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A Cross-Sectional Survey-Based Study on Knowledge, Attitude and Practice Towards Cosmetic Usage and Cosmetovigilance Among Medical Students at a Tertiary Care Institute

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ABSTRACT

Background: The unpredicted growth on the use of cosmetics among young adults including medical students is accompanied by increasing concerns over inappropriate usage and consequent adverse effects. Cosmetovigilance is a systematic monitoring, reporting and analysis of undesired events associated with cosmetic products remains insufficiently addressed within in undergraduate medical training in India. Hence, this study was aimed to assess the knowledge, attitude and practices regarding cosmetic usage and cosmetovigilance among second year MBBS students at a tertiary care institute in Tamil Nadu.

Methodology: This cross-sectional, questionnaire-based survey was conducted among second year MBBS students from February to April 2024 at tertiary care teaching hospital in Chengalpattu district. A total of 130 students were participated in this study. Data were collected using a pretested, semi-structured questionnaire pertain to knowledge about Drugs and Cosmetics Act, awareness of cosmetovigilance, attitudes towards cosmetic safety, and practices in product selection, testing, and reporting adverse reactions. Data were entered into Microsoft excel and analysis was performed using SPSS Version 22, and results were presented as frequencies and percentages.

Results: Among the 130 participants, 60% of the participants are female with the mean age 20.6 ± 0.95 years. Only 21.1% aware about the Drugs and Cosmetic Act and 33.8% recognized the concept of cosmetovigilance. Knowledge of reporting of side effects were low (28.5%) and merely 41.5% understood the primary purpose of cosmetovigilance. Majority of the participants (68.5%) had poor practice about cosmetic sharing with others. One-third considered product certification (24.6%), tested products before use (22.3%), or checked expiry/manufacture dates (26.9%). Adverse event reporting was notably deficient (23.1%).

Conclusion: Suboptimal knowledge and practices regarding cosmetic safety and cosmetovigilance were observed among second year MBBS students. This study highlights the imperative for integrating consumer safety and cosmetovigilance modules into the medical education to foster responsible cosmetic use and adverse event reporting among future healthcare professionals.

Keywords: *Cosmetic usage, KAP, Cosmetovigilance.*

INTRODUCTION

Cosmetics are variety of product that are used to cleanse, perfume, protect and change the appearance of our face and body or to alter its odour. According to the Drugs and Cosmetics Act of 1940 and 1945, defined as any article designed to be applied, poured, sprinkled or sprayed on or otherwise introduced to the human body or any of its parts for the purpose of cleansing, enhancing beauty, improving attractiveness or alteringappearance. It also includes any substance that is intended

for the use as a component of cosmetic product. This act serves as a framework governing how cosmetics are manufactured and licensed in India, ensuring such activities that are regulated in accordance with provisions.[1]

The global cosmetic industry is experiencing unprecedented growth, especially among young adults and students.[2] The annual growth is increased to 25% every year. This growth is driven by variety of factors such as social media influence, peer perception and increased availability of cosmetic products. In India, the market continuous to expand rapidly with medical and allied health students emerging as prominent consumers. Despite the popularity of cosmetic products, inappropriate usage and lack of awareness about possible adverse effects remains concern.[3]

Pharmacovigilance encompasses the processes of gathering, identifying, evaluating and monitoring adverse effects caused by medicines with the aim of minimizing harm and preventing negative outcomes associated with pharmaceutical use. Adverse drug reactions are defined as harmful and unintended responses to drugs.[4]

Cosmetovigilance refers specifically to the ongoing collection, assessment and tracking of spontaneous reports about undesirable effects that develop during or after routine or foreseeable use of cosmetic products, in order to ensure their safety and address public health concerns.[5]

Medical students play an important role in health care as future counsellors and educators for patients.[6] Yet, previous studies highlight limited awareness and practice related to reporting cosmetic adverse events even among medical students. Hence this study was planned to evaluate the knowledge, attitude and practice towards cosmetic use and cosmetovigilance among medical students in a tertiary care institute.

