

# Evaluation of Narcotics Prescribed in Surgery, a Descriptive Study in Kabul Afghanistan, 2022

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## Abstract

**Introduction:** Pain means creating an unpleasant feeling caused by tissue injuries. Pains caused by surgery are acute pains that occur due to cuts and muscle spasms after surgery. By taking narcotic drugs, the amount of pain caused by surgery is reduced, so the prescription of narcotics in surgery is of particular importance.

**Aim:** The purpose of this research is to investigate the number of narcotics prescribed in surgery to reduce the pain caused by surgery.

**Method:** This research is a descriptive research, and the required information was collected 21/1/2022 to 21/4/2022 from the health centers of Kabul, where the surgery department was active, through standard questionnaires.

**Research Results:** In this study, 166 surgical patients who were prescribed narcotic drugs were examined after analysis. According to the findings of this research, the most narcotic drug prescribed in surgery to reduce pain was morphine and its derivatives, which was prescribed to 89 patients (53.6%). Also, the most surgical procedure performed is orthopedic surgery with 39 patients (23.5%).

**Conclusion:** According to the findings of this study, the most prescribed narcotic drug is morphine

**Keywords:** surgery, narcotics and pain relief

## 1. Introduction

Pain means an unpleasant psychological sensation and experience in a person with real or potential injuries to his body tissue (*Khan et al., 2018*). Acute pain is pain that is directly caused by surgical incision and its injuries, which sometimes it is associated with muscle spasms after surgery (*Ceyhan et al., 2010*). According to the conducted studies and researches, it is stated that 80-86% of patients who undergo surgery experience pain after surgery, of which 75-88% of these patients have moderate or severe pain. The amount of pain after surgery is related to the type of surgery performed, the analgesic interventions used, and the time elapsed since the surgery when assessing the pain. Younger age, female gender, history of preoperative pain, anxiety, and the size of the surgical incision can be mentioned as other factors affecting pain intensity (*Gan et al., 2017*).

Acute pain after surgery is one of the major concerns of patients who are candidates for surgery. This concern can cause a serious disturbance in the treatment process by delaying the patient's timely visit and surgery. Also, one of the important causes of chronic pain is the existence of severe acute pain after surgery, which lack of proper control of acute pain can lead to long and sometimes lifelong disabilities of the patient (*Institute of Medicine US., 2011*). One of the major concerns of patients is pain after surgery, the treatment of pain after surgery is of particular importance today and requires fast and effective treatment (*Pandey et al., 2005*). Reducing pain after surgery not only increases the patient's comfort and faster recovery, but also leads to a faster return to normal life, reducing the length of hospitalization, reducing complications such as pulmonary thromboembolism and the cost of treatment. (*Durmus et al., 2007*). One of the common methods is to use reduce pain before the onset of pain, thus protecting the central nervous system from becoming sensitive to pain nerve stimulation that leads to increased pain. Many drugs such as narcotics, ketamine and non-steroidal anti-inflammatory drugs are also used in this method (*Pandey et al., 2005*).

Although narcotic drugs are considered to be one of the most effective and widely used drugs as pain relievers after surgery, but their use is due to high and undesirable side effects such as weakness in the respiratory system, nausea, itching, gastrointestinal paralysis. And the weak response of narcotics to certain pains is limited (*Turan et al., 2004*).

In the studies conducted by Mandana Mansour and colleagues in 2012, administration of gabapentin reduces pain after surgery and improves the quality of sedation during and after surgery. On the other hand, prescribing gabapentin as a prodrug reduces the need to prescribe narcotics (*Mandana et al., 2012*).

In a 2019 study conducted by Ryan Howard and colleagues across 33 health centers in Michigan, 2,392 patients were first examined. In this study, 670 patients (28%) were less than 45 years old, 1001 patients (42%) were between 45 and 64 years old, and 721 patients (30%) were older than 65 years old, 1039 patients (43%) were male and 1353 patients (57%) are female. The highest number of surgical procedures related to inguinal/femoral hernia repair was with 659 patients (28%), 534 patients (22%) were prescribed narcotic drugs to reduce pain, and the highest amount of prescription was related to ileostomy/colostomy patients, such as 24 patients (42%) used narcotic drugs to relieve pain after surgery (*Ryan et al., 2019*).

In the next study conducted by Karim and his colleagues in 2019 over the three countries of the United States of America, Canada and Sweden, a total of 129,379 patients in the United States of America, 84,653 patients in Canada and 9,802 patients in Sweden were examined. 40.5% of patients in the United States, 29.6% in Canada and 33.8% in Sweden were male. The main narcotic drugs prescribed after surgery to calm or reduce the patient's pain were Codeine and Tramadol, as in Canada Codeine (39.3%) and Tramadol (18.5%), in Sweden Codeine and Tramadol respectively (15.7%) and (29.0%) was reported. But in the United States, the amount of prescription of these two narcotic drugs has been reported as (3.3%) and (3.5%) respectively (*Karim et al., 2019*). Also, in another study conducted by Young Kim and his colleagues in 2018 on 377 patients, the rate of prescription of narcotic drugs among patients (22.3%) was reported (*Young Kim et al., 2018*).

