

## Research Article

# INVESTIGATING THE PREVALENCE OF DELIRIUM AS A PSYCHIATRY DISORDER IN PATIENTS UNDERGOING HIP JOINT SURGERY

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## Abstract

**Background:** Delirium is a severe organic disorder in the brain and a type of disorder in the cognitive state associated with reduced attention and cognition. This study aimed to investigate the prevalence of delirium in patients undergoing hip joint surgery.

**Methods:** In cross sectional study, the patient's demographic profile form and a checklist of intervening factors designed which were used to measure the prevalence of delirium. The researcher checked the delirium status of the patients on the day before the surgery, 6, 12, 24, and 48 hours after the surgery, and at the time of discharge. Ethical criteria in the research included obtaining informed consent of patients, keeping patients confidential, notifying the delirium status patients to the attending physician for further actions, and not imposing costs on patients. The data were analyzed using Spss software version 16 and descriptive and analytical tests.

**Results:** Result showed, the overall prevalence of delirium in patients was equal to 58 (46.4%), and 92 (73.6%) of patients without a spouse, 112 (89.6%) of patients with poor economic status, 63 (50.4%) of smoking patients, 14 (11.2%) with a history of drug use, 54 (43.2%) with a history of hospitalization in the ICU. Also, the mean (SD) age of the patients was 75.44 (8.43).

**Conclusions:** According to the findings, the prevalence of delirium in patients with hip joint surgery was high, that is why it is necessary to carry out preventive interventions to reduce delirium in these patients. *ASEAN Journal of Psychiatry, Vol. 24 (1) January, 2023; 1-6.*

**Keywords:** Delirium, Hip Joint Surgery, Prevalence, Demographic Profile, Cognitive State

## Introduction

The hip joint is one of the critical joints of the body, which is affected by various diseases and events. Among these diseases, we can mention inflammatory and degenerative diseases, which cause the loss of joint function, and patients

show symptoms such as pain, joint instability, reduced range of motion, and deformity. It is reported most common joint disorder in people over 60 years old [1-3]. Other causes of this disease include age, obesity, trauma, etc [4-6]. There are about 4-7% of cases of posterior

displacement related to the hip joint following trauma and fracture of the femoral head, and the force created and the posterior movement of the femoral head may cause damage and disturbance in the blood supply of the femoral head osteonecrosis [7].

Medical, physiotherapy and surgical methods are used to treat injuries related to the hip joint. Surgical treatment is used when the patient does not respond to medical and physiotherapy treatments, and a joint should replace. This surgery, like other surgeries, is accompanied by side effects for the patient, among which can mention pain, swelling, and reduced range of motion of the joint and bone after joint replacement surgery [8-10]. After surgery, patients may be admitted to the intensive care unit, which is why they are exposed to delirium [11].

Delirium is a severe organic disorder in the brain and a type of disorder in the cognitive state associated with reduced attention and cognition. Delirium may last from several hours to several days and lead to a decrease in consciousness with the destruction of consciousness in the patient. The patient's cognitive status depends on the function of the individual's body, and factors such as age, gender, hospitalization status, type of hospitalization ward, and type of the disease are effective in causing this disorder [12-14]. Other influential factors in the occurrence of delirium include the use of drugs, infection, metabolic and endocrine disorders, bipolar disorders, distance from family and relatives, pain, changes in external stimuli, and surgeries that lead to hospitalization [15-17]. Aging is another factor that may influence the increase in joint surgeries and the prevalence of delirium

[18,19]. On the other hand, the world, particularly Iran, is encountering the phenomenon of advancing aging, and the elderly population is increasing day by day [20,21].

### *Objectives*

Concerning the importance of psychological problems in patients, this study aimed to investigate the prevalence of delirium in patients undergoing hip joint surgery in Kermanshah.

### **Materials and Methods**

This study was carried out with the code of ethics IR.KUMS.REC.1399.117 in 2020.

In this cross sectional study, which was conducted in the hospitals of Kermanshah, the study population, that is, patients who underwent hip joint surgery were included in the research through random sampling to determine the prevalence of delirium and factors related to it. The inclusion criteria were hip surgery and the absence of psychological problems in patients before admission to the hospital. The exclusion criteria were the presence of delirium before the surgery, and they could withdraw from the study at any time during the research.

In this study, the patient's demographic profile form contains questions related to age, gender, marital status, economic status, and education status, as well as a checklist of intervening factors designed in the study of Karimi, et al. which were used to measure the prevalence of delirium. This checklist included questions on the history of smoking, history of drug use, history of alcohol use, history of medical psychotropic drugs, type of anesthesia, and hospitalization in the ICU (after surgery) and completed before surgery [22].

