

PAIN MANAGEMENT KNOWLEDGE AMONG MEDICAL WARD NURSES IN MALAYSIA

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ABSTRACT: Pain, a common symptom for patients in medical wards, can be relieved by effective pain management, with nurses playing a vital role in this regard. A study was undertaken to determine the knowledge of nurses on pain management and to examine the factors that influence their acquisition of such knowledge. A total of 143 medical ward nurses (representing 60% response) in a government referral hospital in Malaysia participated in the study. Data from this study derived from a set of questionnaires were analysed using 2 x 2 contingency tables and the chi squared test with Yate's correction. Approximately two thirds of the nurses were deficit in knowledge regarding pain management, registering a mean knowledge score of 40.5 out of a possible 100 points. There was no significant association between the level of knowledge on pain management and demographic characteristics such as age and work experience. There was also no significant relationship between the level of knowledge on pain management and the pain courses attended. A better understanding of the factors that affect the acquisition of such knowledge could provide useful information that can be incorporated in an improved educational program on pain management for nurses.

Keywords: Pain management, Medical wards, Nurses, Malaysia

1. INTRODUCTION

Pain is defined as an “unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” [1]. It is one of the most common reasons for seeking health care. According to definition by McCaffrey “pain is subjective and that the patient's pain is whatever the patient indicates” [2]. Prevalence of pain in the first 24 hours of admission to hospital is reported to be in the range of 48 to 88 percent [3]-[4]. Approximately 30% of hospital patients experience severe pain [3]-[5], which affects their physical, psychological and also their social well-being [6]-[7]. Pain also affects hospitalized patients emotionally and spiritually [8]. Unrelieved pain brings much suffering, slows down the recovery process, and may even contribute to other health problems [9] and might also result in undesirable physiological and psychological consequences [10]. It is the main reason for anxiety and emotional distress. In this regard, nurses play an important role in effective pain management [8]-[11]. Poor pain management due to nurses' lack of experience and knowledge has negative effects on pain management, giving rise to complaints on nurses' performance [12]. Insufficient knowledge of pain management among nurses is a continuing concern in Malaysia. It is important to ensure that

ward nurses are able to intervene pharmacologically or non-pharmacologically to ease the pain of their patients.

In the management of pain, the majority of healthcare professionals prefer pharmaceutical procedures, although a significant number are acquainted with established and recommended non-pharmaceutical techniques such as distraction and relaxation which can help to prevent or alleviate pain [13]. In many situations, a combination of non-pharmacological methods along with pharmacological approaches can be beneficial to hospitalized patients. Some nurses are reluctant to believe patients' descriptions of their pain despite acknowledging that good pain assessment is dependent on the individual's description of the nature and intensity of pain. According to Edwards-Nash [14], nurses' poor knowledge of the benefits of opioids may cause them to be unduly concerned with the negative attributes of opioids rather than with patients' benefits such as comfort, mobility, and independence.

Previous studies investigated the association of factors such as age, education, and working experience with patients' level of knowledge on pain management [15]-[16]. In this connection, studies have also provided evidence on an association between years of experience of nurses and effective pain management [17]. Nevertheless, other studies

point to the contrary [18]. Furthermore, the effect of formal education on the effectiveness of pain management is still far from conclusive [19]-[20]. Some studies focus on education as the most important tool to improve pain management [21] while others highlight the role of personal experience and interaction with colleagues [22]. Nurses' knowledge, beliefs, and attitudes are key factors in determining their behavior and approach in pain management [19]. There have been unsubstantiated reports attributing nurses' lack of knowledge for their inadequacy in pain relief. [23]-[24]. The present study was therefore aimed at determining the level of nurses' knowledge on pain management and examining the factors that influenced their knowledge or lack of it.

2. METHODS

A cross-sectional study design was conducted using a structured self-administered questionnaire at one of the largest government referral hospitals in the Klang Valley in Malaysia.

One hundred and forty three out of 238 registered nurses working in nine (9) medical wards at the government hospital took part in this cross-sectional study after informed consent.