OBJECTIVE

To assess the knowledge, attitude and practice towards cosmetic usage and cosmetovigilance among second year MBBS students in a tertiary care institute.

MATERIALS AND METHODS

Study design and setting:

This questionnaire based cross sectional study was carried out among second year medical students in a tertiary care hospital in the Chengalpattu district for a period of three months from February to April 2025.

Study participants, sampling technique and sample size:

The study was conducted at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, a tertiary care medical college in Tamil Nadu, India. This institution serves a diverse patient population and offers undergraduate medical education that includes exposure to clinical and research-oriented learning experiences. The second-year MBBS students were included in the study, representing an ideal population for assessing knowledge, attitudes and practice of using cosmetics. MBBS students of other years and those not willing to participate were excluded from the study. The sample size was calculated by taking the proportion of knowledge (p) about cosmetovigilance, and absolute precision (d) 9 % at a 95% confidence level.[7] With 10% non-response rate the sample size was calculated to be 130 using single proportion formula.

Data collection tools and techniques:

We used a pretested, semi-structured questionnaire which consisted of the basic details of the participants, questions related to knowledge, attitude and practice about cosmetovigilance. Data were compiled, entered in Microsoft Excel software, and analysed using SPSS Version 22 (SPSS Inc, Chicago IL, USA). All the categorical variables were presented as frequencies and percentages.

Ethical considerations:

Written informed consent was sought from all participants who were enrolled in the study. The scientific and ethical committee approval was obtained from the Institute Research Committee and the Institute Human Ethics Committee respectively. Data safety and confidentiality were maintained at every step of the study.

RESULTS

Basic details of the study participants:

The current study included 130 second year MBBS students from a tertiary care institute. Among them 40% (n=52) were male and 60% (n=78) were female. With mean age of 20.6 ± 0.95 years **(Table 1)**

Table 1: Basic details of the study participants (N=130)

Study variables	Frequency	Percentage
Gender		
Male	52	40.0%

Female	78	60.0%
Age	20.6±0.95	

Awareness about cosmetovigilance and cosmetics act

Among the study participants, only few participants were aware about cosmetovigilance and cosmetics act. Around 21.1% of the participants were aware about drugs and cosmetics act and around 33.8% of the students aware about cosmetovigilance. (Figure 1)

