

## Knowledge and Attitude of Medical and Pharmacy Students in Nigeria towards Pain Management

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### ABSTRACT

This study identified knowledge and attitude gaps towards the management of pain in final year medical and pharmacy students of Onabisi Onabanjo University, Sagamu, Nigeria. Pain is a distressing feeling often caused by intense or damaging stimuli. According to the International Association for the Study of Pain (IASP), 'pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. The study was conducted in the Faculty of Pharmacy and Medicine in Olabisi Onabanjo University, Sagamu Campus, Ogun State. Olabisi Onabanjo University is a state owned university in Ago Iwoye, Ogun State Nigeria. The university was founded on the 7<sup>th</sup> of July, 1982. Majority of the participants (50.8%) had ages that ranged from 21 to 25 years while the proportion of medical students that participated in the study was 56.4%.

**Keywords:** Knowledge, attitude, medical, pharmacy, pain, management, Nigeria

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### INTRODUCTION

Pain is a distressing feeling often caused by intense or damaging stimuli. According to the International Association for the Study of Pain (IASP), 'pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage [1]. Pain motivates the individual to withdraw from damaging situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future [2]. In addition, once the noxious stimulus is removed, the pain usually resolves and the body heals. However, it may persist despite removal of the stimulus and apparent healing of the body. In some cases, it arises in the absence of any detectable stimulus, damage or disease [3]. Since it is a major symptom in many medical conditions which can interfere with a person's quality of life and general functioning, it has become the basis of arguments put

forth in physician-assisted suicide or euthanasia debates [4].

Furthermore, pain is a major reason for physician consultation in both developed and developing countries [5], [6], [7]. Hence, it is important for health professionals to have good knowledge about pain as this will adequately equip them with the necessary skills to effectively manage pain. Several studies have shown that health professionals do not have satisfactory knowledge and attitude with regards to pain management [8], [9], [10], [11]. Hence, it is important to evaluate the knowledge base and attitude of the future health professionals (final year medical and pharmacy students) towards pain and its management. Review of existing literature showed that a study carried out in King Saud University, Saudi Arabia revealed that its pharmacy students had inadequate knowledge and negative attitude regarding pain management [12]. Similarly, a study

carried out among medical and paramedical students in an Ethiopian University showed that they had inadequate knowledge and attitude regarding pain management [13]. Likewise, nursing students in the University of South Florida also demonstrated inadequate knowledge regarding pain and management and had mixed attitudes towards pain management [14].

In Nigeria, this is the only study that has assessed the knowledge and attitude of medical and pharmacy students towards the management of pain. Hence, findings of this study will help to expose knowledge/attitude gaps of medical and pharmacy students and this will help to inform the decision of the regulators of medical and pharmacy education in Nigeria, especially as regards curriculum review.

## MATERIAL & METHODS

### Location of study

The study was conducted in the Faculty of Pharmacy and Medicine in Olabisi Onabanjo University, Sagamu Campus, Ogun State. Olabisi Onabanjo University is a state owned university in Ago Iwoye, Ogun State Nigeria. The university was founded on the 7<sup>th</sup> of July, 1982.

As at 2016, when this study was carried out, there were about 250 pharmacy students and 320 medical students in this university. As at the time of this study, the university had inducted more than fifteen sets of pharmacists and medical doctors. Olabisi Onabanjo University (OOU) was chosen for this study because it is the first State University in Nigeria that has received accreditation from both the Pharmacists Council of Nigeria (PCN) and National Universities Commission (NUC) to run a pharmacy program. In addition, OOU was chosen because it has competent lecturers as well as adequately equipped laboratories for practical teaching exercises. On the other hand, the students of the final year class of both faculties were chosen because this group of students would have interacted with patients in the course of their clinical rotations and should have been taught about pain assessment/management before embarking on rotations.

### Study design

A descriptive cross sectional survey was conducted using the final year students in the College of Medicine and Faculty of Pharmacy in OOU.

### Population

The College of Medicine and Faculty of Pharmacy at OOU has a total number of one hundred and twenty four final year students.

### Sample size

The total number of final year students at the time of study, that is, one hundred and twenty four in both faculties was used as the sample size.

### Selection Criteria

#### Inclusion criteria

- Final year medical students in Olabisi Onabanjo University
- Final year pharmacy students in Olabisi Onabanjo University

#### Exclusion criteria

- Medical students in Olabisi Onabanjo University who were not in their final year of study.
- Pharmacy students in Olabisi Onabanjo University who were not in their final year of study.
- Students from other health related departments such as: the department of nursing and department of physiotherapy were not included in the study.

