



Study on Awareness about Adverse Health Effects of Cosmetics among Females of Different Age Groups

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Abstract

Now-a-days, all women use cosmetic products in one form or the other, with or without knowing the harmful effects of they cause. It has been verified that apart from a vast range of dermatological issues, the cosmetic products may also cause illnesses related to other systems of a human body. This study throws a light on the concept and pattern of using of cosmetics and money spent on them by women of different age group, occupation and marital status. We have also evaluated the presence of awareness about the proper methods of using cosmetics, their adverse effects on health and their concept about the need of using cosmetics. This descriptive cross-sectional study was conducted between July, 2018 to October, 2018 among 150 women residing near Malda Medical College and Hospital, Malda, West Bengal through a semi- structured self- administered questionnaire. This study showed that maximum women have a wrong concept regarding the need of using cosmetic products. However, majority of them have the knowledge of correct practices regarding their use but a significant number is still using the same type of the cosmetic or the other inspite of suffering from adverse effects.

Introduction

The Federal Food, Drug and Cosmetic Act defines cosmetics as "articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body for cleansing, beautifying, promoting attractiveness or altering the appearance"^[1]. They are generally mixtures of chemical compounds, which are derived from natural or synthetic sources^[2].

Now-a-days, the image of what is considered as beautiful for all women are being promoted by advertisements. It has been seen that public self-consciousness is positively related with cosmetic use^[3].

Reviewing of the relevant literatures showed that most of the cosmetic users focus on the short term result of their appearance instead of the long-term side effects to the whole body. Usually, they assume that cosmetic products are safe and pose no risk to the human health^[4].

It has been found that fragrances are the most common cause of skin problems and preservatives in cosmetics, being the second most common cause^[5]. It has been found that adverse reactions to cosmetics are one of the most common reason for hospital referrals with allergic contact dermatitis^[6]. Other symptoms include conjunctivitis, cosmetic acne, photo-allergic dermatitis, hypo/hyper pigmentation, itching,

scalp injury, acute hair loss, loosening of nails from the nail bed and irritation of the mucous membrane of the oral cavity^[7,8].

These reactions can occur immediately after application of the cosmetic product or on their long-term usage. However, cosmetics regulatory authorities have set criteria for safety, efficacy, and quality of cosmetics to minimize the undesired effects of cosmetics^[9]. However, lack of population awareness about proper use of cosmetics and lack of proper adverse effect reporting systems are still into existence in developing countries. Over recent years, the global cosmetic market is increasing at an alarming rate^[10], driven by needs of the consumers who are increasingly concerned about their appearance, but simultaneously, a large number of cosmetic users are threatened with cosmetic related adverse events^[11,12]. Moreover, females are most likely affected because they tend to use more cosmetic products than men^[12]. Therefore, this study has been conducted to evaluate the presence of awareness among the females of different age groups about the detrimental effects of usage of cosmetics.

Aims and Objectives

To evaluate the presence of awareness about adverse health effects of cosmetics among females of different age groups.

Materials and Methods

Study Design: Descriptive cross-sectional study

Study Setting: Conducted in the district of Malda, West Bengal.

Study Period: July, 2018 to October, 2018

Study Population: women residing near Malda Medical College and Hospital, Malda.

Study Sample: 150 women were selected by using simple random sampling method. Semi-structured self-administered questionnaire was used to measure the knowledge of the respondents. The obtained data were analyzed according to the research questions and objectives of the study.

Inclusion Criteria

- ✓ Women who belonged to age group 15 – 45 years irrespective of their occupation and socioeconomic status.
- ✓ Women who use cosmetic items listed in our study.

Exclusion Criteria

- ✓ Non – interested women
- ✓ Those having diagnosed dermatological problems and serious health issues.