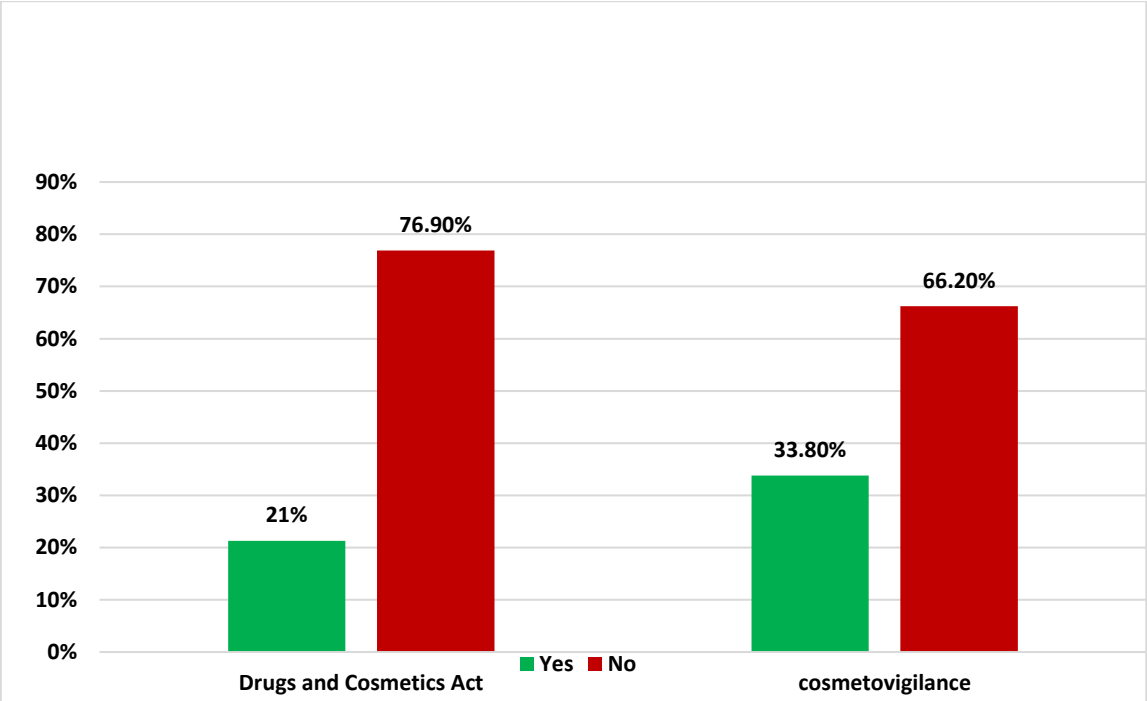

Figure 1: Awareness about Cosmetovigilance and Cosmetics Act (n=130)

Knowledge about Cosmetic usage and Cosmetovigilance:

The knowledge about cosmetic usage and cosmetovigilance were assessed using a set of questionnaires were explained in table 2. Only 16.2% of the participants were correctly identified the year of start of Drugs and Cosmetics act. Around 40% of the participants were had knowledge about cosmetovigilance and the primary purpose of cosmetovigilance report. Nearly 28.5% aware about the reporting of adverse events related to cosmetic products.

Table 2: Knowledge about Cosmetic usage and Cosmetovigilance among the study participants:

Knowledge	Correct response	Incorrect response
Drugs and Cosmetics Act started on	21 (16.2%)	109 (83.8%)
What is cosmetovigilance?	53 (40.8%)	77 (59.2%)
Who can report adverse events related to cosmetic products in a cosmetovigilance system?	37 (28.5%)	93 (71.5%)
What should you do if you experience an adverse event to a cosmetic product	42 (32.3%)	88 (67.7%)
What is the primary purpose of a cosmetovigilance report	54 (41.5%)	76 (58.5%)

Attitudes towards Cosmetic usage and Cosmetovigilance

The attitude of students towards cosmetic usage is summarized in **table 3.** Nearly half of the study participants (51.5%) were thinking the use of cosmetic products were important. Around 60% of the participants agreed that expensive products are more effective than cheaper ones and the brand of cosmetic products influences the purchasing decision. Majority of the participants likes to recommend the cosmetic product to others based on their own experience and they usually read the ingredients list.

Table 3: Attitudes towards Cosmetic usage and Cosmetovigilance among the study participants:

Study variables	Agree	Disagree
It important is it for you to use cosmetics products	67 (51.5%)	63 (48.5%)
Do you believe that expensive cosmetics are more effective than cheaper ones	78 (60.0%)	52 (40.0%)
The brand of cosmetic product influences your purchasing decision	80 (61.5%)	50 (38.5%)

How likely are you to recommend a cosmetic product to others based on your own experiences	119 (85%)	21 (15%)
Do you consider the environmental impact of the cosmetic products you use?	84 (64.6%)	46 (35.4%)
To read the ingredients list before purchasing a cosmetic product?	96 (73.8%)	34 (26.2%)

Practice towards Cosmetic usage and Cosmetovigilance:

Practice towards cosmetic usage is shown **table 4**. Less than half of the participants were having good practice towards cosmetic usage. Only 31.5% of the participants are ready to share cosmetic products with others. Nearly one fourth of the participants looks for cosmetic product certification, test a new cosmetic before use and read the expiry and manufacturing date.

