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Knowledge and Attitude of Operating Theater Nurses Towards Pain Management

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Abstract
Operating theatre nurses play the leading role in pain management and require thorough knowledge and skill in managing pain. The study aimed to find out the level of knowledge and attitude among nurses working in the operation theater. This study showed that 77.9% of operating theatre nurses in Hospital Melaka had a high level of knowledge, and 88.4% had a high attitude regarding pain management. Nurses specializing in the perioperative course have a slightly higher level of knowledge (78.2%) and attitude (87.3%) . However, all nurses need to adhere to best practices in pain management.

Keywords: Knowledge, Attitude, Pain Management, Nurses.

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1.0 Introduction

Pain is a major stressor facing hospitalized patients (Ramira et al., 2016). There is a growing awareness of the etiology of pain and the advancement of pharmacological management of pain. Despite this awareness and pharmacological advancement, patients still experience intolerable pain that hampers their health's physical, emotional, and spiritual dimensions. (Eaton et al., 2015, Pereira et al., 2016). Pain control is important in the management of patients because untreated pain has a detrimental impact on the patient's quality of life (Bartoszczyk et al., 2015). Nurses spend a significant portion of their time with patients. Thus, they have a vital role in the decision-making process regarding pain management. Nurses have to be well prepared and knowledgeable on pain assessment and management techniques and should not hold false beliefs about pain management, which can lead to inappropriate and inadequate pain management practices (Kwon et al., 2014, Alqahtani M et al., 2015). According to Jungquist et al. (2017), ineffective pain management negatively influences patient recovery success as well as adversely impacts the organization in terms of increased readmissions, prolonged length of stay, and poor clinical outcomes. Nursing care has a central role in ensuring optimal pain management and patients' satisfaction with pain medication. Therefore, improvement made on the pain management plan which focused on professional training, service delivery, and reimbursement, would create an important opportunity for the nursing profession (Jungquist et al., 2017).

Pain is normal circumstances that affect everyone however subjectively and the intensity of feelings associated with it are modulated by factors such as past experiences, culture, prognosis, coping mechanisms, fear, and anxiety (Chatchummi et al., 2016). Many studies focus on pain management and its related factors, according to Brant et al. (2017), nurses working in long-term care scored the highest in knowledge and attitude about pain while nurses working in surgery hold the lowest percentage of the score. They also mentioned that

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registered nurses with longer working experiences and who received formal education on pain management have better scores, which later concluded that knowledge and positive attitudes on pain significantly affect patients' satisfaction with the treatment provided. As a result, nurses rely more on physicians and pharmacies to determine the appropriate administration of analgesic regimes to the patients, causing them to be inefficient in providing relief to patients' discomfort. On the other hand, Nimer and Ghrayeb (2017) found no association between the mean score of knowledge regarding pain management in relation to gender, age, and level of education. However, the factor that contribute to a higher score on the survey was the hospital the nurses are working. Inadequate preparation in the nursing curriculum in the country could be the cause of such conditions where the lack of knowledge was predominant in analgesic dosing the analgesic ceiling of opioids, and discerning addiction from tolerance and physical dependence. Furthermore, Hossein Rafiei et al. (2012) results showed that 46.4% of operating theatre nurses in Iranweres did not have enough knowledge about pain assessment and reassessment. Nurses are part of critical healthcare team members who are able to diagnose, manage, and monitor pain and its treatment. Hence, the lack of knowledge on pain relief administration and assessment would reduce the oorganization'ssuccess in pain management. Several studies have described the barriers to the delivery of effective pain management and limited knowledge and nurses' negative attitudes toward pain management were reported as major obstacles in the implementation of effective pain management. (Osama , 2018). A limited number of studies have been implemented to evaluate the level of knowledge of pain management level and attitude among nurses in our region, so our study will aim to find out the level of knowledge and attitude among nurses working in the operation theater and to compare between Perioperative and Perianaesthesia units.

2.0 Methodology

2.1 Study design, study setting, and population

This study is cross-sectional research using a sea of-administered questionnaires conducted to examine nurses' level of knowledge of pain management and attitude in the operating room in Hospital Melaka. A quantitative study design was used for this research. The sample was collected by the total sampling method among operating theatre nurses in Hospital Melaka. Participants were over the age of 24, can read and speak English. The research evaluated nurses' knowledge regarding pain management and their attitude during the process of handling pain management in the operating theatre.

2.2 Sampling method and sample

The study population consists of 95 registered nurses working in the operating theatre in Hospital Melaka. All the 95 nurses from the population will become the sample of this study which consists of perianesthesia nurses and perioperative nurses. The target sample for this project was 95 nurses working in per operating room consisting of perianesthesia nurses, perioperative nurses, and basic registered nurses. The nurses either had a diploma or associate degree in nursing.