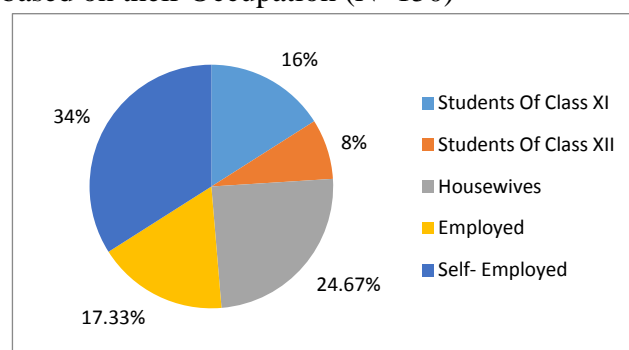
Results

Table 1: Showing Distribution of respondents in Different age groups in years (N=150)

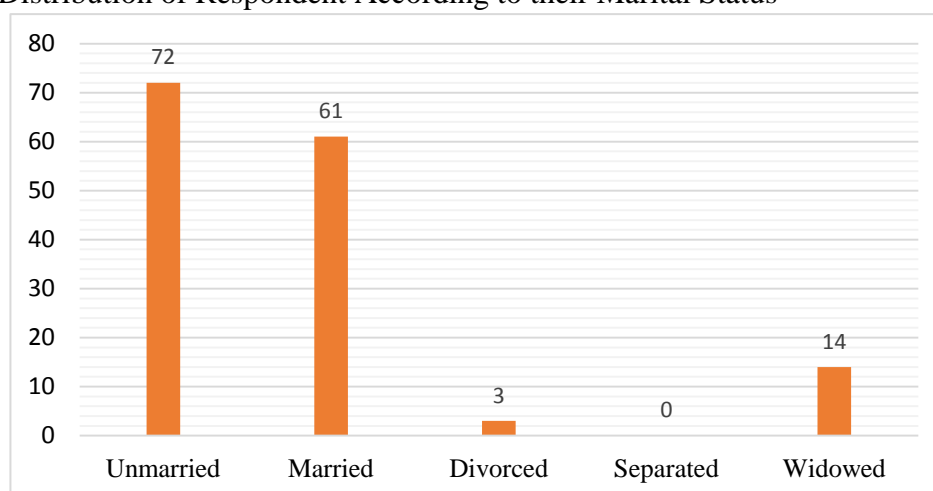
Age in Years	No. of Respondents	Percentage
15- 20	36	24
20- 25	23	15.33
25- 30	24	16
30- 35	31	20.67
35- 40	22	14.67
40- 45	14	9.33
Total	150	100
Mean \pm SD = 25 \pm 6.97		

Majority of respondents (24%) belonged to 15- 20 years of age, followed by 30- 35 years age group (20.67%) (Fig. 1). Least number of respondents (9.33%) belonged to 40- 45 years of age group. Mean age was found to be 25 years with standard deviation of 6.97 (Table 1).

Fig. 1: Showing Distribution of Respondents based on their Occupation (N=150)

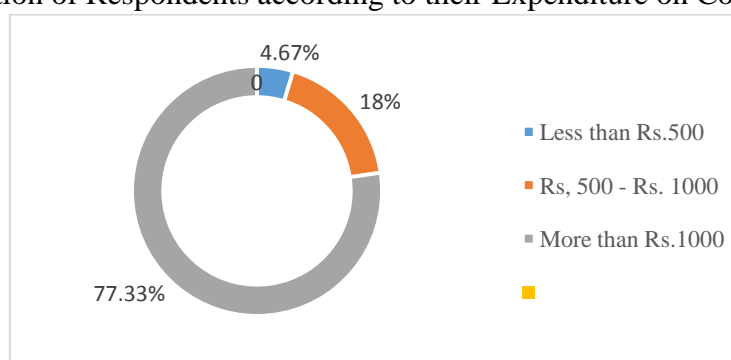


Among the 150 respondents, majority (51 respondents) were self- employed. Only 8% of respondents (12 respondents) were found to be the students of XII standard (Fig.1).

