

The Awareness of The Risk of Chronic Use of Steroid Causing Cataract in Tabuke City, Saudi Arabia,2017

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ABSTRACT

Background: Cataracts could result in very dangerous consequences including worldwide blindness which imposes a great economic burden on people and health authorities.

Objectives: Evaluate the knowledge of Saudi subjects in Tabuk City toward the cataract induced by chronic use of steroids. **Methods:** It is a cross sectional community survey based on a questionnaire sheet that was carried out among sample of adult subjects from different shopping malls, community pharmacists, coffees and masjids of Tabuk City from July to September 2017.

Results: All the subjects have already heard about cataract and only 6.4% of them suffered from cataract. The most common source of knowledge among participants were relatives and friend (75.1%). Only 9.1% of the subjects used steroid therapy for long periods as 59.4% of them used topical steroids, followed by 20.3% by oral therapy. Most of the subjects (81.4%) showed inadequate knowledge about the steroid induced cataract. The older age had significant association with good knowledge.

Conclusion: The level of knowledge about risks factors of chronic usage of steroid therapy and its effects on cataract was inadequate among most of the subjects, although they were university graduates.

Keywords: Knowledge, Cataract, Chronic Steroid Therapy, Tabuk City.

INTRODUCTION

The natural lens looks like a crystalline substance with specific structure of protein and water to allow clear passage of the light. Cataract is an opacity of the inside lens of the eye that result in deterioration of the vision due to reduction of the amount of incoming light thus it is described as looking waxed paper⁽¹⁾.

Cataracts could result in very dangerous consequences including worldwide blindness as about 51% of blindness in the world are due to getting older⁽²⁾. Cataract induced blindness imposes a great economic burden on people and health authorities hence prevention of cataract risk factors could result in modifying the rates of surgeries by about 45% and decreasing the prevalence of cataract^(3,4).

Recently, corticosteroids are globally used for various medical diseases and conditions thus increased the complications related to their uses including ocular diseases such as cataract, glaucoma and a global burden for ocular impairment^(5,6). Also, steroid therapy is defined as the fourth chief risk factor for secondary cataract that represents about 4.7% of all cataract around the world^(7,8). Chronic and high potency use of systemic, topical and inhaled systemic corticosteroids could significantly induce ocular cataracts^(9,10). The use of chronic steroids for allergic and atopic contact dermatitis necessitate long-term therapy for management thus, may increase the risks of cataract and glaucoma induction especially in elderly^(9,11). There is a lack of knowledge toward the impacts of long-term

usage of steroid therapy on cataracts that necessitate urgent need for future studies in KSA to increase the awareness and prevent the occurrence of cataract. This study evaluated the knowledge of Saudi subjects in Tabuk City toward the cataract induced by chronic use of steroids.

SUBJECTS AND METHODS

Study design

It is a cross sectional community survey based on a questionnaire sheet.

Setting

The study was carried out among sample of adult subjects from different shopping malls, community pharmacists, coffees and masjids of Tabuk City from July to September 2017.

Study population

The study included adult Saudi subjects who are educated and aged from 20-60 years old.

Sample size

The number of Saudi population aged from 20-60 years old in Tabuk City was issued by the General Authority for Statistics (GAS), KSA in 2016⁽¹²⁾. The minimum recommended sample size that was calculated using the web calculator⁽¹³⁾ was 384 subjects with a margin of error of 5% and a 95% confidence interval. The sample size was doubled to achieve 50% response rate and to avoid the incomplete data.

Study tools and data collection

This study included a questionnaire sheet that was conducted after reviewing all the available English studies that include researches about steroid

induced cataract, risk factors of cataract, effects and management of steroid cataract. After investigation of the the Pubmed, SCOPUS, Research gate, Google scholar, science direct,..etc, the data of the questionnaire was collected, revised by the supervisors then validated and translated into Arabic. The questionnaire included 3 parts assessing the demographics of respondents, prevalence of steroid induced cataract and knowledge about the risk factors, complications and management. After completing the questionnaire sheet, all the respondents were given a hand outs that contain information about the steroid induced cataracts and all the items have been explained to them for increasing their knowledge and prevention of further complications of steroid therapy.

Ethical considerations

A written approval was provided from the supervisors regarding the aim of the study. The questionnaire was validated by 3 supervisors. An informed consent was given by all participants who approved to be involved in the study. **The study was done after approval of ethical board of Tabuk university.**

Statistical analysis

The data processing was done using SPSS for windows (version 22). The descriptive variables were shown as frequencies and percentages. The relations were conducted using Chi-square test. P-value <0.05 were considered as significant.

RESULTS

Demographics of the studied subjects

The demographics of the included subjects are illustrated in Table. 1. The mean age of participants was 41 years old ranging from 21-58 years old. The gender distribution was 54.6% for males and 45.4% was females. Most of the participants (77.8%) defended college degree and 22.2% received secondary school degree.

