

## Original Research Article

## Concerns and Awareness of Libyan Patients with Acne about Isotretinoin

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**Abstract:** *Introduction:* The most effective treatment for severe acne is isotretinoin. However, it carries major side effects as teratogenicity, dryness, lipid profile disturbance and constipation. Although it is commonly prescribed with and without prescription in Libya, little data are available regarding patients understanding and awareness of isotretinoin. *Aims:* This study was conducted to explore the awareness of acne patients about the use of isotretinoin. It aims to measure how much acne patients know about the side effects of the drug especially the teratogenic effects, how to deal with them and how the drug influence their daily activities. Plus, to identify how patients get their information about the drug and whether they consult professional or ordinary people. *Methods:* A verified and validated questionnaire addressed to acne patients (n = 50, Sept. - Dec., 2019) who were under and over 20 years of age in Tripoli city was used in this study. *Results:* Data shows that acne patients do not have enough information about the drug. They take their information from other patients and do not usually consult doctors or pharmacists. The only side effects that the patients complained from are dryness. In addition, they are not aware that this drug can cause teratogenic effect. *Conclusion:* A good understanding and awareness the Libyan patients about isotretinoin help in increasing compliance and minimize adverse effects.

**Keywords:** Acne, Awareness, Libya, Isotretinoin, Side effects.

## INTRODUCTION

Acne is the most commonly treated dermatological disorder. It is a disease of the sebaceous glands, occurs when the hair follicles become plugged with oil and dead skin cell. Its pathogenesis is multifactorial and can differ significantly among patients [1, 2]. It often causes whiteheads, blackheads or pimples, and usually appears on the face, forehead, chest, upper back and shoulders. Acne is most common among teenagers, though it affects people of all ages. It affects from 80% - 90% of all adolescents, making it the most common skin disease in the world [3]. It is an expected physiological phenomenon that peaks in the age range of 14 - 17 years in girls and 16 - 19 years in boys. It may disappear in 20s of age in boys but in females it may stay to 30s.

Treatments of acne is vary according to severity, from topical therapy (retinoids, benzoyl peroxide and antibiotics) in mild cases to oral antibiotics, hormonal treatment and oral isotretinoin in moderate to severe cases [4, 5]. Studies showed that isotretinoin is the most effective treatment for severe acne. However, It is carries major side effects such as dry eye, dry nose and lips, dry and fragile skin, increase susceptibility to sunburn, myalgias and headaches, delay wound healing, psychiatric disorders (depression, suicidal thoughts and aggressive violent behavior), elevated cholesterol, increased lipid profiles and teratogenicity [6]. Oral isotretinoin should only be prescribed under the supervision of physicians with expertise in the use of systemic retinoids for the treatment of acne and with a full understanding of the risks and monitoring requirements. General practitioners may also be consulted by patients during their isotretinoin treatment, so awareness of relevant issues is advantageous.

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The knowledge, concerns and awareness of acne patients about isotretinoin has been established by studies that were carried out in several parts of the world. However, reports on knowledge, concerns and awareness of acne patients about isotretinoin use and its side effects in Libyan population are lacking. There for this study was carried out to address this problem. The main objectives of this study are to investigate the amount of knowledge of acne patients about isotretinoin use and its side effects especially the teratogenic effects.

## METHODS

This study was designed to investigate the issue of using the isotretinoin drug in acne subjects. The research sought to measure the amount of knowledge about isotretinoin drug and its side effects. To achieve this goal, the researcher chosen for a quantitative study that was based on conducting a questionnaire addressed to acne patients in Tripoli, Libya (n = 50, from Sept. till Dec., 2019). The questionnaire constituted of information regarding of socio-demographic data and questions regarding the knowledge of the drug, source of information and side effects awareness (dryness, teratogenicity, lipid profile disturbance and constipation), if any of side effects were experienced, if they were informed about them. Data were analyzed using descriptive statistical measures such as frequency distribution, percentage, mean and standard deviation.

## RESULTS

A total of 50 acne patients were engaged in this study. The socio-demographic characteristics of this patient are shown in Table 1. Thirty six patients were females representing 72% and 14 (28%) were males; with female to male ratio 3:1. The majority of acne patients were in the age group > 20 years representing 74% of patients. Furthermore, 84% were single and 16 % were married. With regards to education, a high proportion of patients were University students 74%, followed by high school students 26%, while 0% of intermediate students.