2.3 Research instruments

The Nurses' Knowledge and Attitudes Survey Regarding Pain (NKASRP) tool have been used to assess nurses in the hospital setting as an indicator of nurses' perception of pain management. This tool was developed in 1987 and has been used considerably from 1987 until currently (City of Hope, 2012). The NKASRP tool has been revised over the years to reflect current pain management practices changes. The tool's content is derived from current standards of pain management such as the American Pain Society, the World Health Organization, and the National Comprehensive Cancer Network Pain Guidelines (City of Hope, 2012). The questionnaire consisted of 3 sections. The instrument for data collection used a validated questionnaire adopted and approved by the previous author. Section A collects demographic data concise, including gender, marital status, year of working experience, and qualification of the respondents while Section B consists of 10 questions regarding the knowledge of pain management. Finally, Section C consists of 10 questions regarding the attitude of operating theatre nurses in managing pain.

2.4 Data collection

The Knowledge and Attitude Survey Regarding Pain developed by Ferrell and McCaffery (2012) was used to assess the nurses' knowledge of pain management assessment and reassessment. This 27-item survey, consisting of multiple choice and true and false questions, took 20 minutes for the nurses to complete. The survey has been tested for validity and reliability. Content validity has been established by a review of pain experts, while construct validity was established by comparing scores of nurses at various levels of expertise such as perianesthesia Nurses, Perioperative Nurses, fresh graduate nurses, and senior pain experts. The permission was granted to use the Knowledge and Attitude Survey Regarding Pain. Participants also completed a demographic survey. The consent form was obtained from all participants before the survey was given.

2.5 Summary

A number of 95 operating theatre nurses in Hospital Melaka became a respondent for this cross-sectional research study. The self-administered questionnaire was used to examine nurses' level of knowledge of pain management and attitude during handling patients in the operating theatre in Hospital Melaka. A quantitative study design was used, and the sample was collected using the total sampling method. The normality and descriptive tests were conducted to analyze the level, frequency, and percentage of demographic data, knowledge, and attitude of operating theatre nurses towards pain management.

2.6 Data analysis

The data analysis was completed using the Statistical Package for the Social Sciences (SPSS) version 23. The data were coded according to the developer's instructions and entered into the SPSS. The plan for scoring and analyzing the knowledge and attitude survey for the pain questionnaires included assigning true and false answers. Normality test was used to determine the normality of data distribution, and descriptive statistics were used to analyze the level, frequency, and percentage of demographic data, knowledge, and attitude of operating theatre nurses towards pain management.

3.0 Findings

3.1 Demographic characteristics

Table 1: Summary of respondent's demographic data

	Frequency	Percent %
Age		
20-29	32	33.7
30-39	59	62.1
40-49	4	4.2
Gender		
Male	11	11.6
Female	84	88.4
Education level		
Diploma	83	87.4
Degree	12	12.6
Specialized Course		
Perioperative	55	57.9
Perianesthesia	40	42.1
Qualified Year / Work Experience		
1-5	8	8.4
6-10	62	65.3
more than 10	25	26.3
Marital Status		
Single	23	24.2
Married	72	75.8
Race / Ethnicity		
Malay	83	87.4
Chinese	3	3.2
Others	9	9.5

Based on the demographic data presented, we can conclude that majority of the respondents are Malay, Female, Married, between the age of 30 and 39, have a diploma in nursing, and have working experience ranging from 6 to 10 years. The differences between the specialized course of the nurses are low. Respondents specializing in perioperative is 57.9% while paranaesthesia is 42.1%.

3.2 Summary of Section B on level of knowledge about pain management among operating theatre nurses

According to table 2, question number 4, which asked the respondents if it is true patients have the most accurate judjudgment of their pain intensity, has the highest number of correct answers with a percentage of 89.5%. The second high answer of correct answers is question number 8; patients' spiritual beliefs may lead them to think pain and suffering are necessary with a percentage of 83.2%. The third highest percent is question number 10, elderly patients cannot tolerate opioids for pain relief with a percentage of 78.9% of respondents answering correctly. Question number 2, patients may sleep despite the pain, has the lowest percentage of the correct answer (31.6%) followed by question no 5; aspirin and other non-steroidal anti-inflammatory agents are not effective analgesics for bone metastases (32.6%).

