

Doctors' knowledge and attitudes on pain assessment and management in Queen Elizabeth Hospital, Kota Kinabalu, Sabah

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ABSTRACT

Introduction: Doctors play an important role to assess and manage pain. Failing to do so properly, pain will affect the quality of life and increase the length of hospital stay for patients. In Queen Elizabeth Hospital (QEH), Kota Kinabalu, Sabah, pain assessment and management programs have been conducted on a regular basis. However, there has been no studies to assess the effectiveness of these programs.

Methodology: This is a cross-sectional study to assess the knowledge and attitude on pain assessment and management among medical officers at QEH. A universal sampling technique was used, to represent medical officers from major clinical departments. The Knowledge and Attitudes Survey Regarding Pain (KASRP) questionnaire was used for this study.

Results: A total of 278 questionnaires were distributed to medical officers. The study sample consisted of 125 females (44.9%), and 153 males (55.1%). The age group of the participants ranged from 25 to 41 years old. A 116 respondents scored less than 60% on the knowledge of pain (41.7%). These findings show there was a deficit in their knowledge and attitude about pain. There was also a difference of scores between genders, where the male doctors performed better than the female doctors. There was a difference between scores among doctors from different departments. The highest mean score was from the department of Anaesthesia (80.2%). There was also a difference regarding pain knowledge based on the years of working as a doctor, where the highest passing rate was from doctors working for more than five years.

Conclusion: This study demonstrated that there is a lack of knowledge and attitude on pain assessment and management among QEH medical officers who responded to this study. This will support the plan on a more aggressive and continuous education programme to improve pain assessment and management among doctors in QEH.

KEY WORDS:

Pain assessment and management, questionnaire, education programme

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 Pain is a very subjective symptom, and can be influenced by past experience, gender, age, culture and social backgrounds. However, studies have shown that a substantial proportion of patients continue to experience intense pain despite the availability of effective treatments.²⁻⁵ Many healthcare professionals believe that pain is a natural, inevitable, acceptable and harmless consequence of surgery.⁶ This may cause pain to be under treated, both for acute and chronic pain.

There is a wide variation of pain management around the world, which is due to differences in politics, policies, resources, education, knowledge and coordination. Doctors play an important role to assess and treat pain. Failing to assess pain may affect the quality of life of the patients. Therefore, it is of utmost importance for doctors to be trained to assess and manage pain.

In Queen Elizabeth Hospital (QEH), Kota Kinabalu, pain assessment and management programs have been conducted on a regular basis. Such training is done for doctors and nurses from the various departments. This is in-line with the Malaysia's national health care policy to introduce Pain as the Fifth Vital Sign since 2008.⁷

However, there have been no studies to assess the effectiveness of these programs done here. The objective of this study was to assess the knowledge and attitude on pain assessment and management among doctors in QEH. This study will add to the knowledge and attitudes on pain among doctors and improve our existing training program.

METHODOLOGY

This is a cross-sectional study to assess the knowledge and attitude on pain assessment and management among medical officers in QEH, Kota Kinabalu, Sabah. The Knowledge and Attitudes Survey Regarding Pain (KASRP) questionnaire was used for assessing the knowledge and attitudes on pain assessment and management.

Table I: Demographic data in relation to total number of respondents

	N (%)
Gender:	
Male	153 (55.1)
Female	186 (44.9)
Attended any pain courses before:	
Yes	92 (33.1)
No	186 (66.9)
Experience as Medical Officer after Housemanship:	
Less than 1 year	79 (28.4)
1-2 years	81 (29.1)
3 years	53 (19.1)
4 years	31 (11.2)
More than 5 years	34 (12.3)

Table II: Response rate in proportion of total number of doctors in the department

Internal Medicine	86 (72.8)
Anaesthesia	71 (78.0)
Surgical	46 (69.7)
Accidents and Emergency	31 (75.6)
Orthopaedic	25 (55.6)
Neurosurgical	19 (59.4)

Table III: Results of The Knowledge and Attitudes Survey Regarding Pain (KASRP) among respondents

	N (%)	Mean(SD) score
Overall performance		
Pass	162 (58.3)	70.73(8.79)
Fail	116 (41.7)	52.25(5.56)
Number of passes based on gender		
Male	96 (62.7)	63.69(12.28)
Female	66 (52.8)	62.20(11.37)
Number of passes based on years of experience		
Less than 1 year	32 (40.5)	58.85(9.60)
1-2 years	48 (59.2)	63.20(12.17)
3 years	35 (66.0)	64.33(13.40)
4 years	21 (67.7)	66.33(13.75)
More than 5 years	26 (76.5)	67.68(10.42)
Numbers of passes based on previous pain course attended:		
Yes, attended before	60 (65.2)	65.40(12.33)
No, never attended before	102 (54.8)	61.84(11.50)
Number of passes based on departments:		
Internal Medicine	47 (54.6)	62.37(12.57)
Anaesthesia	57 (80.2)	68.40(10.72)
Surgical	22 (47.8)	60.29(11.10)
Accidents and Emergency	17 (54.8)	62.16(13.77)
Orthopaedic	11 (44.0)	59.90(8.06)
Neurosurgical	8 (42.1)	58.02(9.54)

Sample and setting

A universal sampling technique was used. Medical officers (MO) were recruited from all major clinical departments in QEHL. MO are those who have successfully completed their houseman-ship training. The data collection occurred from October to November 2017. The participants filled out the questionnaires individually after they received written instructions.