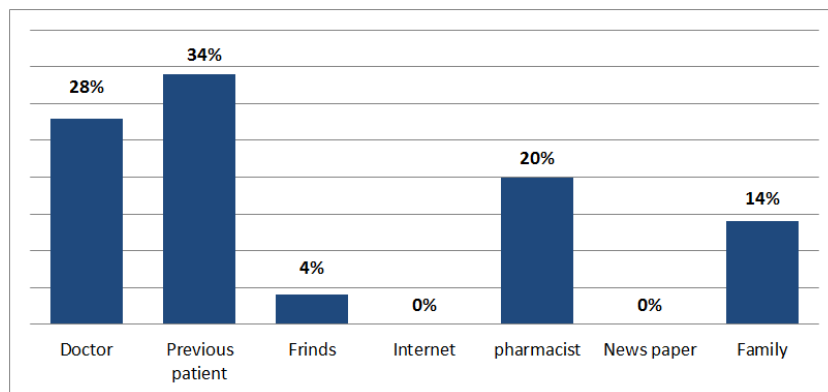
**Table-1: Socio-demographic characteristic of patients**

| Parameters                | Number and percentage of patient (n, %) |
|---------------------------|---|
| <b>Gender</b>             |   |
| Male                      | 14 (28)                                 |
| Female                    | 36 (72)                                 |
| <b>Age</b>                |   |
| < 20 years                | 13 (26)                                 |
| > 20 years                | 37 (74)                                 |
| <b>Marital status</b>     |   |
| Single                    | 42 (84)                                 |
| Married                   | 8 (16)                                  |
| <b>Educational status</b> |   |
| University                | 37 (74)                                 |
| High school               | 13 (26)                                 |
| Intermediate              | 0 (0)                                   |

The knowledge of acne patients about isotretinoin use is shown in Table 2. Based on the results, 100% of patients were known about the drug, whereas 0% does not know. The mostly commonly known sources of information were from previous patients 34%, followed by doctor 28%, pharmacist 20%, and family 14%, friends 4%, 0% from the internet or social media and 0% from media as newspapers. The distribution of source of information is shown in Figure 1.

**Table-2: The knowledge of patients about isotretinoin use**

| Parameters                          | Number and percentage of patient (n, %) |
|-------------------------------------|---|
| <b>Do you know about this drug?</b> |   |
| Yes                                 | 50 (100)                                |
| No                                  | 0 (0)                                   |
| <b>Source of information</b>        |   |
| Doctor                              | 14 (28)                                 |
| Previous patient                    | 17 (34)                                 |
| Friends                             | 2 (4)                                   |
| Internet                            | 0 (0)                                   |
| Pharmacist                          | 10 (20)                                 |
| News paper                          | 0 (0)                                   |
| Family                              | 7 (14)                                  |



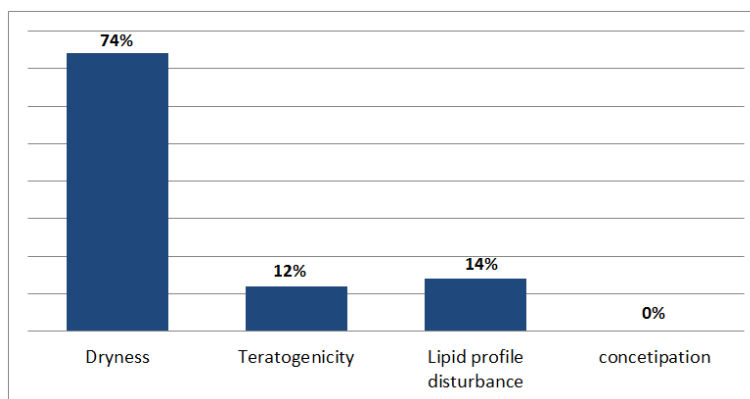
**Fig-1: Distribution of source of isotretinoin information**

The knowledge and awareness of acne patients about isotretinoin side effects are shown in Table 3. Of the study patients 70% were known about the side effects of drugs while 30% of patient does not know. The distribution about what side effects they know is shown in Figure 2. It was revealed that the most common side effect they know was dryness 74% followed by lipid profile disturbance 14%, teratogenicity 12% and 0% constipation. Among those patient 66% were using the drug and 34% were not.