## 2. Research Aim

The aim of this research is to investigate the amount of prescription of narcotic drugs in surgery in order to reduce the pain caused by surgical incisions. Most of the time, due to the reduction of surgical pain, many drugs are used, and the use of these drugs is dangerous for the patient due to their high side effects.

## 3. Research Method

This research is descriptive and prospective, and the information needed during the first three months of 2022 from 21/1/2022 to 21/4/2022 from the patients referred to the health centers of Kabul city that have a surgical department were collected by questionnaires.

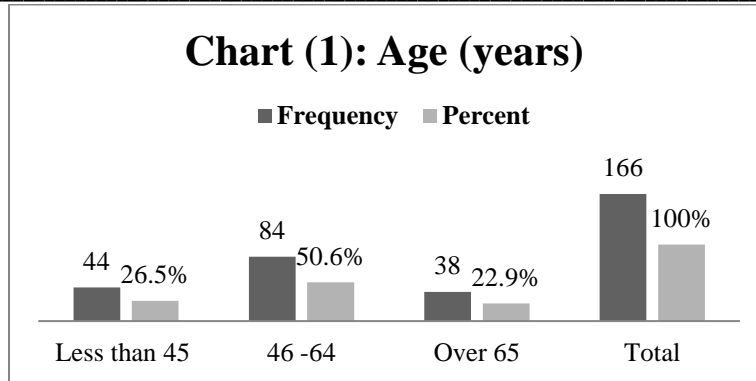
## 4. Data Analysis

In order to analyze the data, SPSS version 26 program was first used, and after the analysis, in order to present the results better, the relevant charts and tables were presented by the Excel program.

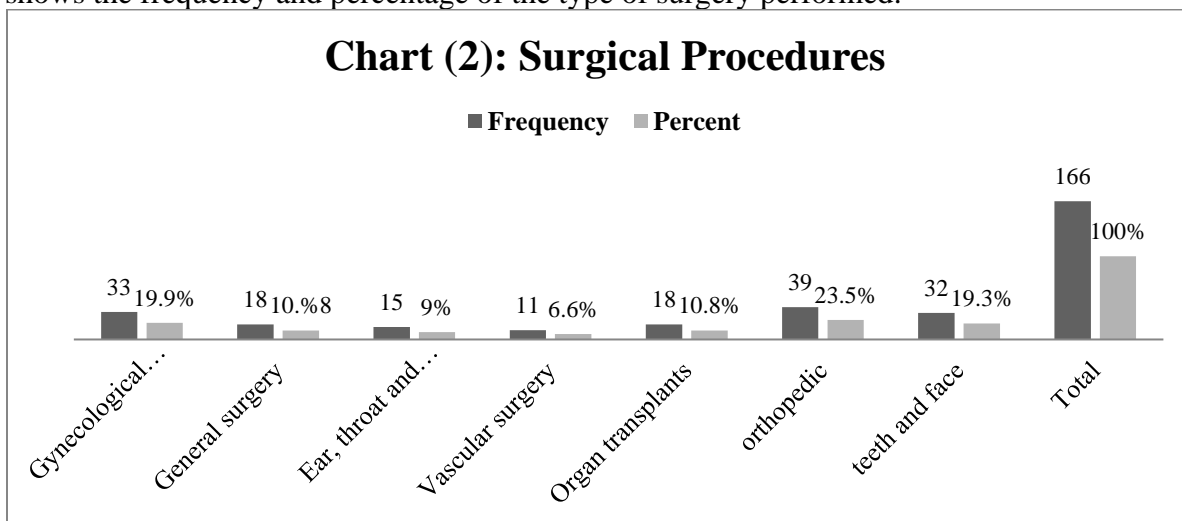
## 5. Results

In this study, from 166 patients who underwent surgery in 3 health centers in Kabul, the required information was collected through a questionnaire during 3 months. Prescriptions prescribed for surgical patients in these health centers in Kabul have been reviewed. According to the variables of the study, the following results have been obtained:

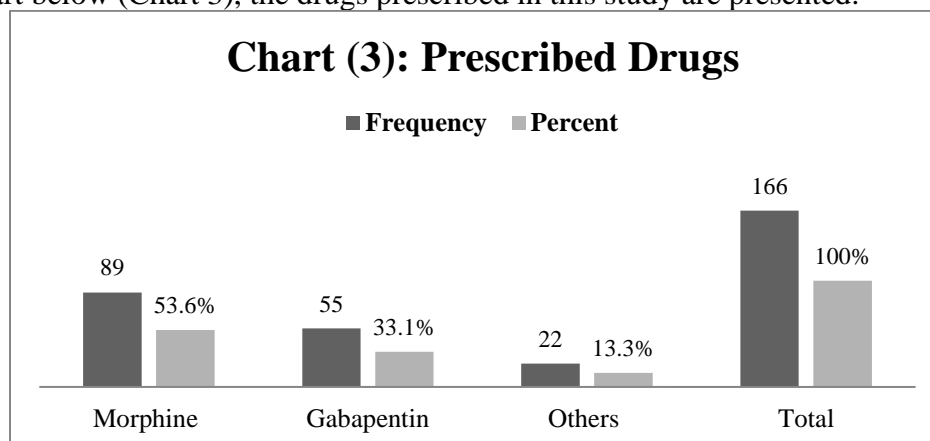
- **Age and gender of patients:** In this study, 166 patients who underwent surgery in the health centers of Kabul city were investigated. Among these, 61 patients (36.7%) were male. Considering the age of the patients, it has been divided into 3 categories (less than 45 years, 46 to 64 years, and more than 65 years). Most of the patients were between the ages of 46 and 64, 84 patients (50.6%). In the chart below (Chart 1), the frequency and percentage of age of the patients participating in this study are presented:



**-Surgical procedures:** In this study, 166 patients who underwent surgery were examined. Considering the nature of the surgical procedure, all patients are divided into 7 categories (obstetrics and gynecology, general surgery, ear, throat and nose, vascular surgery, organ transplant, orthopedic, dental and facial). Thus, the most surgical procedure performed is related to orthopedic surgery with 39 patients (23.5%). The following chart (Chart 2) shows the frequency and percentage of the type of surgery performed:



**- Prescribed drug:** Among the 166 prescribed prescriptions of narcotic drugs, the most prescribed drug in this study is morphine and its derivatives, as in 89 patients (53.6%). Gabapentin was also prescribed to 55 patients (33.1%). In the chart below (Chart 3), the drugs prescribed in this study are presented:



- **Time of use and pharmaceutical form:** considering the time of drug administration, three-time categories (less than 3 days, 4 to 6 days and more than 6 days) have been divided. In this study, the longest prescribed time of the drug is 4 to 6 days for 70 patients (42.2%). Also, the medicinal forms prescribed for the patients in this study are also divided into three categories (injectable, topical, and oral), so that the most prescribed medication was oral, which was prescribed to 73 patients (44%). In the table below (Table 1), the time of drug use and the pharmaceutical forms of the prescribed drugs are presented:

Time of Use				Dosage Form			
Time of Use	Frequency (n)	Percent (%)	P-value	Dosage Form	Frequency (n)	Percent (%)	P-value
Less than 3 days	42	25.3 %	0.792	Injectable drugs	44	26.5 %	0.531
4 to 6 days	70	42.2 %		Local	49	29.5 %	
Over 6 days	54	32.5 %		Oral	73	32.5 %	
Total	166	100 %		Total	166	100 %	

## 6. Discussion

According to the results obtained from this study, the number of surgical patients who were prescribed narcotic drugs was reported to be male (36.7%), which is less than the number obtained in America (40.5%), more than the number obtained from Canada (29.6%) and is almost similar to the statistics obtained from Sweden (33.8%). Also, in the study conducted by Ryan Howard, the rate of male patients who underwent surgery was also reported (43%). Considering the age category of the operated patients, the most people related to the age category between 46 and 64 years were reported with a frequency of 84 patients (50.6%), which is similar to the results obtained from Ryan Howard's study (42.00%). Also, the most surgical procedure performed in this study was orthopedic surgery with a frequency of 39 patients (23.5%), but in Ryan Howard's study, the most performed surgical procedure was inguinal/femoral hernia repair with 659 patients (28%). The reason for the difference can be considered a different social environment. In this study, the most prescribed drug was morphine, with a frequency of 89 patients (53.6%), but in the United States of America, Sweden, and Canada, the most prescribed drugs were codeine and tramadol. In Canada, the rate of prescribing codeine (39.3%), in Sweden the rate of prescribing tramadol (29%), and in the United States the rate of prescribing tramadol (3.5%) has been reported. The reason for the differences can be considered different geographical conditions.

## 7. Conclusion

The use of narcotics in surgery is one of the important topics of medicine, the main drug used in surgery to reduce the pain caused by surgery is morphine in the health centers of Kabul city.

## 8. Conflict Of Interest

Not available.

## 9. Acknowledgments

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