Protection of human subjects

Research approval was obtained for the study from the Medical Research and Ethics Committee (MREC) from

Ministry of Health. Participation was voluntary, and there was no penalty or loss of benefits for not participating in the study. Participants were assured of the confidentiality of their responses and their right not to participate or to withdraw from the study at any time.

Instrument

The KASRP tool was developed by Ferrell and McCaffery in 1987 to assess health care professionals' knowledge, and attitude related to pain. The KASRP is a 37-item questionnaire, containing 21 true or false questions, and 16 multiple-choice questions. Its goal is to evaluate the attitudes

Table IV: The Knowledge and Attitudes Survey Regarding Pain (KASRP) questions with correct answers

	Question	Correct	
		n	%
1.	Vital signs are always reliable indicators of the intensity of a patient's pain. (F)	100	36.0
2.	Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences. (F)	188	67.6
3.	Patients who can be distracted from pain usually do not have severe pain. (F)	137	49.3
4.	Patients may sleep in spite of severe pain. (T)	105	37.8
5.	Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases. (F)	154	55.4
6.	Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months. (T)	167	60.1
7.	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. (T)	255	91.7
8.	The usual duration of analgesia of 1–2 mg morphine IV is 4–5 hours. (F)	83	29.9
9.	Research shows that promethazine (Phenergan) and hydroxyzine (Vistaril) are reliable potentiators of opioid analgesics. (F)	169	60.8
10.	Opioids should not be used in patients with a history of substance abuse. (F)	239	86.0
11.	Elderly patients cannot tolerate opioids for pain relief. (F)	259	93.2
12.	Patients should be encouraged to endure as much pain as possible before using an opioid. (F)	229	82.4
13.	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. (F)	212	76.3
14.	Patients' spiritual beliefs may lead them to think pain and suffering are necessary. (T)	263	94.6
15.	After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response. (T)	145	52.2
16.	Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real. (F)	123	44.2
17.	Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5 - 10 mg of morphine PO. (F)	169	60.8
18.	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. (F)	224	80.6
19.	Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose. (F)	198	71.2
20.	Benzodiazepines are not effective pain relievers unless the pain is due to muscle spasm. (T)	265	95.3
21.	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. (T)	246	88.5
22.	The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is: (oral)	253	91.0
23.	The recommended route administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain is: (intravenous)	148	53.2
24.	Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients? (morphine)	254	91.4
25.	Which of the following IV doses of morphine administered over a 4 hour period would be equivalent to 30 mg of oral morphine given q 4 hours? (Morphine 10 mg IV)	229	82.4
26.	Analgesics for post-operative pain should initially be given: (around the clock on a fixed schedule)	167	60.1
27.	A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the patient was receiving 200 mg/h morphine intravenously. Today he has been receiving 250 mg/h intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is: (less than 1%)	67	24.1
28.	The most likely reason a patient with pain would request increased doses of pain medication is: (The patient is experiencing increased pain)	223	80.2
29.	Which of the following is useful for treatment of cancer pain? (All of the above)	140	50.4
30.	The most accurate judge of the intensity of the patient's pain is: (the patient)	250	89.9
31.	Which of the following describes the best approach for cultural considerations in caring for patients in pain: (Patients should be individually assessed to determine cultural influences)	190	68.4
32.	How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem? (5 – 15%)	150	54.0
33.	The time to peak effect for morphine given IV is: (15 min.)	216	77.7
34.	The time to peak effect for morphine given orally is: (1 – 2 hours)	127	45.7
35.	Following abrupt discontinuation of an opioid, physical dependence is manifested by the following: (sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued)	148	53.2
36.	<p>Patient A: Andrew 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.</p> <p>A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain. (8)</p>	216	77.7

	Question	Correct	
		n	%
	B. Your assessment, above, is made two hours after he 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. (Administer morphine 3 mg IV now)	150	54.0
37.	Patient B: Robert 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 Robert's pain. (8)	203	73.0
	B. Your assessment, above, is made two hours after he 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: (Administer morphine 3 mg IV now)	167	73.0

and knowledge of caregivers toward pain. The tool assesses basic pain physiology, pain assessment, pharmacology, non-pharmacologic interventions to relieve pain, and reliable indicators of the intensity of a patient's pain. The KASRP content was validated. Its content was established from current standards of major scientific authorities in the field of pain, such as the American Pain Society, the World Health Organization, and the National Comprehensive Cancer Network Pain Guidelines. Repeat testing in a continuing education class of staff nurses (N=60) showed test-retest reliability ($r>0.80$) and internal consistency reliability ($\alpha r>0.70$) with KASRP's items.⁸

Data collection

An online version of KASRP was distributed to participants. A brief description of the study and an invitation to participate was provided in writing. After completing online questionnaire, the participants were asked to return the survey to the researcher online. Participants were invited to convey problems that they faced with the procedure to the investigator so that changes can be made in a timely manner to facilitate data collection.