Fig. 2: Showing Distribution of Respondent According to their Marital Status

Maximum, i.e., 72 respondents (48%) were unmarried, followed by 61 respondents (40.67%) who were married. 14 respondents (9.33%) and 3

respondents (2%) were widowed and divorced respectively. No respondent was found to be separated (Fig. 2)

Fig 3: Showing Distribution of Respondents according to their Expenditure on Cosmetics per year (N=150)

77.33% of respondents (116 in number) spent more than Rs.1000 per year whereas 18% (27 in

number) spent Rs. 500- 1000. Only 4.67% (7 in number) spent not more than Rs.500 (Fig. 3)

Table 2: Distribution of Respondents Using Single and Multiple Cosmetic Products per day

No. Of Cosmetics Used	No. Of Respondents	Percentage
Single	34	22.67
Multiple	116	77.33

116 respondents (77.33%) were found using cosmetic items multiple times in a day. However,

34 respondents (22.67%) used only one per day (table 2).

Table 3: Showing the Number of Use of Cosmetic Items per Day (n = 150)

No. of Times	No. of Respondents	Percentage
1	125	83.33
1 – 3	16	10.67
More than 3	9	6

88.33% of respondents (125 in number) used cosmetic products only once a day. A small proportion, i.e., 6% (9 in number) of the

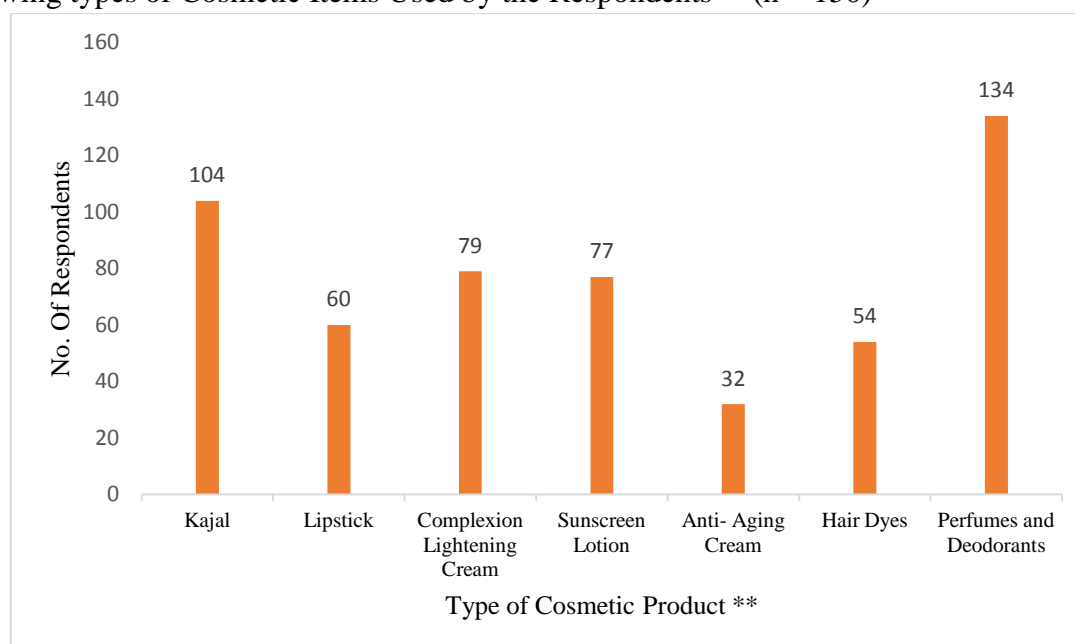
respondents used them more than thrice a day. Few, i.e., 10.67% (16 in number) used them upto thrice per day (table 3).

Table 4: Showing Duration of Use Cosmetic items by the Respondents (N = 150)

Duration	No. of Respondents	Percentage
Less than 1 year	46	30.67
1-2 years	25	16.67
More than 2 years	79	52.66

79 respondents (52.66%) are the majority who use cosmetic products for more than 2 years, followed by 46 respondents (30.67%) who were using them

for less than 1 year. Rest of the 25 respondents (16.67%) were using them for 1 – 2 years (table 4).

