

ORIGINAL ARTICLE

COVID-19 pandemic lockdown—Is it affecting our skin hygiene and cosmetic practice?

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Abstract

Background: Orders such as self-isolation, quarantine, social distancing, and lockdown implemented as a protective measure against COVID-19 has allowed people to devote their excess leisure time to their appearance, cosmetics, and hygiene.

Objective: To assess the skin care routine regarding hygiene and cosmetic practices among female users of social media during the COVID-19 pandemic.

Method: A cross-sectional study was done among 300 female social media users using purposive sampling. A self-administered questionnaire that included questions related to hygiene practices such as hand washing, use of hand sanitizers, bathing, hair washing, and use of certain cosmetics before and during the pandemic was used to collect all relevant data.

Result: Handwashing after returning home and shaking hands with others increased during the pandemic as compared with prior practices. The frequency of using a hand sanitizer had also increased during the pandemic. There was a statistically significant decrease in the frequency of the hair removal and visits to beauty salons during the pandemic. Cosmetics were used less, although face creams and lip balm were used more. Even though most of our respondents thought pandemic practices were convenient to use, more than half of them said they wished to go back to their pre-pandemic routines once the pandemic was over.

Conclusion: The study revealed an increase in washing behavior, use of facial cream, and lip balms. Moreover, a decrease in using make-up cosmetics, hair removal, and beauty salon visits during the pandemic.

KEYWORDS

cosmetics, COVID-19, hand sanitizers, hygiene, pandemics

1 | INTRODUCTION

In December 2019, a group of patients with pneumonia of unknown cause was linked to seafood wholesale market in Wuhan, China.¹ On January 9, 2020, WHO reported that Chinese authorities have determined that the outbreak was caused by a novel coronavirus and was named as COVID-19 on February 11, 2020. Following the outbreak, Nepal also confirmed the first case of 2019-nCoV on January 23, 2020.² Due to the global epidemic, WHO announced COVID-19

as a pandemic on March 11, 2020.³ Thus, owing to the pandemic, the first phase of country-wide lockdown in Nepal came into effect on March 24, 2020 and ended on July 21, 2020.

As protective measures against COVID-19, orders such as self-quarantine, lockdown, and/or mandatory stay-at-home orders have resulted in excess leisure time for people to devote to their appearance, cosmetics, and hygiene. Awareness of protection from COVID-19 has resulted in increased hygienic habits such as frequent hand washing, using sanitizer, and using masks, gloves, and personal

TABLE 1 Socio-demographic characteristics of participants

Characteristics	Categories	No. of participants	Percentage (%)
Age group in years	20 and under	68	22.7
	21-25	201	67
	26-30	24	8
	Above 30	7	2.3
Occupation	Student	249	83
	Skilled worker	23	7.7
	Business	2	0.7
	Homemaker	3	1
	Unemployed	1	0.3
	Others	22	7.3
Education	Class 10 and below	2	0.7
	+2	28	9.3
	Bachelors	251	83.7
	Masters and above	19	6.3

protective equipment. According to a study done by Moscicka et al., during the pandemic, there was an increase in the washing behavior of people compared with the past. Additionally, the profile of used cosmetic products was changed for the advantage of hand cream and decrease in make-up and nails cosmetics.⁴

Accordingly, this study intended to investigate the skin hygiene and cosmetic practices among female social media users during the COVID-19 pandemic. In addition, to analyze the skincare routines adopted while having reduced social contacts, their effect on their skin, and their willingness to continue the new adaptive habits when the pandemic ends.

2 | METHODS

Study design: Online community-based cross-sectional study.

Social media used: Facebook, Instagram via Google forms.

Study population: Female social media users of Nepal.

Sample size: 300.

The sample size was calculated based on the previous study,⁴ where the skin hygiene practice was found to be more than 80%. A total of three hundred female social media users were enrolled in this study with the relative precision of 10%, confidence interval of 95%, and 15% non-responders.

