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Knowledge and Attitudes in Pain Relief Management Among Private Hospital Nurses

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Abstract. For both nurses and patients, effective pain relief management is critical. Relieving patients' pain and suffering are considered the responsibility of nurses. A cross-sectional descriptive study was conducted. The Nurses Knowledge and Attitude Regarding Pain Questionnaire was used to measure the nurses' level of knowledge and attitude toward pain assessment and management. The results showed a lack of knowledge among nurses regarding pain relief management. It started with the fundamental question regarding the usage of the vital sign as reliable indicators of the intensity of a patient's pain. 90.6% (145) of the nurses answered 'True', but the correct answer was 'False', and only 9.4% (15) of the nurses gave the correct answer. We found out that 60% (96) of nurses believed that patients should not receive opioid treatment even if they are in pain. This study discovered that the level of knowledge on pain relief management among nurses in the private hospital was inadequate. The patients should receive appropriate treatment to relieve the pain regardless of their history of substance abuse. This perception on the nurses could prevent some of the patients from their right to being pain-free.

Keyword: Attitude; knowledge; nurse; pain management

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1. Introduction

The concept of pain is subjective to measurement or self-reporting by the patient. Identification of pain among patients is a complex process for nurses. Understanding and behaviour of nurses approach to pain alleviation treatment influence how pain is managed (Yava et al., 2013). The impact of the pain experience differs for each patient, family member, nurse and provider (Olfson, 2015; Shdaifat et al., 2020). The most important aspect of ineffective pain relief management is an accurate assessment, including vital signs (Shdaifat et al., 2020).

Many studies have discussed the knowledge and attitude on effective pain relief management. A lack of knowledge on behalf of health professionals is the key (Samarkandi, 2018; Varrassi et al., 2010). Effective pain relief management is a critical concern for both caregiver and clients. Comforting clients pain and hurting are regarded the task of health care provider (Omran et al., 2014; Samarkandi, 2018).

Pain assessment is often neglected, and clinician starts the treatment without sufficient knowledge of people's pain and other critical information about their pain experiences (Curtis et al., 2011; Lui et al., 2008; Samarkandi, 2018). Shortcomings in pain education during nursing training (Chow & Chan, 2015) underlie poor post qualification pain relief management. An institutional needs assessment that aimed to improve post-surgical pain relief management found considerable skills deficits, particularly in nurses' ability to recognize signs and symptoms of pain (Chow & Chan, 2015; Lui et al., 2008). Lack of knowledge about opioids, negative attitudes toward prescribing opioids, and inadequate pain-assessment skills, lack of communication skills combine to create major barriers to pain relief (Kassa et al., 2014). The advantages of good analgesia are particularly important for ill patients because of its physiologic and psychological benefits (Al-Wassia, 2016; Thienthong et al., 2013).

The experience and expression of pain vary with cause, duration and patient characteristics such as age, gender, physiological and psychological (Al-Wassia, 2016; Chow & Chan, 2015; Lui et al., 2008). Nurses, on the other hand, have been found to undervalue patients' pain in investigations (Chow & Chan, 2015; Lui et al., 2008). Nurses require adequate information and a positive attitude toward pain evaluation and management to reach high levels of competency and deliver good pain relief management (Chow & Chan, 2015; Samarkandi, 2018). Nurse characteristics were included: age, race and culture, their level in nursing education, prior experience in pain relief management and professional experience or nursing practice (Admass et al., 2020; Lui et al., 2008). Despite this, pain assessment and management in the elderly, particularly those with cognitive impairment, continues to be inadequate (Chow & Chan, 2015; Varrassi et al., 2010).

A study by Manwere et al. (2015) reported that registered nurses had inadequate knowledge with a mean knowledge score of 64.5% was average with a total mean attitude score of 56%. Disbelieve of patient's pain was noted amongst most of the registered nurses. Pain is a subjective experience that this difficult to evaluate and, at times, difficult to manage (Chow & Chan, 2015). Pain crosses cultural and social lines. Patients have the right to appropriate assessment and management of their pain (Olfson, 2015; Omran et al., 2014).

