

Knowledge and Attitude of Future Health Care Professionals towards Pain in Central Saudi Arabia

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ABSTRACT

Background: Pain is one of the major reasons why people seek health care. Knowledge deficit and negative attitude are major contributing factors in assessment of pain. The aim of this study was to examine the final year pharmacy students' knowledge and attitude towards pain management. **Method:** A cross-sectional survey using a self-completed paper-based survey was conducted on undergraduate final year pharmacy students of King Saud University (KSU), Saudi Arabia (SA). **Results:** A total of 60 pharmacy students answered the questionnaire (response rate, 85.0%). The overall percentage of correct answer was 42.25%. Half of respondents believed that patient may sleep in spite of severe pain. Approximately, 53.0% of respondents thought that patients are poor judges of their pain. About 60 to 70% of respondents answered 4 questions correctly, mainly related to the pharmacologic pain management which included the preferred route administration of opioid, the appropriate drug for the treatment of cancer pain, and side effect of opioid. Only 10.0% of respondents knew the recommended route of administration of opioid analgesic for patient cancer. **Conclusion:** The pharmacy students at KSU have inadequate knowledge and negative attitude regarding pain management. Saudi education authorities should modify curricula related to pain management in medical school.

Key words: Knowledge, Attitude, Pharmacy students, Pain, Saudi Arabia, Management.

INTRODUCTION

Pain is a global health problem and has increased dramatically.^{1,2} It has been estimated that there are one in five adults suffering from pain and that another one in ten adult's diagnosed with chronic pain each year.² Uncontrolled pain can negatively affect quality of life people. Although the update knowledge and developments in pharmacotherapy of pain, still poor managements have reported in many countries.³⁻⁶ In addition, strong barrier to pain management is lack of knowledge of health care professionals.^{5,7,8} Moreover, poor managements of pain have been related to negative attitude and fears of health care professionals towards opioid use.⁹

Study on pharmacy students' knowledge on pain is more difficult to obtain since there are only a few studies on the topic throughout the world. Most studies evaluate health care

providers' knowledge and attitude on pain managements.^{8,9} Moreover, a study was done in Ethiopia to assess the knowledge and attitude of graduate students of health colleges involving, pharmacy, nurses, medical and others. It was found that all students have inadequate knowledge and negative attitude towards pain management.⁹ However in Saudi Arabia (SA), a study was carried out by Kaki among medical students to evaluate their knowledge and attitude about cancer pain managements. The finding of this study revealed that medical students have poor knowledge regarding cancer pain managements. Another study among nursing students in Saudi found inadequate knowledge reading pain assessments. To our knowledge, no studies have been conducted to evaluate the knowledge, and attitudes on pain managements in SA. Since pharmacists provide the information to health care

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providers and advise them on appropriate drug therapy, intervention against drug related problems (i.e. improper drug selection, inappropriate dose, adverse drug reaction, drug interaction...etc). In addition, pharmacists can educate patients on different types of pain and its appropriate managements. Hence, the aim of the study was to examine the knowledge and attitude of final year pharmacy students towards pain management.

MATERIAL AND METHODS

The study was conducted among male pharmacy students from King Saud University (KSU), a public higher educational institution established in 1932 and located central of Riyadh city, central of SA. In addition, college of pharmacy was established in 1959. It is offering Pharmacy doctor degree (Pharm. D) and Bachelor of Pharmacy (B Pharm). This survey was. A Cross sectional survey was conducted in March, 2015 to evaluate the knowledge and attitudes of pharmacy students of graduate toward pain management. The sample study included all students studying final year Pharm.D (n=26), and B.Pharm (n=51).

Data collection

The questionnaire related to the knowledge and attitude was adapted from previous study.¹⁰ It is composed of 40 items; out of these 22 items were true/false questions and 18 multiple-choice questions. The questions were validated using 7 subjects and the reliability test Cronbach's alpha = 0.71 after the deletion of 19 questions because of ambiguity. These subjects were not involved in research or had no contact with the participants of the study. The final questions for the knowledge and attitude for pain assessment consisted of 21 questions. The 21 items focuses on pain and its management. These includes: attention given to and assessment of pain, opioids uses, general principles of pain management pain management issues in children and non-pharmacologic aspect of pain management.

Data analysis

The data were keyed into the SPSS version 22 for Windows (SPSS) for analysis. A descriptive statistic was used to analyze the data includes numbers, percentages and mean (\pm standard deviation).

RESULT

A questionnaire comprising of a total of 21 questions was administered to final year pharmacy students, 60

respondents returned the questionnaire with response rate of 85.7% (Pharm D=25 and B Pharm (n=25, n=35 respectively). The mean age of respondents was 22.8 \pm 1.0.

Table 1 shows the frequency of respondents who gave correct answers on the knowledge and attitude items towards pain and its management. The mean score of total correct answers was 9.6 (SD=2.5) out of 21 and the percentages of correct answers items ranged from 10.0 to 70.0% (average correct answer of 45.2 5 %).

In this survey, more than 60% of respondents answered 4 out of the 21 questions correctly (ranged from 60.6 to 70.0%), mainly those related to the recommended route administration of opioid analgesics, the appropriate drug for the treatment of cancer pain, the initial dose of opioid and respiratory depression as side effect of opioid. Over 30% of respondents lacked knowledge to treatment of pain, the appropriate drug therapy for patient cancer, the recommended and duration route of opioid and assessment of pain. Majority of respondents, 43 (71.7%) had wrong beliefs related to opioid use, where they reported that opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain. Only 10% of pharmacy students knew the recommended route of administration of opioid analgesic for patient cancer.