2.1 | Criteria for sample selection

1. Inclusion criteria:
 - a. Any female social media user
2. Exclusion criteria:
 - a. Those who denied giving consent for participation.
 - b. Incompletely filled Pro-forma
 - c. Age <18 years

Data were collected online through Google forms circulated via social media. Written consent was obtained from the patients, and English Questionnaire was used for the compliance of the participants. The study was approved by the Dermatology Departmental Research Unit (DRU) with DRU number: 04/2020 for further implementation, and the study was expedited reviewed by Institutional Review Committee (IRC).

The questionnaire comprised 2 sections:

- a. Socio-demographic profile of the subject (Name, Age, Education, Address, and Occupation)
- b. Contextual matter studied under different subheadings.

Participants were asked about their skin hygiene practices, such as hand hygiene, bathing, face washing, hair removal, and sunscreen use, as well as the frequency with which they visited beauty salons before and during the COVID-19 pandemic. They were asked if they had any skin problems before and during the pandemic, what type of medication they sought and if the problem was solved or not. The changes in cosmetic skincare practices of the participants during the COVID-19 pandemic were assessed using 5-point Likert's scale to rate their use of cosmetic products during the COVID-19 pandemic and compare it with their use before the pandemic (1 being much less, 2 being a little bit less, 3 being usual, 4 being a little bit more, and 5 being much more). At last, the participants were expressed gratitude for the effort they put into their responses.

Data were entered in Microsoft Excel and converted into SPSS (Statistical Package for Social Science, version 23) for statistical analysis. For descriptive studies, percentage, ratio, mean, SD, median were calculated along with graphical and tabular presentations. For inferential statistics, bivariate analysis was done using the chi-square test and independent t-test to find out the significant differences between dependent and independent variables. Qualitative variables were categorized and presented as frequencies and

percentages. Quantitative variables were presented as the mean and standard deviation. Categorical variables were compared using the Chi-square test, odds ratio, and a 95% confidence interval. A p -value <0.05 was considered significant.

3 | RESULTS

We circulated our Google forms to 350 participants and the response rate was 85.7%. The participants' ages ranged from 18 to 53 years, with a median age of 22 years and a mean age of 22.69 years (SD 3.702). Two-thirds of them were between the ages of 21 and 25 (Table 1).

Out of 300 participants, the majority of our participants washed their hands more than 5 times a day both before and during the pandemic (Table 2). The frequency of washing hands after shaking hands with others during the pandemic was high and statistically significant ($p < 0.05$) as depicted by Figure 1.

As shown in Figure 2, the frequency of undergoing hair removal had decreased significantly during the pandemic (59%–41.7%, $p < 0.05$). Our study also showed a similar pattern in the use of sunscreen before and during the pandemic. This similarity may be because the participants may have used sunscreen while staying at home. But there was a marked decrease in the frequency of visits to beauty salons during the pandemic (79.3% to 29%) and the change was statistically significant.

Hair colors, face masks, make-up, eye cosmetics, nail polish, and perfumes were all used less frequently during the pandemic. Face creams, body lotions, and hand creams, on the other hand, saw a modest rise in use (Figure 3).

Before the pandemic, 23.7% of participants reported having skin problems, with 11.3% seeking allopathic medication, 5% seeking cosmetics, 4% seeking homeopathy, and 3.3% seeking ayurvedic medication. During the pandemic, this figure rose to 24.7%, with 7.3% seeking allopathic medication, 6.7% seeking homeopathy, 5.7% seeking ayurvedic, and 5% seeking cosmetic medication.

The majority of the participants (69%) believed that the pandemic practices have improved their skin appearance and 80% of them also perceived the pandemic practices to be convenient to use. However, the majority of the participants (66.7%) wanted to return to the pre-pandemic cosmetic and skincare practices.

4 | DISCUSSION

Due to hygiene precaution and provision of lockdown in the country to ensure protection from COVID-19 infection, people have indulged in various washing practices along with the change in the profile of cosmetic use. With this study, we intended to document the skin hygiene and cosmetic practices of female social media users during the COVID-19 pandemic which would provide analysis of skin hygiene and cosmetic practices adopted while having reduced social contacts.

