



# Knowledge and Attitudes Toward Topical Retinal Use in Skincare: A Survey Study



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**Abstract:** Retinal, a derivative of vitamin A, has a high importance in cosmetic skincare due to its ability to accelerate cell renewal and stimulate collagen production. However, there is a growing need to investigate consumers' knowledge of this active ingredient's use and side effects. This study aimed to assess knowledge and practices regarding the use of topical retinoids among Syrians. 128 Responses were collected. Two quarters of the participants were female and 18-35 years old. Most participants had a basic awareness of the benefits of retinol, especially for acne and wrinkle treatment. However, they relied on non-medical sources for information about retinal. Some participants experienced side effects such as dryness and irritation after using retinal. However, these effects did not prevent them from continuing to use it to achieve the desired results. 75% of users reported a noticeable improvement in their skin after using retinal, leading them to recommend it to others. The results of this study indicate a growing use of retinal among Syrians, highlighting the role of doctors in providing appropriate guidance on the correct method of application, including the timing and frequency of application and how to reduce its side effects.

**Keywords:** Retinal, Topical Retinoids, Skincare, Knowledge, Survey, Syrians.

## I. INTRODUCTION

Retinoids (Vitamin A derivatives) are well-known for nutritional and therapeutic benefits. They play an important role in modulating epithelial cell growth, regulating sebum production, and influencing collagen remodelling [1]. Due to their various physiological roles, they are increasingly used for dermatological conditions like acne [2] and wrinkles [3].

Retinaldehyde is commonly referred to as retinal. It is positioned between retinol and retinoic acid. To transform into its active form, a single enzymatic oxidation step was required [2]. This metabolic feature of the retina gave a therapeutic balance between its efficacy and tolerability. Retinal skincare products are available over-the-counter and widely marketed for anti-ageing and efficacy [4].

## II. METHODS

### A. Survey Design

The survey was performed using an online questionnaire developed via Google Forms. The target participants included individuals older than 18 years of age. The survey included demographic characteristics, knowledge of retinal and its benefits, usage practices, and experiences with side effects. Simple multiple-choice questions were used. Microsoft Excel was used for data analysis. Frequencies and percentages were calculated for all questions. No personal information was collected. Respondents were informed of the purpose of the study before their participation.

## III. RESULTS

128 respondents were collected in the survey. The participants were mainly young (18–35 years old: 70%) and female (70%), as shown in Table 1. These results are consistent with broader skincare consumption trends, which are more prevalent among younger women. Mixed skin was the most common reported skin type (35%), followed by oily (25%) and dry type (20%).

95% of respondents were aware of retinal products before the study. Regarding the question of participants' primary source of information about retinal, it was surprising that only 20% cited a doctor or pharmacist, while 40% relied on non-medical skincare specialists. Relying on non-medical sources raises many important questions about the accuracy of information that influences the behaviour of skincare product users.

Manuscript received on 28 March 2026 | Revised Manuscript received on 04 April 2026 | Manuscript Accepted on 15 April 2026 | Manuscript published on 30 April 2026.

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**Table I: Demographic Characteristics of Survey Participants (N = 128)**

Characteristic	Category	n	%
Age	< 18 years	6	5%
	18–25 years	51	40%
	26–35 years	38	30%
	36–45 years	19	15%
	> 45 years	13	10%
Sex	Male	38	30%
	Female	90	70%
Skin Type	Oily	32	25%
	Dry	26	20%
	Combination	45	35%
	Normal	13	10%
	Sensitive	13	10%
Have you heard of Retinal before the survey?	Yes	122	95%
	No	6	5%
Main Information Source	Doctor/ Pharmacist	26	20%
	Non-medical Skincare Specialist	51	40%
	Websites Magazines	13	10%
	Friends Family	19	15%
	Personal Experience	19	15%

As shown in Table 2, acne treatment (44%) and anti-ageing effect (40%) were cited as the main benefits of retinal. 8% reported a benefit from retinol in improving skin texture. 50% of participants currently use a retinal product, while about 10% had used it in the past. The improvement of skin appearance (40%) and the reduction of wrinkles (25%), and acne treatment (20%) were the common reasons for using retinal products. 45% of retinal product users preferred creams, while 25% preferred serums. 75% applied retinal at least several times per week, indicating participant engagement with retinal usage in their skincare routine. The most commonly reported barrier to using retinal among participants was side effects (45%).