**Table-3: Knowledge and awareness of patients about isotretinoin side effects**

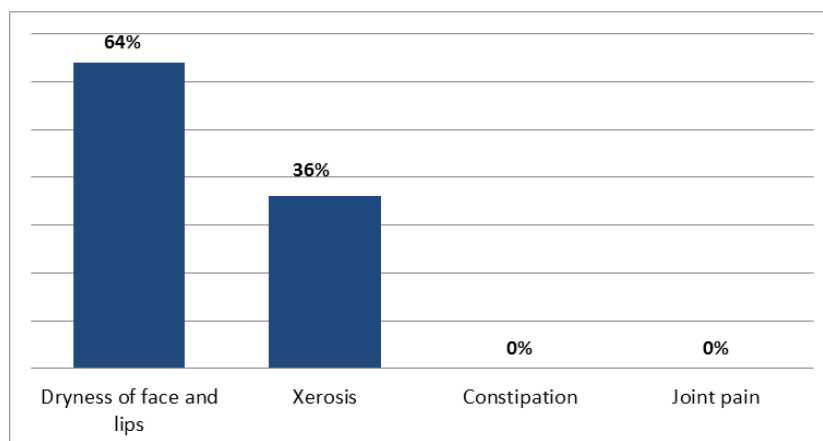
| Parameters  | Number and percentage of patient (n, %) |
|---|---|
| <b>Do you know the side effect of the drug?</b>                     |   |
| Yes   | 35 (70)                                 |
| No  | 15 (30)                                 |
| <b>What is the side effect that you know?</b>                       |   |
| Dryness   | 37 (74)                                 |
| Teratogenicity  | 6 (12)                                  |
| Lipid profile disturbance   | 14 (7)                                  |
| Constipation  | 0 (0)                                   |
| <b>Are you using this drug?</b>                                     |   |
| Yes   | 33 (66)                                 |
| No  | 17 (34)                                 |
| <b>Do you have side effect that interferes with daily activity?</b> |   |
| Yes   | 31 (62)                                 |
| NO  | 19 (38)                                 |
| <b>What is the most bothering side effect?*</b>                     |   |
| Dryness of face and lips  | 21 (64)                                 |
| Xerosis   | 12 (36)                                 |
| Constipation  | 0 (0)                                   |
| Joint pain  | 0 (0)                                   |

Including only those patients who answered yes to question 9\*



**Fig-2: Distribution about what side effects they know**

Additionally, 62% of them were suffering from side effects that interfere with daily activities and 38% do not. The most bothering side effect was dryness of face and lips 64%, followed by xerosis with 36%. The least bothering side effect was constipation and joint pain 0% (Figure 3).



**Fig-3: Distribution of most bothering side effects that interfere with daily activities**

## DISCUSSION

Isotretinoin is a form of vitamin A. It is used to treat severe nodular acne that has not responded to other treatments, including antibiotic. It reduces the amount of oil released by oil gland in the skin, and helps skin renew itself more quickly. The most bothering side effects of these drugs are dryness and teratogenicity. It is important that patients of acne should have enough information about isotretinoin. A number of studies have been carried out to explore patient's awareness about the drug. However, reports on knowledge, concerns and awareness of acne patients about isotretinoin use and its side effects in Libyan population are lacking. Therefore, this study was carried out to address this problem.

In the present study, the socio-demographic characteristics of patients and the knowledge of patients about isotretinoin use and its side effects were carried out in 50 patients. Thirty-six patients were females representing 72% and 28% were males; with a female to male ratio of 3:1. These differences could be due to females more commonly seeking medical guidance than males. Of more interest is the pattern of age distribution, the majority of acne patients were in the age group >20 years representing 74% of patients. Furthermore, 84% were single and 16% were married and most of patients were educated 74% (University students).

In regards to knowledge of patients about isotretinoin use, all our patients 100% had some information about isotretinoin and its uses, other studies by Molla *et al.* [6] and Al-Harbi [7] found 67.7% and 71%, respectively of participants had some information about isotretinoin and its uses. However, a majority of our patients got information from previous patients 34%, followed by doctor 28%, pharmacist 20%, family 14%, friends 4%, while 0% from the internet, social media and newspapers. This finding was congruent with another study which reported that doctor as well as previous patients was the common source of isotretinoin information [7], while this finding was not congruent with another study which reported that friends followed by internet and social media as well as doctor were the common source of isotretinoin information [6]. The present result was also not congruent with the study published by Werner *et al.* [8] and Tugrul *et al.* [9], where both papers documented that friends, family members and internet were the most common source of isotretinoin information among patients undergoing therapy.

