

Knowledge and Ocular Side Effects of Use of Isotretinoin in Saudi Arabia

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ABSTRACT

Study Design: Cross sectional

Background: Isotretinoin is a drug predominantly used to treat severe acne. It is sometimes referred to as 13-cis-retinoic acid and is sold under the trade name Accutane among others. It is also employed in the treatment of various cancers as well as the prevention of other skin cancers. Such a system is the eye, where isotretinoin causes reversible meibomian gland atrophy. Although isotretinoin is effective, its precise mechanism is yet unknown.

Methods: In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to Glaucoma. A questionnaire was constructed after the series of discussions between the panel of experts, SPSS ver.20 was used for analysis.

Results: In our study 65% were males while 35% were females, 55% were lying in age group of 26-36 years, 25% were belongs to medical profession, 60% had monthly income between 5 to 15 thousand 24% were smokers, 52% had no chronic illness 45% were involved in moderate activity level, 50% observed glaucoma between 1-3 years, 92.4% observed side effects.

Conclusion: Isotretinoin is beneficial, it can be hazardous if used for other conditions because we are unsure of what side effects it will have in the long- or short-term. When we use it without taking the appropriate steps to treat other disorders, that is when the main issue arises.

Keywords: Isotretinoin, Glaucoma, Awareness, Knowledge, Side effects

INTRODUCTION

Isotretinoin is a drug predominantly used to treat severe acne. It is sometimes referred to as 13-cis-retinoic acid and is sold under the trade name Accutane among others. It is also employed in the treatment of various cancers as well as the prevention of other skin cancers. Such a system is the eye, where isotretinoin causes reversible meibomian gland atrophy. Although isotretinoin is effective, its precise mechanism is yet unknown. It is typically advised that isotretinoin has an apoptotic effect on sebaceous glands, which affects lipid production of the skin and other structures similarly. To treat severe, disfiguring nodular acne, isotretinoin is utilized. Due to its usage in treating acne vulgaris, isotretinoin is one of the medications doctors most frequently prescribe. The dosage is determined by your weight, medical history, and treatment response. It may take up to two months before you get the full effects of this medication, and your acne may get worse during the first few days of taking it. After 2 months have passed since you last took the medication, you may begin the second round of treatment if severe acne reappears¹⁻⁴.

Isotretinoin is not advised for long-term use by the manufacturer. Never take more than the prescribed amount. When other treatments fail to clear severe acne, isotretinoin can. Isotretinoin can permanently

clean the skin after just one treatment. Four to five months are usually required for one therapy. The course of treatment can take longer if a dermatologist prescribes a lower dose of isotretinoin. It should only be taken if other antibiotics or acne medications have been tried and failed to clear up acne. Although most people consider isotretinoin to be safe, it must be regularly managed, thus patients must visit their doctor every month for checks on their health and well-being. Sebum production in excess can cause severe acne. Severe acne may leave lasting scars if untreated. According to your doctor's recommendations, isotretinoin may also be used to treat other skin conditions⁵⁻⁸.

The most often reported ocular side event was eye dryness (83.4%). The most frequently identified side effects after commencing isotretinoin were blepharitis and conjunctivitis (5.4% for each). The recommendation to see an ophthalmologist for ophthalmological screening was given to about 71.2% of the individuals. In a cross-sectional survey of 1,157 Saudi Arabian respondents, eye dryness was the adverse effect that was most frequently reported (83.4%). Following the start of treatment, the two conditions that were most frequently noted as side effects were Conjunctivitis and blepharitis were caused by isotretinoin (5.4 percent for each). yet, 52.2% of Participants said they felt under-informed about the drug's possible risks^{9,10}.

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Approximately 67.9 percent of individuals claimed they were aware of potentially serious ocular side effects of these results. This study found that women knew more than males did about numerous ocular side effects (68.1 vs. 31.9%, p=0.043).

While being generally aware of the ocular adverse effects of isotretinoin therapy, more than half of the study subjects were ignorant of a potential contact lens intolerance. The goal of this study was to evaluate acne patients' understanding of the adverse effects of isotretinoin treatment on the eyes¹¹.

The study's goal is to gauge Saudi Arabia's adult population's understanding of isotretinoin and its ocular side effects.

METHODS

In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to Glaucoma. A questionnaire was constructed after the series of discussions between the panel of experts this panel was composed of a subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in the Aseer region of Saudi Arabia. After collection of data, data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and %s were computed), to measure the significance differences chi-square test was used at 5% level of significance. Data was collected from the from the general public of Aseer region of Saudi Arabia through an electronic version of the questionnaire. Ethical approval was obtained from King Khalid University, Saudi Arabia. The study duration was from January-2023 to April-2023.