Table (1): Characteristics of included participants (760)

Variable	Mean ± SD	Range
Age (year)	40±2.7	21-58
Gender	No.	Percentage (%)
Male	415	54.6%
Female	345	45.4%
Educational Level		
Collage	591	77.8%
Secondary School	169	22.2%
Working status		
Working	613	77.8%
Jobless or retired	305	33.2%

- **Prevalence of cataract among studied population.** Table. 2 shows the prevalence and general knowledge about cataract. All the subjects have already heard about cataract and only 6.4% of them suffered from cataract. The most common source of knowledge among participants are relatives and friend (75.1%) followed by 10.3% through medical doctors.

Table. (2): general knowledge and prevalence of cataract:

"Have you ever heard about cataract?"	Frequency	Percent
Yes	760	100%
No	0	0%
"Do you suffer from cataract?"		
Yes	49	6.4%
No	711	93.6%
"What is the source of your knowledge "		
Doctors	78	10.3%
Internet	99	13%
Newspapers	12	1.6
Relatives and friends	571	75.1

- **Steroid therapy usage**

Only 9.1% of the participated subjects used steroid therapy for long periods. 59.4% of them used topical steroids, followed by 20.3% through oral therapy, 16% used inhaled steroid therapy and 4.3% used intravenous therapy (Table. 3).

Table. (3): Usage of steroid therapy

"Do you use steroid therapy for long periods?"	Frequency	Percent
No	691	90.9%
Yes	69	9.1%
"What is the type of steroid therapy?"		
Topical	41	59.4%
Intravenous	3	4.3%
Oral	14	20.3%
Inhaled	11	16%

Assessment of knowledge about cataract induced by steroids

The knowledge and information of the subjects about the definition of steroid cataract was good among all of the subjects. On the other hand, the knowledge about the symptoms, risk of chronic usage of steroids, the effects of topical steroids and treatments of cataract was inadequate and poor among most of the subjects (Table. 4).

Table (4): Knowledge of subjects about steroid cataract

	Correct	Incorrect
Cataract is an opacity of the inside lens of the eye	760 (100%)	0 (0%)
Cataract is described as looking waxed paper	70 (9.2%)	690 (91.8%)
Aging and family history are the most common risk factors for cataract	432 (56.8%)	328 (34.2%)
Cataract is associated with deterioration of the vision	387 (50.9%)	373 (49.1%)
Cataract could result in complete blindness if left untreated	93 (12.2%)	667 (87.8%)
Chronic usage of steroids is associated with ocular effects including glaucoma and cataract	36 (4.7%)	724 (95.3%)
Topical steroid is the most common type associated with cataract	11 (1.4%)	749 (98.6%)
Oral and intravenous steroids could increase the incidence of cataracts but with lower association than topical steroids.	9 (1.2%)	751 (98.8%)
Skin diseases as atopic dermatitis (AD) and allergic contact dermatitis are chronic and necessities long-term steroid therapy thus increase the risk of cataracts	19 (2.5%)	741 (97.5%)
Chronic steroids could result in intraocular pressure.	15 (2%)	745 (98%)
Steroid induced cataract can be distinguished from other types of cataracts	48 (6.3%)	712 (93.7%)
Steroid induced cataracts could be treated with surgery	34 (4.4%)	726 (95.6%)

Steroid cataract awareness score

Most of the subjects (81.4%) showed inadequate knowledge about the steroid induced cataract but only 18.6% had good knowledge (Table 5).

Table. (5): Knowledge of respondents regarding steroid cataract

	Knowledge Score
Good Knowledge	141 (18.6%)
Poor knowledge	619 (81.4%)

Association between awareness and demographics of included participants

Table. 6 shows that the older age is characterized by significant association with good knowledge.

The level of knowledge showed insignificant association with gender and level of education.

Table (6): Association between Awareness and demographic of included subjects

	Good Knowledge (n=141)	Poor Knowledge (n=619)	P-value
Age (years)			
20-40	18 (12.8%)	328 (53%)	0.001
41-60	123 (87.2%)	219 (47%)	
Gender			
Male	80 (56.7%)	355 (54.1%)	0.061
Female	61 (43.3%)	359 (81.4%)	
Education Level			
Collage	101 (71.6%)	490 (79.2%)	0.023
Secondary School	40 (28.4%)	129 (20.8%)	

DISCUSSION

There is a lack of studies conducted in KSA and around the world that assess the knowledge about cataract induced by steroids usage thus comparison of our results with those of others seems hard.

The prevalence of cataract was 6.4% among the participants and the chronic usage of steroids was shown among 9.1% of the subjects. These results were lower than other previous results collected in KSA, as prevalence of cataract was 29.1%⁽¹⁴⁾. Also, cataract represented about one-third of all visually impaired conditions in England⁽¹⁵⁾. Over that, in Canada, cataract showed 15% prevalence among cases of blindness⁽¹⁶⁾.

The level of knowledge was inadequate among most of the subjects though being highly educated, and this could be associated with the low prevalence of cataract in KSA as well as the lower prevalence of chronic usage of steroids.

The present study showed a significant association with the increase of age, which could be a risk factor which is considered a common risk factor for the induction of cataract among older population as well as association with good and adequate knowledge.

CONCLUSION

The level of knowledge about risks factors of chronic usage of steroid therapy and its effects on cataract was inadequate among most of the participated subjects, although most of them are highly educated.. Educational campaigns should be conducted to increase the knowledge about cataract thus would decrease the prevalence and its associated complications.

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