TABLE 2 Frequency of participants responding to washing behaviors

Characteristics	Respondents (%)	
	Before pandemic	During pandemic
Frequency of handwashing per day		
1–2 times	2.7	1.7
3–5 times	28.7	22.3
More than 5 times	68.7	76
Used to wash hands		
Soap and water	34.7	33.3
Handwash and water	63.7	65.7
Water only	1.7	1
Use of hand creams after washing hands		
Yes	30	29.3
No	70	70.7
Use of hand sanitizer		
Regularly	5	6
When remembered	64	88.3
Never	31	5.7
Bath everyday		
Yes		
1 time	47	55
2 times and more	0.3	0.3
No	52.7	44.7
Use of body lotion after taking a bath		
Yes	59.3	56.3
No	40.7	43.7
Hair wash		
Daily	12.3	43.3
Twice a week	86.3	43.7
Once a week	1.3	13
What was used for hair wash		
Water only	0	0.3
Soap	0.7	0.3
Shower gel	0.3	0.3
Shampoo	99	99
Washing face in a day		
1–2	43.3	39.3
3–5	53	57
More than 5	3.7	3.7
What was used to wash the face		
Water only	21.3	9.7
Soap and water	4.3	5.3
Facewash and water	74.3	85

Our study comprised of 201(67%) participants between 21 and 25 years of age, since the use of social media is much more common in this age group. As our study focused on the changes in cosmetic

FIGURE 1 Frequency of handwashing after various activities before and during the pandemic. *statistically significant ($p < 0.05$)

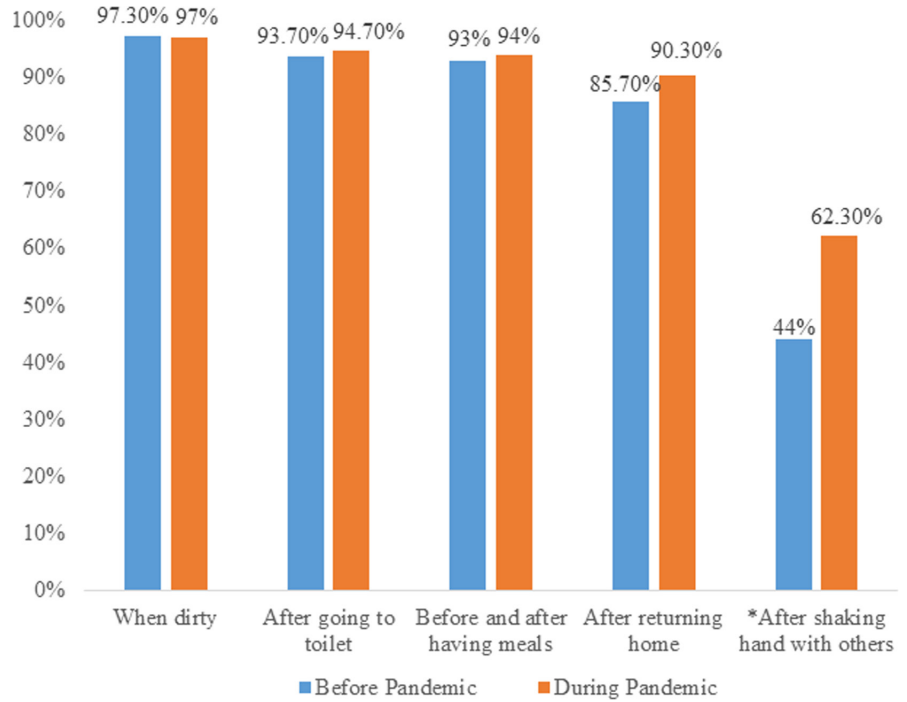
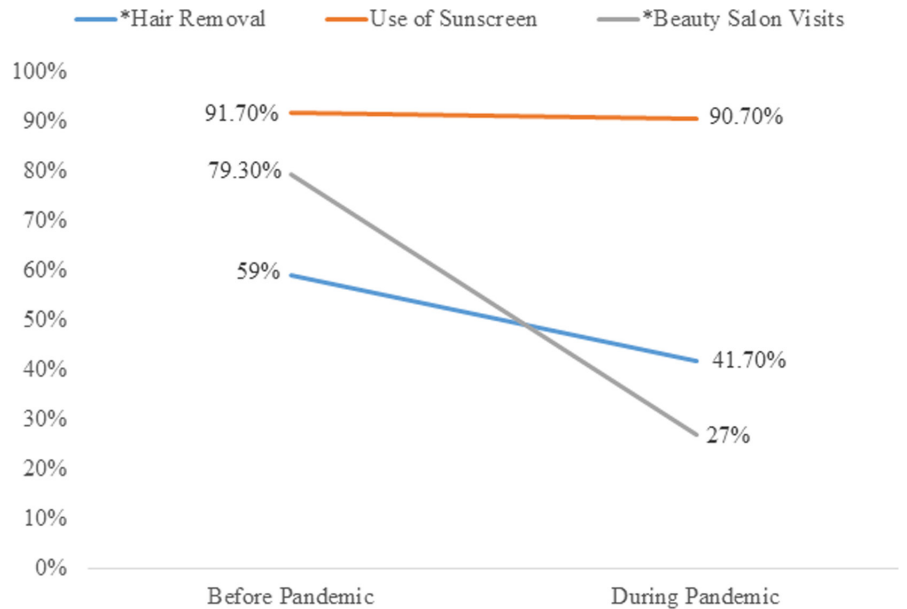