Fig. 4: Showing types of Cosmetic Items Used by the Respondents** (n = 150)

**multiple responses

We found that 134 respondents (89.33%) were perfume and deodorant users, followed by 104 kajal users (69.33%). Also a significant number of respondents, i.e., 79, 77 and 60 in number were users of complexion lightening cream (52.67%),

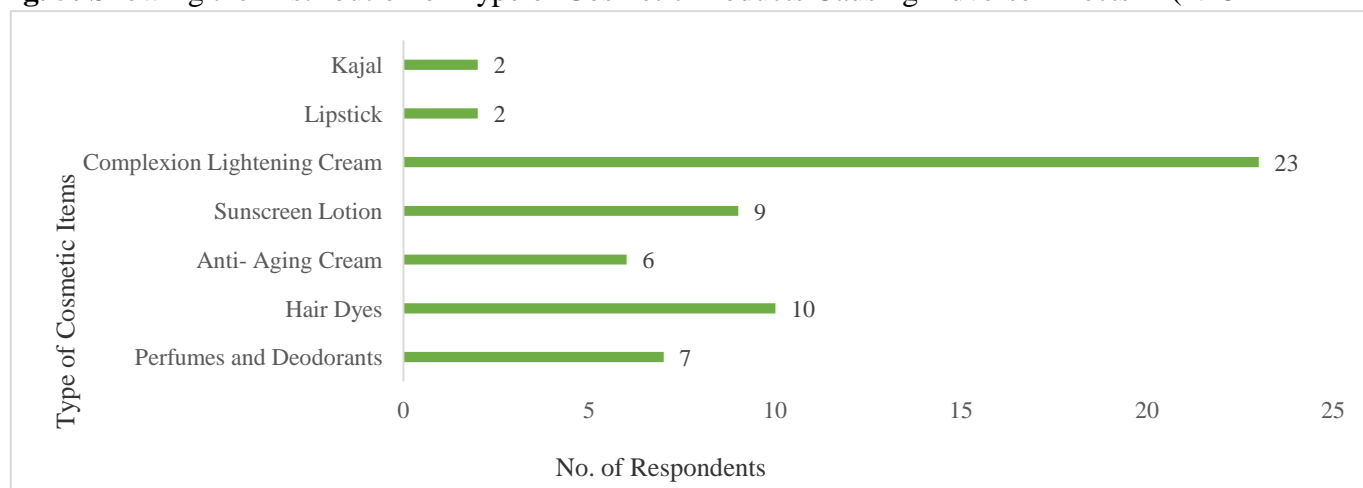
sunscreen lotion (51.33%) and lipstick (40%) respectively. Few respondents, i.e., 54 in number (36%) were hair dye users. Least number of respondents, i.e., 32 in number (21.33%) were anti- aging cream users (Fig. 4).

Table 5: Respondents Experiencing Adverse Effects of Cosmetic Products

Previous Experience of Adverse Effects (n= 150)	No. of Respondents	Percentage
Yes	59	39.33
No	91	60.67

