
Q07	Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.	☐. True ☐. False
Q08	The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours.	☐. True ☐. False
Q09	Opioids should not be used in patients with a history of substance abuse.	☐. True ☐. False
Q10	Elderly patients cannot tolerate opioids for pain relief.	☐. True ☐. False
Q11	Patients should be encouraged to endure as much pain as possible before using an opioid.	☐. True ☐. False
Q12	Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.	☐. True ☐. False
Q13	Patients' spiritual beliefs may lead them to think pain and suffering are necessary.	☐. True ☐. False
Q14	After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.	☐. True ☐. False
Q15	Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.	☐. True ☐. False
Q16	Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5-10 mg of morphine PO.	☐. True ☐. False
Q17	If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.	☐. True ☐. False
Q18	Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.	☐. True ☐. False
Q19	Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.	☐. True ☐. False
Q20	Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.	☐. True ☐. False
Q21	The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.	☐. True ☐. False
Q22	Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.	☐. True ☐. False

No	**Multiple Choice – Place a check by the correct answer.**
Q23	The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is a. Intravenous b. Intramuscular c. Subcutaneous d. Oral e. Rectal
Q24	The recommended route administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain is a. Intravenous b. Intramuscular c. Subcutaneous d. Oral e. Rectal
Q25	Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients? a. Codeine b. Morphine c. Meperidine d. Tramadol
Q26	A 30 mg dose of oral morphine is approximately equivalent to: a. Morphine 5 mg IV b. Morphine 10 mg IV c. Morphine 30 mg IV d. Morphine 60 mg IV
Q27.	Analgesics for post-operative pain should initially be given a. around the clock on a fixed schedule b. only when the patient asks for the medication c. only when the nurse determines that the patient has moderate or greater discomfort
Q28	A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is a. less than 1% b. 1-10% c. 11-20% d. 21-40% e. > 41%
Q29	The most likely reason a patient with pain would request increased doses of pain medication is a. The patient is experiencing increased pain. b. The patient is experiencing increased anxiety or depression. c. The patient is requesting more staff attention. d. The patient's requests are related to addiction.
Q30	Which of the following is useful for treatment of cancer pain? a. Ibuprofen (Motrin) b. Hydromorphone (Dilaudid) c. Gabapentin (Neurontin) d. All of the above
Q31	The most accurate judge of the intensity of the patient's pain is a. the treating physician b. the patient's primary nurse c. the patient

	d. the pharmacist e. the patient's spouse or family
Q32.	Which of the following describes the best approach for cultural considerations in caring for patients in pain: a. There are no longer cultural influences in the Vietnam due to the diversity of the population. b. Cultural influences can be determined by an individual's ethnicity (e.g., Asians are stoic, Italians are expressive, etc.). c. Patients should be individually assessed to determine cultural influences. d. Cultural influences can be determined by an individual's socioeconomic status (e.g., blue collar workers report more pain than white collar workers).
Q33.	How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem? a. < 1% b. 5 – 15% c. 25 - 50% d. 75 - 100%
Q34	time to peak effect for morphine given IV is a. 15 min. b. 45 min. c. 1 hour d. 2 hours
Q35	time to peak effect for morphine given orally is a. 5 min. b. 30 min. c. 1 – 2 hours d. 3 hours
Q36	Following abrupt discontinuation of an opioid, physical dependence is manifested by the following: a. sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued. b.Impaired control over drug use, compulsive use, and craving. c. The need for higher doses to achieve the same effect. d. a and b
Q37	Which statement is true regarding opioid induced respiratory depression: a. More common several nights after surgery due to accumulation of opioid. b. Obstructive sleep apnea is an important risk factor. c. Occurs more frequently in those already on higher doses of opioids before surgery. d. Can be easily assessed using intermittent pulse oximetry.

CASE STUDIES

Two patient case studies are presented. For each patient, you are asked to make decisions about pain and medication.

DIRECTIONS

Please select one answer for each question.

Q38. Patient A is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of patient A's pain.

0 1 2. 3. 4. 5. 6. 7. 8. 9. 10

Worst Pain /discomfort

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B. Your assessment, above, is made two hours after he has received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time.

1. Administer no morphine at this time.
2. Administer morphine 1 mg IV now.
3. Administer morphine 2 mg IV now.
4. Administer morphine 3 mg IV now.

Q39. Patient B is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8.

A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of patient

B's pain:

0 1 2. 3. 4. 5. 6. 7. 8. 9. 10

Worst Pain/discomfort

B. Your assessment, above, is made two hours after he has received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time:

1. Administer no morphine at this time.
2. Administer morphine 1 mg IV now.
3. Administer morphine 2 mg IV now.
4. Administer morphine 3 mg IV now.