FIGURE 2 Frequency of hair removal, use of sunscreen, and a visit to beauty salons before and during the pandemic. *statistically significant ($p < 0.05$)



practice during the pandemic, only female participants were included, since females are more likely to engage in cosmetic practices than males. Most of our participants—249(83%)—were students by occupation as students are more active on social media platforms.⁵

4.1 | Skin hygiene practices before and during the COVID-19 pandemic

Our study revealed that the majority of the participants used to wash their hands more than 5 times in a day before (68.7%) and during (76%) the pandemic. However, Glabska et al. found that only

47.6% responders washed their hand more than 5 times before the pandemic which was significantly increased to 82.2% during the pandemic.⁶

Before the pandemic, the maximum participants in our study washed their hands when it got dirty (97.3%), followed by after going to the toilet (93.7%), before and after having meals (93%), after returning to their home (85.7%), and after shaking their hand with others (44%). In contrary, Oppong et al. reported that people washed their hands less frequently, with only 22% washing their hands after outings and only 51.6% after using the bathroom.⁷

Polish adolescents revealed increased handwashing practices after all the activities during the COVID-19 pandemic than for the

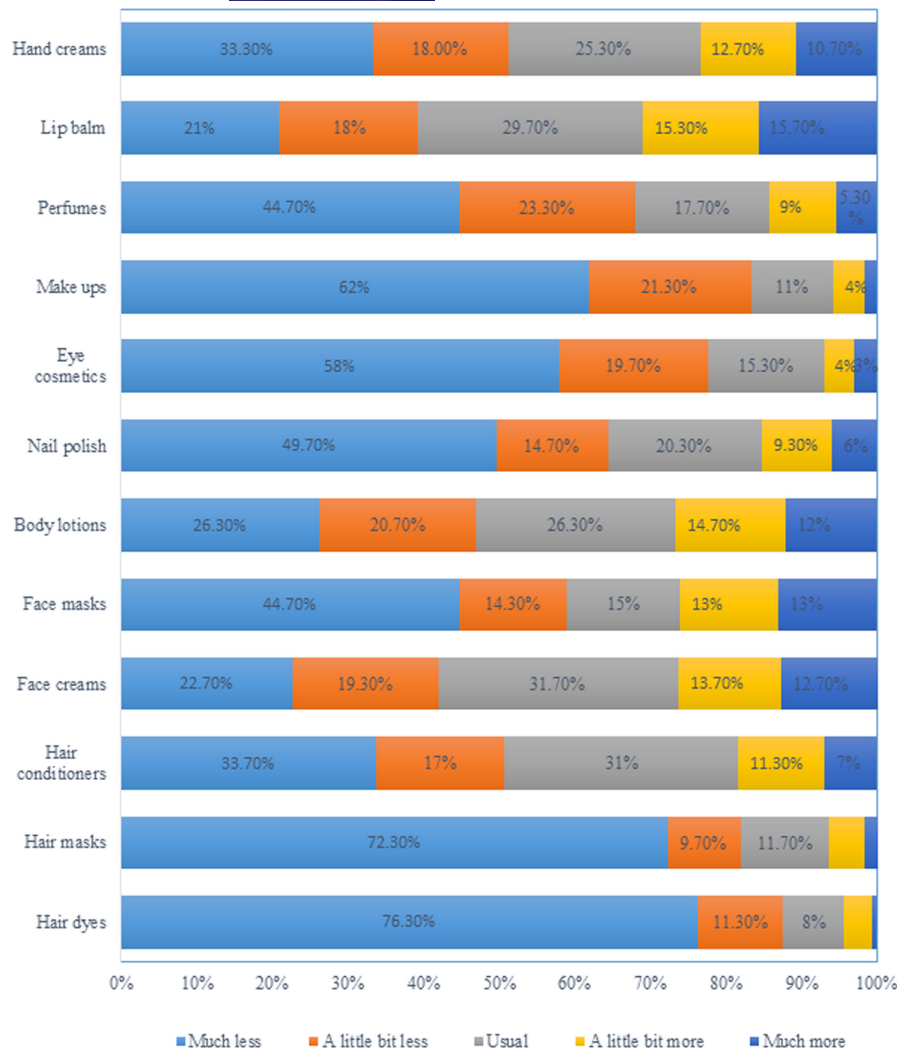


FIGURE 3 Cosmetic practices during pandemic compared with before pandemic

period before the pandemic ($p < 0.001$),⁶ whereas in our study, frequency of handwashing practice after various activities was high even before the pandemic, except for after shaking hands with others which was significantly increased to 62.3% during the pandemic ($p < 0.01$). This could be related to the fear of transmission of infection via contact, as well as various public awareness campaigns stressing handwashing behaviors to reduce the chance of viral transmission.

WHO has been advising people to clean their hands frequently and thoroughly and use alcohol-based hand sanitizer or wash hands with soap and water to protect themselves from COVID-19.⁸ The use of hand sanitizer was found to be higher during the pandemic than before the pandemic in our study.