The researcher checked the delirium status of the patients on the day before the surgery, 6, 12, 24, and 48 hours after the surgery, and at the time of discharge. Ethical criteria in the research included obtaining informed consent of patients, keeping patients confidential, notifying the delirium status patients to the attending physician for further actions, and not imposing costs on patients. The data were analyzed using Spss software version 16 and descriptive and analytical tests.

**Results**

According to the findings, the overall prevalence of delirium in patients was equal to 58 (46.4%), and 92 (73.6%) of patients without a spouse, 112 (89.6%) of patients with poor economic status, 63 (50.4%) of smoking patients, 14 (11.2%) with a history of drug use, 54 (43.2%) with a history of hospitalization in the ICU. Also, the mean (SD) age of the patients was 75.44 (8.43) Table 1 also, Table 2 shows the prevalence of delirium according to demographic characteristics.

**Table 1. Status of demographic characteristics of patients undergoing hip joint surgery.**

Variable		N	%
Marital status	Without a spouse	92	73.6
	With wife	33	26.4
Economic situation	Weak	112	89.6
	Medium	10	8
	Good	3	2.4
Smoking	Yes	63	50.4
	No	62	49.6
Drug use	Yes	14	11.2
	No	111	88.8
History of hospitalization in ICU	Yes	54	43.2
	No	71	56.8
Age	M (SD)	75.44 (8.43)	

**Table 2. Demographic characteristics of patients based on the prevalence of delirium as psychiatry.**

Variable		Delirium	
		Yes	No
Marital status	Without a spouse	43 (34.4%)	15 (0.12%)
	With wife	49 (39.2%)	18 (14.4%)
Economic situation	Weak	52 (41.6%)	60 (48%)
	Medium	5 (0.04%)	5 (0.04%)

	Good	1 (0.08%)	2 (0.01%)
Smoking	Yes	30 (0.24%)	28 (22.4%)
	No	33 (26.4%)	34 (27.2%)
Drug use	Yes	4 (0.03%)	54 (43.2%)
	No	10 (0.08%)	57 (45.6%)
History of hospitalization in ICU	Yes	35 (0.28%)	23 (18.4%)
	No	19 (15.2%)	48 (38.4%)

## Discussion

In the present study, the prevalence of delirium in the group of hip joint surgery patients in Kermanshah was 46.4%. In Karimi, et al.'s study, the overall delirium prevalence in hip joint surgery patients admitted to Rasht hospitals was 18.3%. In the study by Wang, et al. in China and among 306 patients examined, the prevalence of delirium in the elderly undergoing hip surgery was 19.29%. In the study of Julieb, et al. on 231 elderly undergoing hip joint surgeries, the prevalence of delirium was reported as 21.1%. Also, in the study of Freter, et al. in Canada, the prevalence of delirium in patients with hip fracture was 57.6% before surgery and 41.7% after surgery. Also, in the study of Beiranvand, et al. it was shown that the prevalence of delirium was 16% in patients undergoing general surgery and 32% in orthopedic surgeries. The results of the current study are in line with the results of previous studies that showed the presence of delirium in patients.

According to the findings, the prevalence of delirium in this study was significant and equal to 46.4%. The prevalence of delirium has been investigated in various studies, among which we can refer to Khalighi, et al. study in *Iran*.

According to the meta analysis method, the prevalence of delirium in 23 studies with a sample size of 5339 patients was 21.8% in the general patient population, 24.7% in patients hospitalized in the ICU, and 17.5% in the general wards. In the meta-analysis study by Koirala, et al. the overall prevalence of delirium was 9%-32%. Also, in Yang, et al. study, the prevalence of delirium in patients with colorectal carcinoma was investigated by meta analysis. It was shown that the overall prevalence in 4472 patients was equal to 14%, who were affected by risk factors such as age, gender, co-morbidities, history of psychiatry disease, and nutritional status. In the study of Shao, et al. which investigated the prevalence of delirium in patients with Covid-19, it was shown that in 11,533 patients, the prevalence of delirium was 24.3%, the incidence was 32.4%, and the mortality rate was 44.5%. The findings of the mentioned studies are in line with the results of this study regarding the presence of delirium in hospitalized patients, especially patients hospitalized in the intensive care unit.

## Conclusion

According to the findings, the prevalence of delirium in patients with hip joint surgery was high, that why it is necessary to carry out

preventive interventions to reduce delirium in these patients.

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