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## Research Article

# Topical Steroid: A Study on Awareness, Misuse and Perceptions Among Patients and Pharmacists

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### ABSTRACT

Topical corticosteroids (TCs) are commonly prescribed for inflammatory skin conditions such as eczema, psoriasis, and dermatitis due to their anti-inflammatory and immunosuppressive properties. Despite their effectiveness, prolonged or improper use can lead to adverse effects like skin thinning, steroid-induced dermatitis, and systemic complications such as adrenal suppression. A study was conducted to assess awareness, misuse, and perceptions of TCs among 114 participants, including patients, pharmacists, and doctors. The results revealed significant gaps in knowledge and usage patterns. While 62% of participants had prior awareness of TCs, 37% lacked sufficient understanding, leading to misuse in 21.1% of cases. Common causes of misuse included a lack of awareness, pressure for quick results, and misleading advice from non-professionals. Notably, 17% of respondents admitted to unsupervised use, highlighting the need for better guidance from healthcare providers. Only 34.2% of participants felt adequately informed by healthcare professionals about the safe use of TCs. The study emphasized the importance of targeted education initiatives, such as awareness campaigns and patient workshops, to promote informed and safe usage. Furthermore, enhancing communication between healthcare providers and patients is critical to addressing misconceptions and preventing misuse. The findings underline the need for public awareness campaigns, improved prescription practices, and better access to accurate information to ensure the safe and effective use of topical steroids.

## INTRODUCTION

Topical corticosteroids (steroids) are one of the most widely prescribed and effective treatments for a variety of dermatological conditions,

including eczema, psoriasis, dermatitis and allergic reactions. These medications, which are synthetic derivatives of corticosteroid hormones, act by reducing inflammation, suppressing immune responses and controlling symptoms such

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as redness, swelling and itching in the skin. Topical steroids are applied directly to the affected area, offering targeted relief with minimal systemic absorption.[1] They are available in different potencies, ranging from mild to super potent with various formulations, including creams, ointments, lotions and gels, designed to suit specific types of skin conditions. The choice of potency and formulation is often determined by the severity of the condition and the area of skin affected. Despite their effectiveness, the use of topical steroids has been associated with potential side effects such as skin thinning, delayed wound healing and the development of conditions like steroid-induced rosacea or perioral dermatitis. Long-term or excessive use can also lead to complications, making the optimal use of these medications a subject of ongoing research and clinical scrutiny.[2] This research project aims to examine the clinical applications of topical steroids, focusing on their efficacy, safety and the long-term impact on patients' skin health. The study will also explore alternative treatment strategies to mitigate the risks associated with their use. Understanding these aspects is crucial for improving treatment outcomes, ensuring patient safety and optimizing therapeutic strategies for managing chronic inflammatory skin diseases. By investigating the clinical practices surrounding topical steroid use, this research intends to contribute to better guidelines and enhance pharmacy practice in dermatology.[3]

### **Types of topical steroid**

1. Creams and ointments
2. Nose (nasal) sprays
3. Nose drops
4. Eye drops or ointments
5. Ear drops
6. Preparations which can be inserted into the rectum

### **Classification**

#### **Pharmacological Properties and Mechanism of Action**

TCs function by modulating inflammatory responses through the suppression of pro-inflammatory cytokines and the inhibition of inflammatory cell migration. Their efficacy is largely attributed to their ability to penetrate the skin barrier and bind to glucocorticoid receptors, leading to the transcriptional regulation of target genes involved in inflammation.[3]

#### **Indications for Use**

These agents are indicated for a wide array of dermatological conditions, including:

- Atopic dermatitis
- Psoriasis
- Seborrheic dermatitis
- Eczema
- Lichen planus [4]

#### **Adverse Effects**

- **Local Effects:** Skin thinning (atrophy), striae, telangiectasia, hypopigmentation, and delayed wound healing.
- **Systemic Effects:** Potential suppression of the hypothalamic-pituitary-adrenal (HPA) axis, leading to adrenal insufficiency. [5,6]

### **METHODOLOGY**

Estimated sample size – 100 people Basic statistical tool- Frequencies and Percentages, Mean, Median, Mode, Standard Deviation (SD) are proposed to be used in this study.[7,8]