2.1 Instrument

A self-administered questionnaire was used to assess nurses' knowledge on pain management, which comprised of three sections; A, B and C. Sections A and C adapted from Smart [25], and section B adapted from McCaffrey and Ferrell [26]. Section A elicited a socio-demographic profile of the participants that included data such as age, level of education, and years of nursing experience. There were seven questions pertaining to information on whether the participant had received instruction in anatomy or physiology and in understanding pain management. Section B focused on knowledge concerning pain and pain management. There were seven questions pertaining to knowledge on pharmacologic interventions and another seven pertaining to non-pharmacologic interventions. Participants had to choose the best answer for each question from among the choices: 'True', 'False', and 'Not Sure'. Section C had nine questions that focused on previous (before working in the medical unit) and recent (after working in the medical unit) exposure to pain management courses.

Before its application in this study, the questionnaire was reviewed by three experts in pain management that included an anaesthesiologist, a ward manager in the Emergency Department, and an Acute Pain Service nurse from a government hospital. The three experts agreed to and accepted the content of the questionnaire. To check for

clarity of the questions, pre-testing was conducted on 12 nurses from a medical ward at another government hospital. No alteration was done to the questionnaire after the pre-testing.

2.2 Data Collection

The data collection process was from 1st December 2008 till 30th January 2009. The Ward Manager in every ward was informed about the study and had agreed to distribute the questionnaires to all nurses, who were given two weeks to complete it. The participants were asked to put the completed questionnaire into the closed envelope provided in Ward Manager's room. For those who were refused to participate, they were also required to return questionnaire into the closed envelope.

2.3 Data Analysis

SPSS (Statistical Package for Social Sciences) Version 21.0 for windows was used for data analysis. A knowledge score was calculated based on 14 questions 'true or false' statements concerning pharmacological and non-pharmacological interventions with a total score of 14. There were 3 response choices: 'True', 'False' and 'Not sure'. The respondents scored zero for 'false' or "not sure" answer. A total score was computed for overall pain knowledge based on the nurses' performance on all the individual items. Descriptive data analysis was performed on the demographic information and questionnaire outcome relating to the level of knowledge in pain management. The chi squared test and Yate's correction was performed to evaluate the association between knowledge level and demographic variables, education level, age, years of nursing experience, and recent exposure to pain management course. The level of statistical significance was set at $p < 0.05$.

2.4 Ethical Considerations

Approval was obtained from the University Medical Research Ethics Committee and the Ministry of Health Ethics Committee to perform this study. All respondents were given participation information sheets and they could choose whether or not to participate. The information from participants was kept confidential and used only for the purpose of this study.

3. RESULTS

Out of a total of 238 participants who received the questionnaires, 143 returned completed questionnaires, giving a response rate of 60%.

Table 1 shows the demographic profile of the participants in this study. The age mean and SD of the participants was 27.85 ± 6.16 years. The average length of the nurses' working experience was 4.44 ± 5.82 years. The majority of the participants 131 (91.6%) had a diploma in nursing while 9 (6.3%) had completed their baccalaureate degree in nursing.

The mean knowledge score for pain management was 40.5 ± 9.67 . The majority of the participants (n=101, 71%) had pain knowledge scores of 49% and below. Only 29% (n=42) had pain knowledge scores of 50% and above (Figure 1). There was no significant association between knowledge score and age, level of education, or working experience (Table 2).

Table 1 Demographic characteristics

| Characteristics (n=143) | n (%) | Mean±SD |
|----------------------------|-----------|------------|
| Age | | 27.85±6.15 |
| ≤26years | 78(54.5) | |
| ≥27years | 65(45.5) | |
| Level of nursing education | | |
| Degree | 9(6.3) | |
| Diploma | 131(91.6) | |
| Certificate | 3(2.1) | |
| Year of nursing experience | | 4.45±5.83 |
| <3years | 73(51.0) | |
| ≥3years | 70(49.0) | |

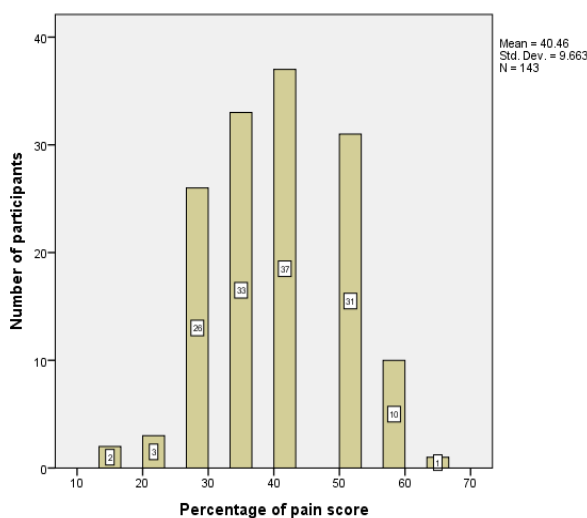


Figure 1 Distribution of pain management knowledge score

Approximately one third of participants (n=59, 41%) reported that they had not previously attended any course on pain management course and 59% of nurses reported had exposure to such courses. The majority of the participants had attended pain management courses recently. Although more than 55% of the participants received in-service training regarding pain management, only six percent of the participants held certificates in pain assessment (Table 3).