Table 4: Practice towards Cosmetic usage and Cosmetovigilance among the study participants:

Study variables	Good	Poor
Will you prefer sharing your cosmetic products with others (friends or family)	41 (31.5%)	89 (68.5%)
Do you look for cosmetic product certification (eg: Cruelty free, organic) before purchasing?	32 (24.6%)	98 (75.4%)
How do you test a new cosmetic product before using it on your face?	29 (22.3%)	101 (77.7%)
Do you read for expiry and manufacture date?	35 (26.9%)	95 (73.1%)
Have you reported or observed reporting about the problems faced by using cosmetic products?	30 (23.1%)	100 (76.9%)

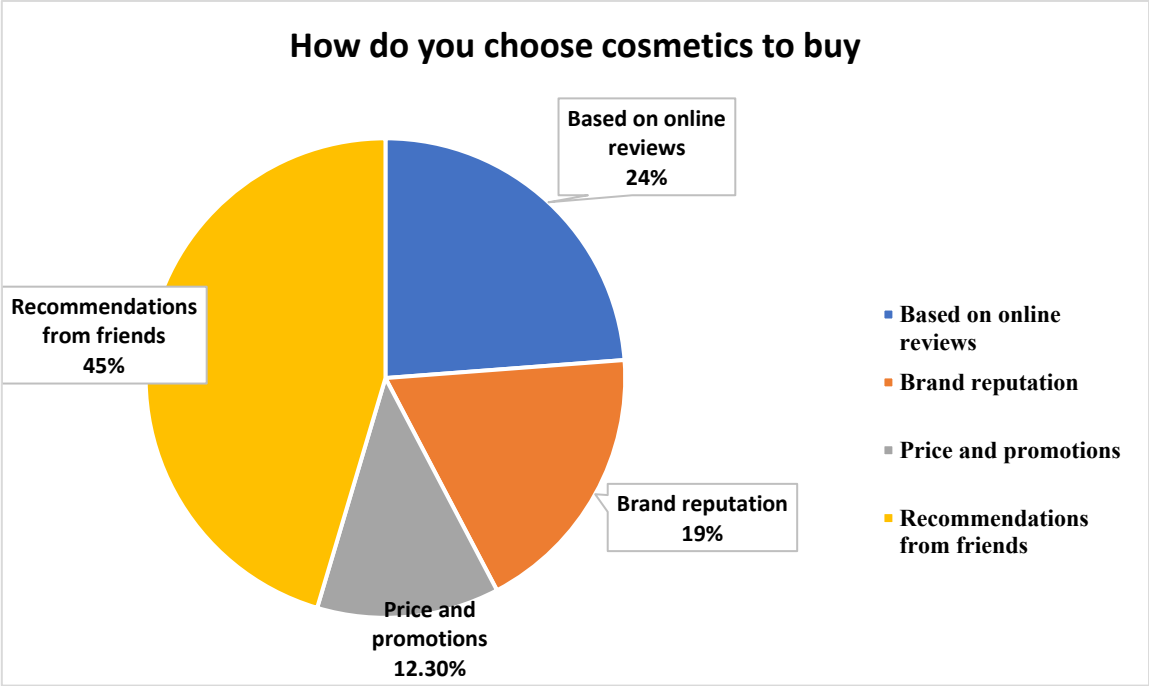

Figure 2: Practice about choosing cosmetics (n=130)

Figure 2 shows the participants practice towards choosing cosmetics. Nearly half of the participants choose their cosmetics based on recommendations from friends. Around 24% select their cosmetics based on online review. Among the participants using various cosmetic products, the most commonly reported side effect was itching which accounts for 35%, followed by allergy, rashes and pigmentation **(Figure 3).**

