



# The Open Public Health Journal

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## RESEARCH ARTICLE

### Patient-related Barriers to Effective Pain Management: A Cross-sectional Survey of Jordanian Nurses

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#### Abstract:

#### Introduction:

Pain is a common symptom of many diseases and conditions. Most human systems, such as the cardiovascular system, gastrointestinal system, and immune system, are affected significantly due to the occurrence of this symptom. Therefore, pain management is an essential element in the treatment plan for patients, which continues to attract considerable attention of researchers and international health organizations.

Patient barriers to pain management, such as denying the prescribed analgesic and/or refusing to disclose pain, are potential causes of pain management deficiency. When it comes to pain management, nurses constitute the first line of the in-patient care system. They are responsible for identifying and verifying the need for pain management intervention in addition to delivering it based on the plan or suggesting modifications to the patient care plan. In addition to that, nurses are expected to identify the presence of any barrier that impacts the pain management plan.

#### Objective:

This study aims to explore the perceptions of Jordanian public hospitals' nurses regarding the patient-related barriers in pain management.

#### Methods:

The cluster sampling method was used; 13 hospitals in the central province of Jordan were selected after being evaluated, and a questionnaire on patient-related barriers to pain management (16-items) was circulated to all nurses. 600 nurses were approached, and 307 (51%) responded to the questionnaire.

#### Results:

The questionnaires were analyzed using descriptive statistics. The study found the patient-related barriers to pain management to be low based on nurses' perspectives (mean= 0.63; SD= 0.0268).

#### Conclusion:

Jordanian patients have a serious misconception regarding the side effects of analgesics. So, the Jordanian ministry of health and Jordanian hospitals should offer health education related to it.

**Keywords:** Pain management, Barriers, Nurses, Public hospitals, Patients, Diseases.

#### Article History

Received: March 7, 2022

Revised: March 31, 2022

Accepted: May 20, 2022

## 1. INTRODUCTION

Pain management is a three-stage process involving assessment, intervention, and reassessment. There is clear evidence of the consequences of poor pain management.

Unrelieved pain can adversely affect physical and psychological conditions [1 - 5] and can also have a financial impact [1, 6, 7].

Despite major improvements in the awareness and capacity to provide effective pain management across the globe, several studies have shown pain management deficiencies to be still present in developing countries [8, 9]. Researchers in Jordan

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have repeatedly found pain management in patients to be insufficient [10 - 12].

Pain management practices are mainly affected by three sets of barriers: the healthcare provider barriers, the health care system barriers, and the patient barriers [13 - 15]. Earlier studies show ineffective pain management to be offered by healthcare providers (*i.e.*, nurses and doctors) due to misconceptions regarding pain and pharmacological treatment of pain [16], improvement or deterioration in the patients' condition, and the side effects and limited effectiveness of the treatment (*i.e.*, analgesics). Also, the healthcare provider barriers include the unavailable specialist recommendations in the patient files and providing patient care for new admissions [17]. Furthermore, other researchers have shown that due to the increasing workload of healthcare professionals, healthcare providers overlook the need to deliver adequate pain control management [18].

On the other hand, previous studies have indicated the healthcare system barriers that affect the pain management practices, such as limitations or changes in hospital guidelines, laws, or institutional policies [17].

Previous studies have assessed the correlation between the socio-demographic factors of the patients (*i.e.*, age, gender, level of education) and inadequate pain management. They found a highly significant relationship of inadequate pain management with the patients' gender ( $P = 0.007$ ) and a significant relation with patients' age ( $P = 0.02$ ) and education level ( $P = 0.01$ ) [19].

Moreover, scholars have recently identified patient barriers as one of the major barriers to pain management [20, 21]. One of the patient-related barriers is pain denial due to misconceptions about pain management [22]. Many factors that have led to this factor causing failure in pain treatment have been outlined in previous studies [23 - 25]. The patients under-report their pain because they falsely assume that the usual route of analgesic administration is intramuscular and also because they have a fear of injections [26]. Some patients decline to disclose their discomfort because they think that a decline in their condition will be a negative indication of the disease's progress [26 - 28]. Furthermore, the studies of Diekmann *et al.* and Cleeland [28, 29] indicate that some patients do not mention their pain because they do not want the doctor to treat their illnesses.

In addition to that, some patients avoid reporting their pain as they erroneously believe that good patients can tolerate their pain [26, 28 - 32]. Other patients hesitate to report their pain as they fear experiencing the side effects of analgesics, such as nausea, mental confusion, constipation, and drowsiness [30, 31, 33 - 35]. Other patients have reported being afraid that taking analgesics will lead to their addiction [31, 33 - 40]. Furthermore, some patients hesitate to admit their pain to avoid becoming tolerant of the analgesic effect [30, 31, 34, 41].