#### **Questionnaires**

Sr.no.	Section Title	Variables / Questions
1	Demographic Information	<ul style="list-style-type: none"> <li>➤ Age group</li> <li>➤ Gender</li> <li>➤ Education</li> <li>➤ Profession</li> </ul>
2	Prescription & Prior Knowledge	<ul style="list-style-type: none"> <li>➤ Prescription</li> <li>➤ Assessment of prior knowledge of TCS</li> </ul>
3	Usage Patterns	<ul style="list-style-type: none"> <li>➤ Frequency of topical steroid use</li> <li>➤ Purpose of steroid use</li> <li>➤ Unsupervised use</li> </ul>
4	Information Sources & Awareness	<ul style="list-style-type: none"> <li>➤ Source of information</li> <li>➤ Raising awareness about topical steroid use</li> </ul>
5	Perception of Risks	<ul style="list-style-type: none"> <li>➤ Potential side effects of misuse</li> <li>➤ Perception of long-term skin damage</li> </ul>
6	Experience & Misuse	<ul style="list-style-type: none"> <li>➤ Experienced side effects</li> <li>➤ Misuse of topical steroids</li> <li>➤ Root cause of misuse</li> </ul>
7	Professional Support & Education	<ul style="list-style-type: none"> <li>➤ Guidance from healthcare professionals</li> <li>➤ Comfort level discussing risks</li> <li>➤ Effective patient education strategies</li> </ul>

### Comparative Study

Parameter	Study Findings	Literature Insights	Comparison
Demographics	Age group 18–24 (75.4%), balanced gender (55.3% male, 44.7% female), majority undergraduates (70.18%).	Coondoo et al. (2014): Awareness influenced by education; young adults prone to misuse.	Study findings align with global trends; young adults are the primary demographic at risk.
Prescription Practices	56.6% used steroids without prescriptions; only 43.4% received them.	Sheth and Nair (2020): Unsupervised usage is common globally.	Significant overlap in findings; unsupervised usage prevalent in both study and literature.
Knowledge of Steroids	62% had prior knowledge; 37% lacked awareness.	Coondoo et al. (2014): Lack of awareness is a critical factor in misuse.	Consistent lack of awareness highlights need for educational interventions.
Adverse Effects	20.1% experienced side effects like skin thinning and irritation.	Kligman and Willis (2015): Dermatological side effects prevalent with misuse and prolonged use.	Study findings reaffirm the dermatological risks noted in literature.
Misuse Factors	Lack of awareness (38.8%), quick results (28.9%), misleading advice (15.7%), easy access (14.9%).	Grindlay and Williams (2015): Similar reasons for misuse, including	Root causes of misuse show strong alignment with broader trends.



		insufficient education and urgency for results.	
Role of Healthcare Providers	Only 34.2% felt adequately informed by healthcare providers; 36% were unsure.	Harrison et al. (2015): Emphasize need for better doctor-patient communication to address misuse.	Consistent communication gaps between healthcare providers and patients.
Awareness Campaigns	78.9% advocated for campaigns; preferred methods include awareness camps and provider counseling.	Sheth and Nair (2020): Recommend targeted awareness programs to enhance safe usage.	Strong agreement; educational initiatives are a common recommendation.
Educational Initiatives	Focused on awareness camps and provider-patient education during consultations.	Grindlay and Williams (2015): Structured and interactive programs crucial for reducing misuse.	Both emphasize multi-channel approaches for effective education.
Impact of Misuse	21.1% admitted misuse; pressure for results and lack of guidance identified as major contributors.	Kligman and Willis (2015): Stress on stricter guidelines to minimize misuse and address root causes.	Identical concerns highlight the need for regulatory and educational reforms.

## RESULT AND DISCUSSION

Parameter Analyzed for this Study are as follows

1. Age group
2. Profession
3. Prescription
4. Frequency of topical steroid use
5. Steroid purpose insights
6. Source of Information
7. Perception of long-term skin damage from topical steroid misuse
8. Side effects
9. Misuse of topical steroid
10. Guidance of healthcare professional on topical steroid
11. Raising awareness about topical steroid
12. Effective approaches to educate patients on TcS usage

