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## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/11577

DOI URL: <http://dx.doi.org/10.21474/IJAR01/11577>



### RESEARCH ARTICLE

#### PREVALENCE OF USE OF CORTICOSTEROIDS MEDICATION AND ASSOCIATED COMPLICATION

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#### Manuscript Info

#### Abstract

##### Manuscript History

Received: 25 June 2020

Final Accepted: 30 July 2020

Published: August 2020

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#### Introduction:-

Corticosteroid drugs — including cortisone, hydrocortisone and prednisone — are useful in treating many conditions, such as rashes, lupus and asthma. But these drugs also carry a risk of serious side effects. Corticosteroids mimic the effects of hormones your body produces naturally in your adrenal glands, which are small glands that sit on top of your kidneys. When prescribed in doses that exceed your body's usual levels, corticosteroids suppress inflammation. This can reduce the signs and symptoms of inflammatory conditions, such as arthritis and asthma. Corticosteroids also suppress your immune system, which can help control conditions in which your immune system mistakenly attacks its own tissues. And there is many complications of corticosteroid drugs when patient used for long duration, even used for short duration but less. The important complication such as:

1. Hypertension
  2. Diabetes
  3. Obesity with fat deposit in abdomen, face and the back of the neck .
  4. Fluid retention.
  5. Mood swings, memory and behavioral and other psychological effects.
  6. Eye problems (dryness, glaucoma, cataracts)
  7. Increased risk of infection.
  8. osteoporosis.
- And others complication.

#### Rationale:

The majority of patients used the corticosteroid drugs, even in simple condition as a pain reliever or control of any disease with no knowledge of the complications. This research the first one in the kingdom of Saudi Arabia, which

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talking about (How many patients have used cortisone?) and (How many patients got a complication and what it is?). which means the help to know the prevalence of use of this medication and the most probability serious complication can be occurred even in a short period use.

### **Literature Review:-**

According to this study A systematic review of the safety and efficacy of systemic corticosteroids in atopic dermatitis. (Yu SH, 2018)

The result was: Systemic side effects include growth suppression in children, osteoporosis, osteonecrosis, adrenal insufficiency, Cushing syndrome, hypertension, glucose intolerance, diabetes, gastritis, gastroesophageal reflux, peptic ulcer disease, weight gain, emotional lability, behavioral changes, opportunistic infections, cataracts, glaucoma, myopathy, myalgia, dysesthesia, pseudotumor cerebri, hyperlipidemia, malignancy, thrombosis, skin atrophy, sleep disturbance, and rebound flaring

Which is very effective study (Yu SH, 2018) to determine and found the complication of corticosteroid drugs this study not in Saudi Arabia but this meaning the majority of patients over the world used the corticosteroids.

### **Research Objectives:-**

**The Aim:** Prevalence of use corticosteroids medication in kingdom of Saudi Arabia and determine the complication.

### **Objective:-**

1. To determine the most gender used this medication.
2. To determine complication of corticosteroids medication and which is serious and faster than other complication.
3. To know how much the effectiveness of this medication

### **Methods:-**

Study design: This is an analytical cross-sectional study.

Study Setting and period: This is an analytical cross-sectional study conducted at Universities, hospitals, malls (from general population), KSA from December 2019 February 2020

### **Study population and sampling:**

Study participants: Inclusion criteria; Adult patient use corticosteroid medication. Exclusion criteria; Patients who do not use corticosteroid medication and children's.

Sampling method: Participants will be randomly selected and carried out by questionnaire.

Sampling size: A number has been collected 500 participants from the general population.

### **Measurements:-**

Variables

1. Sociodemographic characteristics: age, gender, nationality, patient state.
2. Medication-related information: Duration of use, form of medication, dose, cause of use, presence of complications.

### **Outcome Measures**

The outcome measure is by counting the ratio of the number of patients who using the corticosteroid medication this will be measured using:

By determining the extent of the use the medication in addition to the complications.