It is also important to point out the awareness of the patients regarding the side effects of isotretinoin. In the current study 70% of the patients had sufficient knowledge about the side effects of this drug. This result was consistent with the very recent studies published by Molla *et al.* [6] and Younis *et al.* [10]. Younis *et al.* [10] discovered that about 60% of the acne patients knew the adverse effects of isotretinoin, while Molla *et al.* [6] indicated that more than 60% of the patient had enough knowledge about the side effects of the medication.

From our data we found the most well-known side effect is dryness of the face and lips 74% followed by lipid profile disturbance 14% and teratogenicity 12%. It is advised to monitor the lipid profile and to use the appropriate method of contraception during isotretinoin use. This report is congruent with the study published by Molla *et al.* [6] and Al-Harbi [7]. Researchers reported dryness of the face and lips and teratogenicity were the most common side effects that were confronted by the acne patients. The present result was also congruent with the study published by Tugrul *et al.* [9], whereas this result is contrary with those reported by Cyrulnik *et al.* [11]. They reported that, headache and musculoskeletal discomfort were the most common form of side effects.

Moreover, in present study about 65% patients were use isotretinoin and 60% of them were suffering from side effects that interfere with daily activities. The most bothering side effect was dryness of face and lips 65%, followed by xerosis.

The finding of this research shows that there is a serious lack of information about the drug. The results show that the patients do not refer to doctors or pharmacist. They depend on previous patient for information most of the time. They do not use the internet or magazines for information. The patients are not aware of all the side effects. They are familiar only with dryness. The least side effect knows is teratogenicity.

## CONCLUSION

A good understanding and awareness the patients about this drug helps in increasing compliance and minimize adverse effects. Awareness of isotretinoin teratogenicity and side effects among females of childbearing age is very important, therefore female patient must be aware with appropriate methods of contraception. Also, patients need to be informed about appropriate method of moisturization. Finally, there is an urgent need to educate patients about the necessity of consulting doctors and pharmacists before taking drugs. Consulting other patients or other who is not professional is a habit that must be stopped.

## REFERENCES

1. Tanja, K. (2005). The pathogenesis of acne. *Acta dermatovenerologica croatica*, 13(1), 44-49.
2. Bhambri, S., Del, Rosso, J.Q., Bhambri, A. (2009). Pathogenesis of acne vulgaris: recent advances. *Journal of Drugs in Dermatology*, 8(7), 615-618.
3. Bhate, K., Williams, H.C. (2013). Epidemiology of acne vulgaris. *British Journal of Dermatology*, 168(3), 474-485.
4. Ribera, M., Guerra, A., Moreno-Gimenez, J.C., De Lucas, R., Perez-Lopez, M. (2011). Treatment of acne in daily clinical practice: an opinion poll among Spanish dermatologists. *Actas Dermo-Sifiliograficas*, 102(2), 121-131.
5. Guerra-Tapia, A. (2012). Effects of benzoyl peroxide 5% clindamycin combination gel versus adapalene 0.1% on quality of life in patients with mild to moderate acne vulgaris: a randomized single-blind study. *Journal of Drugs in Dermatology*, 11(6): 714-722.
6. Molla, A., Abdullah, H., Alruhaili, E., Alrizqi, S., Alsubhi, A. (2020). Assessment of knowledge, attitude and practice in relation to use of isotretinoin among Al-Madinah population, Saudi Arabia. *International Journal of Medicine in Developing Countries*, 4(1), 107-112.
7. Al-Harbi, M. (2010). Concerns and awareness of acne patients about isotretinoin in Qassim region of Saudi Arabia. *International Journal of Health Sciences*, 4(1), 47-51.
8. Werner, C., Papic, M., Ferris, L., Lee, J., Borrero, S., Prevost, N. (2014). Women's experiences with isotretinoin risk reduction counseling. *JAMA Dermatology*, 150(4), 366-371.
9. Tugrul, A., Demirdag, H., Yalici, A., Bezirgan, O. (2019). Perceptions about oral isotretinoin treatment. *Dermatologic Therapy*, 32(3), e12873.
10. Younis, N., Al-Harbi, N. (2019). Public understanding and awareness of isotretinoin use and safety in Al-Ahsa, Eastern Saudi Arabia. *Therapeutic innovation and Regulatory Science*, 53(5), 618-622.
11. Cyrulnik, A., Viol, K., Gewirtzman, A., Cohen, S. (2012). High-dose isotretinoin in acne vulgaris: improved treatment outcomes and quality of life. *International Journal of dermatology*, 51(9), 1123-1130.

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