Table 2: Summary of Respondents with Correct Answers According to Each Question

Questions		Correct Answer	No. of respondent	
			Frequency	Percent
1	Vital Signs Reliable Indicators of Patient's Pain	FALSE	38	40%
2	Patients May Sleep in Spite of Severe Pain	TRUE	30	31.6%
3	Analgesia Duration 1 – 2 Mg Morphine Is 4 – 5 Hours	FALSE	62	65.3%
4	Patient Most Accurate Judge of Pain Intensity	TRUE	85	89.5%
5	Aspirin and Other Non-steroidal Anti-Inflammatory Agents Not	FALSE	31	32.6%
6	Anticonvulsant Drugs Produce Optimal Pain Relief	FALSE	51	53.7%
7	Respiratory Depression Rarely Occurs in Patients Receive Stable Doses of Opioids	TRUE	59	62.1%
8	Patient's Spiritual Beliefs Lead to Think Pain and Suffering Are Necessary	TRUE	79	83.2%
9	In Nervous System Underdeveloped, Children under 2 Years Old Decreased Pain Sensitivity and Limited Painful Experiences Memory	FALSE	59	62.1%
10	Elderly Patients Cannot Tolerate Opioids for Pain Relief	FALSE	75	78.9%

3.3 Objective 1: To Determine the Level of Knowledge About Pain Management Among Operating Theatre Nurses

The frequency on a number of questions answered correctly by the respondents are as tabulated below

Table 3: Frequency and Percentage of Correct Answers for Section B**.**

No. of questions answered correctly	No. of Respondents	Percentage (%)
Less than 5	0	0%
5-7	21	22.1%
8-10	74	77.9%

3.4 Section C Descriptive Test Analysis: To Determine the Attitude Towards Pain Management Among Operating Theatre Nurses

Summary of Section C on attitude towards pain management among operating theatre nurses

Table 4: Frequency and Percentage of Correct Answers for Section C.

Questions		Correct Answer	No. of respondent	
			Frequency	Percent
1	Combining Analgesics with Different Mechanisms Result in Better Pain Control	FALSE	40	42%
2	Opioids Should Not Be Used In Patients with History of Substances Abuse	TRUE	87	91.60%
3	Placebo Is Useful Test to Determine If the Pain Is Real	FALSE	56	58.90%
4	If the Source of Pain Is Unknown, Should Not Used Opioids during Pain Evaluation Period	TRUE	80	84.20%
5	Subsequent Doses Should Be Adjusted After Initial Dose of Opioid Analgesic Given	FALSE	25	26.30%
6	Patients Should Be Encouraged Before Using Opioid	FALSE	57	60.00%
7	Analgesics for Postoperative Pain Should Given Around a Clock on a Fixed Schedule	TRUE	61	64.20%
8	Children Less Than 11 Years Old Cannot Reliable Report Pain	TRUE	62	65.30%
9	Sedation Assessment Is Recommended During Opioid Pain Management	FALSE	30	31.60%
10	Opioids Should Not Be Used in Patients with History of Substance Abuse	FALSE	58	61.10%

Based on the table 4, question that has the highest percentage of correct answer is question number 2; opioids should not be used in patients with history of substances abuse with a percentage of 91.6%. This is closely followed by question number 4; if the source of pain is unknown, should not use opioids during pain evaluation period with a percentage of 84.2%. Question number 8; children less than 11 years old cannot reliable report pain (65.3%) and question number 7; analgesics for postoperative pain should be given around a clock on a fixed schedule (64.2%) has a slightly similar percentage of correct answer form the respondents. Question with the least correct answer is question number 5, subsequent doses should be adjusted after initial dose of opioid analgesic given with a percentage of 26.3% correct answer from respondents. Second least correctly answered question is question number 9 with a percentage of 31.6%.

3.5 Objective 2: To Determine the Level of Attitude About Pain Management Among Operating Theatre Nurses

According to table 5, a total of 84 nurses answer more than 8 questions correctly, with a percentage of 88.4%. Meanwhile, only 11 respondents answered 5 to 7 questions correctly with a percentage of 22.1%.and none of the respondents had less than 5 questions answered correctly. According to McCaffery and Robinson (2002), 80% is the minimum necessary score to ensure optimal pain management. Therefore, respondents who answered eight out ten questions correctly can have a high level of attitude. Based on the result gained from this research, we can conclude that nurses in Hospital Melaka have a high-level attitude on pain management.

Table 5: Frequency and percentage of correct answers for section C.