Table 2 Relationship between knowledge score and demographic characteristics

| Characteristics | Knowledge Score (n=143) | | df | χ ² | P |
|-----------------|-------------------------|--------------|----|----------------|-----|
| | ≤49 (101;71%) | ≥50 (42;29%) | | | |
| | n(%) | n(%) | | | |
| Age | | | 1 | 1.75 | .19 |
| ≤26years | 51(65) | 27(35) | | | |
| ≥27years | 50(77) | 15(23) | | | |
| *Edu level | | | 1 | 0.42 | .52 |
| Non degree | 96(72) | 38(28) | | | |
| Degree | 5(56) | 4(44) | | | |
| **Experience | | | 1 | 0.57 | .45 |
| <3 years | 49(67) | 24(33) | | | |
| ≥3 years | 52(74) | 18(26) | | | |

*Edu level: Nursing education level

**Experience: Nursing Experience

Table 3 participation in pain management courses

| Participation in pain-related course (n=143) | Yes n (%) | No n (%) |
|--|-----------|----------|
| 1. Received in-service education in anatomy/physiology of pain | 81(57) | 62(43) |
| 2. Received in-service education in pain assessment | 99(69) | 44(31) |
| 3. Received in-service education in pharmacological intervention | 106(74) | 37(26) |
| 4. Received in-service education in non-pharmacological intervention | 91(64) | 52(36) |
| 5. Awarded certificate in pain assessment | 9(6) | 134(94) |
| 6. Participated in multidisciplinary discussion related to pain assessment/management | 56(39) | 87(61) |
| 7. Read journal articles or pain literature on the internet related to pain management | 64(45) | 79(55) |
| 8. Received any education on pain management | 84(59) | 59(41) |
| 9. Discussed pain management with the acute pain service (APS) team | 34(24) | 109(76) |

There was no significant relationship between recent participation in courses related to pain management and knowledge on pain management (Table 4).

4. DISCUSSION

This study was undertaken to assess the level of nurses' knowledge on pain management and to examine the factors that influenced their knowledge in this respect. Nurses who lack sufficient knowledge on pain management are not in a position to help alleviate the pain suffered by hospitalized patients [27]. Nurses play an important role in comforting patients. As such, they should have a good foundation of knowledge regarding pain management as this would allow them to develop a positive perspective towards the patient's discomfort and deliver individualized patient care. The success of any pain management requires the cooperation and participation of patients as previous research has shown that patients' participation in their self-care results in less pain distress, sensation, and analgesic use [28]. Patient involvement in decisions about treatment process is subjective, and only the patients themselves can really describe their pain or discomfort. Pain management programs need to address issues like physiology of pain, myths and misconceptions about pain, precise description of a patient in pain, pharmacological and non-pharmacological techniques for pain management, and ethics in pain management.

This study found that there was a knowledge deficit among nurses in relation to pain management. More than 70% of the participants obtained knowledge scores lower than 50% when questioned about pain management. Such knowledge deficit among nurses may be one of the factors contributing to reports of pain and discomfort experienced by patients seeking healthcare even though healthcare providers are provided with various treatment options and guidelines on the expected standards of care [29-30].

This study found no significant association between the level of pain management knowledge and education level, age, or work experience. The findings of this study are in accordance with two other studies that found no significant difference in pain management knowledge level in relation to age and years of nursing experience [18-31]. On the other hand, Lui-So [8] reported that the nurses who were older and had longer working experience were more knowledgeable and were more likely to apply their knowledge in pain management.