- **Inclusion Criteria:** Age > 18 years
- **Exclusion Criteria:** Age < 18 years

RESULTS

Total 132 respondents, responded the questionnaire, Cronbach alpha was 0.84.

Table 1: Demographics and prevalence

Gender	
Male	65%
Female	35%
Age in years	
18-25	25%
26-36	55%
37-47	9%
Above 47	11%
Profession	
Medical	25%
Government service	26%
Private service	24%
Teaching	26%
Monthly Income	
up to 5000 SAR	15%
5000-15000 SAR	60%
Above 15000 SAR	35%
Smoking	
Yes	24%
No	76%
chronic illness	

No chronic diseases	52%
Hypertension	19%
DM	18%
Others	11%
Activity level	
Moderately Active	45%
Slightly Active	25%
Active	30%
When have you found out you have glaucoma?	
1-3 years	50%
4-6 years	25%
7-9 years	18%
above 9 years	7%
Using glaucoma medications, have you experienced any side effects?	
Yes	92.40%
No	7.60%

Table 1 depicted that 65% were males while 35% were females, 55% were lying in age group of 26-36 years, 25% were belongs to medical profession, 60% had monthly income between 5 to 15 thousand 24% were smokers, 52% had no chronic illness 45% were involved in moderate activity level, 50% observed glaucoma between 1-3 years, 92.4% observed side effects.

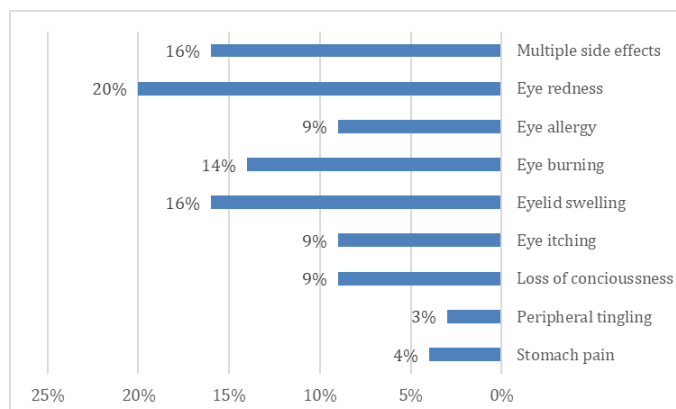


Figure 1: Side effects

As per figure 1, Eye redness (20%), eyelid swelling (16%), eye burning (14%) were the major sided effects (Total respondents who observed any side effects were 92).

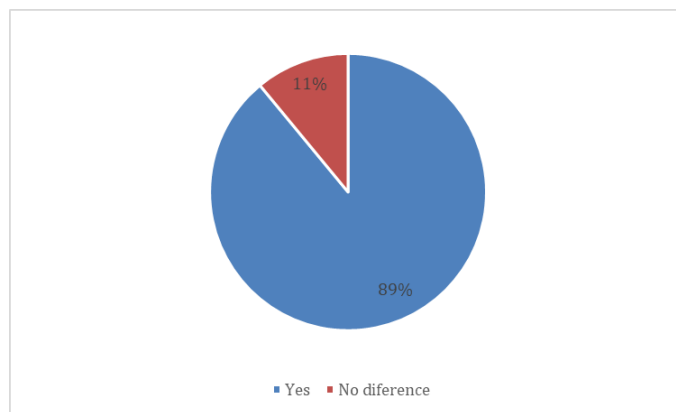


Figure 2: Feeling better after using side effects
As per figure 2, 89% observed better after using eye drops.

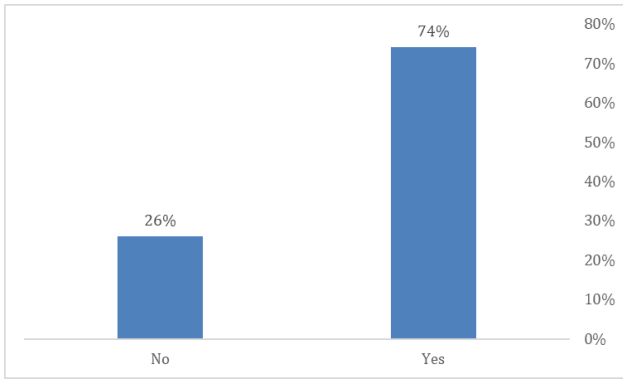


Figure 3: Are you aware of the consequences of not using glaucoma medications?