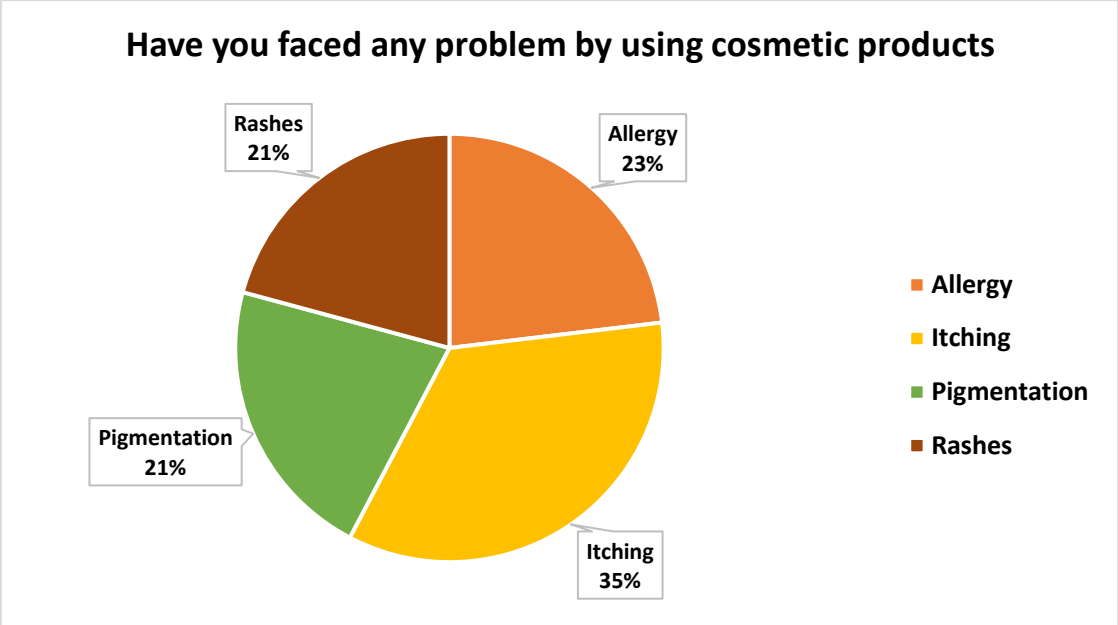

Figure 3: Problems faced by using cosmetic products (n=130)

DISCUSSION

The present study was conducted among the medical students to assess the knowledge, attitude and practice about cosmetic usage and pharmacovigilance. The study was conducted among 130 second year MBBS students from a tertiary care institute. Among them 40% (n=52) were male and 60% (n=78) were female. With mean age of 20.6 ± 0.95 years.

The current study shows considerable gap in cosmetic usage and cosmetovigilance awareness. In the present study, 21.1% of the participants were aware about drugs and cosmetics act and around 33.8% of the students aware about cosmetovigilance. Significant proportion of the participants did not notice the product certifications, expiry date and did not do any patch test -prior to the use. Similar findings were reported by **Abiramy et al.,** that the medical students extensively using cosmetics with limited attention to safety labelling and expiry date information.[8] **Senthilvel et al.,** reported that only one fourth of the study participants were checking expiry dates or certifications. It was observed that poor knowledge about cosmetic use and its safety measures among the students.[9]

In the current study, nearly half of the study participants (51.5%) were thinking the use of cosmetic products were important. Around 60% of the participants agreed that expensive products are more effective than cheaper ones and the brand of cosmetic products influences the purchasing decision. Majority of the participants likes to recommend the cosmetic product to others based on their own experience and they usually read the ingredients list.

The practice of sharing cosmetic products was prevalent among 68.5% of the study participants, which raise the concern about cross contamination and spread of infections. Concurrent findings were reported by **Samson et al.,** who identified sharing behaviour as a modifiable risk factor for dermatological adverse events in the medical cohorts.[10]

The rate of adverse event reporting and awareness regarding reporting remains low with 23.1% in the current study. These findings are in concordance with studies highlighting significant gaps between awareness and practice of cosmeceutical safety and adverse event reporting, attributed in part to the lack of formal training in cosmetovigilance. Mitali et al., observed similar underreporting among pharmacy and medical students, stressing the need for curricular reform and improved access to reporting channels.[11]

Strengths and Limitations:

The study specifically targets second-year MBBS students, an ideal group who were exposed to various pharmacological and cosmetic agents. This focus enhances the relevance of the findings and allows for targeted educational interventions. The survey explored both cosmetic use and cosmetovigilance, offering a novel perspective in the Indian undergraduate medical context, which is underreported in earlier research. Conducting the study in a tertiary care institute provides useful information about future healthcare professionals who have a pivotal role in consumer education and patient counselling. Even though this study has lot of strengths, it has few limitations, as this research is conducted at a single tertiary care setting, results may not generalize to all medical colleges in India or other regions, limiting its external validity. Since the study relies on self-reported responses, students' knowledge and attitudes may be over- or under-estimated due to social desirability bias or misunderstanding of certain questions.