**Study Population:** 114 Participant.

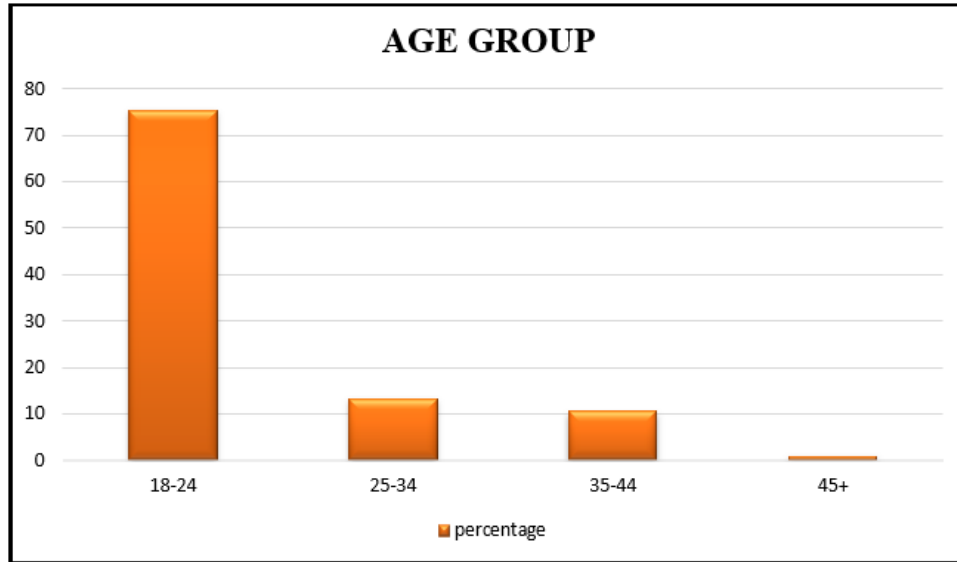
### 1. Age Group

The table presents the distribution of participants across different age groups in the study on awareness and misuse of topical steroids among patients and pharmacists. The majority of participants (75.4%) fall within the 18–24 age group, indicating that young adults form the primary demographic of this study. The 25–34 age group constitutes 13.2%, followed by the 35–44 age group with 10.5%. Only a small fraction (0.9%) of participants belong to the 45+ age group. This data highlights that the younger population is the most represented, which may influence the patterns of awareness and misuse analyzed in the study.

**Table No 1. Age Group**

Sr. No	Age Group	Frequency	Percentage
1	18-24	86	75.4%
2	25-34	15	13.2%

3	<b>35-44</b>	<b>12</b>	<b>10.5%</b>
4	<b>45+</b>	<b>01</b>	<b>0.9%</b>



**Fig 1. Age Group**

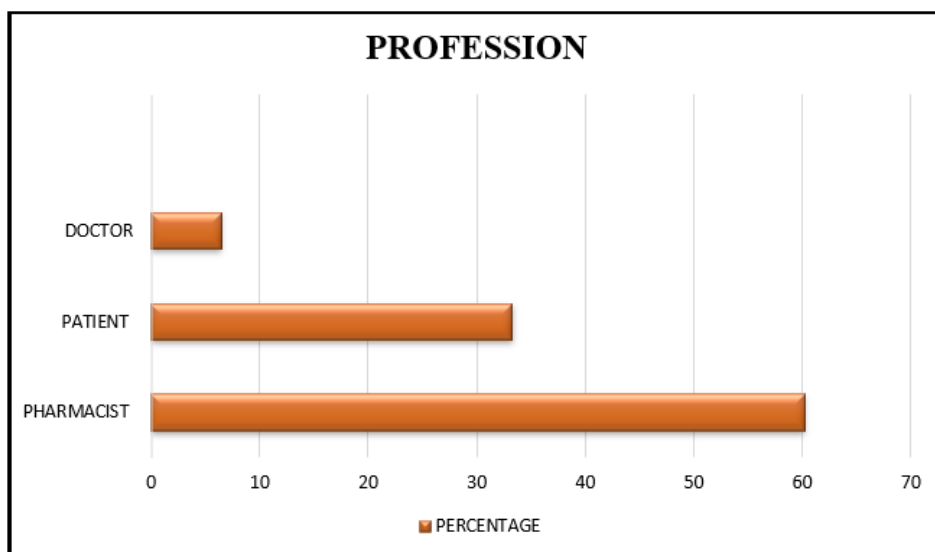
## 2. Profession

The table presents data on the distribution of responses collected from various groups based on their profession in a study about awareness and misuse of topical steroids. The majority of responses were recorded from pharmacists, who constituted 60.2% of the total participants (65 responses). Patients accounted for 33.3% of the responses, with 36 participants. Doctors formed the smallest group, contributing only 6.5% of the responses (42 participants). This distribution highlights that pharmacists play a crucial role in

the supply and guidance regarding topical steroids. However, the significant percentage of patients indicates the need to focus on direct consumer education to reduce misuse. The relatively smaller proportion of doctors emphasizes their involvement in ensuring correct prescriptions and guidance for such medications.