Thus, knowledge assessment and management are a necessity for any practising nurse in a hospital setting. Educating regarding pain assessment and pain relief management needs to be a high priority (Chow & Chan, 2015; Dessie et al., 2019). Deficits in this area of practice may be attributed to inadequate knowledge, as reported in this and other studies. Despite the findings and recommendation of substantial past research, nurses continue to demonstrate inadequate knowledge of pain assessment (Kassa et al., 2014; Manwere et al., 2015; Varrassi et al., 2010). Nurses had the least understanding in the field of pharmacological elements of pain and its management, according to pharmacology-based items (Ung et al., 2016; Wickham, 2017). Pain is probably the most common reason patients seek help from health professionals (Dessie et al., 2019), among whom nurses spend the most time in contact with patients. Nurses working in oncology departments are more concerned about obtaining further pain education (Omran et al., 2014).

Post-operative pain relief management is consistently reported as a problem for patients (Dessie et al., 2019; Samarkandi, 2018). The attitudes of nurses can add to the complexity of pain relief management in various clinical settings. Often, evidence-based practice does not support attitudes surrounding pain relief management (Manwere et al., 2015; Olfson, 2015; Ung et al., 2016). Learning in a clinical environment is as important as educational courses in pain relief management. Nurses, who received education on pain relief management as a daily numeric pain scale, were more accurate in their pain assessment and documentation (Al-Wassia, 2016; Chow & Chan, 2015). Education on attitude around pain is most important to the nurses (Chow & Chan, 2015). In the treatment of cancer pain, even though establishing reasonable pain control is an important priority for patients and clinicians, there are barriers for such huge numbers of under treatment which exist within the professionals and centre on lack of knowledge or poor attitudes towards pain and opioid analgesia (Admass et al., 2020; Al-Wassia, 2016; Kassa et al., 2014). However, in Malaysia, the researchers found limited studies to investigate the supposed obstacles to efficient pain relief treatment among nurses in the private sector. Both objective and subjective assessments of nursing need study for good pain relief management. Failure to assess and act on complaints of patients can lead to an insufficient drug given by patients. This study will create core of data about nurses'current understanding and behaviour about pain relief treatment in Hospital X, particularly. The study's findings will benefit the nurses, patients, and the organization to improve the quality of life for cancer patients and reduce hospital admissions. It can also guide

the best practice and develop new policies in ensuring effective pain relief management in Hospital X.

2. Research Method

This is a cross-sectional quantitative study to assess nurses' understanding and behaviour towards treatment of pains in a private hospital, Kuala Lumpur, Malaysia. We included the registered nurses with more than six months of experience and volunteered to participate in the study. Nursing students and registered nurses with less than six months of experience were excluded.
A total of 160 registered nurses participated in the study. The sample size was calculated using the Raosoft calculator based on a 5% margin error, 95% confidence level, and 50% distribution rate. The estimated sample required was 160 after taking into consideration the 10% of attrition rate. The study took place at a private hospital in Kuala Lumpur, Malaysia. This private hospital has a capacity of 277 beds (Medical, Surgical, Paediatric, Gynaecology and Oncology, ICU).

The Nurses Knowledge and Attitude Regarding Pain questionnaire (KASRP) was used to measure the nurses' level of knowledge and attitude toward pain assessment and management. The first 21 items are *true/false* questions, item 22-36 are multiple-choice questions, and item 37 and 38 are case studies. It includes aspects of pain assessment, pharmacological and non-pharmacological interventions and attitudes towards pain relief management. Part A consisted of five information items on the age group, level of education, work experience, and nursing grade. Section B and Section C: the questions are related to nurses' knowledge and attitudes in pain relief management. Questions is selected from the survey questions are designed by Ferrell and McCaffery in 1987 the Nurses' knowledge and attitudes survey regarding pain. The purpose of questions designed to measure knowledge and attitudes of nurses towards pain. Thirty-seven questions have been set up, where it covers the assessment, pharmacological and non-pharmacological interventions. However, the researchers only used 13 questions regarding knowledge and seven questions to measure the attitudes from 37 questions that have been developed to suit the situation at the current hospital. Content validity of the KASRP was obtained by a panel of pain experts and derived from current standards of pain relief management. Reliability was determined by using Cronbach alpha value 0.70 and above as the acceptance value.

