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KNOWLEDGE AND ATTITUDES OF NURSING STUDENTS TOWARDS PAIN MANAGEMENT IN PATIENTS AND SOME RELATED FACTORS

Nguyen Thien Ly, Nguyen Cong Luan, Nguyen Thanh Thuy, Mai Thi Tu Quyen, Phan Thi Ngoc Han, Nguyen Thi Thanh Nhan, Nguyen Thi Thanh Truc*, Nguyen Hong Thiep, Mai Nguyen Thanh Truc

Can Tho University of Medicine and Pharmacy

**Corresponding author: ntttruc@ctump.edu.vn*

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ABSTRACT

Background: *Pain management is an essential component of the healthcare process, aiding in the assessment, monitoring, and implementation of effective treatment methods to minimize and control patients' pain, and integrating it into comprehensive care.* ***Objectives:*** *To describe the knowledge and attitudes regarding pain management among nursing students at Can Tho University of Medicine and Pharmacy and to identify some related factors.* ***Materials and methods:*** *This study employed a descriptive cross-sectional design involving 93 third- and fourth-year nursing students at Can Tho University of Medicine and Pharmacy. The study utilized the "Knowledge and Attitudes Survey Regarding Pain" scale, which has been validated for reliability (Cronbach's alpha > 0.7).* ***Results:*** *The study revealed that the majority of students exhibited inadequate knowledge and attitudes towards pain management, with 76.34% (n=71) classified as poor and 23.66% (n=22) as moderate. Factors associated with students' knowledge and attitudes regarding pain management included prior education on pain management, personal pain experiences, and previous experience in caring for individuals in pain.* ***Conclusion:*** *The knowledge and attitudes regarding pain management among nursing students are low. Therefore, it is necessary to implement continuous teaching and training programs for this group to meet professional competency standards and enhance the quality of education.*

Keywords: *Knowledge, attitudes, pain management, nursing students.*

I. INTRODUCTION

Pain is a serious subjective sensory experience that can profoundly impact patients' quality of life [1]. According to the World Health Organization (2018), the prevalence of pain among elderly patients in Vietnam is projected to rise due to population aging. In 2017, Vietnam had an estimated 10 million adults aged 65 and older, a figure expected to increase to 19 million by 2030 and 28 million by 2050 [2], [3]. Consequently, pain management plays a vital role in healthcare, not only to alleviate pain but also to improve psychological well-being and patient satisfaction, thereby enhancing overall quality of life [1], [2]. However, effective pain management requires healthcare professionals, particularly nursing students, to possess comprehensive knowledge and a proactive attitude toward this process. Recent studies have highlighted challenges that nursing students face in translating pain management knowledge into clinical practice. Jones and Brown (2021) investigated nursing students' confidence in pain management and found that many lacked self - assurance in applying theoretical knowledge, potentially linked to gaps in curriculum and limited clinical practicum opportunities [4].

A systematic review by Cho et al. (2022) synthesized evidence on the impact of education on nursing students' knowledge and attitudes toward pain management, revealing

that intensive training programs significantly improve understanding and foster positive attitudes toward pain control [5]. Khan *et al.* (2023) further emphasized the necessity of integrating the latest advancements in pain management research into curricula, equipping students to address patients' pain-related needs effectively [6].

In response to current challenges in knowledge and attitudes regarding the pain management, we conducted a study titled "Knowledge and attitudes of nursing students towards pain management in patients and some related factors". This research aimed to describe nursing students' knowledge, attitudes and some related factors regarding pain management. The survey findings will inform targeted recommendations for enhancing nursing education programs. These initiatives are expected to strengthen students' practical competencies and contribute to improving healthcare quality for patients in the future.

II. MATERIALS AND METHODS

2.1. Materials

- **Study participants:** Nursing students enrolled at the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy, from June 2024 to August 2024.

+ **Inclusion criteria:** Third- and fourth-year full-time undergraduate nursing students actively enrolled at the Faculty of Nursing – Medical Technology, Can Tho University of Medicine and Pharmacy. Participants voluntarily consented to join the study.

+ **Exclusion criteria:** Students absent during the data collection period.

2.2. Methods

- **Study design:** Descriptive cross-sectional study.

- **Sample size and sampling method:**

+ **Sample Size:** The sample size was determined using the following formula:

$$n = Z^2_{\left(1-\frac{\alpha}{2}\right)} \frac{p(1-P)}{d^2}$$

Where: $Z_{\left(1-\frac{\alpha}{2}\right)}$ = 1,96 with 95% confidence level (α=0.05), p=0.045 (proportion of nursing students with good pain management knowledge and attitudes, based on Jennifer Hroch's 2019 study), d=0.05 (margin of error) [7].