All patient barriers discussed above can potentially affect patient pain management plans, and that is concerning to nurses who are mainly responsible for managing patients' pain [42]. This study aimed to explore the perceptions of nurses at Jordanian public hospitals regarding patient barriers to pain

management. The key factors that push patients to have a high degree of barrier to pain management were also defined.

## 2. METHODS

Registered nurses were recruited from public hospitals in Jordan to participate in this study by using a multistage cluster sampling method. The first stage of cluster sampling was performed to identify the study area. The second stage of cluster sampling was performed to select the hospitals from the chosen area. Finally, all registered nurses were selected from these hospitals. A cross-sectional study was performed involving 13 public hospitals in Central Province, Jordan. Based on krejcie and morgan sample size table, 600 nurses were recruited for the study.

A self-report questionnaire was used (Appendix 1), which was adopted from the questionnaires of Wells *et al.* and Ward *et al.* to assess the barriers associated with patients to pain management [32, 43]. The questionnaire was slightly modified in order to be made suitable for this study. Nurses' demographic information was collected, which included gender, age, experience, pain management experience, qualification, and pain-related course information.

The questionnaire involved a seven-point Likert-scale format, including 16 items, and each object was scored from one (Strongly disagree) to seven (Strongly agree). 600 public hospital nurses were invited to take part in this study. Approval for ethical considerations was obtained from selected hospital administrators prior to data collection and analysis. The questionnaires were distributed to the charge nurses of all the hospitals' units, wards, and/or emergency rooms over a period of three months.

All questionnaire items have been worded in the same pattern, with higher responses suggesting greater obstacles to pain management. The scale score was determined by summing the responses of all items and dividing the sum by the total number of items. The possible range was 1 (no barrier) to 7 (maximum barrier). Scores were analyzed for the individual items and total scores.

## 3. RESULTS

600 nurses participated in the study, and 307 of them completed the questionnaires and returned them, providing a 51% response rate. The mean age of the respondents was 30 years, ranging from 21 to 52 years. Most of the respondents were female (60%). Most of the respondents had a baccalaureate (87%) in terms of educational standards. Most of the participants (73%) did not attend any pain management training, and almost 79% had encountered pain experiences.

McDonald's grades and levels [44] were followed in this study to determine the extent of pain management barriers related to patients. Using the McDonald's grading, the findings were classified into five categories (very strong, high, moderate, medium, and very medium) or five grades (A, B, C, D, and F) (Table 1).

Overall, the level of patient barriers among all nurses was evaluated (Table 2). The mean ( $M$ ) = 63% and standard deviation ( $SD$ ) = 0.0268 (minimum 58% and maximum 68%),

respectively, were obtained, classified as low according to the McDonald's table. 114 nurses (37%) suggested the patients have very low barrier levels. 83 nurses (27%) evaluated the barriers as low, 72 nurses (23%) assessed them to be at a moderate level, while 29 nurses (10%) assessed the barrier level as high. Finally, 9 nurses (3%) assessed the barrier level as very high.

**Table 1. Learning outcome grades and levels.**

Grade	Composite Percent Score	Levels
A	90.00 - 100%	Very high
B	80.00 - 89.99%	High
C	70.00 - 79.99%	Moderate
D	60.00 - 69.99%	Low
F	< 60%	Very low

Source: McDonald's [44].

**Table 2. Frequency, percentage, minimum and maximum score, and mean and standard deviation of the patient-related barriers (N = 307).**

Variable and Low Level	N (%)	Min.	Max.	Mean	(SD)	Level
Patient-related barriers	307	.58	.68	.63	.027	Low
90.00 - 100% Very high	9(3%)					
80.00 - 89.99% High	29(10%)					
70.00 - 79.99% Moderate	72(23%)					
60.00 - 69.99% Low	83(27%)					
< 60% Very low	114(37%)					

In addition, the two highest-ranking patient barriers were found to be related to the beliefs of patients that pain medications cause constipation (68%), and that admitting pain experience can indicate illness as worsening (67%). On the other hand, the three lowest-ranking patient barriers were patients believing that pain medication does not regulate pain (58%), and that complaining about pain does not do any good because the doctor cannot do anything about it (60%), as well as their belief that people get addicted to pain medication (60%) (Table 3).

**4. DISCUSSION**

The questions addressed in the present study include the following: 1. Depending on the perception of the nurses, what is the overall level of patient barriers? 2. For each nurse, what is the understanding of the patient barrier? 3. What are the key factors that cause a high level of pain management barriers? Frequency analysis of pain management procedures was conducted to address these questions. Overall, the barriers associated with patients were found to be at a low level (M = 63%, SD = 0.0268, minimum = 58%, and maximum = 68%). This outcome is consistent with previous studies [35, 45].