### Instrument

A two sectioned 24 item pre tested structured questionnaire was used in this study. The first section asked questions on the sociodemographic factors (gender, age and course of study) while the second section consisted of questions that were adapted from the questionnaire used by Eyob *et al* to ascertain the level of knowledge and attitude of respondents about pain and management [15]. Responses for this second aspect were based on the five Likert scale of Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). The correct response was either the number (or percentage) of participants who Strongly Agreed /Agreed to the statements in the questionnaire (where

the statement is true) or who Strongly Disagreed/Disagreed to the statement (where the statement is false). A correct response is equivalent to a score of 1 while an incorrect response is equivalent to 0. Similarly, where a respondent chooses to be 'Undecided' about an item in the questionnaire, a score of 0 is given to that participant.

Also, the second section of the questionnaire was aimed at determining the knowledge and attitude of the students with respect to the following domains: assessment of pain (items 1 - 9), issues related to Opioids (items 10 - 16), fundamentals of general pain management (items 2, 6, 17 - 19), pediatric pain management (items 13 and 20) and non pharmacological management of pain (item 21).

#### **Data collection**

The questionnaires were administered to the students at the end of one of their lecture classes. One of the researchers (U.IH) educated the students on the importance of this study and urged them to fill up the questionnaire on the spot. The use of textbooks and internet by students to access information while filling up the questionnaire was strictly prohibited by the researcher.

#### **Validity/reliability**

A pretest of the questionnaire was carried out using sixteen students: eight pharmacy students and eight medical students. Students in the penultimate class were used for the pretest. Thereafter, results obtained from the pretest were used to develop the main questionnaire which was used for the

large scale study. Cronbach alpha was then used to test its reliability.

#### **Data analysis**

The responses from the study were entered and analyzed with the SPSS version 20.0 software. Descriptive statistical analysis was carried out using means and percentages. Responses for knowledge and attitude towards management of pain were analyzed by determining the mean score (overall score) for medical and pharmacy students. This was derived by: first finding number of participants who responded correctly to each item in the questionnaire, after which the average of these values were calculated. Following this, the percentage of students who responded correctly was determined for each item after which its mean value is then calculated. The cut-off mark used in this study was 70% because in Nigeria, a 70% mark is classified as an 'A' which is the highest obtainable grade. Hence, a student that scores 70% and above is considered to have satisfactory knowledge and attitude towards pain. Hence, scores that are less than 70% are indicative of respondents' poor knowledge and attitude. In the same vein, 70% was also used by Eyob *et al* in a similar study carried out in Ethiopia [16].

#### **Ethical Consideration**

Clearance to carry out the study was gotten from the Provost College of medicine and the Dean of the Faculty of Pharmacy, OOU. Verbal consent was gotten from the participants before the questionnaires were administered to them.

### **RESULTS**

Majority of the participants (50.8%) had ages that ranged from 21 to 25 years while the proportion of medical students that participated in the study was 56.4%. Table 1 represents the demographic characteristics of the respondents. This table shows that 52.4% of the respondents were females. Table 2 displays the respondent's knowledge and attitude about pain and its management. Results presented on this table reveal that the percentage of medical and pharmacy students who reported that it was wrong

to use placebo to assess whether patients were in pain genuinely were 11.4% and 24.1% respectively while the percentages of those who agreed that there was no maximum dose of morphine were 35.7% (medical students) and 37% (pharmacy students). In addition, medical and pharmacy students who reported that non-pharmacological agents could be used to decrease the perception of pain were 80% and 63% respectively. Furthermore, the overall knowledge and attitude score of medical and pharmacy

students towards the management of pain were 49.5% and 42.6% respectively which

is less than the 70% cut-off mark.

**Table 1 Demographics of Respondents**

S/N	CHARACTERISTICS		TOTAL, n(%)
1.	Gender	Male	59 (47.6)
		Female	65 (52.4)
2.	Age	21 - 25	63 (50.8)
		26 - 30	51 (41.1)
		31 - 35	6 (4.8)
		>35	4 (3.2)
3.	Course of Study	Medicine	70 (56.4)
		Pharmacy	54 (43.5)