Permission to conduct the study had obtained from both Open University Malaysia Research Ethical Committee, and the CEO of Hospitals X. Respondents were informed to sign the informed consent before participating in this study. In conducting the study, the researcher maintains ethical standards from the designing stage, right through to the reporting of findings. The participants were maintained anonymously by assigning a code to each questionnaire.

3. Research Results

There were 50 (31.3%) of the respondents in the average age of 25-29 years, which shared the same percentage as the respondents in the average age of 30-34 years old. One hundred twenty-one respondents (75.6%) were in diploma compared to (22.5%) or 36 others who had Degree in Nursing. Most participants were staff nurses 154 (96.3%), and only 6 (3.8%) of the respondents were nurse managers who took part in this study. One hundred sixty respondents (80.0%) who completed the questionnaire were staff nurses who directly contacted the patients. Most of the nurses, 111 (69.4%), had working experience of fewer than ten years, while 35 (21.9%) of the staff nurses had working experience of 10-20 years. There were 95 (54.9%) staff nurses who considered themselves to have good knowledge in the pain relief management area, while 46 (26.9%) considered themselves to have average knowledge. In our study, none of the nurses who took part in the study had completed advanced pain assessment and treatment training. Nurses' knowledge of pain management (n=160).

Table 1 Level of nurses' knowledge of pain management (n=160)

Statements	**False**		**True**	
	n	**%**	**n**	**%**
Vital signs are always reliable indicators of the intensity of a patient's pain.	15	9.4	145	90.6
Aspirin and other non-steroidal inflammatory are ineffective reliever for uncomfortable bone tumor	72	45.0	88	55.0
Combining analgesics that work by a different mechanism (e.g. combining an opioid with NSAID) may result in better pain control with fewer side effects than using a single analgesic agent.	18	11.3	142	88.8
The usual duration of analgesia of 1-2 mg of Morphine intravenous IV is 4-5 hourly.	72	45.0	88	55.0
Opioids should not be used in patients with a history of substance abuse.	64	40.0	96	60.0
An elderly patient cannot tolerate opioids for pain relief.	130	81.3	30	18.8
Patients should be encouraged to endure as much pain as possible before using an opioid.	90	56.3	70	43.8
Patients' spirituals may lead them to think pain and suffering are necessary.	58	36.3	102	63.8
Giving patients sterile water by injection PLACEBO) is a useful test to determine if the pain is real.	49	30.6	111	69.4
Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.	85	53.1	75	46.9
Benzodiazepines are not effective pain reliever unless the pain is due to muscle spasm.	65	40.6	95	59.4
Narcotic/Opioid addiction is defined as a chronic neurological disease characterised by behaviours that include one or more of the following: impaired control over drug use, continued harm use, and craving.	31	19.4	129	80.6

Statements	False		True	
	n	%	n	%
Results showed that promethazine (PHENERGAN) is a reliable potentiator of analgesics.	96	60.0	64	40.0

The results showed a lack of knowledge among nurses regarding pain relief management when dealing with patients (Table 1). It started with the basic question regarding the usage of vital signs as reliable indicators of a patient's pain intensity. 90.6% (n=145) of the nurses answered 'True', but the correct answer was 'False', and only 9.4% (n=15) of the nurses gave the correct answer. On the other hand, it is considered a critical mistake to rely on the vital signs only to determine the patient's pain severity.

The respondents were asked if non-steroidal inflammatory analgesics are effective for bone metastasis on the second question. Although the correct answer should be 'False', a total of 55.5% (n=88) of them have answered it wrongly, and the remaining 45% (n=72) obtained the right answer. For example, some cancer patients depend on a daily fixed dosage of morphine to relieve their pain, but some days the pain could be worse than usual and cannot be relieved by the regular dosage.

For the next questions, we found out that 60% (n=96) of nurses believed these patients should not receive opioid treatment even if they are in pain, which is a serious finding. The patients should receive appropriate treatment to relieve the pain regardless of their history of substance abuse. This perception on the nurses could prevent some of the patients from their right to being pain-free.

For the questions regarding giving sterile water by injection (PLACEBO) is a useful test to determine the pain, 64.9% (n=111) of the nurses answered 'True' while the correct answer is 'False'. It is a serious issue that the nurses need to keep tabs on because it is dangerous to inject sterile water into or under the skin as it will form a small bleb, and it could affect the deep nerves, and pain could be transmitted up to the spinal cord.