No. of questions answered correctly	No. of Respondents	Percentage (%)
Less than 5 (Poor Knowledge)	0	0%
5-7 (Average Knowledge)	11	11.6%
8-10 (High Knowledge)	84	88.4%

3.6 Objective 3: Compare the Level of Knowledge Towards Pain Management between perioperative and perianaesthesia nurses

Based on table 6, nurses who specialized in perioperative have a percentage of 78.2% for a high level of knowledge. Meanwhile, nurses specialized in perianaesth, on the other hand, have a slightly lower percentage of nurses with a high level of knowledge regarding pain management with a percentage of 77.5%.

Results obtained from this survey were within the expectation of the research. Although peri anesthesia nurses have a much deeper understanding of pain medication and more experience in handling patients post-operation, perioperative nurses could have a wider exposure to pain medication as they deal with patients both during and after surgical procedures. Therefore, they could have a broader spectrum of knowledge on pain management compared to peri anesthesia nurses. Nonetheless, it is also worth mentioning that both of the nurses have a low percentage of the average level of knowledge on pain management and neither has respondents with less than 5 correct answers. Hence, in general, we can conclude that all the operating theatre nurses in Hospital Melaka have adequate knowledge on pain management despite their course of specializationation. This shows that Hospital Melaka provided sufficient training and education for their nurses to ensure pain management procedures are properly executed.

Table 6:Level of knowledge for perioperative and perianaesthesia nurses.

Nurse Specialise Course	Frequency	Percentage (%)
Perioperative		
Average Level of Knowledge	12	21.8
High Level of Knowledge	43	78.2
Perianaesthesia		
Average Level of Knowledge	9	22.5
High Level of Knowledge	31	77.5

3.7 Compare the Level of Attitude on Pain Management between perioperative and perianaesthesia nurses

Based on table 7, nurses specialised in perioperative have a percentage of 87.3% for high level of attitude toward pain management. Meanwhile, nurses specialised in perianaesthesia on the other hand has a slightly lower percentage of nurses with high level of attitude regarding pain management with a percentage of 85%.

Table 7. Frequency and Percentage on Level of Attitude for Perioperative and Perianaesthesia Nurses.

Nurse Specialise Course	Frequency	Percentage (%)
Perioperative		
Average Level of Attitude	7	12.7
High Level of Attitude	48	87.3
Perianaesthesia		
Average Level of Attitude	6	15
High Level of Attitude	34	85

4.0 Discussion

The finding of this study found that the majority of operating theatre nurses in Hospital Melaka have a high level of knowledge and attitude towards pain management with a percentage of 77.9% and 88.4% respectively. The result also suggests courses of specialization have a slight influence on the knowledge and attitude of operating theatre nurses. Perioperative nurses have a higher percentage of knowledge and attitude which are 78.2% and 87.3% respectively. However, the difference in percentage with nurses specialized in anesthesia courses is very small. Therefore, we can assume that the impact of course specialization among nurses with the level of knowledge and attitude is

very limited. The study however found a direct correlation between knowledge and attitude. Nurses via a higher level of knowledge will have a higher level of attitude toward pain management as well

4.1 Limitation of Study

Although this study was carefully prepared, there were some unavoidable limitations. There is a lack of time for this study because during this study was performed, it is a pandemic COVID-19, most of the nurses do not have enough time to answer the questionnaire because of their workload. The other limitation is both of the researchers of this study have come from a different state which is Melaka and Negeri Sembilan, so it is quite difficult to make any discussion together.

5.0 Conclusion and Recommendations

For future research, more studies should be conducted to identify ways to improve the knowledge and also the attitude of operating theatre nurses regarding pain management. Even though data on the level of knowledge attitude of nurses in Malaysia particularly is limited, more emphasis should be given to solving the issues that arise from the matter to help alleviate pain and improve patients' quality of life. The study should also simultaneously create more awareness regarding pain management among the nurses while achieving the objectives of their study.

6.0 Conclusion

In conclusion, pain management is a process of providing medical care that alleviates or reduces pain. Mild to moderate pain can usually be treated with analgesic medications such as aspirin. For chronic or severe pain, opiates and other narcotics may be administered sometimes in concert with analgesics; with steroids or non-steroidal anti-inflammatory drugs when the pain is related to inflammation; or with antidepressants, which can potentiate some pain medications without raising the actual dose of the drug and affect the brain's perception of pain. Narcotics carry with them the potential for side effects and addiction. However, the risk of addiction is not normally a concern in the care of terminal patients. This study found that the majority of operating theatre nurse in Hospital Melaka has a high level of knowledge and attitude towards pain management. A weak correlation between the specialization course of nurses and level of knowledge and attitude was also found. Perioperative have higher knowledge and positive attitude compared to perioperative nurses. Nurses that have a higher level of knowledge were also discovered to have a higher level of attitude toward pain management.

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