**Table No 2. Profession**

Sr.no.	Profession	Response	Percentage
<b>1</b>	<b>Pharmacist</b>	<b>65</b>	<b>60.2 %</b>
<b>2</b>	<b>Patient</b>	<b>36</b>	<b>33.3 %</b>
<b>3</b>	<b>Doctor</b>	<b>42</b>	<b>6.5 %</b>



**Fig 2. Profession**

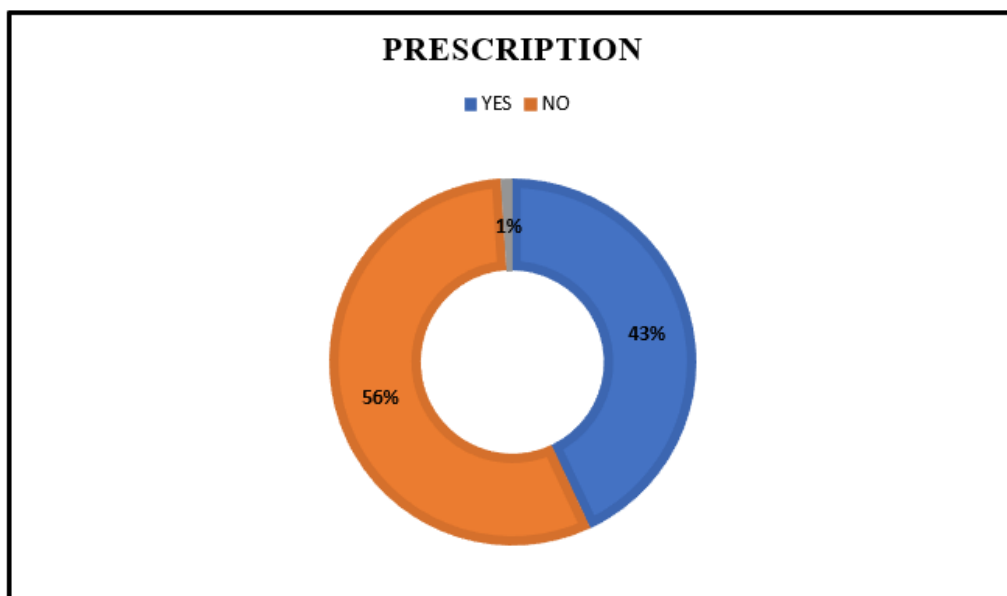
### 3. Prescription

Topical Steroid Prescription provides insights into the prescription practices of topical steroids among participants. The findings reveal that 43.4% of the respondents (49 individuals) reported receiving prescriptions for topical steroids, while the remaining 56.6% (64 individuals) indicated that they had not received such prescriptions. This indicates that a significant proportion of participants had not been prescribed topical

steroids, which may reflect a gap in the regulated use or a preference for over-the-counter availability of these medications.

**Table No 3. Prescription**

Sr.no.	Response	Frequency	Percentage
1	Yes	49	43 %
2	No	64	56 %
3	Not respond	1	1 %



**Fig 3. Prescription**

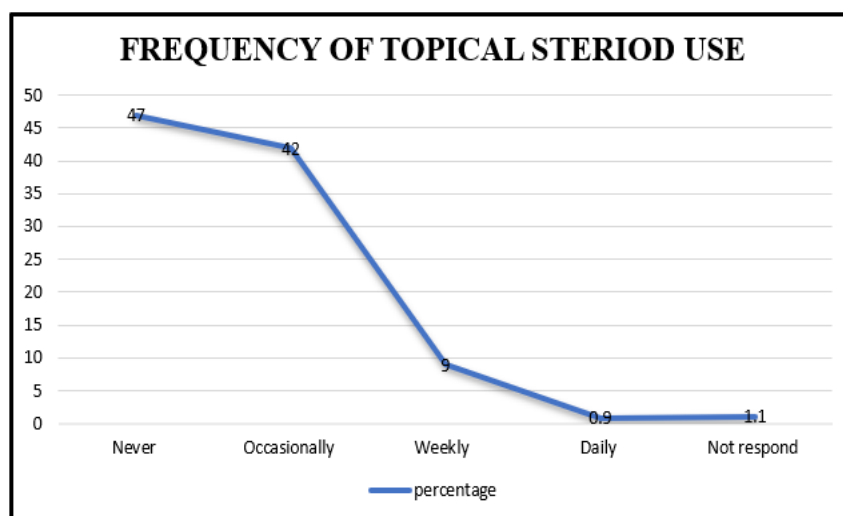
#### 4. Frequency Of Topical Steriod Use

The table illustrates the distribution of responses regarding the frequency of topical steroid use among the surveyed individuals. A significant proportion of participants (47%) reported that they had never used topical steroids. However, 42% admitted to occasional usage, indicating potential sporadic or situational reliance. Weekly usage was noted by 9% of the participants, while only 0.9% reported daily application, reflecting a small but

concerning group with frequent usage. Additionally, 1.1% of respondents chose not to answer the question.