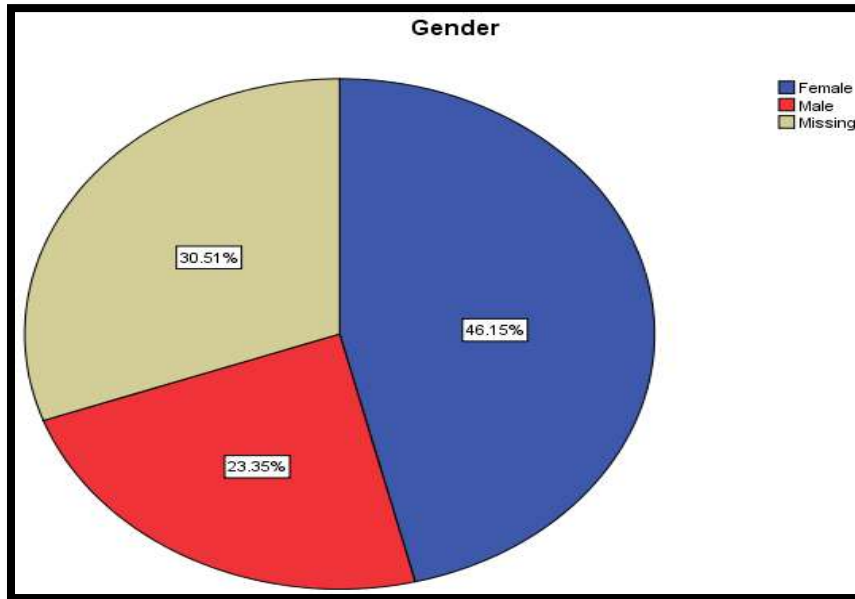
Prevalence study: will be carried to test the questionnaire if easily understood and the response of the participants. Data from the cross-sectional study will be used to calculate the sample size.

**Data Management and Analysis plan:**

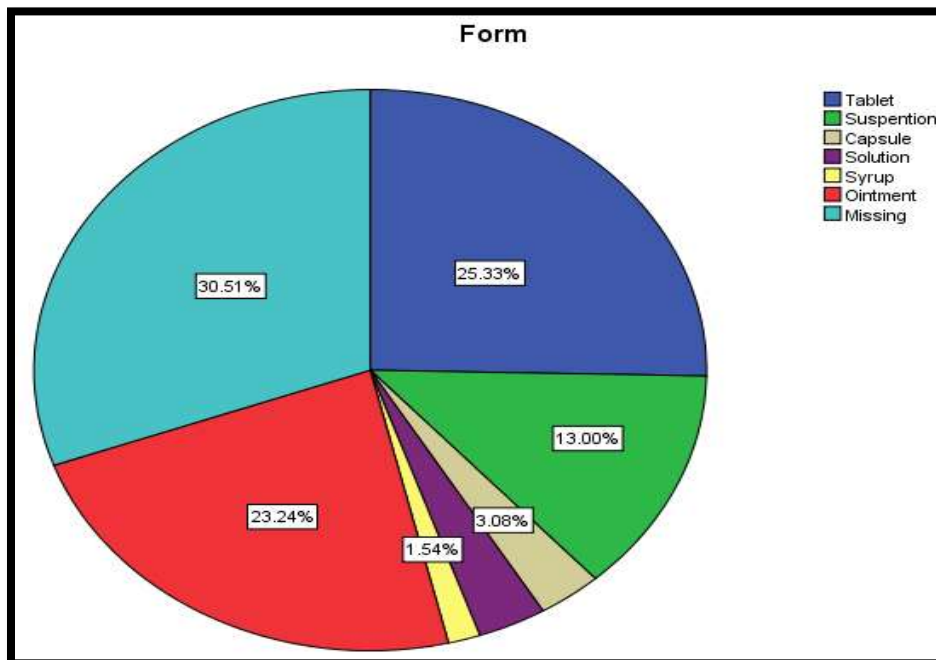
Data will be entered and analyzed using SPSS version 17.0 Descriptive statistics will be performed and categorical data will be displayed as frequencies and percentages while measures of central tendencies and measures and dispersion will be used to summarize continuous variables. Univariate and multivariate analysis will be performed to investigate association between age, gender, nationality, patient state and Duration of use, form of medication, dose, cause of use, presence of complications. statistical significance is set at a P value of 0.05 or less.

