

## Research Article



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## ASSESSMENT OF THE EFFECT AND IMPACT OF VARIOUS COSMETICS ON FEMALE MEDICAL STUDENTS

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### ABSTRACT

**Background:** The cosmetic industry is at boom across the globe with annual growth of 25% at each year. It is estimated by the end of year 2025, turnover of the cosmetic industry will cross 20-billion-dollar mark. Cosmetic urge is increased in youngsters after IT boom and beauty contests.

**Aim:** The present study was aimed to assess the effect and impact of various cosmetics on female medical students and to assess various cosmetics used for nail, hair, or skin either periodically or daily.

**Methods:** The present study assessed 50 female medical students each from second year to interns to compare cosmetics use. After inclusion of the females, a preformed questionnaire on use of cosmetics was given and the responses were gathered. Assessment of the nail, hair, and skin was done at the end in addition to skin moisture content assessment.

**Results:** Scarring and acne was seen in 82 students assessed in the study. Ichthyosis, xerosis, and atopic dermatitis was seen in 44 study subjects. The cleansers were not properly assessed in the study. Dry scalp/brittle hair were seen in 18 medical students and seborrhoeic dermatitis was seen in 16 students whose hair conditioning, oil application, and hair cleanser technique rectification was done.

**Conclusion:** The present study concludes that medical students have no exception in concerning the obsession with irrational use of cosmetics, peer influence, and online marketing perception. The appropriate knowledge concerning cosmetics has various lags in majority of medical students. This lack needs to have proper address in medical students during their teaching protocol.

**Keywords:** Cosmetics study, medical students, nail care, peer influence, skin care

### Introduction

Cosmetics are either synthetic or natural products that are applied primarily on the skin with main aim of enhancing the esthetics. Cosmetics are usually used for protection, perfuming, cleansing, and changing the body appearance, and/or to alter the body odour. The cosmetics play a vital role in superficial satisfaction, stress relief, personal satisfaction, and self-identity of the subjects.<sup>1</sup>

On the contrary, products that claim for modification of a bodily process or alleviate, cure, diagnose, or prevent the defect, ailment, or disease are termed as therapeutics. The distinction can be understood by the fact that deodorants and shampoos are placed in category of cosmetics, whereas, antiperspirants and anti-dandruff shampoos are considered as therapeutic agents.<sup>2</sup>

Teenage is the age of human development which has characteristic of physical development and growth and is accompanied with the sexual maturation. During the teenage, females are typically more concerned for their appearance. Various female students use different type of cosmetics as they follow fashion without considering the health hazards, activities to be engaged in, and the skin type. As various therapeutics are available easily over the counter with no prescription needed, their irrational use has high prevalence.<sup>3</sup>

The cosmetic industry is at boom across the globe with annual growth of 25% at each year. It is estimated by the end of year 2025, turnover of the cosmetic industry will cross 20-billion-dollar mark. Cosmetic urge is increased in youngsters after IT boom and beauty contests with large increase in its global market. With IT boom, Indian youngsters are earning well and posing attention on external appearance and cosmetics than internal factors and healthy habits for glowing and healthy skin.<sup>4</sup> Concerning this context, the present study was aimed to assess the effect and impact of various cosmetics on female medical students and to assess various cosmetics used for nail, hair, or skin either periodically or daily.

## **MATERIALS AND METHODS**

The present cross-sectional observational questionnaire-based study was aimed to assess the effect and impact of various cosmetics on female medical students and to assess various cosmetics used for nail, hair, or skin either periodically or daily. The study was done at Department of Community Medicine of the Institute from December 2024 to January 2025. Verbal and written informed consent were taken from all the subjects before study participation.

The study assessed 50 female medical students each from second year to interns to compare cosmetics use. The inclusion criteria for the study were female medical students from 2<sup>nd</sup> year to interns and were willing to participate in the study. The exclusion criteria for the study were females that did not give consent for study participation.

After final inclusion of the study subjects, a questionnaire was given to all the subjects concerning the use of various cosmetics from toe to head in objective patterns was given to all the subjects. The response from all the study subjects was collected and assessed. Detailed and comprehensive examination of the nail, hair, skin, and moisture content analysis was done at the time of response sheet submission.

The data gathered were subjected to statistical evaluation using the chi-square test, Fisher's exact test, Mann Whitney U test, and SPSS (Statistical Package for the Social Sciences) software version 24.0 (IBM Corp., Armonk, NY, USA) using ANOVA, chi-square test, and student's t-test. The significance level was considered at a p-value of <0.05.

## **RESULTS**

The present cross-sectional observational questionnaire-based study was aimed to assess the effect and impact of various cosmetics on female medical students and to assess various cosmetics used for nail, hair, or skin either periodically or daily. The present study assessed 50 female medical students each from second year to interns to compare cosmetics use. After inclusion of the females, a preformed questionnaire on use of cosmetics was given and the responses were gathered. Assessment of the nail, hair, and skin was done at the end in addition to skin moisture content assessment. Among the 88 conditioners users in the study, 8 used advise of the doctors for managing frizzy hair, 48 used it for difficult combing, 26 under peer influence, and 6 under influence of advertisement.