Data analysis

Responses to the KASRP questionnaire items and the demographic questions were entered into IBM SPSS Statistics, version 20.0 (IBM Corp., Armonk, NY, USA) for analysis of descriptive statistics.

RESULTS

Sample Description

Of the 393 doctors, representing all the MO from clinical departments only 280 returned the completed questionnaires. Two questionnaires were rejected because they were incomplete. Thus a total of 278 (70.7%) questionnaires were collected. The study sample consisted of 125 females (44.9%), and 153 males (55.1%). The age group of our participants

ranged from 25 to 41 years, with a mean of 29.4 yrs. The respondents were mostly MO who had a working experience of 1 to 2 years (29.1%). A majority of respondents never attended a pain management course or workshop before (66.9%). Table I show the demographic data of MO who responded to the study. Table II show the response rate in proportion of total number of doctors in the department.

Knowledge and Attitude Scores

A 116 respondents scored less than 60% on the KASRP (41.7%). The passing mark for KASRP varies between studies. 60% was used in this study. These results are shown in Table III. For each item of the KASRP, the percentage of the correctly answered items in the questionnaire was calculated. In order to understand the specific weakness, the KASRP questions were ranked based on the percentage of correct answers. Table IV shows all the questions and answers of the KASRP.

DISCUSSION

Our findings showed there was a deficit in their knowledge of pain and attitude towards pain. These results are similar to studies done elsewhere around the world, which is very alarming.⁹⁻¹¹ The reasons for this deficit was not identified in this study. However, these results require an immediate plan to redress the current pain training programme.

There was also a difference in scores between genders, where the male doctors performed better than the female doctors. Male doctors who responded to our study were more knowledgeable regarding pain. This result was similar to another study done in Saudi Arabia.⁹ The mean score of doctors who had attended a pain course is 65.40, compared to 61.84 for those who did not attend. This was statistically significant, which means the pain management courses organized in QEH is indeed very useful in improving pain knowledge among doctors.

There was also a difference regarding pain knowledge based on the years of working as a doctor. The highest mean was from doctors working for >5 years, and the lowest mean was from doctors working less than a year. This was expected as working experience has always made a difference in patient care.

There was a difference between the passing rate between different departments. This results are presented in Table III. Hands-on pain management training is done in the anaesthesia department on a regular basis compared to the other departments of QEH. The regular Pain Service Rounds with MO showed a significant improvement in pain management knowledge in this department. We hope we will be able to repeat similar training programs soon with other departments.

The five most commonly missed questions were also analysed (Question 1,4,8,17 and 28). It was worrying to know that most doctors had the impression that placebos were considered a diagnostic method for pain patients. Although the placebo effect has been demonstrated to relieve pain,¹²⁻¹⁴ the ethical use of it is still debatable.¹⁵⁻¹⁷ At QEH we do not encourage the use of placebos.

The MO also lacked the knowledge of assessing patients in pain. There is no doubt that multiple studies have shown more than 50% of chronic pain patients have sleep disturbances due to pain.¹⁸⁻²⁰ However, there were still patients whose sleep was unaffected, and doctors need to be aware of that. From the commonly missed questions, it was noted that vital signs were still thought to be used to assess the severity of pain by our doctors, despite being poor predictor of pain severity.²¹⁻²⁴ Besides that, our study also showed a lack of knowledge in opioid usage, which echoed many similar results around the world.²⁵⁻²⁷ This will pose a barrier to help patients in pain.

Due to the low marks obtained from the KASRP, a better training programme is needed. This is to ensure the standard of care for patients who have pain is never compromised. An immediate plan is to study the current training programme, and to improve on it, based on the weakness of the participants. The KASRP score can be used to assess the effectiveness of these new pain management programmes.

STUDY LIMITATION

This study represents the knowledge among doctors in the department of anaesthesiology in QEH Kota Kinabalu, Sabah, who willingly participated in this research. This data does not reflect the wider population of doctors in QEH as a whole. The single hospital in this study cannot be made the represent all the hospitals in Sabah or of Malaysia as a whole.

CONCLUSION

This study demonstrated that there is a lack in the knowledge and attitude on pain assessment and management among QEH medical officers who responded to this study. This will support the plan on a more aggressive and continuous

education programme to improve pain assessment and management among doctors. When this gap of knowledge is addressed, a better service can be provided to patients with pain.

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