**Result:-**

631 responses were collected showing the following results and conclusion :



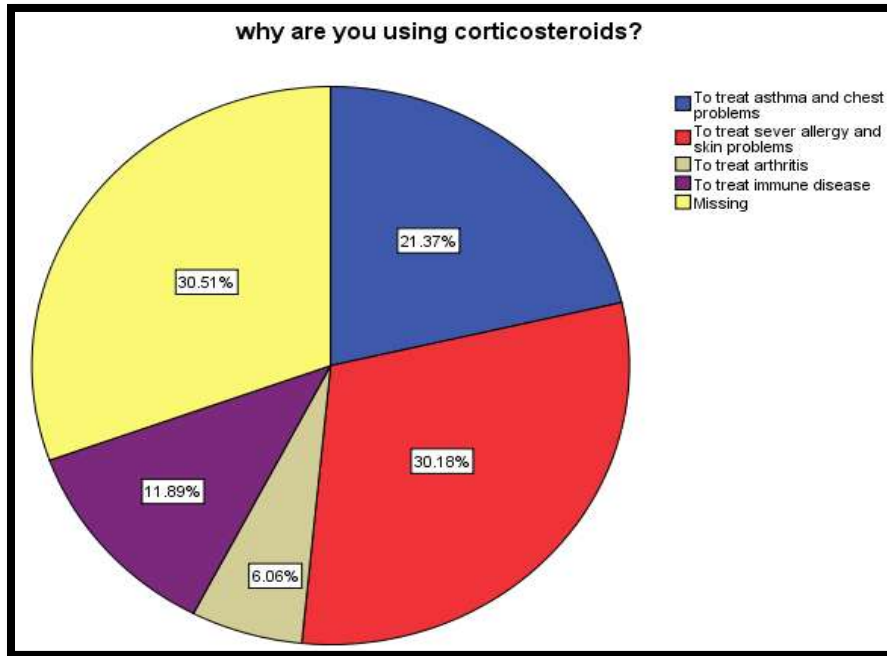
The results indicate that most of the respondents are females.



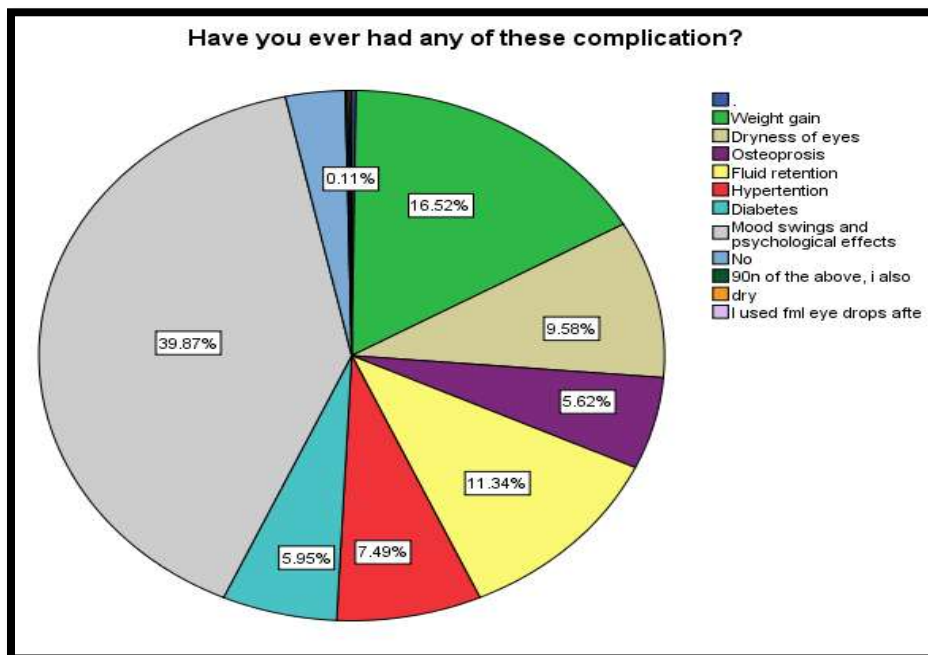
The results show that the majority of respondents use the tablets and ointments.

Form					
		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Tablet	230	25.3	36.5	36.5
	Suspention	118	13.0	18.7	55.2
	Capsule	28	3.1	4.4	59.6
	Solution	30	3.3	4.8	64.3
	Syrup	14	1.5	2.2	66.6
	Ointment	211	23.2	33.4	100.0
	Total	631	69.5	100.0	
Missing	System	277	30.5		
	Total	908	100.0		



The results showed that most respondents use corticosteroids to treat sever allergy and skin problems.