As it is said, people with oily hair or who use hair care products daily should consider washing their hair once every 1–2 days, people with dry hair can wash their hair less frequently and those with textured hair should only wash it once every 1–2 weeks. The increased frequency of bathing and washing hair daily during the pandemic, as demonstrated by our study could be linked to an increased awareness of the importance of good personal hygiene. However, a modest increase in the frequency of washing hair once a week could be

attributed to limited travel outside the home owing to lockdown and a lack of motivation in continuing the same routines while having reduced social contact. Face washing behavior did not alter significantly, which could be related to increased knowledge of the importance of maintaining personal hygiene to prevent the transmission of the virus despite staying at home and less movement outside the home. However, the increase in the use of soap, face wash, and water during the pandemic may be due to the increased need to maintain hygiene and disinfect themselves by washing their faces with soap and face wash rather than just water. As it is recommended to wash face twice daily with a mild cleanser, even though, there is not much published literature to support this practice.⁹

Our study revealed a decrease in hair removal practices during the pandemic, which could be related to ongoing isolation at home due to the pandemic. This may have translated to a lack of indulgence in self-hair removal practices. In contrast, a study done among Polish women found that habits regarding hair removal were not changed significantly.⁴ Our study also showed a similar pattern in the use of sunscreen before and during the pandemic. This similarity may be because the participants may have used sunscreen while staying at home. However, the participants indicated that staying at home is

one of the major ways of protecting from sun exposure during the pandemic, which is consistent with the government's stay-at-home policy. The closure of beauty salons following government lockdown restrictions and increased awareness among people to avoid social connections may have contributed to the drop in the frequency of visits to beauty salons during the pandemic.