The results of this study indicate the most commonly occurring patient-related barriers to pain management. Most nurses rated that the patients have misconceptions regarding the side effects of analgesics: 68% of nurses mentioned that patients report constipation due to pain medicine as really upsetting, and 67% of them revealed that the patients believe that having pain means that the illness is becoming worse.

**Table 3. Percentage of the two highest orders of “strongly agree” and the three highest orders of “strongly disagree” of patient-related barriers regarding pain management (N = 307).**

Rank Order	Patient Barriers	N	%
<b>The items with the highest response of “strongly agree”</b>			
1	The patients believe that constipation due to pain medicine is really upsetting	209	68%
2	The patients believe that having pain means that the illness is worsening	206	67%
<b>The items with the highest response of “strongly disagree”</b>			
1	The patients believe that pain medicine cannot really control pain	178	58%
2	The patients believe that it does not do any good to talk about pain because the doctor will not do anything about it anyway	184	60%
3	The patients believe that people get addicted to pain medicine easily	184	60%

Based on these results, Jordanian hospitals should concentrate primarily on these items to reduce patient barriers. They should explicitly provide appropriate patient education. Pain treatment (medicinal and non-medicinal), adverse effects of analgesics, and the consequences of unrelieved pain must be included in education and training.

The current study focused only on the pain management barriers associated with patients. The outcome of the study showed the level of patient-related pain barriers to be poor. According to Jacobsen *et al.* and Pretorius *et al.*, three sets of barriers are specifically influenced by pain management practices: healthcare system barriers, healthcare provider barriers, and patient barriers [14, 42]. Future studies should concentrate on the remaining variables (healthcare provider barriers and healthcare system barriers).

**CONCLUSION**

This study finds patients in Jordan to have serious misconceptions regarding the side effects of analgesics. Jordanian hospitals should offer patient education on the following subjects: side effects of analgesics, consequences of uncontrolled pain, and pain management. Future studies should concentrate on the challenges faced by the healthcare system and the barriers to pain management experienced by healthcare providers.

**ETHICS APPROVAL AND CONSENT TO PARTICIPATE**

The current study has been approved by the Ethical Committee of UUM, Malaysia; approval no. UUM/OYAGSB/K-14.

**HUMAN AND ANIMAL RIGHTS**

No animals were used that are the basis of this study. All human procedures were in accordance with the ethical standards of the committee responsible for human

experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013.

#### CONSENT FOR PUBLICATION

Statement for the obtaining of consent was a part of the survey, which is as follows: "Your return of the survey will be regarded as your informed consent to utilize the information."

#### STANDARDS OF REPORTING

STROBE guidelines were followed.

#### AVAILABILITY OF DATA AND MATERIALS

The data supporting the findings of this study are available

within the article.

#### FUNDING

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

#### CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

#### ACKNOWLEDGEMENTS

Declared none.

#### Appendix 1. Questionnaire on patient-related barriers.

1.	The patients believe that drowsiness from pain medicine is really a bother	1 2 3 4 5 6 7
2.	The patients believe that confusion from pain medicine is really a bother	1 2 3 4 5 6 7
3.	The patients believe that pain medicine cannot really control pain	1 2 3 4 5 6 7
4.	The patients believe that people get addicted to pain medicine easily	1 2 3 4 5 6 7
5.	The patients believe that nausea from pain medicine is really distressing	1 2 3 4 5 6 7
6.	The patients believe that having pain means that the illness is worse	1 2 3 4 5 6 7
7.	The patients believe that pain medicine often makes you say or do embarrassing things	1 2 3 4 5 6 7
8.	The patients believe that constipation from pain medicine is really upsetting	1 2 3 4 5 6 7
9.	The patients believe that good patients avoid talking about pain	1 2 3 4 5 6 7
10.	The patients believe that it does not do any good to talk about pain because the doctor will not do anything about it anyway	1 2 3 4 5 6 7
11.	The patients believe that it is more important for the doctor to focus on curing illness than to put time into controlling pain	1 2 3 4 5 6 7
12.	The patients believe that the experience of pain is a sign that the illness has gotten worse	1 2 3 4 5 6 7
13.	The patients believe that it is easier to put up with pain than with the side effects that come from pain medicine	1 2 3 4 5 6 7
14.	The patients believe that pain medicine should be saved in case the pain gets worse	1 2 3 4 5 6 7
15.	The patients believe that medicine cannot relieve cancer pain	1 2 3 4 5 6 7
16.	The patients believe that complaints of pain could distract a doctor from curing the disease	1 2 3 4 5 6 7

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