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A STUDY TO EVALUATE THE EFFECTIVENESS OF LIVE DEMONSTRATION ON LEVEL OF KNOWLEDGE REGARDING VARIOUS IMPACTS OF COSMETIC POLLUTION AMONG YOUNG ADULT GIRLS AT SELECTED COLLEGES OF KANPUR, UTTAR PRADESH

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ARTICLE HISTORY	ABSTRACT
Received on: 14-08-2026 Revised on: 21-09-2026 Accepted on: 07-10-2026	Cosmetic pollution has emerged as a growing environmental and public health concern, particularly among young adults who frequently use cosmetic products. The present study evaluated the effectiveness of live demonstration on the level of knowledge regarding various impacts of cosmetic pollution among young adult girls at selected colleges of Kanpur, Uttar Pradesh. A quantitative evaluative approach with a quasi-experimental, one-group pre-test post-test design was used. Sixty young adult girls were selected by using non-probability convenience sampling technique. The research study was conducted in school of Engineering and technology, CSJM University of Kanpur, UP. After the pre-test, a live demonstration with the help of skin model and live demonstration experiment provided to young adult girls regarding various impacts of cosmetic pollution, after 7 days a post-test was conducted to assess their level of knowledge. The data was collected and analyzed based on descriptive and inferential statistics. The result of the study showed that among 60 sample in the pre-test, 13 (21.67%) had inadequate knowledge, 47 (78.33%) had moderate knowledge, 0 (0.00%) had adequate knowledge. In the post test none had inadequate knowledge 8 (13.33%) had moderate knowledge and 52 (86.76%) had adequate knowledge. The post-test mean score (22.91) was higher than the pre-test mean score (12.53), with a mean difference of 10.38. The calculated paired t value was 24.89, significant at the 0.05 level. Pre-test knowledge showed significant association with age group, place of residence, family structure, monthly family income, average use of cosmetic products per day, source of information and experience of skin problems after using cosmetics; educational status was not significantly associated. The study concluded that live demonstration was effective in improving knowledge regarding various impacts of cosmetic pollution among young adult girls.
Keywords: Impacts of cosmetic pollution, young adult girls, live demonstration Corresponding Author Prof. Syed. Sumiya HOD of MHN, Faculty of Nursing, Rama University, Mandhana, Kanpur, UP.	

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INTRODUCTION

Beauty is associated with self-expression, self-care, grooming and personal hygiene. With changing lifestyles, urbanization and modernization, cosmetic products have become a routine part of daily life, especially among young adults [1]. The thesis describes cosmetic pollution as the harmful effects caused by the use and disposal of cosmetic products containing chemical substances that negatively affect human health and the environment [2]. Many cosmetic products may contain substances such as parabens, phthalates, heavy metals and artificial fragrances. The study background describes possible effects including skin irritation, acne, allergies, hair damage, premature

ageing and hormonal disturbances. Improper disposal and plastic packaging can also contribute to contamination of soil and water and harm aquatic ecosystems. Young adult girls may be particularly exposed because of peer pressure, media influence, social beauty standards and frequent experimentation with cosmetic products. Live demonstration was selected as a practical teaching method because it combines explanation, visual learning and direct demonstration [3-4].

NEED OF THE STUDY

Globally, cosmetic pollution contamination resulting from the use and disposal of personal care and beauty products has grown to be a major environmental and health concern

[5-9]. Over 50% of Indians are under 30, with young adult females making up a sizable portion of this group, according to recent demographic data from the Census of India 2021. Young women's use of cosmetics and personal care products has significantly increased in urban and semi-urban areas like Kanpur, Uttar Pradesh, as a result of shifting lifestyles, media influence, and increased purchasing power. The youth population (15–29 years old) is still growing in both urban and peri-urban areas, according to national and state demographic data from the Census of India (2011 baseline) and subsequent projections for 2025. India's consumption of cosmetics and personal care products started to increase at an average annual growth rate of more than 12% in 2012, primarily due to the influence of women between the ages of 18 and 29. Because of their higher disposable income, increased involvement in school, and increased awareness of fashion and appearance, this age group is predicted to account for the largest share of cosmetic consumers by 2025. The WHO discovered in 1959 that the allergens caused by cosmetics were 21.27 is a weighted average that falls between 12.5 and 60%. 19.5% had knowledge of women. Considering the entire amount collected between 1966 and 2007 in every age group.

PROBLEM STATEMENT

A study to evaluate the effectiveness of live demonstration on level of knowledge regarding various impacts of cosmetic pollution among young adult girls at selected colleges of Kanpur, UP.