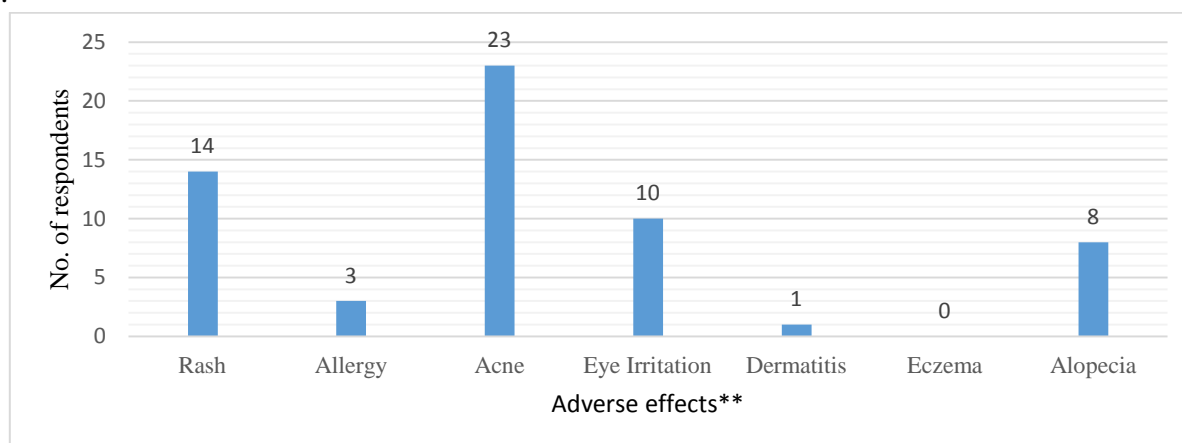
Out of 150 respondents, less than half, i.e., 59 respondents (39.33%) had experienced adverse effects from the use of cosmetic products.

However, 91 of respondents (60.67%) stated that they had not experienced any adverse effects or have ignored unknowingly (Table 5).

Fig. 5: Showing the Distribution of Type of Cosmetic Products Causing Adverse Effects** (N=59)

23 out of 59 respondents (38.98%) suffered from adverse effects caused by complexion lightening cream, followed by 10 and 9 respondents (16.95% and 15.26%) who suffered due to hair dyes and

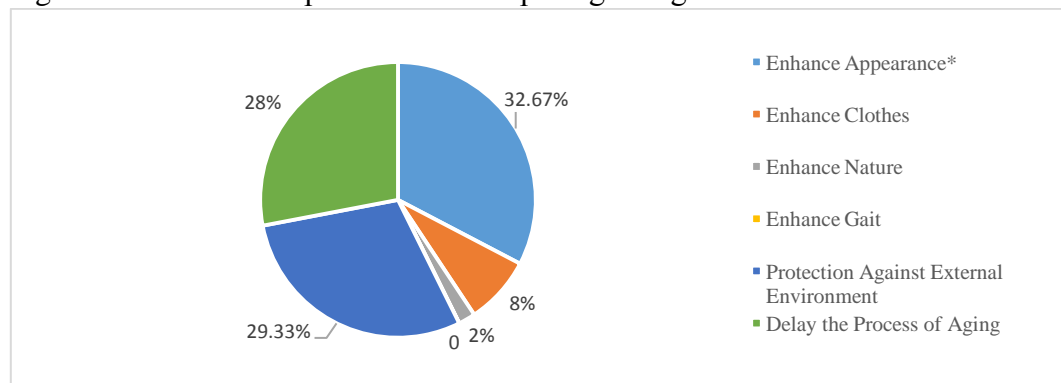
sunscreen lotion respectively. Only 2 respondents (3.39%) each suffered from adverse effects of kajal and lipstick (Fig. 5).

Fig. 7: Showing Distribution of Adverse Effects Suffered by the Respondents due to Cosmetic Products** (N=59):

**Multiple responses

Most common adverse effect which affected 23 respondents (38.99%) was found to be acne, followed by rash and eye irritation which affected

14 and 10 respondents (23.72% and 16.95%) respectively. No eczema was reported by the respondents (Fig. 7).

Fig. 8. Showing Distribution of Respondents' Concept Regarding Need to Use Cosmetic Products (N = 150)

*correct response

Majority, i.e., 49 respondents (32.67%) answered that cosmetic products are the substances that are used to enhance the appearance of the body and 44 (29.33%) and 42 (28%) women assume that usage of cosmetic products protects against

external environment and delay the aging processing respectively. Only 3 women (2%) answered that they enhance the clothes and none were in favour with the concept that they enhance the gait (Fig. 8).