**Table No 4. Frequency Of Topical Steriod Use**

Sr.no.	Response	Frequency	Percentage
1	Never	53	47 %
2	Occasionally	47	42 %
3	Weekly	11	9 %
4	Daily	1	0.9 %
5	Not respond	2	1.1 %



**Fig 4. Frequency Of Topical Steriod Use**

#### 5. Steroid Purpose Insights

A survey was conducted to assess the level of awareness regarding the main purpose of topical steroids among patients and pharmacists. A total of 114 responses were collected. Of these, 76 participants (66.7%) acknowledged awareness of the purpose of topical steroids, indicating a relatively high level of knowledge. However, 34 participants (29.8%) reported not being aware of their main purpose, highlighting a gap in understanding. Additionally, 4 respondents (3.5%) did not provide a response to the question. These

results suggest that while a majority of participants have an understanding of topical steroids, there remains a significant portion with limited knowledge or awareness, which may contribute to misuse or improper application of these medications.

**Table No 5. Steroid Purpose Insights**

Sr.no.	Response	Frequency	Percentage
1	Yes	76	66.7 %
2	No	34	29.8 %
3	Not respond	4	3.5 %

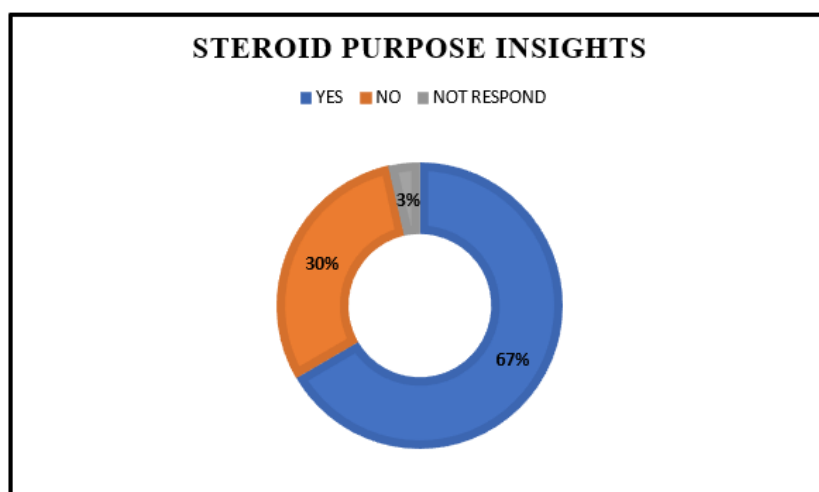


Fig 5. Steroid Purpose Insights

### 6. Source Of Information

The chart highlights the sources of information regarding topical steroid usage among patients and pharmacists. The majority of respondents (41, 35.9%) reported that they rely on doctors or healthcare providers for guidance, making them the primary source of information. Pharmacists were the second most common source, cited by 32 respondents (28.6%). Additionally, 19 participants (16.3%) turned to the internet for information, while 17 respondents (14.9%) relied on family and friends. A smaller proportion, 3 respondents (2.6%), sought information from social media, and 2 respondents (1.7%) did not provide an answer

Table No 6. Source of Information

Sr.no.	Response	Frequency	Percentage
1	Doctor/Healthcare provider	41	35.9 %
2	Internet	19	16.3 %
3	Social media	03	2.6 %
4	Family/friends	17	14.9 %
5	Pharmacist	32	28.6 %
4	Not Respond	02	1.7 %