**TABLE 2: Respondents knowledge and attitude about pain and its management**

ITEMS	MEDICIINE	PHARMACY
	CR, n(%)	CR, n(%)
<b>A. ASSESSMENT OF PAIN</b>		
1) Lack of pain expression does not mean lack of pain(A)	61(87.1)	44(81.5)
2) A patient should experience discomfort before next dose (D)*	45(64.3)	34(63)
3) The most accurate judge of pain intensity is the patient (A)	61(87.1)	46(85.2)
4) It may often be useful to give placebo to assess if patient is genuinely in pain (D)	8 (11.4)	13 (24.1)
5) Estimation of pain by a health professional is as valid as a patient's self-report (D)	30 (42.9)	8 (14.8)
6) Patients with severe chronic pain require higher analgesic doses than patients with acute pain (A)*	26(37.1)	17(31.5)
7) Patients can be maintained in a pain free state (A)	50(71.4)	41(75.9)
8) it is necessary to continuously assess the pain and the efficacy of pain therapy in cancer patients (A)	44(62.9)	1(1.9)
9) It's the patient's right to expect full pain relief as an outcome of treatment (A)	48(68.6)	46(85.2)
<b>B. OPIOD RELATED ISSUES</b>		
10) The preferred route of administration of narcotic pain relievers is IM (D)	37(52.9)	10(18.5)
11) Giving narcotics on a regular schedule is preferred over PRN schedule for continuous pain (A)	24(34.3)	22(40.8)
12) Patient receiving narcotics on PRN basis may be likely to develop clockwatching behaviours (A)	37(52.9)	32(59.3)
13) Because narcotics can cause respiratory depression ,they should not be used in pediatrics patients (D)**	32(45.7)	14(25.9)
14) Morphine has no maximum dose, most suitable dose is used(A)	25(35.7)	20(37.0)
15) A lower dose of analgesic should be given if there are reports of euphoria(D)	8(11.4)	11(20.4)
16) One fourth of patients receiving narcotics around the clock become addicted (D)	11(15.7)	4 (7.4)
<b>C. GENERAL PRINCIPLES OF PAIN MANAGEMENT</b>		
17) Patient's request for increasing amounts of analgesics indicates psychological dependence (D)	36(51.4)	9(16.7)
18) It is appropriate for patient receiving analgesics PRN to request pain medications before the pain returns (D)	43(61.4)	33(61.1)

19) Chronic pain patients should receive pain medications at regular intervals with/without discomfort(A)	23(32.9)	29(53.7)
<b>D. PAIN MANAGEMENT IN CHILDREN</b>		
20) Children cry all the time; therefore, diversional activities are indicated rather than actual pain medication (D)	23(32.9)	15(27.8)
<b>E. NON-PHARMACOLOGICAL AGENT OF PAIN</b>		
21) Distraction, for example ,by the use of music or relaxation, can decrease the perception of pain(A)	56(80)	34(63.0)
<b>Overall Score</b>	<b>34.7(49.5)</b>	<b>23(42.60)</b>

CR- Correct Response

A- Agreed/Strongly Agreed is the correct answer

D- Disagreed/Strongly Disagreed is the correct answer

PRN- when necessary

IM-Intramuscular

\*also present in C (General principles of pain management)

\*\* also present in D (Pain management in children)

### DISCUSSION

The students' knowledge and attitude to pain were assessed under five domains: Namely, assessment of pain, Opioid related issues, general principles of pain management, pain management in children, and non pharmacological management of pain.

Firstly, out of the nine items under the Assessment of Pain domain, the medical students had satisfactory scores in six items while the pharmacy students had satisfactory scores in five of the items. Hence, there were some gaps in their knowledge and attitude towards the assessment of pain. Specifically, student's knowledge and attitude towards the use of placebo for assessment of pain in patients was poor and this has been supported by other studies [17] [18]. Majority of the participants reported that placebo should be used to assess patients. Ideally, due to ethical and legal reasons, placebo should not be used to assess pain [19]. In addition, majority of both groups of participants reported that estimation of pain by a health professional is as valid as a patient's self-report. In actual practice, patient's report of pain is the most reliable way to assess pain and should not be replaced by the assessment of the health professional [18], [19]. This implies that the curriculum of medical and pharmacy students in Nigeria should lay emphasis on improving communication skills of these groups of students so that vital

information that will aid in the proper diagnosis of pain would be obtained from the patient.

Secondly, the medical students had satisfactory scores in two of the seven items listed under Opioid related issues domain while the pharmacy students had satisfactory scores in only one of the items listed under the same domain. Thus, medical and pharmacy students had poor knowledge and attitude towards opioid related issues which may be due to the student's fear that the consistent and prolonged use of opioids by patients could lead to the development of drug dependence and addiction. This may lead to cases of under treatment of pain. As a result, educating medical and pharmacy students on the proper use of opioids for the management of chronic pain is very necessary as it will improve treatment outcomes of chronic pain.

In addition, there were also gaps in the knowledge and attitude of the participants with regard to the general principles of pain management and pain management in children. Hence, there is need for schools of medicine and pharmacy in Nigeria to improve training in all areas of pain management.

On the other hand, the participants had satisfactory scores in the area of non pharmacological management of pain, that is, in the use of music or relaxation to reduce the perception of pain.



Finally, the overall knowledge and attitude of medical and pharmacy students in OOU was poor. Similarly, poor

results have been recorded from other studies carried out in other climes [10], [12], [13].

#### CONCLUSION

This study identified knowledge and attitude gaps towards the management of pain in final year medical and pharmacy students of Onabisi Onabanjo University, Sagamu, Nigeria. Hence, professional bodies in Nigeria, such as, MDCN (Medical and Dental Council of Nigeria) and the

PCN (Pharmacists Council of Nigeria) should consider including pain as one of the major topics in the medical and pharmacy student's curriculum so that proper diagnosis and treatment of patients suffering pain is carried out.

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