Table 6: Respondents' practices regarding the use of Cosmetic Products as preventive measures against their adverse effects (n = 150)

Preventive measures**	No. of Respondents	Percentage
Daily wash off the applied products	142	94.67
Read expiry and manufacture date	130	86.67
Always read label	67	44.67
Prevent contamination by avoiding sharing cosmetic products with others	61	40.67
Perform patch test before use	23	15.33
Proper storage as indicated on the label of the product	44	29.33
Mixing two or more products^	35	23.33
Use cosmetic testers^	24	16

**multiple response

^Incorrect response

Major portion of the study population, 142 of respondents (94.67%) answered that adverse effects of the cosmetic products can be prevented by washing off the applied products daily, followed by reading expiry and manufacturing date and reading the label on the cosmetic

products (86.67% and 44.67%) respectively. However, about 16% and 23.33% of respondents believe that using cosmetic testers and mixing two or more products can prevent adverse effects related to the use of cosmetics, which are not correct beliefs (Table 6).

Fig. 9: Number of respondents who use the same cosmetic items even after facing adverse effect from that item (n= 59)

Variable		No. of Respondents	Percentage
Same type of cosmetic item	Different brand	17	28.81
	Same brand	0	0
Other type of cosmetic item	-----	42	71.19
Total	-----	59	100

17 respondents (28.81%) out of 59 still used the same type cosmetic, though of different brand and no respondent was found to use the same type cosmetic item of the same brand which had caused them adverse effect. while other 42 affected responded (71.19%) have stopped using the cosmetic item which have caused adverse effect. However, they used different type of cosmetic item instead (Fig. 9).

Discussion

In this study, we found that women regardless of their age reported of being more confident with application of cosmetics which corresponds to studies conducted by Samson et al. (2017)^[14].

Maximum were aged between 15 - 20 years which corresponded with the study conducted by Bilal et al (2016) which was 18 – 20 years^[12]. The mean age was found to be 25 years with standard deviation of 6.97.

Maximum users of cosmetic items were found to be self- employed. Regarding marital status, most of them were unmarried and regarding the yearly expenditure, about 77% of women spent more than Rs. 1000 per year on cosmetic products which was similar to the observations made by Bilal et al. (2016)^[12]. It was found that 77% of women used multiple cosmetic items, 88% women used them only once a day and more than 52% women are using them for more than 2 years.

About 90% women were using perfumes and deodorants, followed by use kajal and complexion lightening cream. Only about 21% women used anti-aging cream.

Among the 150 women, about 40% of them experienced adverse effects caused by the use of cosmetic items, maximum harm being done by complexion lightening creams followed by sunscreen lotion. Acne was the most disadvantageous effect of the use of cosmetic items which affected about 39% women which corresponds to the study conducted by Shakya et al, followed by rash, affecting about 24% women^[15]. Only about 33% women correctly answered the use of cosmetic items to be appearance enhancer, while others did not seem to have correct knowledge about their use. Regarding the practices followed for the use of cosmetics, maximum women followed the correct practice and only about which corresponded with the study conducted by Shakya et al^[15]. However, all the affected women are found to continue using cosmetic items, about 30% women being users of the same type of cosmetic product, though of a different brand, and rest 70% of them being users of different type of cosmetic items.

Limitation of the Study

Some factors that are known to have interactions with cosmetic products such as past medical history, exposure to sunlight and other radiation, climate of the study region etc., could not be taken into account.

Conclusion

Conclusion is based on the observations of this study. The trend of using cosmetic products is increasing day by day among different age groups and socioeconomic groups. However, the number of products and number of times they are being used vary from women to women. But, along with this, the adverse effects are also increasing rampantly. It was found that maximum number of women use multiple cosmetic items. Also, majority of women have a wrong concept

regarding the need of using cosmetic products. However, maximum of them have the knowledge of correct practices regarding the use of their cosmetic products. Also, a significant number who were found to experience adverse effects are still using the same type of the cosmetic or the other. We find that there are very less number of studies especially in India addressing this. Thus, there is need for more studies in these aspects in the Indian scenario so that the awareness regarding the use of cosmetic items is further improved.

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