OBJECTIVES OF THE STUDY

1. To assess the pre-test level of knowledge regarding various impacts of cosmetic pollution among young adult girls at selected colleges of Kanpur, UP.
2. To evaluate the effectiveness of live demonstration on level of knowledge regarding various impacts of cosmetic pollution among young adult girls at selected colleges of Kanpur, UP.
3. To find out the association between pre-test knowledge score regarding various impacts of cosmetic pollution among young adult girls with their selected socio-demographic variables.

HYPOTHESES

1. H01: There is no significant difference between the pre-test and post-test level of knowledge regarding various impacts of cosmetic pollution.
2. H02: There is no significant association between pre-test knowledge scores and selected socio-demographic variables.

Exclusion Criteria

1. Students who were not present at the time of data collection.
2. Students who not willing to participate in the study.

Method of Data Collection

A questionnaire was used to evaluate the effectiveness of live demonstration on level of knowledge regarding various impacts of cosmetic pollution among young adult girls of selected colleges of Kanpur, Uttar Pradesh.

Development and Description Of Tool Used In This Study

The tool to assess the knowledge regarding various impacts of cosmetic pollution among young adult girls through self-structured questionnaires.

The tool consist of two section:-

SECTION-A: Socio-demographic variables.

3. H₁: There is a significant difference between pre-test and post-test knowledge levels.
4. H₂: There is a significant association between pre-test knowledge scores and selected socio- demographic variables.

METHODS AND MATERIALS

Research Approach:

The research approach used for the present study was Quantitative evaluative research approach.

Research Design

The research design used in this study was Quasi-experimental, one-group pre-test and post-test design.

Population

In the present study, the population comprises all young adult girls studying in colleges.

Target Population

In the present study, the target population comprises all young adult girls aged 18–29 years studying in colleges of Kanpur, Uttar Pradesh.

Accessible Population

In the present study, the accessible population consists of young adult girls aged 18–29 years studying at school of engineering and technology, CSJM University of Kanpur, Uttar Pradesh, who were available during the period of data collection.

Sample

In the present study, the sample comprises young adult girls aged 18–29 years studying in selected college of Kanpur, Uttar Pradesh, who met the inclusion criteria and were willing to participate.

Sample Size

In the present study the sample size was 60 young adult girls who are studying at selected College of Kanpur, Uttar Pradesh.

Sampling Technique

In the present study, a Non-probability convenience sampling technique was used in selected college of Kanpur, Uttar Pradesh.

Criteria for Sampling

Criteria sampling involves selecting cases that need some predictor mined creation of importance.

Inclusion Criteria

The young adult girls who were:

1. Studying at selected colleges.

2. Able to understand English

SECTION-B: Self structured questionnaire**RESULTS AND DISCUSSION**

Section A: Distribution of young adult girls according to pre-test and post-test levels of knowledge regarding the various impacts of cosmetic pollution

Table 01: Distribution of respondents according to pre-test and post-test levels of knowledge regarding the various impacts of cosmetic pollution

S. No.	Level of knowledge	Pre-test frequency (f)	Pre-test percentage (%)	Post-test frequency (f)	Post-test percentage (%)
1	Inadequate knowledge	13	21.67	0	0.00
2	Moderate knowledge	47	78.33	8	13.33
3	Adequate knowledge	0	0.00	52	86.67
	Total	60	100.00	60	100.00

Interpretation: Table 01 shows that, in the pre-test, 47 (78.33%) respondents had moderate knowledge, 13 (21.67%) had inadequate knowledge, and none had adequate knowledge. In the post-test, 52 (86.67%) respondents had adequate knowledge, while 8 (13.33%) had moderate knowledge. None of the respondents had inadequate knowledge in the post-test. These findings indicate an improvement in knowledge following the educational intervention.

Section B: Comparison of pre-test and post-test knowledge scores

Table 02: Comparison of mean knowledge scores, standard deviations, mean difference, and paired t-test results

Assessment	Mean score	Standard deviation (SD)	Mean difference	Paired t value	Level of significance
Pre-test	12.53	2.89			
Post-test	22.91	1.44	10.38	24.89	0.05 (significant, as reported)

Table 02 shows that the mean pre-test knowledge score was 12.53 (SD = 2.89), whereas the mean post-test knowledge score increased to 22.91 (SD = 1.44). The mean difference was 10.38, and the reported paired t value was 24.89. These results indicate a substantial improvement in knowledge following the educational intervention. The reported result is statistically significant at the 0.05 level, provided that the paired t-test was calculated correctly [10-12].