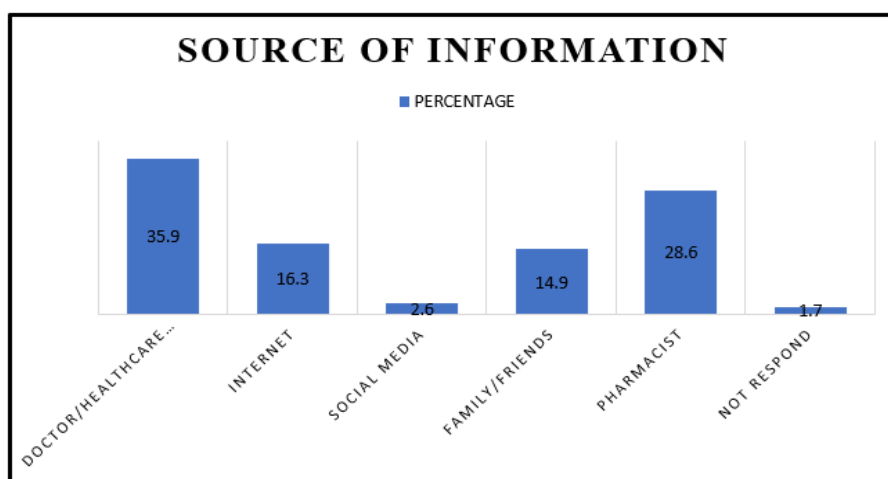


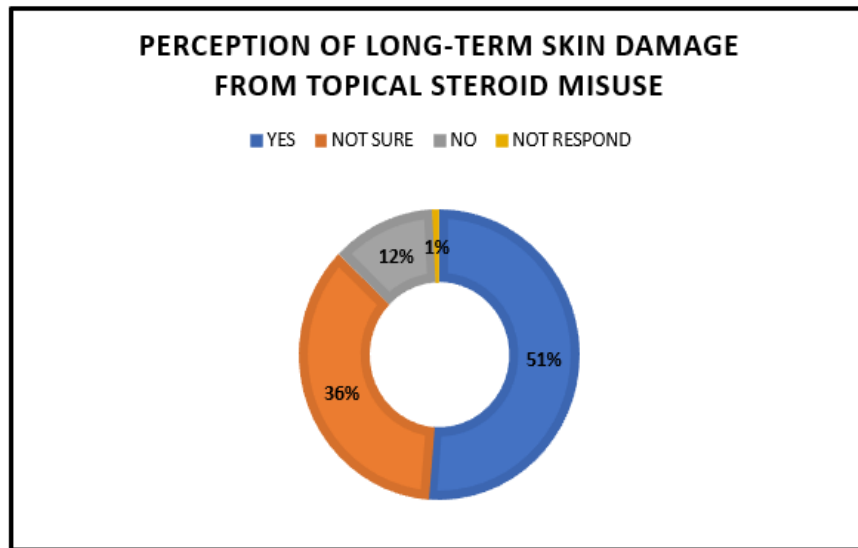
Fig 6. Source of Information

### 7. Perception Of Long-Term Skin Damage from Topical Steroid Misuse

The chart shows that 51.3% of respondents are aware of long-term skin damage from topical steroid misuse, 35.9% are unsure, 12% deny the risk, and 0.8% did not respond. This highlights the need for better awareness and education on the safe use of topical steroids among patients and pharmacists.

**Table No 7. Perception of Long-Term Skin Damage from Topical Steroid Misuse**

Sr.no.	Response	Frequency	Percentage
1	Yes	58	51.3 %
2	Not sure	41	35.9 %
3	No	14	12 %
4	Not respond	1	0.8 %



**Fig 7. Perception of Long-Term Skin Damage from Topical Steroid Misuse**

### 8. Side Effects

The data highlights the occurrence of side effects from topical steroid use among patients and pharmacists. While 77.3% of respondents reported no side effects, 20.1% experienced adverse effects, and 2.6% did not disclose their experience. This emphasizes the need for increased awareness and

proper guidance to minimize risks associated with topical steroid misuse.

**Table No 8. Side effects**

Sr.no.	Response	Frequency	Percentage
1	Yes	23	20.1 %
2	No	88	77.3 %
3	Not respond	3	2.6 %