CONCLUSION

In conclusion, this study demonstrates that while cosmetic usage is widespread among second-year MBBS students, there are substantial deficiencies in safe practices and cosmetovigilance awareness. Most students were not attentive to product certification, expiry dates, or reporting adverse effects, which exposes them to preventable risks associated with cosmetics. These findings underscore the necessity of integrating cosmetovigilance training and consumer safety into the undergraduate medical curriculum, as future healthcare professionals play a pivotal role in promoting safe cosmetic use and adverse event reporting. Implementation of educational interventions and formal reporting systems is imperative to enhance safety outcomes and ensure responsible cosmetic usage in the population**.**

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Conflicts of interest: There are no conflicts of interest

REFERENCES

1. drug_cosmeticsa1940-23.pdf [Internet]. [cited 2025 Oct 10]. Available from: https://www.indiacode.nic.in/bitstream/123456789/15278/1/drug_cosmeticsa1940-23.pdf
2. Selvaraj N, Punniyaseelan A. Cross-Sectional Study on Impact and Effect of Cosmetics upon Female Medical Students. Indian J Dermatol. 2025;70(3):169.
3. Abiramy P, Maharani B, Saritha M, Mathiyalagen P. The Pattern of Use of Cosmetics and Awareness of Cosmetovigilance Among Medical Students in Puducherry: A Cross-Sectional Study. Cureus. 17(2):e78335.
4. Choursiya S, Gawande P, Rathore A. A Review on Regulation and Need of Cosmetovigilance in India. Asian Journal of Research in Pharmaceutical Sciences. 2021 Feb 1;11(1):86–91.
5. Praveen J, Velu Swaminathan T. Cosmetovigilance: Emerging safety trends. Indian Journal of Pharmacy and Pharmacology. 2025 July 28;10(3):132–41.
6. Udayanga L, Subashini N, Udugama M, Silva P, Ranathunge T. Knowledge, perceptions, and consumption behaviour of cosmetics among undergraduates of Sri Lanka: a descriptive cross-sectional study. Front Public Health [Internet]. 2024 Jan 5 [cited 2025 Oct 10];11. Available from: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2023.1184398/full
7. Manjula K, Vani A, Parvathi MS, Srujana UMS. A Study on Knowledge, Attitude and Practice of Using Cosmetics Among the University Students. IJHS. 2022;6(S8):5083–100.
8. Abiramy P, Maharani B, Saritha M, Mathiyalagen P. The Pattern of Use of Cosmetics and Awareness of Cosmetovigilance Among Medical Students in Puducherry: A Cross-Sectional Study. Cureus. 17(2):e78335.
9. Department of Community Medicine, Sree Balaji Medical College & Hospital, BIHER, Chennai, Tamil Nadu, India, Senthilvel H, T S, Grace A, Department of Community Medicine, Sree Balaji Medical College & Hospital, BIHER, Chennai, Tamil Nadu, India. Cosmetic usage: Knowledge, attitude and behaviour among female college students in India. Bioinformation. 2025 July 31;21(07):1937–41.
10. Samson JF, Philip M. Trends in Awareness and use of Cosmetics among Medical Students – A Study from a Medical College in South Kerala, India.
11. Mitali, Walia DK, Sharma MK, Prashar S. Gap between awareness and practices of cosmeceuticals among young adults of Panjab University. International Journal Of Community Medicine And Public Health. 2023 Nov 30;10(12):4889–94.