Thus, the minimum sample size required for the study is n=67.

+ **Sampling method:** The study utilized a total sampling method, encompassing all 102 third- and fourth-year nursing students currently enrolled at Can Tho University of Medicine and Pharmacy.

- **Data collection instrument:** Our study employed the Knowledge and Attitudes Survey Regarding Pain (KASRP) scale. The KASRP scale was originally developed by Ferrell and McCaffery in 1987, revised in 2014 [8] and has since been widely utilized in prior research due to its high reliability and applicability across various levels of healthcare professionals, including students, new graduates, oncology nurses, geriatric nurses, graduate students, and senior pain experts [9],[10]. Before administering the Vietnamese version of the KASRP to nursing students, the scale underwent rigorous translation and reliability assessment following Beaton's guidelines [11]. The translation process involved forward and backward translations by a multidisciplinary team, including nursing faculty, medical English instructors, psychiatrists, and epidemiologists. Any discrepancies in translation were resolved through consensus between the research team and translation experts. Upon completing the translation,

a pilot study was conducted with 30 nursing students to evaluate the scale's reliability. The KASRP Vietnamese version demonstrated a Cronbach's alpha coefficient of 0.70, confirming its internal consistency. The KASRP comprises 39 items, including 22 true/false questions, 15 multiple-choice questions, and 2 case scenarios (each with two subparts, a and b). Each correct response is assigned 1 point. The scale is organized into four domains: Cancer-related pain issues (Q05, Q23, Q25, Q28, Q30); Pain assessment (Q01, Q02, Q03, Q04, Q12, Q31, Q32, Q38a, Q39a); Pharmacology related to pain control (Q06, Q07, Q08, Q09, Q10, Q11, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q21, Q24, Q26, Q27, Q29, Q34, Q35, Q37, Q38b, Q39b); Substance abuse and physical dependence (Q20, Q22, Q33, Q36). Nursing students' knowledge and attitudes toward pain management were categorized as follows: Poor (≤50% of total KASRP score), Moderate (50–75%) and Good (≥75%). In addition to the KASRP scale, demographic and academic data were collected to explore associations between students' knowledge, attitudes, and pain management practices. Variables included age group, gender, academic year, academic performance, prior pain management training, personal experience with pain, and prior experience caring for individuals in pain.

- **Data analysis:** Descriptive statistics were applied to summarize categorical variables, including the general characteristics of participants and the classification of knowledge and attitudes toward pain management. Data were presented as frequencies (n) and percentages (%). Associations between participants' knowledge/attitudes regarding pain management and their demographic characteristics were examined using the Chi-square test or Fisher's exact test, as appropriate. A p-value <0.05 was considered statistically significant. All analyses were performed using STATA software version 17.0.

- **Ethical considerations:** This study was approved by the Biomedical Research Ethics Committee of Can Tho University of Medicine and Pharmacy (Approval No. 24.001.SV/PCT-HĐĐĐ; May 24, 2024). Participants received detailed explanations of the study's objectives, benefits, and their right to withdraw at any time without repercussions. Written informed consent was obtained prior to participation. All data were anonymized by removing personal identifiers and securely stored in encrypted systems to ensure confidentiality. Data usage was strictly limited to research purposes.

III. RESULTS

Our research has 93/102 (91.17%) of students participating in the study.

Table 1. Participants' information of the research object (n = 93)

Participants information		Number (n)	Percent (%)
Age group	≥ 21 years old	53	56.99
	< 21 years old	40	43.01
Gender	Male	15	16.13
	Female	78	83.87
Academic year	3rd year	64	68.82
	4th year	29	31.18
Academic performance	Good - excellent	26	27.96
	Average - quite	67	72.04
Prior pain management training	Yes	49	52.69
	No	44	47.31
Personal experience with pain	Yes	73	78.49
	No	20	21.51

Participants information		Number (n)	Percent (%)
Prior experience caring for individuals in pain	Yes	66	70.97
	No	27	29.03

Among the students participating in the study, 56.99% were aged ≥ 21 years, and the majority were female (83.87%). Most students were in their third year (68.82%), and 72.04% had an academic performance classified as average to decent. Additionally, 52.69% had learned or were currently studying pain management, while 78.49% had experienced pain. Furthermore, 70.97% had provided or were currently providing care for individuals with pain.