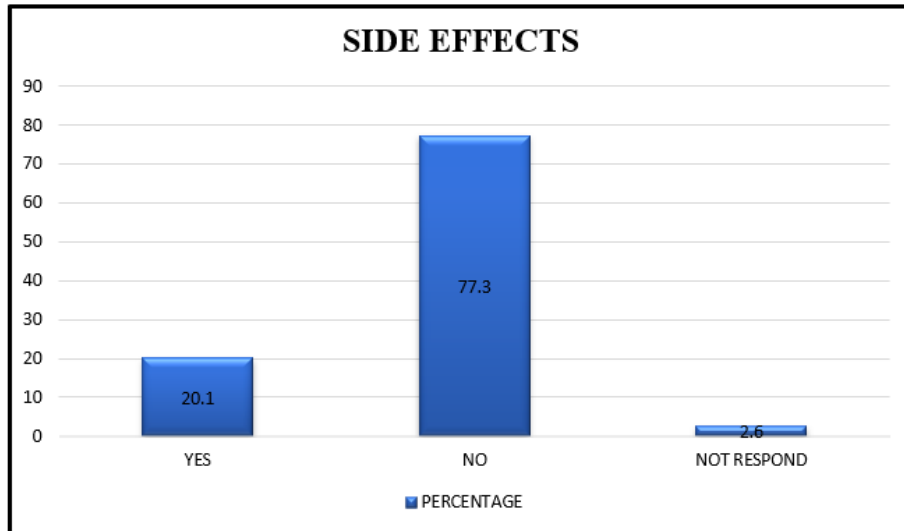


Fig 8. Side effects

### 9. Misuse Of Topical Steroid

The data illustrates the misuse of topical steroids among patients and pharmacists. While 77.3% of respondents denied misuse, 21.1% admitted to it, and 1.6% chose not to respond. This indicates that a significant minority engages in improper use, emphasizing the need for targeted awareness

campaigns and stricter guidance from healthcare providers to prevent misuse.

Table No 9. Misuse of topical steroid

Sr.no.	Response	Frequency	Percentage
1	Yes	24	21.1 %
2	No	88	77.3 %
3	Not respond	2	1.6 %

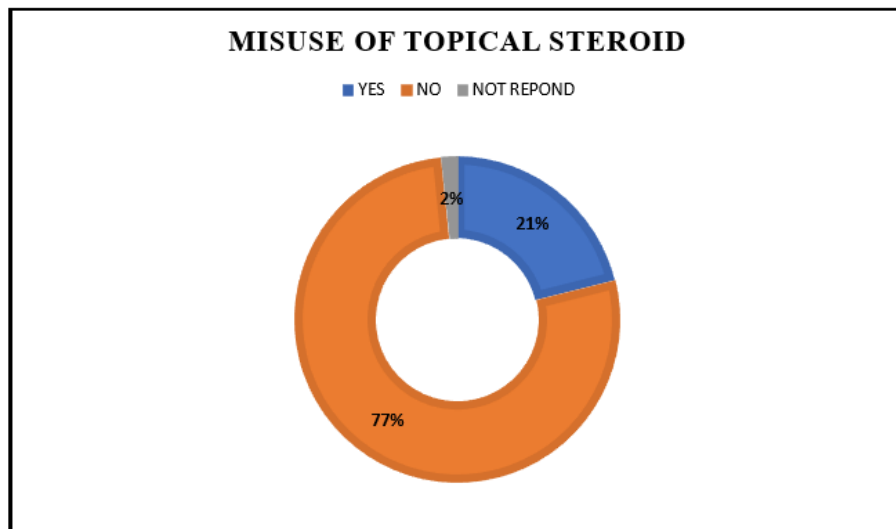


Fig 9. Misuse of topical steroid

### 10. Guidance Of Healthcare Professional on Topical Steroid

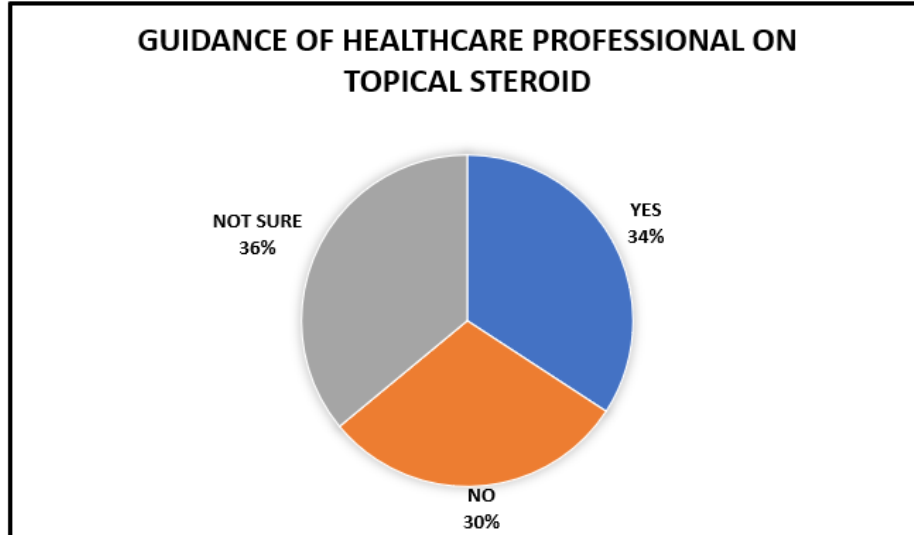
The survey on topical steroid awareness highlights a concerning knowledge gap. When asked if