DISCUSSION

This survey was assessed the knowledge and attitudes of future health care professionals (i.e. Pharm. D and B. Pharm.) in KSU. The mean score of correct answers was 9.6 (SD=2.5), it is considered to be very low (less than the passing score of 10.5). Regarding this issue, most of studies were conducted among health care providers, and few studies were conducted among medical students, pharmacy and nurses. For example, a study was carried out in Ethiopian involved medical intern, pharmacy students and nursing students. It showed that pharmacy students (n=61) had a mean score of correct answer of 55.7%. The questionnaire used by above study consisted of 22 items, which is similar to some extent of our questionnaire. This finding is lower than the finding of Eyob *et al.*⁹

The major finding of present study is the insufficient knowledge and negative attitude toward pain management among final year pharmacy students. These findings are somewhat alarming since pharmacists play a pivotal

Table 1: Shows the frequency of respondents towards knowledge and attitude about pain and its management

Items	Correct response	Incorrect response	Missing data
True/false questions			
Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences (F)	31(51.7)	27(45.0)	2(3.3)
Patients who can be distracted from pain usually do not have severe pain. (F)	31(51.7)	28(46.7)	1(1.7)
Patients may sleep in spite of severe pain. (T)	29(48.3)	31(51.7)	-
Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases. (F)	23(38.3)	36(60.0)	1(1.7)
Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months. (T)	42(70.0)	18(30.0)	-
Opioids should not be used in patients with a history of substance abuse. (F)	18(30.0)	42(70.0)	-
Patients should be encouraged to endure as much pain as possible before using an opioid. (F)	21(35.0)	39(65.0)	-
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)	22(36.7)	37(61.7)	1(1.7)
After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response. (T)	42(70.0)	18(30.0)	-
Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5-10 mg of morphine PO. (T)	31(51.7)	22(45.0)	2(3.3)
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)	16(26.7)	43(71.7)	1(1.7)
Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose. (F)	21(35.0)	38(63.3)	1(1.7)
Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regimen. (F)	30(50.0)	30(50.0)	-
Multiple-choice questions			
The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is: (oral)	6(10.0)	53(88.3)	1(1.7)
The recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset, such as trauma or postoperative pain is: (IV)	36(60.6.0)	23(38.3)	1(1.7)
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)	38(63.3)	21(35.0)	1(1.7)
A 30 mg dose of oral morphine is approximately equivalent to: (morphine 10 mg)	26(43.3)	32(53.3)	2(3.3)
Analgesics for post-operative pain should initially be given (around the clock on a fixed schedule)	31(51.7)	27(45.0)	2(3.3)
The most likely reason a patient with pain would request increased doses of pain medication is: (the patient is experiencing increased pain)	27(45.0)	32(53.3)	1(1.7)
Which of the following is useful for treatment of cancer pain? (all of the above)	-	-	-
The most accurate judge of the intensity of the patient's pain is: (the patient)	-	-	-

role in educating patients and their caregivers about the dosing, administration, adverse effects, and estimated time to alleviating pain managements.¹¹ In addition, the efforts of pharmacists in pain managements may reduce hospital admissions, decrease patients' financial costs and relieve other health care providers of clinical overload.¹²

Pharmacists 'knowledge deficit regarding pain management may due to two reasons are possible. The first is undergraduate medical students receive minimal pain education and training, as documented in

the literature. For instance, a study was conducted by Weinstein *et al*² among medical students to evaluate their knowledge about pain. This study reported that most of students never heard of pain clinic or its contribution to pain management as they reported that there is the lack of pain's education courses in the curriculum. The second is that pain management issue does not receive due attention in KSA health sectors. According to a study conducted in SA to evaluated pain status in Saudi governmental hospitals, and found that there was low level of knowledge in the management of pain in all hospitals.¹³

This study showed that the lack of knowledge and the poor judgments regarding the attention paid to and assessment of pain. Mainly those related to patients who can be distracted from pain as well as sleep usually do not have severe pain and patients could not judge their pain better than their health care professionals. Since pain is one of the most common reasons for patients to ask for medical attention and one of the most public health concerns, health care professionals should have competencies in appropriately assessing and reassessing pain based on detailed evaluation of the patient's self-report. These results are consistent with findings found in earlier studies.^{8,14,15}

This survey shows that the pharmacy students' knowledge was insufficient related to general principles of pain managements namely the preferred route of administration of opioid analgesics, increasing dose for chronic pain and other form of uncontrolled pain as well as appropriate drug therapy for pain (NSAIDs, and opioids). The findings of this study were comparable to the findings of previous studies.⁴ A study was conducted in Saudi Arabia found that medical students had low knowledge and negative attitude regarding cancer pain.⁴ Consequently, this low knowledge and negative attitude could lead to inappropriate pain assessment.

Moreover, this survey found most of students believed that opioid' use should be limited due to fear of addiction and side effect of opioid. This could lead to the problem of abstaining from opioid use as the mainstay of pain treatment. However, this is a line with studies among medical students reported similar beliefs regarding opioid use.^{4,8,16}

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Study limitation

A limitation of this survey is the small size and methodology; therefore, the results of this study only represent the situation in KSU. However, this survey can be used as a preliminary study and is helpful in understanding the knowledge and attitude of pain managements in SA.

CONCLUSION

This study showed that pharmacy students at KSU had poor knowledge and negative attitude regarding pain management. Therefore, the curricula of pain management at Saudis health colleges should be addressed.

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CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

ABBREVIATION USED

KSU:	King Saud University
KSA:	Kingdom of Saudi Arabia
NSAIDs:	Non Steroidal Anti Inflammatoiry Drugs
SA:	Saudi Arabia
SPSS:	Statistical Package for Social Science

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