Note: The exact p-value and degrees of freedom should be verified from the statistical output. A t value alone does not establish the complete statistical result [13-14].

Section C: Association between the levels of knowledge regarding various impacts of cosmetic pollution of pre-test score with selected socio-demographic variables of young

adult girls. The results show the association between pre-test knowledge scores. It revealed that there were significant association with age, place of residence, family structure, monthly family income, source of information, average use of cosmetic products per day, experienced any skin problem after using cosmetic products [15-16]. So, there were no significant association between with educational status. Here calculated value of chi-square were less than table value at 0.05 level of significance but there were no significant with other selected socio- demographic variables. Hence, positive hypothesis (H1) was accepted and Null hypothesis (H02) was rejected [17-18].

MAJOR FINDINGS

The major findings of the study were as follows

1. Majority 35(58.33%) young adult girls were between the age group of 18-20 years
2. Majority 58(96.67%) young adult girls are undergraduate.
3. Majority 48(80%) young adult girls are from urban area.
3. Majority 29(48.33%) young adult girls are from nuclear family
4. Majority 21(35%) young adult girls have < 30,001 rupees family income.
5. Majority 45(75%) young adult girls use 1-2 cosmetic products daily [19].
6. Majority 24(40%) young adult girls have social media as source of information regarding cosmetic products.
7. Majority 43(71.66%) young adult girls have not experienced any skin problem from cosmetic.

CONCLUSION

Based on the findings, the study concluded that the live demonstration was effective in improving knowledge regarding the various impacts of cosmetic pollution among young adult girls. The increase in the mean post-test knowledge score and the statistically significant paired t-test results supported the effectiveness of the educational intervention.

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INFORM CONSENT

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Not Declared

REFERENCES

1. Wolf N. The beauty myth: how images of beauty are used against women. New York: HarperCollins; 2002. p. 3-15.
2. Kudzma EC. Health promotion throughout the life span. 9th ed. St. Louis: Elsevier; 2018. p. 120-135.
3. Body image: a handbook of science, practice, and prevention. 2nd ed. New York: Guilford Press; 2011. p. 45-60.
4. Alexander KS. Introduction to cosmetic formulation and technology. Hoboken: Wiley; 2015. p. 220-245.
5. Adolescent health care: a practical guide. 6th ed. Philadelphia: Wolters Kluwer; 2016. p. 350-365.
6. Health education and health promotion. 5th ed. Burlington: Jones & Bartlett; 2017. p. 90-110.

9. World Health Organization. Public health and environment: safe use of cosmetics. Geneva: World Health Organization; 2018. p. 45–52. Johansen JD, et al. Prevalence of contact allergy and reactions to fragranced products in Denmark. *Contact Dermatitis*. 2016;75(4):210–218.
10. United Nations Environment Programme. Chemicals in cosmetics and environmental health. Nairobi: United Nations Environment Programme; 2020. p. 40–49.
10. United Nations Environment Programme. Single-use plastics and microplastics in cosmetics. Nairobi: United Nations Environment Programme; 2021.
11. Pareek B, Sharma S. Textbook of nursing research and statistics. 5th ed. [Place of publication]: Choice Book 7 Pvt Ltd; [year]. p. 189. Bassiouny R, El Lassy M, et al. The effect of infrared lamp therapy on episiotomy wound restorative besides pain relief among post-partum women. *J Nurs Educ Pract*. 2019;9(2):20–30. doi:10.5430/jnep.v9n2p20.
13. Niza [initials required], Gandhi Mathi M. [Article title required]. *Int J Sci Res*. 2017;6(4):[page range]. [Verify the journal title, author names, pages, and URL.]
15. Sharma KS. Textbook of nursing research and statistics. 3rd ed. [2008]:
16. Polit DF, Beck CT. Nursing research: principles and methods. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2004.
16. Singh YK. Fundamentals of research methodology and statistics. New Delhi: New Age International; 2006. p. 102.
17. Kothari CR. Research methodology: methods and techniques. New Delhi: New Age International; 2004. p. 70.
18. Kothari CR. Research methodology: methods and techniques. New Delhi: New Age International; 2004. p. 71.
19. Patidar DD, Patidar MK, Sharma MA. A study to assess the effectiveness of structured teaching programme on knowledge regarding adverse effects of face care cosmetics among adolescent girls in selected colleges of Mehsana City. *International Journal of Nursing Education and Research*. 2021;9(2):141-3.