healthcare professionals adequately inform patients about proper use, opinions were divided: 34.2% believed they do, 29.8% thought they don't, and 36% were uncertain. This ambiguity

underscores the need for enhanced patient education and awareness initiatives to ensure safe and effective topical steroid use.

Sr.no.	Response	Frequency	Percentage
1	Yes	39	34.2 %
2	No	34	29.8 %
3	Not sure	41	36 %

**Table No 10. Guidance of healthcare professional on topical steroid**



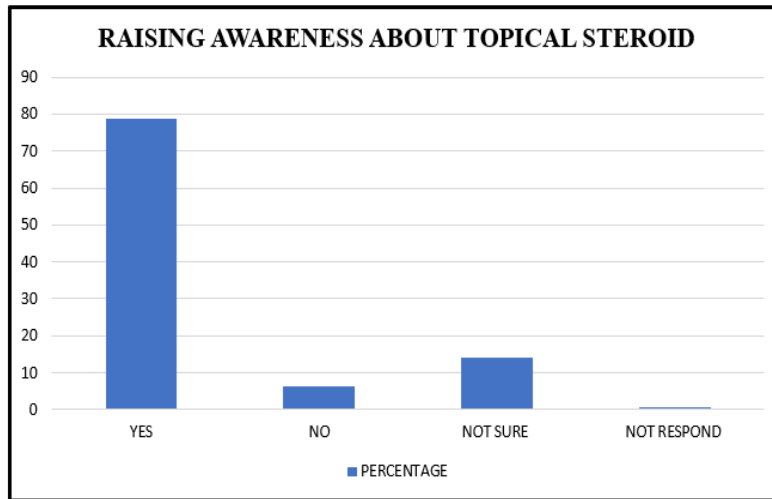
**Fig 10. Guidance Of Healthcare Professional on Topical Steroid**

### 11. Raising Awareness About Topical Steroid

An overwhelming 78.9% of respondents advocated for increased public awareness campaigns about the risks of topical steroid misuse, highlighting a strong demand for education and prevention efforts. In contrast, only 6.3% disagreed, while 14% remained uncertain, and 1 respondent didn't answer. This resounding call to action underscores the need for targeted awareness initiatives to inform the public about the potential dangers of topical steroid misuse.

**Table No 18. Raising awareness about topical steroid**

Sr.no.	Response	Frequency	Percentage
1	Yes	90	78.9 %
2	No	07	6.3 %
3	Not sure	16	14 %
4	Not respond	1	0.8 %



**Fig 19. Raising Awareness About Topical Steroid**

## 12. Effective Approaches to Educate Patients on TCS Usage

Based on the responses collected, emphasize two key strategies:

1. Organizing awareness camps
2. Ensuring healthcare providers provide detailed information about their usage and side effects.

Awareness camps serve as an impactful platform to reach both patients and pharmacists, offering education on the correct use of topical steroids through live demonstrations, interactive sessions and Q&A opportunities. These camps aim to dispel misconceptions and promote informed decision-making. Furthermore, healthcare providers play a pivotal role in this education by explaining the appropriate dosage, frequency, and duration of use during consultations. They should also highlight the potential side effects, such as skin thinning or irritation, to underscore the importance of adhering to medical guidance. These combined efforts are crucial for improving awareness and fostering the safe and effective use of topical steroids.

## CONCLUSION

The study concludes that while topical corticosteroids are highly effective for treating inflammatory skin conditions, their misuse and lack of proper guidance significantly contribute to adverse effects and patient safety concerns. A considerable proportion of participants demonstrated limited awareness of the appropriate use of these medications, with unsupervised application and reliance on non-professional advice being key factors in misuse. This highlights the critical need for targeted educational initiatives, public awareness campaigns, and enhanced communication between healthcare providers and patients. By promoting informed usage and implementing stricter prescription guidelines, the safe and effective use of topical corticosteroids can be ensured, ultimately improving patient outcomes and minimizing potential risks.

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