According to figure 3, 74% aware about the consequences of not using glaucoma medications.

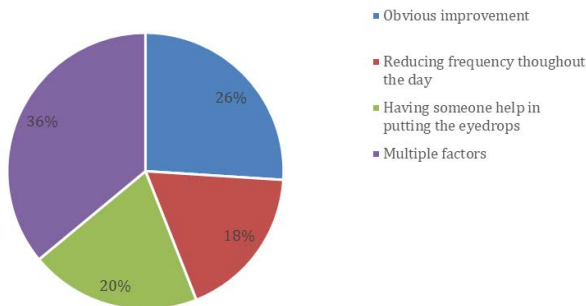


Figure 4: Encouraging factors

As per figure 4, obvious improvement (26%) was one of the major encouraging factors.

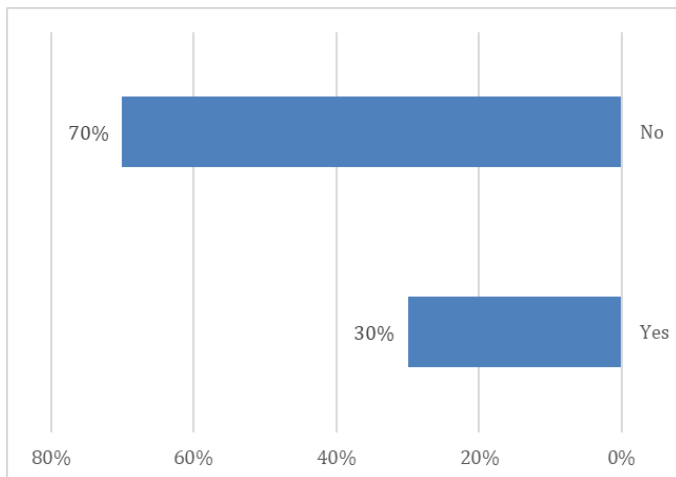


Figure 5: Financial barriers

As per figure 5, 30% were facing financial issues for using eye drops.

Table 2: Comparison of gender with side effects

Gender	Side Effects		p
	Yes	No	
Male	25	15	N. S
Female	27	25	

As per table 2, we did not observe any significant difference while comparing gender with side effects.

DISCUSSION

When compared to alternative treatments for severe kinds of acne management, isotretinoin is the most affordable option for treating acne patients. Consumers must be informed of the fact that it has been shown to have certain serious negative effects, including teratogenic ones. Therefore, the current study—the first of its kind in the northern region—assessed female acne patients' awareness of the usage of isotretinoin and its negative effects. Since 1982, severe or persistent acne has been treated with isotretinoin (13-cis retinoic acid). Although isotretinoin works well to treat stubborn acne, it also has a number of side effects. These ocular adverse effects include conjunctivitis, blepharitis, and DED. It is crucial that doctors are aware of the medication's side effects¹².

In this study, we examined how well patients understood the ocular side effects of isotretinoin therapy and how often doctors actually prescribed it.

A key indicator of therapy outcome is how well patients understand the risks, benefits, and precautions to take while undergoing treatment. Our study demonstrated that participants' understanding of the uses and side effects of isotretinoin was adequate (92%) and greater than and comparable to other studies. When asked about their primary sources of information, more than 70% of these respondents named their treating physicians; the other half, on the other hand, cited the internet or social media, friends or family, and the brochure provided with the medication as their sources^{12,13}.

The majority of individuals selected eye redness as the isotretinoin treatment's ocular adverse effect. These results are in line with data previously reported on the effectiveness of LASIK and photorefractive keratectomy in isotretinoin-using individuals^{14,15}.

The main drawback of this study is that it relied heavily on self-reported survey data, which is subject to reporting bias. Additionally, because to a lack of cross-referencing with the participants' respective ophthalmologists' medical reports, the medical words and diagnoses utilized in the survey may not accurately reflect the participants' actual conditions. Patients were also looked after by various dermatologists. The study has limited generalizability because the statistics are entirely dependent on the patients' sincerity.

CONCLUSION

Acne can be successfully treated with isotretinoin. Although its precise route of action is unknown, isotretinoin inhibits keratinization and sebaceous gland function at pharmacologic doses. Although isotretinoin is beneficial, it can be hazardous if used for other conditions because we are unsure of what side effects it will have in the long- or short-term. When we use it without taking the appropriate steps to treat other disorders, that is when the main issue arises.

Authorship Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflicts of Interest: None

Competing Interest: None

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