4.2 | Cosmetic practices during COVID-19 pandemic

Closure of schools and workplaces, as well as reduced social contact, might have resulted in a decreased use of cosmetic products such as hair dyes, face masks, make-ups, eye cosmetics, nail polish, and perfumes during pandemic indicating that people were less interested in participating in cosmetic practices to beautify their appearances while having less interpersonal contacts. There was decreased use of lip balms in 39.3% of the participants which could be linked to the use of masks owing to the pandemic. Similar finding was seen in Moscicka et al's study among polish women.⁴ There was a slight increase in the usage of face creams, body lotions, and hand creams, which could be attributable to frequent washing practices of participants to limit the risk of virus transmission. This is also consistent with the findings of Schwartz et al., who discovered that, as a result of the COVID-19 pandemic, demand had shifted from cosmetic and hair care products to skin care products such as soap, moisturizers, and sanitizers/disinfectants.¹⁰

4.3 | Impact on skin

Even though the participants' skin problems remained the same, they were more interested in ayurvedic and homeopathic medicine than allopathic medicine during the pandemic. As the people of Nepal were using more medicinal plants and homeopathic medicine during the COVID-19 claiming that it could prevent and treat the disease, similarly they might have tried to cure their skin problems with those medicines than allopathic medicine.¹¹

The majority of our participants reported improve in the appearance of their skin during the pandemic, which could be associated with less exposure to polluted environments due to the nationwide lockdown, increase leisure time to practice skin care and lifestyle modifications such as exercise and healthy diet to prevent COVID-19 infection. Many participants also stated that the pandemic skincare practices are convenient to use, which could be owing to the use of readily available and home-based skin care. It can also be associated with the increased use of internet during the pandemic which served as a source of knowledge for cosmetic practices.¹²

4.4 | Willingness to continue pandemic practices

During the COVID-19 pandemic, changes in skin hygiene and cosmetic practices were mostly adapted to suit the situation, which was

different from normal because people had fewer social contacts. However, the participants wanted to return to their previous hygienic habits once pandemic gets over and world returns to normal with the opening of schools and workplaces, as well as increased social contacts. Moscicka et al, also reported similar findings, where 56% of polish women declared that they would return to their former hygiene habits after the pandemic was over.⁴

As people were not aware of the benefits of using hand sanitizers and the importance of hand creams after washing hands, we recommend community-based awareness programs about the benefits of various skin hygiene practices along with the effects of cosmetic practices followed in day-to-day life. Furthermore, studies including different age group, genders, and non-social media users can be done to represent the skin hygiene and cosmetic practice of generalized population.

5 | CONCLUSION

The study highlights the fact that following the awareness of the virus's transmission, there was a modest rise in handwashing and hand sanitizing activity among female social media users whereas hair removal and visits to beauty salons decreased. The use of various cosmetic products had also changed during the pandemic compared with their use before the pandemic. Even though the majority of participants reported that the pandemic practices were more convenient to use and had improved their skin appearance, more than half of the participants desired to return to their pre-pandemic habits once the pandemic gets over. Consequently, during the challenging times of COVID-19, the study found greater awareness and modifications in various skin hygiene and aesthetic habits among social media users.

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CONFLICT OF INTEREST

None.

ETHICAL APPROVAL

The study was approved by the Dermatology Departmental Research Unit (DRU) with DRU number: 04/2020 for further implementation, and the study was expedited reviewed by Institutional Review Committee (IRC), BPKIHS.

CONSENT STATEMENT

Written consent was obtained from all participants.

DATA AVAILABILITY STATEMENT

Data are available on request.

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