B. Vietnamese version of survey tool.

Survey question on pain management knowledge of nurses in Vietnamese version

STT	TRUE KNOWLEDGE QUESTIONS	ANSWER
Q01	Vital signs are reliable indicators of a patient's pain intensity.	☐. Correct ☐. Wrong
Q02	Because the nervous system is not fully developed, children under two years of age have lower pain sensitivity and limited ability to remember pain-related experiences.	☐. Correct ☐. Wrong
Q03	Patients who can be distracted from pain usually do not have severe pain.	☐. Correct ☐. Wrong
Q04	The patient is still able to sleep despite severe pain.	☐. Correct ☐. Wrong
Q05	Aspirin and non-steroidal anti-inflammatory drugs do not have an effective analgesic effect in cases of bone metastases.	☐. Correct ☐. Wrong
Q06	Respiratory depression has rarely occurred in patients receiving stable doses of opioids over a period of several months	☐. Correct ☐. Wrong
Q07	Combinations of pain relievers by different mechanisms: For example, combining a nonsteroidal anti-inflammatory drug (NSAID) with an opioid may result in better pain control as well as less effect. side effects than the use of a single analgesic agent.	☐. Correct ☐. Wrong
Q08	The usual duration of analgesic effect of 1-2 mg of morphine intravenously is 4-5 hours.	☐. Correct ☐. Wrong

Q09	Opioids should not be used in patients with a history of substance abuse.	☐. Correct ☐. Wrong
Q10	Elderly patients cannot tolerate opioids for pain relief.	☐. Correct ☐. Wrong
Q11	Patients should be encouraged to tolerate pain to the maximum before using opioids.	☐. Correct ☐. Wrong
Q12	Children under 11 years of age cannot reliably reflect pain severity, so clinical judgment should be based on parental judgment of the child's pain intensity.	☐. Correct ☐. Wrong
Q13	Some patients' spiritual beliefs may lead them to think that pain and suffering are necessary	☐. Correct ☐. Wrong
Q14	Following the first dose of an opioid analgesic, subsequent doses should be adjusted according to the patient's response.	☐. Correct ☐. Wrong
Q15	A sterile water injection (placebo) is an effective test to check if the pain is real	☐. Correct ☐. Wrong
Q16	Vicodin (hydrocodone 5mg+acetaminophen 300mg) orally is approximately equal to 5-10mg of morphine by mouth.	☐. Correct ☐. Wrong
Q17	If the source of pain is unknown, opioids should not be used during the pain assessment phase. This can reduce your ability to properly diagnose the cause of the pain.	☐. Correct ☐. Wrong
Q18	Anticonvulsants such as gabapentin (neurontin) provide optimal pain relief after a single dose.	☐. Correct ☐. Wrong
Q19	Benzodiazepime is not an effective pain reliever and is rarely used to relieve pain in patients.	☐. Correct ☐. Wrong
Q20	Drug addiction/Opioid addiction is defined as a chronic neurological disease, including one or more behaviors with the following characteristics: Impaired behavioral control due to drug use Compulsive use, continued use despite harm , and craving.	☐. Correct ☐. Wrong
Q21	The term Equianalgesia, meaning equivalent analgesia, is used when referring to different doses of analgesia that may have an equivalent analgesic effect.	☐. Correct ☐. Wrong
Q22	Evaluation of sedation is recommended during pain management because excessive sedation can cause opioid-induced respiratory depression.	☐. Correct ☐. Wrong
STT	**MULTIPLE CHOICE KNOWLEDGE QUESTIONS**	
Q2 3	The recommended route of administration for opioid analgesics in patients with persistent cancer pain is: Intravenous line Intramuscular Subcutaneously Oral Place the rectum	
Q24	The recommended route of administration for opioid analgesics to patients with brief, severe pain of sudden onset such as post-traumatic or postoperative pain is: Intravenous line Intramuscular Subcutaneously Oral Place the rectum	
Q2 5	Which of the following analgesics is considered an option for persistent moderate or severe pain in cancer patients: Codeine Morphine Mepeidime Tramadol	
Q2 6	A 30 mg oral dose of Morphine for pain relief is equivalent to:	