Table 2. Knowledge and attitudes of research objects on pain management in patients

Content	Number (n)	Percent (%)
Poor knowledge –attitude	71	76.34
Moderate knowledge – attitude	22	23.66
Good knowledge – attitude	0	0.00

The majority of students had poor knowledge and attitudes about pain management at 76.34%, 23.66% of students had average knowledge and attitudes.

Table 3. Some factors related to the knowledge and attitudes of the subject of pain management in patients

Participants information		Knowlede and attitude		OR (KTC 95%)	p
		Poor n (%)	Moderate n (%)		
Age group	>= 21 years old	28 (70.00)	12 (30.00)	1.84 (0.70 - 4.84)	0.21
	< 21 years old	43 (81.13)	10 (18.87)		
Gender	Male	14 (93.30)	1 (6.70)	5.12 (0.64 - 14.68)	0.09(*)
	Female	57 (73.10)	21 (26.90)		
Academic year	3rd year	50 (78.10)	14 (21.90)	1.36 (0.49 - 3.72)	0.55
	4th year	21 (72.40)	8 (27.60)		
Academic performance	Average-quite	48 (71.60)	19 (28.40)	0.33 (0.09 - 1.23)	0.09(*)
	Good-excellent	23 (88.50)	3 (11.50)		
Prior pain management training	No	39 (88.60)	5 (11.40)	4.14 (1.34 - 12.46)	0.008
	Yes	32 (65.30)	17 (34.70)		
Personal experience with pain	No	27 (90.00)	3 (10.00)	3.89 (1.05 - 14.38)	0.03(*)
	Yes	44 (69.84)	19 (30.16)		
Prior experience caring for individuals in pain	No	28 (90.30)	3 (9.70)	4.12 (1.12 - 15.24)	0.02
	Yes	43 (69.40)	19 (30.60)		

(*) Fisher's exact test

Research results from Table 3 showed that there was a statistically significant difference in the proportion of poor knowledge and negative attitudes toward pain management among students who had not learned about pain management (OR=4.14, p=0.008), those who had not experienced pain (OR=3.89, P 0.03), and those who had never provided care for individuals in pain (OR=4.12, p=0.02). However, this difference was not statistically significant with respect to age, gender, academic year, or student academic performance (p>0.05).

IV. DISCUSSION

Our study employed the KASRP (Knowledge and Attitudes Survey Regarding Pain) scale to evaluate nursing students' knowledge and attitudes toward patient pain management. The findings revealed significant gaps in both domains: 76.34% of students demonstrated poor knowledge and attitudes, while 23.66% scored at a moderate level. Notably, no students exhibited good competence in pain management. These results were lower than those reported by Nguyen Thi Hong Hanh (2021), who found that over 90% of third- and fourth-year nursing students in Vietnam had suboptimal knowledge yet maintained positive attitude [3]. A stark contrast was observed when compared to David Zuazua-Rico *et al.*'s findings, where 59.75% of nursing students across five Spanish universities demonstrated proficient knowledge and attitudes [12]. These discrepancies stemmed from variations in nursing curricula across Vietnamese and global institutions, as well as insufficient emphasis on pain management objectives during clinical training in healthcare settings. Collectively, these outcomes underscore a systemic neglect in equipping students with essential competencies in pain management.

The study identified statistically significant associations ($p<0.05$) between prior pain management education and students' knowledge and attitudes. This aligns with Meijun Ou (2023) and Gülten Sucu Dağ (2022), who emphasized the critical role of structured pain management training for both practicing and student nurses [13], [14]. However, current educational programs, workshops, and short-term trainings require standardization and validation by expert panels specializing in patient pain management. Furthermore, personal experiences of pain ($p<0.05$) and clinical exposure to pain care ($p<0.05$) were significantly correlated with students' competencies. These findings mirror Nguyen Thi Hong Hanh's (2021) observations, suggesting that individual pain experiences motivate students to seek information on etiology and therapeutic interventions [15]. Similarly, Jennifer Hroch (2019) highlighted that direct patient interaction enhanced students' experiential learning in pain assessment, pharmacological/non-pharmacological treatment application and monitoring [7].

V. CONCLUSION

The results of the study on the knowledge and attitudes of pain management for nursing students' knowledge and attitudes toward pain management showed that students had poor knowledge and attitude with a high rate (76.34%) and an average of 23.66%, and no students had good knowledge and attitudes toward pain management. Factors related to the knowledge and attitude of pain management in patients of nursing students include having learned about pain management, having experienced pain themselves, and having cared for people in pain. Therefore, we recommend that training institutions supplement teaching content on pain management for patients, as well as strengthen continuous training for students.

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