Table 2 Frequency and percentages by attitude (n=160)

Statements		Frequency (n)	Percent (%)
The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is?	Intravenous	111	69.4
	Intramuscular	23	14.4
	Oral	26	16.2
Which of the following analgesic medications is considered the drug of choice for treating prolonged moderate to severe pain for cancer patients?	Codeine	20	12.5
	Morphine	134	83.8
	Pethidine	5	3.1
	Tramadol	1	0.6

Statements		**Frequency (n)**	**Percent (%)**
Which of the following IV dose of morphine administered over 4 hours would be equivalent to 30 mg of oral morphine every 4 hours?	Morphine 5mg	52	32.5
	Morphine 10mg	80	50.0
	Morphine 30mg	26	16.3
	Morphine 60mg	2	1.2
Should analgesics for post-operative pain initially be given?	Around the clock and fixed schedule	99	61.9
	Only when patient ask for medication	30	18.8
	Only when the nurse determines the patients have moderate pain	31	19.3
The most likely reason a patient with pain would request an increased dose of pain medication is?	The patient is experiencing increased pain	136	85.0
	The patient experiencing increased anxiety or depression	17	10.6
	The patient is requesting more staff attention	1	0.6
	The patient's requests are related to addiction	6	3.8
The time to peak effect for morphine give IV is?	15 minutes	129	80.6
	45 minutes	18	11.3
	1-2 hours	12	7.5
	2 hours	1	0.6
The time to peak effect for morphine give PO is?	5 minutes	9	5.6
	30 minutes	77	48.1
	1-2 hours	64	40.0
	2 hours	10	6.3
	Total	**160**	**100.0**

Table 2 refers to items of the Frequency and Percentages of the attitudes answered by the respondents. The results showed poor attitudes among the nurses regarding pain relief management in a private hospital, Kuala Lumpur. Most of the respondents, 69.4% (n=111), chose to answer intravenous as a recommended route of administration of opioid analgesics for patients with persistent cancer-related pain. In comparison, only 16.3% (n=26) chose oral as the answer, and this is the correct answer that they should choose.

The next questions are about the analgesic medication as a treatment for the prolonged moderate to severe pain for the cancer patient. Most of the respondents, 83.8% (n=134), answered Morphine as the correct answer. Respondents answered the correct answer 50.0% (n=80) in questions regarding the IV Morphine administration when the medication is equivalent to the oral, but 50.0% (n=80) of respondents answered the question wrongly. Half of the respondents were able

to give the correct answer for the question 'on the correct time for the analgesic for post-operative pain' 61.9% (n=99), and 38.1% (n=61) of nurses were still unable to give the correct answer.

85% (n=136) of the respondents have a good attitude where they know why the patient requested to increase their dosage of pain medication, and only 15% (n=24) of the nurses give the wrong answer. Regarding the time for IV Morphine to reach its peak effect, 85% (n=136) of the respondents have provided the correct answer, and only 19.4% (n=31) answered the question wrongly. 48.1% (n=77) of the respondents answered the question of time needed for the morphine to reach its peak effect when given per oral (PO) wrongly, while only 40% of them got the correct answer.

Table 3 Correlation between socio demographic data and knowledge (n=160)

		Total score							
	Socio-demographic data	**1-4 (Low)**		**5-9 (Moderate)**		**10-13 (High)**			
		n	**%**	**n**	**%**	**n**	**%**	χ^2	**P**
Age (years)	25-29	4	50.0	36	24.8	1	14.3	11.88	0.065
	30-34	4	50.0	45	31.0	1	14.3		
	35-39	0	0.0	17	11.7	2	28.6		
	Others	0	0.0	47	32.4	3	42.9		
Level of Education	Diploma	7	87.5	108	74.5	6	85.7	1.57	0.814
	Degree	1	12.5	34	23.4	1	14.3		
	Post-basic dip	0	0.0	3	2.1	0	0.0		
Years of Nursing Experience (years)	1-10	7	87.5	100	69.0	4	57.1	4.76	0.574
	11-20	1	12.5	31	21.4	3	42.9		
	21-30	0	0.0	11	7.6	0	0.0		
	>30	0	0.0	3	2.1	0	0.0		
Nursing Grade	Staff nurse	8	100.0	139	95.9	7	100.0	1.21	0.547
	Nurse manager	0	0.0	6	4.1	0	0.0		
Knowledge in the area in pain management	Excellent	1	12.5	10	6.9	0	0.0	4.29	0.830
	Good	5	62.5	86	59.3	4	57.1		
	Average	1	12.5	39	26.9	3	42.9		
	Fair	1	12.5	8	5.5	0	0.0		
	Poor	0	0.0	2	1.4	0	0.0		

