

Prevalence, associated factors, and cutaneous effects of skin-lightening practices among patients at Mbarara Regional Referral Hospital Skin Clinic, Uganda: A cross-sectional study



To the Editor: Skin-lightening is a widespread practice among non-White populations, involving the use of soaps, creams, and powders with agents like corticosteroids, hydroquinone, and mercury to reduce melanin and lighten skin tone. However, these products often lead to harmful skin effects.¹ Many people with skin of color lighten their skin for beauty and desirability, influenced by entertainment portrayals favoring lighter tones. Postinflammatory hyperpigmentation from skin disorders also drives self-medication with topical creams. In Uganda, weak regulation makes such products easily accessible, possibly contributing to a rise in skin-lightening practices.

The objective was to establish the prevalence, associated factors, and cutaneous effects of skin-lightening among patients attending the Mbarara Regional Referral Hospital skin clinic.

Between April 2022 and June 2023, a cross-sectional descriptive study was conducted, enrolling 386 participants consecutively, irrespective of age or sex. Each participant underwent a comprehensive medical history review and skin examination.

The overall prevalence of skin-lightening was 25.1% (95% CI 21.0-29.7).

Skin-lightening was independently associated with being female (adjusted odds ratio [aOR]: 3.72) and aged 31-45 years (aOR: 7.02). Participants with higher Rosenberg self-esteem scores were also more likely to use skin-lightening products (aOR: 1.11, $P = .004$) (Table I). Among 97 study participants who used skin-lightening agents, 71 had cutaneous effects of skin-lightening, giving an overall prevalence of 73.2% with a 95% CI of 63.4-81.1, with the most frequently observed effects among our study participants being striae, steroid-induced acne, perioral facial dermatitis, and pigment alteration while hypertrichosis was the least frequent.

The observed prevalence was similar to the global rate of 27.1%,² likely reflecting deeply rooted cultural beliefs that lighter skin is more desirable, reinforced

by the frequent use of light-skinned models in cosmetic advertisements aimed at Black populations.

The predominance of skin-lightening among females and individuals aged 31-45 years aligns with findings from studies in South Africa,³ possibly reflecting a greater societal emphasis on physical attractiveness. In our study, higher self-esteem (Rosenberg score; aOR 1.11; 95% CI 1.03-1.19) was a statistically significant predictor of skin-lightening use. This contrasts with findings from Ghana,⁴ where although many participants cited boosting self-esteem as a motivation for bleaching, measured self-esteem was not included in the regression model and was not demonstrated as a significant predictor of actual use. These differences may reflect contextual variations in how self-esteem influences behavior across populations.

Acneiform eruptions, striae, and pigmentary alterations emerged as the predominant cutaneous adverse effects, consistent with findings reported in a North Indian outpatient cohort⁵ likely reflecting comparable clinical contexts.

This study found a high prevalence of skin lightening at Mbarara Regional Referral Hospital, of 25.1%. Skin lightening was independently associated with the 31-45 age group, female gender, elevated Rosenberg self-esteem scores, and perceived self-reported high social status measured using a single-item Likert-type tool. Many users experienced various skin complications, including striae, steroid-induced acne, perioral facial dermatitis, and pigment alteration.

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Table I. Factors associated with skin-lightening practices