	5mg Morphine IV 10mg of Morphine intravenously 30mg of Morphine Intravenous 60mg intravenous morphine
Q2 7 .	At what time should the first dose of postoperative analgesia be given: Continuously all day according to a certain schedule Only when the patient requests medication Only if the nurse determines that the patient has moderate or severe discomfort
Q 28	A patient with persistent cancer pain was taking an opioid pain reliever daily for two months. Yesterday, the patient received Morphine 200mg/h intravenously. Today the patient has been taking 250mg/h of intravenous morphine. The likelihood that a patient will develop symptoms of respiratory failure in the absence of other comorbidities is: <1% 1-10% 11-20% 21-40% >41%
Q29	The most common reasons if a patient requires an increased dose of analgesia is: The patient feels the pain is increasing Patient is experiencing increased anxiety and depression Patients want more care from medical staff Patient request may be related to substance addiction
Q30	Which of the following drugs is effective in the treatment of cancer? A. Ibuprofen (Motrin) Hydromorphone (Dilaudid) Gabapentin (Neurontin) All of the above drugs
Q31	The most accurate judge of a patient's pain intensity is: A. The treating doctor The patient's primary nurse Patient Pharmacist Patient's spouse or family
Q32.	Which of the following describes the best approach to consider cultural considerations in the care of patients with pain? Unaffected by cultural issues due to population diversity The influences of culture can be considered by the ethnicity of each individual Individual assessments should be made to consider the influence of culture The effects of culture can be determined by each individual's socioeconomic status
Q33.	If the patient has pain, the likelihood of alcohol or drug abuse is <1% 5-15% 25-50% 75-100%
Q3 4	The timing of maximum effect of intravenous morphine is as follows: 15 minutes 45 mins 1 hour 2 o'clock
Q3 5	The time to reach maximum effect of oral morphine is as follows: 5 minutes 30 minutes

	1-2 hours 3 o'clock
Q3 6	After abrupt discontinuation of an opioid, physical dependence is manifested by the following symptoms: Sweating, yawning, diarrhea, agitation upon abrupt cessation of opioids Impaired behavioral control due to drug use, Compulsive use, and craving Need higher dose to achieve the same effect a and b
Q3 7	Which of the following is true about opioid-induced respiratory failure? Often many nights after surgery due to Opioid accumulation Obstructive sleep apnea is a serious risk factor Occurs more often in people taking higher doses of opioids before surgery Can be easily assessed by continuous oxygen measurement

Situation

Two patient case studies are presented below. For each patient, you are asked to make decisions about pain levels and medications.

Directions : Please choose one answer for each question.

Q38. Patient A: 25 years old, this is his first day after abdominal surgery. When you enter the room, the patient smiles at you and continues to chat with the visitor. Your assessment shows the following information: Blood pressure=120/80mmHg, Pulse=80Ppm, Respiratory Rate=18Blows/minute, on a scale of 0-10 (0=no pain/discomfort, 10=pain worst/very annoying) he rated his pain as 8.

A. In the patient's record, you must mark their pain on the scale below. Circle the number that represents your pain rating in this patient.

0 1 2. 3. 4. 5. 6. 7. 8. 9. 10

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No pain/Discomfort Severe pain/Extremely annoying

B. Your above assessment was made two hours after he administered Morphine 2mg intravenously. The severity of pain half an hour after injection ranged from 6 to 8 and the patient showed no signs of respiratory depression, somnolence or other dangerous side effects. The patient identified 2/10 as an acceptable pain level. Your doctor's prescription for pain relief is 1-3mg of Morphine intravenously as needed for pain relief. What you need to do at this point is:

1. Do not take Morphine at this time
2. Intravenous Morphine 1mg now.
3. Intravenous Morphine 2mg now.
4. Intravenous Morphine 3mg Now

Q39. Patient B: 25 years old and this is his first day after abdominal surgery. When you enter the room, he is lying silently on the bed and wincing as he turns. Your assessment shows the following: Blood pressure=120/80mmHg, Pulse=80/min, Respiratory rate=18/min, on a scale of 0 to 10 (0=No pain/discomfort, 10=pain worst/very annoying) he rates his pain as 8.

A. In the patient's medical record, you must mark their pain on the scale below. Circle the number that represents your pain rating in this patient.

0 1 2. 3. 4. 5. 6. 7. 8. 9. 10

No pain/Discomfort Severe pain/Extremely annoying

B. Your above assessment was made two hours after the patient received 2mg of Morphine intravenously. The severity of pain half an hour after injection ranged from 6 to 8 and the patient showed no signs of respiratory depression, somnolence or other dangerous side effects. The disease identified 2/10 as an acceptable level of pain relief. Your doctor's prescription for pain medication is 1-3mg of morphine intravenously as needed for pain relief. What you need to do at this point is:

1. Do not take Morphine at this time
2. Intravenous 1mg Morphine now.
3. Intravenous Morphine 2mg now.
4. Intravenous Morphine 3mg Now