*Significant $p<0.05$

Table 3 showed that the correlation between socio-demographic data (age, education level, experience, and knowledge in pain) and the knowledge of pain relief management among the respondents in Hospital X is not statistically significant ($p>0.05$).

Table 4 Correlation between socio-demographic data and attitude (n=160)

	Socio-demographic data	Total Attitude				χ^2	P
		1-4 (Low)		5-7 (High)			
		n	%	n	%		
Age (years)	25-29	24	25.8	17	25.4	1.20	0.752
	30-34	29	31.2	21	31.3		
	35-39	9	9.7	10	14.9		
	Others	31	33.3	19	28.4		
Level of Education	Diploma	72	77.4	49	73.1	0.94	0.625
	Degree	20	21.5	16	23.9		
	Post-basic dip	1	1.1	2	3.0		
Years of Nursing Experience (years)	1-10	68	73.1	43	64.2	8.21	**0.042***
	11-20	19	20.4	16	23.9		
	21-30	3	3.2	8	11.9		
	>30	3	3.2	0	0.0		
Nursing Grade	Staff nurse	90	96.8	64	95.5	0.00	1.000
	Nurse manager	3	3.2	3	4.5		
Knowledge in the area in pain management	Excellent	9	9.7	2	3.0	4.53	0.338
	Good	57	61.3	38	56.7		
	Average	21	22.6	22	32.8		
	Fair	5	5.4	4	6.0		
	Poor	1	1.1	1	1.5		

*Significant $p<0.05$

The chi-square test (Table 4) shows that the level of attitude score has a significant relationship with the years of nursing experience (c2= 8.21, P = 0.042). Respondents with 25-29 years of experience got the highest attitude score of 11.9% compared to 3.2% on the low attitude score.

Table 5 The correlation score between knowledge and attitude and the factors studied (n=160)

Socio-demographic data		Knowledge and Attitude							
		1-7 (Low)		8-14 (Moderate)		15-20 (High)			
		n	%	n	%	n	%	χ^2	P
Age (years)	25-29	2	33.3	37	26.2	2	15.4	4.94	0.551
	30-34	2	33.3	44	31.2	4	30.8		
	35-39	1	16.7	14	9.9	4	30.8		
	others	1	16.7	46	32.6	3	23.1		
Level of Education	Diploma	5	83.3	106	75.2	10	76.9	2.24	0.692
	Degree	1	16.7	33	23.4	2	15.4		
	Post-basic dip	0	0.0	2	1.4	1	7.7		
Years of Nursing Experience (years)	1-10	4	66.7	102	72.3	5	38.5	13.59	**0.035***
	11-20	2	33.3	25	17.7	8	61.5		
	21-30	0	0.0	11	7.8	0	0.0		

Socio-demographic data		Knowledge and Attitude							
		1-7 (Low)		8-14 (Moderate)		15-20 (High)			
		n	%	n	%	n	%	χ^2	P
	>30	0	0.0	3	2.1	0	0.0		
Nursing Grade	Staff nurse	6	100.0	136	96.5	12	92.3	0.91	0.635
	Nurse manager	0	0.0	5	3.5	1	7.7		
Knowledge in the area in pain management	Excellent	1	16.7	10	7.1	0	0.0	6.10	0.635
	Good	4	66.7	83	58.9	8	61.5		
	Average	1	16.7	37	26.2	5	38.5		
	Fair	0	0.0	9	6.4	0	0.0		
	Poor	0	0.0	2	1.4	0	0.0		

*Significant $p<0.05$

The Chi-Square test (Table 5) shows that only the total knowledge and attitude score with the year of nursing experience have a significant relationship (c2 = 13.59, P = 0.035). 11-20 years of nursing experience shows the highest Total of Knowledge and Attitude score with a high score of 61.5% compared to the medium and low attitude score of 17.7% and 33.3%, respectively.