Variables	Crude odds ratios (95% CIs)	P value	Adjusted odds ratios (95% CIs)	P value
Age (y)				
<16	1.00		1.00	
16-30	6.05 (2.47-14.81)	<.001	3.56 (1.11-11.32)	.03
31-45	12.46 (4.88-31.81)	<.001	7.02 (2.02-24.34)	.002
46-60	7.49 (2.51-22.38)	<.001	5.40 (1.41-20.59)	.01
>60	1.12 (0.13-10.00)	.92	1.13 (0.10-12.47)	.92
Gender				
Male	1.00		1.00	
Female	4.88 (2.49-9.54)	<.001	3.72 (1.78-7.75)	<.001
Education level				
None	1.00		1.00	
Primary	3.17 (1.15-8.73)	.03	1.50 (0.44-5.22)	.52
Secondary	3.56 (1.30-9.75)	.01	1.49 (0.42-5.31)	.54
College	3.02 (0.90-10.14)	.07	0.81 (0.17-3.78)	.78
University	7.58 (2.65-21.64)	<.001	2.18 (0.52-9.22)	.29
Occupation				
Unemployed	1.00		1.00	
Self-employed	3.60 (2.05-6.32)	<.001	1.38 (0.65-2.92)	.40
Employed	3.24 (1.80-5.85)	<.001	1.79 (0.78-4.12)	.17
Rosenberg's self-esteem score	1.11 (1.05-1.18)	<.001	1.11 (1.03-1.19)	.004
Reasons for skin lightening				
Look beautiful				
Disagree	1.00		1.00	
Agree	0.41 (0.18-0.97)	.04	0.49 (0.16-1.52)	.22
Neutral	0.26 (0.10-0.67)	.01	0.72 (0.18-2.81)	.63
Boost self-esteem				
Disagree	1.00		1.00	
Agree	1.52 (0.80-2.89)	.20	1.07 (0.40-2.84)	.89
Neutral	0.38 (0.21-0.71)	.01	0.48 (0.15-1.57)	.22
Show high social class				
Disagree	1.00		1.00	
Agree	1.80 (0.92-3.45)	.09	2.77 (1.05-7.32)	.04
Neutral	0.48 (0.27-0.84)	.01	0.97 (0.34-2.80)	.96
Like skin color				
Disagree	1.00		1.00	
Agree	0.56 (0.31-0.98)	.04	0.56 (0.26-1.20)	.14
Neutral	0.48 (0.24-0.95)	.03	0.65 (0.26-1.57)	.34
Increase your chances of getting married				
Disagree	1.00		1.00	
Agree	0.78 (0.38-1.59)	.49	0.83 (0.33-2.06)	.68
Neutral	0.47 (0.28-0.79)	.01	0.59 (0.23-1.53)	.28
Increase your chances of getting a job				
Disagree	1.00		1.00	
Agree	0.72 (0.31-1.69)	.45	0.51 (0.17-1.51)	.22
Neutral	0.57 (0.35-0.94)	.03	1.76 (0.66-4.66)	.26
Treat dark spots				
Disagree	1.00		1.00	
Agree	1.16 (0.59-2.28)	.66	1.47 (0.59-3.61)	.41
Neutral	0.53 (0.27-1.04)	.06	1.19 (0.43-3.29)	.74
Knowledge of the composition of cosmetic products used				
No	1.00		1.00	
Yes	3.67 (1.20-11.10)	.02		

Continued

Table I. Cont'd

Variables	Crude odds ratios (95% CIs)	P value	Adjusted odds ratios (95% CIs)	P value
Frequency of usage of cosmetic products				
Occasionally	1.00			
Once a day	2.16 (0.59-7.93)	.25		
More than once a day	1.72 (0.48-6.08)	.40		
Once a wk	11.33 (0.76-167.97)	.08		
2-3 times a wk	7.08 (1.17-42.79)	.03		
Source of information about cosmetic products used				
None	1.00			
Friends	3.12 (1.68-5.81)	<. .001		
Relatives	0.54 (0.22-1.28)	.16		
Media	0.46 (0.18-1.18)	.10		
Literature	2.03 (0.67-6.14)	.21		
Factors considered in choosing the cosmetic product used				
Product ingredient	1.00			
Product availability	0.30 (0.04-1.86)	.19		
Product brand name	0.37 (0.05-2.60)	.30		
Product affordability	0.71 (0.07-6.92)	.78		
Product effectiveness	1.06 (0.19-5.80)	.95		
Product advertisement	0.48 (0.07-3.21)	.45		
Friends' recommendations	0.79 (0.14-4.28)	.78		
>1 factor	3.06 (0.53-17.66)	.21		
Source of cosmetic products used				
Online portals	1.00			
Cosmetic shops	2.91 (0.29-29.4)	.37		
Open market	0.66 (0.67-6.49)	.72		
Pharmaceutical shops	0.64 (0.60-6.91)	.71		
>1 source	24 (1.11-518.58)	.04		
Reasons for the choice of cosmetic product used				
For routine skin care	1.00			
For skin lightening	39.26 (12.68-121.71)	<. .001		
For removing black spots	14.99 (6.66-33.77)	<. .001		
>1 reason	24.68 (9.81-62.08)	<. .001		

Crude odds ratios were obtained from univariable logistic regression, and adjusted odds ratios from multivariable logistic regression. The dependent variable was skin lightening practice (yes/no), based on self-reported use. *P*-values less than .05 were significant and placed in bold to indicate association.

Key words: associated factors; cutaneous effects; prevalence; skin-lightening.

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Conflicts of interest

None disclosed.

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