Hair cleaning was done once, twice, thrice, and daily by 48, 94, 46, and 12 subjects respectively. For hair cleaning, shampoo, organic powder, and organic shampoo was used by 162, 26, and 12 subjects respectively. It was seen that on assessing the hair beautification technique adopted by the study subjects, coloring agent by self was used by no study subject, 2 subjects used coloring agent recommended by Parlor, and no agent by 198 subjects respectively. Curler was not used by 196 subjects, whereas 4 subjects used self-curler. No subject used curler recommended by the Parlor. Straightening was not used on hair by 174 subjects, 22 subjects used self-straightening, and 4 subjects underwent straightening by the Parlor (Table 1).

On skin assessment, acne was seen in 70 subjects, acne scarring in 14, P.alba in 4, perforating folliculitis in 4, xerosis in 30, ichthyosis in 12, melanoderma in 14, pruritus in 2, moles in 4, trichostasis spinulosa in 2, and chronic urticaria in 2 study subjects respectively. For skin rejuvenation, 6 subjects underwent facial and bleaching regularly in beauty parlor, 8 subjects used alpha hydroxy acids under peer influence once weekly for 10 minutes, and 10 used organic herbal products. Onychotillomania and pitting was seen in 2 and 4 study subjects respectively.

The study results showed that for Cosmetic products used in the students of the study, lip gloss was most commonly used by 158 subjects followed by powder in 108 subjects, sunscreen by 104, eye liner by 76, cleanser by 74, kajal by 68, fairness cream by 52, lipstick by 44, mascara and foundation by 22 subjects each, eyeshadow and primer by 10 subjects each, and concealer by 8 study subjects (Table 2).

## **DISCUSSION**

The present study assessed 50 female medical students each from second year to interns to compare cosmetics use. After inclusion of the females, a preformed questionnaire on use of cosmetics was given and the responses were gathered. Assessment of the nail, hair, and skin was done at the end in addition to skin moisture content assessment. Among the 88 conditioners users in the study, 8 used advice of the doctors for managing frizzy hair, 48 used it for difficult combing, 26 under peer influence, and 6 under influence of advertisement. These data were comparable to the previous studies of Onuoha KM et al<sup>5</sup> in 2020 NS Onuoha KM et al<sup>6</sup> in 2014 where authors assessed subjects with demographic data comparable to the present study in their respective studies.

It was seen that Hair cleaning was done once, twice, thrice, and daily by 48, 94, 46, and 12 subjects respectively. For hair cleaning, shampoo, organic powder, and organic shampoo was used by 162, 26, and 12 subjects respectively. It was seen that on assessing the hair beautification technique adopted by the study subjects, coloring agent by self was used by no study subject, 2 subjects used coloring agent recommended by Parlor, and no agent by 198 subjects respectively. Curler was not used by 196 subjects, whereas 4 subjects used self-curler. No subject used curler recommended by the Parlor. Straightening was not used on hair by 174 subjects, 22 subjects used self-straightening, and 4 subjects underwent straightening by the Parlor. These results were consistent with the findings of Goyal S et al<sup>7</sup> in 2019 and Nilforoushzadeh MA et al<sup>8</sup> in 2018 where results reported by the authors in their studies was comparable to the results of the present study.

The study results showed that on skin assessment, acne was seen in 70 subjects, acne scarring in 14, P.alba in 4, perforating folliculitis in 4, xerosis in 30, ichthyosis in 12, melanoderma in 14, pruritus in 2, moles in 4, trichostasis spinulosa in 2, and chronic urticaria in 2 study subjects respectively. For skin rejuvenation, 6 subjects underwent facial and bleaching regularly in beauty parlor, 8 subjects used alpha hydroxy acids under peer influence once weekly for 10 minutes, and 10 used organic herbal products. Onychotillomania and pitting was seen in 2 and 4 study subjects respectively. These findings were in agreement with the results of Mukhopadhyay P<sup>9</sup> in 2011 and Sravanth K et al<sup>10</sup> in 2016 where skin factors comparable to the present study was also reported by the authors.

It was also seen that for Cosmetic products used in the students of the study, lip gloss was most commonly used by 158 subjects followed by powder in 108 subjects, sunscreen by 104, eye liner by 76, cleanser by 74, kajal by 68, fairness cream by 52, lipstick by 44, mascara and foundation by 22 subjects each, eyeshadow and primer by 10 subjects each, and concealer by 8 study subjects. These results were in line with the findings of Punyani S et al<sup>11</sup> in 2021 and Gavazzoni Dias MF<sup>12</sup> in 2015 where Cosmetic products use reported by the authors was comparable to the results of the present study.

## CONCLUSION

The present study, considering its limitations, concludes that medical students have no exception in concerning the obsession with irrational use of cosmetics, peer influence, and online marketing perception. The appropriate knowledge concerning cosmetics has various lags in majority of medical students. This lack needs to have proper address in medical students during their teaching protocol.

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S. No	Hair beautifying technique	None	Self	Parlor
1.	Coloring agents	198	0	2
2.	Curler	196	4	0
3.	Straightening	174	22	4

**Table 1: Hair beautification technique adopted by the study subjects**

S. No	Product	Users	Non users
1.	Lipstick	44	156
2.	Lip gloss	158	42
3.	Eye shadow	10	190
4.	Mascara	22	178
5.	Eye liner	76	124
6.	Kajal	68	132
7.	Sunscreen	104	96
8.	Fairness cream	52	148
9.	Powder	108	92
10.	Concealer	8	192
11.	Foundation	22	198
12.	Primer	10	190
13.	Cleanser	74	126

**Table 2: Cosmetic products use in the students of the study**