The results showed different ratios for the answers to the question but the largest percentage of the respondents have the complication of mood swings and psychological effects.

<b>Have you ever had any of these complication?</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.	2	.2	.2	.2
	Weight gain	150	16.5	16.5	16.7
	Dryness of eyes	87	9.6	9.6	26.3
	Osteoprosis	51	5.6	5.6	31.9
	Fluid retention	103	11.3	11.3	43.3
	Hypertention	68	7.5	7.5	50.8
	Diabetes	54	5.9	5.9	56.7
	Mood swings and psychological effects	362	39.9	39.9	96.6
	No	28	3.1	3.1	99.7
	90n of the above, i also	1	.1	.1	99.8
	dry	1	.1	.1	99.9
	I used fml eye drops afte	1	.1	.1	100.0
	Total	908	100.0	100.0	

### **Conclusion:-**

The results of the survey showed that the majority of respondents were females aged between 21 and 24 years. The respondents use corticosteroids since different time periods, but the largest proportion was one to five months. Most of the respondents take corticosteroids in the form of ointments and tablets. Dosage rates vary among respondents, but a large percentage responded that they take 3 doses on a daily basis. The reasons for respondents' use of corticosteroids varied but the largest proportion was for treat sever allergy and skin problems. Complications from corticosteroids use differed among respondents but the most frequent complication was mood swings and psychological effects.

### **Recommendation:-**

we recommend setting up health education programs about corticosteroids medications and the complications this health problem must be presented broadly and beneficially and, in a way, that everyone understands, as most deal with the corticosteroids complications by ignoring and not being important, work should be done on health conferences and medical discussions on that.

### **Acknowledgement:-**

The authors would like to thank the participant for their great cooperation **Amwaj Faisal Ageeli, Aliya Najeeb Balbid, Aseel Adnan Mudhish, Maha Mohammad Alsaggaf and Dhay Sameer Alrawithi**, for collecting data from the (general population). they worked hard to collect data greatly, and a large sample number was collected for them great effort.

### **Ethical considerations:**

Administrative approval will be sought from the unit of biomedical ethics research committee Ethical approval will be sought from the ethical committee of the faculty of medicine, king abdulaziz university. An informed consent will be sought from the participants.

### **Source of funding:**

Self-Funded .

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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**Appendices: (Questionnaire)**

Prevalence of use of corticosteroids medication and associated complications.

معدل انتشار استخدام أدوية الكورتيكوستيرويدات والمضاعفات المرتبطة بها.

**1- Gender: الجنس**

- Female انثى
- Male ذكر

**2- Age: العمر**

- 18-20 year
- 21-24 year
- 25-30 year
- 36-40 year
- 41-46 year
- 47-50 year
- 51-60 year
- 61-70 year

**3- Nationality: الجنسية**

- Saudi
- Non- Saudi

**4- Patient state: حالة المريض**

- In Patient داخل المستشفى
- Out Patient خارج المستشفى

**5- Since when you use corticosteroid medications? منذ متى تستخدم أدوية الكورتيكوستيرويدات؟**

- 1-5 months شهور
- 6-12 months شهور
- 1-2 years ( سنة الى سنتين )
- more than 2 years اكثر من سنتين

**6- Form of medication: الشكل الدوائي**

- Tablet قرص
- Capsule كبسولة
- Solution محلول
- Syrup شراب
- Ointment مرهم

**7- The dose. الجرعة**

.....

**8- How many Per day? كم مرة في اليوم**

.....

- 9- why are you using corticosteroids medication? لماذا تستخدم أدوية الكورتيكوستيرويدات؟
- To treat asthma and chest problems لعلاج مشاكل الربو والصدر
  - To treat sever allergy and skin problems لعلاج الحساسية المفرطة ومشاكل الجلد
  - To treat arthritis لعلاج التهاب المفاصل
  - To treat immune disease لعلاج أمراض المناعة
- 10- Have you ever had any of these complications? هل سبق لك أن تعرضت لأي من هذه المضاعفات؟
- زيادة الوزن Weight gain
  - جفاف العيون Dryness of eyes
  - هشاشة العظام Osteoprosis
  - احتباس السوائل Fluid retention
  - ارتفاع ضغط الدم Hypertention
  - داء السكري Diabetes
  - تقلب المزاج والآثار النفسية Mood swings and psychological effects
  - غير ذلك Other

Thank you.