**Table II: Retinal Use, Barriers, and Preferences (N = 128)**

Question	Response	n	%
Main benefits of retinal (awareness)	Anti-ageing/wrinkles	60	40%
	Acne treatment	66	44%
	Improve texture	12	8%
	Even skin tone	11	7%
	Don't know	2	1%
Ever used retinal?	Yes, currently using	64	50%
	Yes, in past, but stopped	13	10%
	No	51	40%
The main barrier to trying retinal	Fear of side effects	58	45%
	Don't know how to use	13	10%
	Cost	13	10%
	Don't believe I need it	38	30%
	Pregnancy/breastfeeding	6	5%
Product type used	Cream	58	45%
	Serum	32	25%
	Cleanser	19	15%
	Lotion	13	10%
	Other	6	5%
Reason for using retinal	Improve appearance	51	40%
	Treat acne	26	20%
	Reduce wrinkles	32	25%
	Treat hyperpigmentation	13	10%
	Doctor's advice	6	5%
Frequency of retinal use	Daily	38	30%
	Several times/weeks	58	45%
	Once a week	19	15%
	Rarely	13	10%

40% noticed a significant improvement in their skin after using retinal products. However, some participants suffered from side effects: dryness (45%) and mild itching (30%).

Side effects, such as redness and peeling, were less frequently reported. It is encouraging that the majority of users dealt with these effects proactively. 50% added extra moisturizers, and 25% reduced the amount of product used. Only 10% stopped using it entirely, indicating that most users are willing to solve problems rather than discontinue the treatment.

Overall satisfaction with retinal usage was high. 50% of users preferred retinal over other skincare products, and 85% rated their overall experience as 'good' or 'excellent'. The high satisfaction rate with the use of retinal products was reflected in the participants' desire to recommend retinol products (70%).

**Table III: Efficacy, Side Effects, and User Satisfaction**

Question	Response	n	%
Noticed your improvement after using retinal?	Yes, significantly	51	40%
	Yes, slightly	45	35%
	Minor change	19	15%
	No improvement	13	10%
Did you experience any side effects after using retinal?	No	77	60%
	Yes	51	40%
Types of side effects after using retinal	Dryness	58	45%
	Redness/irritation	13	10%
	Peeling	13	10%
	Mild itching	38	30%
	Initial breakout	6	5%
How were side effects managed?	Stopped use	13	10%
	Reduced amount	32	25%
	Added moisturizer	64	50%
	Consulted professional	13	10%
Prefer retinal over others?	Did nothing	6	5%
	Yes	70	55%
	No	38	30%
Overall satisfaction with retinal products	Unsure	19	15%
	Excellent	58	45%
	Good	51	40%
	Average	13	10%
Would you recommend retinal?	Poor	6	5%
	Yes	90	70%
	No	38	30%

## IV. DISCUSSION

This study provides insight into the use of retinal devices among Syrians. The demographic characteristics showed that most participants are females and young. Women in their twenties and thirties tend to rely on retinal. This may be due to its effects, especially for acne treatment and wrinkle prevention. Like women in other countries, women in this age group care about appearance, but they also pay attention to the ingredients in cosmetic products. The study showed that participants relied on non-medical sources for information, such as skincare specialists. This may indicate a problem with the quality of guidance they receive, especially when using ingredients like retinal. Users of cosmetic retinal products may experience some side effects such as dryness, itching, and sensitivity. Some practices may alleviate these effects, like using moisturisers and sunscreen. The study showed that 40% of participants experienced some of these effects, indicating insufficient knowledge of the correct usage of retinal or misunderstandings of recommendations.

Despite the occurrence of side effects following the





use of retinal products, participants continued to use them, either by applying them in combination with moisturisers and sunscreens or by reducing the amount used. This indicates the participants' desire to continue using it to achieve the expected results. The high satisfaction of participants with the results of retinal products is reflected in their high recommendation to others.

## V. CONCLUSION

Retinol has a significant role in modern skincare. Many clinical studies have supported its effects on the skin. However, as this study shows, effective use does not depend solely on the ingredient; knowledge and the correct method of use contribute to achieving the desired therapeutic efficacy. Here, the roles of doctors and pharmacists stand out in bridging the gap between clinical study and the real-world practice of retinal products.

## DECLARATION STATEMENT

As the article's author, I must verify the accuracy of the following information after aggregating input from all authors.

- **Conflicts of Interest/ Competing Interests:** Based on my understanding, this article has no conflicts of interest.
- **Funding Support:** This article has not been funded by any organizations or agencies. This independence ensures that the research is conducted with objectivity and without any external influence.
- **Ethical Approval and Consent to Participate:** The content of this article does not necessitate ethical approval or consent to participate with supporting documentation.
- **Data Access Statement and Material Availability:** The adequate resources of this article are publicly accessible.
- **Author's Contributions:** The authorship of this article is contributed equally to all participating individuals.

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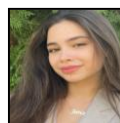
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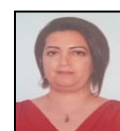
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