4. Discussion

This study indicates the nurses' knowledge and attitudes in pain relief management at a selected private hospital in Kuala Lumpur, Malaysia. The results of this study disclosed that the nurses' knowledge and attitudes towards pain relief management in this hospital were far from optimal. The respondents were admitted that their knowledge in the area of pain relief management is good (66.3%), average (32.5%) and poor (1.2%).

The mean score of knowledge and attitudes is 11.31 (SD=2.27), indicating a moderate level of knowledge and attitudes towards pain relief management in this private hospital, Kuala Lumpur. Similar to the current findings, a significant moderate level of knowledge and attitudes were reported in Hong Kong (Lui, So, & Fong, 2008) and Zimbabwe (Manwere et al., 2015).

The findings of this local study continue to raise concerns about a lack of understanding and attitudes about pain evaluation and management. Despite significant advances in pain evaluation and management knowledge and practices, nursing expertise and care have not improved. This flaw can be viewed as an obstacle to providing patients with adequate painless treatment. Furthermore, the results revealed that nurses have insufficient knowledge of pain relief management principles. These shortcomings appear more extensive than those found in previous studies (Chow & Chan, 2015; Lui et al., 2008; Wang & Tsai, 2010). These findings are consistent with a study conducted in Turkey and among the Jordanian nurses (Yava et al., 2013). Nurses,

including health personnel, are traditionally trained to show more concern for a patient's disease than pain and suffering (Omran et al., 2014).

One possible explanation that can be concluded from these findings is, the nurses in this private hospital, Kuala Lumpur, did not understand the concentration of the opioid doses and their administration. In this situation, medication errors can happen. With inadequate nursing education about patient safety and quality, excessive workloads, staffing inadequacies, fatigue, illegible provider handwriting, flawed dispensing systems, and problems with the labelling of drugs, nurses are continually challenged to ensure that their patients receive the proper medication at the right time (Rahimi-Madiseh et al., 2010). Evidence to date indicates that whilst patients are empowered when they can participate in their care, engaging with health professionals can be challenging (Seale et al., 2015).

Other common mistakes done by nurses in this study were saying that it is correct to inject sterile water to the patient to test whether the pain is real or not (69.4%). Compared to a study done in Nepal and Turkey with the correct response rate of (16.5%) and (10.2%) respectively (Omran et al., 2014).

Other obstructions reported less frequently are patients refusing to take opioids and nurses being reluctant to give opioids. Positive correlations of the study were reported by different studies (Penney et al., 2016; Volkow & McLellan, 2016). Determination of opioid addiction requires expert assessment of the client's history, risk factors for addiction, and potential biopsychological factors. In this study, 60% answered 'True' that opioids should not be used for patients with a substance abuse history.

In the clinical setting, nurses have a vital role in pain relief management and must be very knowledgeable about assessing and managing pain. Pain may be undertreated due to an inadequate assessment or inappropriate use of analgesics, especially opioids. Nurses also need current knowledge to practice proper attitudes regarding pain assessment and management. Studies conducted worldwide have shown that nurses were lack knowledge due to their confusion and misconceptions regarding the pain relief management terminology and the use of opioids.

By conducting this study, researchers hope the findings can be used to develop and implement educational programs that should fill the gap in the nurses' knowledge deficits and create positive attitudes among nurses and patients. Comprehensive knowledge and attitude scores with a year of nursing experience have a significant relationship. This proved that the longer in the service and more experience in nursing care, the more nurses have better pain relief management for their patients. By creating a mentorship programme among the nurses will be essential in their professional learning curve. The patient has a right to appropriate assessment and management of their pain. Thus, nurses should acquire proper knowledge in the effective delivery of pain relief

management. The patients' satisfaction with pain control is an essential indicator in assessing the quality of pain relief management. Hopefully, the findings will ensure that most health care providers in this private hospital will provide the appropriate care for patients.

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