This study did not find any significant association between the level of knowledge and participation in in-service education. A study by Twycross [19] similarly found that attending courses on pain management did not make any difference to the level of knowledge in this area among nurses. On the other hand, Patiraki-Kourbani-Tafas [21] found that attending continuing education programs had a positive impact on knowledge acquisition on pain management. Pud [32] also found that the longer nurses were exposed to correct information regarding pain management, the higher their level of knowledge. Findings in these two studies support the need for continuing education in relation to pain management and underline the importance of knowledge acquisition in this regard. There is also a need to emphasize the implementation of standardized guidelines for pain assessment services [13]. It should be borne in mind that learning happens when the learner acquires knowledge of a topic via processing information through listening, reading, thinking, memorizing, analysing, and application. In other words, learners acquire knowledge not solely from formal educational program or books, but also through hands-on practice [33]

Table 4 Relationship between knowledge scores on pain management and recent participation in courses related to pain management

| Recent participation in courses related to pain management (n=143) | | Knowledge Score | | df | χ^2 | P |
|---|-----|---------------------|--------------------|----|----------|------|
| | | ≤49 (n=101; 71%) | ≥50 (n=42; 29%) | | | |
| | | n(%) | n(%) | | | |
| 1. Received in-service education in anatomy / physiology of pain | Yes | 52(64) | 29(36) | 1 | 3.05 | 0.08 |
| | No | 49(79) | 13(21) | | | |
| 2. Received in-service education in pain assessment | Yes | 67(68) | 32(32) | 1 | 0.93 | 0.34 |
| | No | 34(77) | 10(23) | | | |
| 3. Received in-service education in pharmacological intervention | Yes | 74(70) | 32(30) | 1 | 0.24 | 0.88 |
| | No | 27(73) | 10(27) | | | |
| 4. Received in-service education in non-pharmacological intervention | Yes | 59(65) | 32(35) | 1 | 3.32 | 0.07 |
| | No | 42(81) | 10(19) | | | |
| 5. Awarded certificate in pain assessment | | | | 1 | 0.42 | 0.52 |

| | | | | | | |
|---|-----|--------|--------|---|------|------|
| | Yes | 5(56) | 4(44) | | | |
| | No | 96(72) | 38(28) | | | |
| 6. Participated in multidisciplinary discussion related to pain assessment / management | | | | 1 | 0.01 | 0.98 |
| | Yes | 39(70) | 17(30) | | | |
| | No | 62(71) | 25(29) | | | |
| 7. Read journal article or pain literature on the internet related to pain management | | | | 1 | 0.12 | 0.91 |
| | Yes | 46(72) | 18(28) | | | |
| | No | 55(70) | 24(30) | | | |
| 8. Received any education on pain management | | | | 1 | 0.47 | 0.50 |
| | Yes | 57(68) | 27(32) | | | |
| | No | 44(75) | 15(25) | | | |
| 9. Discussed pain management with the acute pain service (APS) team | | | | 1 | 1.15 | 0.28 |
| | Yes | 27(79) | 7(21) | | | |
| | No | 74(68) | 35(32) | | | |

As far as practice is concerned, medical units should be committed to effective pain management as an institutional goal by developing standardized guidelines and protocols for pain management for nurses in medical wards. Quality improvement programs should also be instituted with the aim of improving the process of assessing and treating pain by using appropriately pain assessment tools such as a pain scale based on patient's verbal abilities. However, an ideal implementation of this approach would require expertise in applying such knowledge, especially in special care situations. For example, 'looking good' does not always mean that a patient is not suffering from pain. A cycle of treating pain, reassessing results and continuing treatment needs to be established until there is reasonable certainty that the patient feels comfortable. It is also important to be aware of the effects of non-pharmacological methods because a lack of knowledge and uncertainty can render the use of non-drug approaches ineffective [34].

The main limitation of this study is that it was carried out at one government hospital only, and so the findings cannot be generalised to all medical wards in other hospitals in Malaysia. Nevertheless, this study provides an insight into nurses' knowledge on pain management and identifies areas for future improvement.

5. CONCLUSION

Findings of this study highlight the immediacy of addressing in-service education for all medical wards nurses in the study setting. Introduction of regular in-service training may be necessary to enhance nurses' competency in pain management and to eliminate knowledge deficit. The existing in-service courses may also need to be reviewed with more focus on topics which increase the nurses' interest and awareness of pain endured by patients. An emphasis on new strategies to teach pain management needs to include teaching rounds, case studies and the reading and discussion of relevant papers appearing in medical journals. In this study, learning about pain

management did not appear make much difference to knowledge in relation to pain management. However, nurses who had had more years of experience tended to apply their knowledge of pain in their duties; they are likely to be more knowledgeable in this regard. Ultimately, change will not occur until there is public participation and joint efforts to improve pain management.

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