

# Prevalence of Skin Lightening Product Usage among the Young Generation in Lahore after Puberty: A Comprehensive Study

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## Abstract

**Background & Objective:** The desire for fairer skin has become a global phenomenon, with colonial remnants in South Asia being identified as contributory factors to the perception of white skin as supreme. Skin lightening products (SLPs) are commonly used to reduce melanin concentration in the skin and achieve a lighter complexion. While SLPs can be medicated for treating hyperpigmented disorders and other skin conditions, their predominant use is for brightening the skin tone. **Aim:** To investigate the prevalence of SLP usage among males and females in the young generation in Lahore, Pakistan, and assess their knowledge and perception of the associated risks. Additionally, the study will examine the ingredients commonly found in SLPs and their potential adverse effects. **Methodology:** The instrument employed for the study was self-administered Questionnaire designed by the researcher. The data collected were analyzed as descriptive and bivariate using percentages, mean and median. **Result:** The study found that a significant percentage of young males and females in Lahore, Pakistan, use skin-lightening products, with social media and advertisements influencing their knowledge about these products. While participants were aware of potential harm from skin-lightening creams, many could not identify the active ingredients. Study highlighted the need for more inclusive beauty standards and consumer education campaigns. The study's results contribute valuable insights into the multifaceted landscape of skin tone perceptions, skin whitening product usage, and the associated complexities. **Conclusion:** The findings underscore the importance of considering cultural, psychological, and health-related aspects.

**Keywords:** Knowledge, Pakistan, Practice, General population, Skin lightening products.

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## INTRODUCTION

The desire for fairer skin has evolved into a worldwide phenomenon, with its roots in the colonial remnants of British rule in South Asia. This historical context has contributed to the belief that white skin is superior, symbolizing power and belonging to an elite class [1]. Skin lightening products (SLPs) have gained popularity as a means to achieve a lighter complexion by reducing the concentration of melanin, the pigment that determines skin tone. While SLPs can be used medicinally to treat skin-related conditions such as hyperpigmented disorders and rashes, their primary usage is for cosmetic purposes, particularly to brighten the skin tone [2].

The preference for lighter skin tones is more prevalent among females, although both genders engage in skin-lightening practices, especially among the age

group of 20-30 years [3]. This period represents a critical transitional phase from childhood to adulthood, characterized by various physical, hormonal, emotional, and psychological changes. In females, physical changes include breast development and the onset of menstruation, while males experience pubic hair development, voice changes, and increased height [4]. Puberty is primarily regulated by gonadotropin-releasing hormone (GnRH) neurons in the hypothalamus. Among the physical changes that occur during puberty, acne development is common due to the stimulation of oil glands by hormones. Genetic predisposition also plays a role, with girls being more susceptible to acne than boys.

Numerous studies have revealed the widespread belief among the young generation that cosmetic usage, including SLPs, plays a significant role in shaping self-identity and outward appearance, leading to increased self-confidence [4]. Peer pressure and the influence of

the social environment, such as beauty standards propagated through social media, movies, and TV series, act as driving forces behind the usage of SLPs. Therefore, it is crucial to examine the prevalence of SLP usage among both males and females in order to understand the gender ratio. Moreover, this research aims to explore the perception of the young generation regarding SLPs, including the driving forces behind their usage and their awareness of the potential negative effects of skin lightening creams. Additionally, the study will focus on the ingredients used in SLPs, as many of the active components have unknown origins, although hydroquinone, mercury, and steroids are commonly found in such products. Despite the prohibition of mercury usage in many countries, studies worldwide have confirmed its presence in SLPs. Recently, there has been a rising surge in the use of SLPs among young adults in Lahore, a metropolitan city in Pakistan. Therefore, it is essential to evaluate the knowledge and perception of the young generation in Lahore regarding SLPs [5].

This study aims to provide a better understanding of the factors contributing to the increased demand for SLP usage among different generations and assess whether individuals are aware of the potential effects on their skin. By examining these aspects, the study aims to contribute to the scientific understanding of SLP usage among the young generation in Lahore.

The objectives of this study are:

- To determine the prevalence of SLP usage among males and females in the young generation in Local population.
- To explore the factors driving the use of SLPs, including self-identity, outward appearance, peer pressure, and societal beauty standards influenced by media.
- To evaluate the awareness of the young generation regarding the negative effects of skin-lightening creams.
- To investigate the common ingredients used in SLPs, with a focus on potentially harmful substances such as hydroquinone, mercury, and steroids.

- To assess the knowledge and perception of the young generation in Lahore regarding SLP usage and its effects on the skin.

## METHODOLOGY

### Study Design

This study will employ a cross-sectional design to collect data from a representative sample of the young population in Lahore. Data will be collected through survey e-performa [6]. A random sampling technique will be used to select participants aged 15 to 24 years from various educational institutions and residential areas in Lahore. A minimum sample size of 264 participants will be targeted to ensure statistical reliability.

Structured questionnaires will be administered to collect data on SLP usage, knowledge of associated risks, and factors influencing the use of SLPs. Additionally, a structured questionnaire will be conducted with a subset of participants to obtain more in-depth insights.

### Duration of Study

3 months (March 2023—May 2023)

### Inclusion Criteria

- Male and female consumers of skin whitening
- Who uses and don't use a skin whitening product

### Exclusion Criteria

- Who did not reside in Lahore
- Not reach adolescence (under 15 years of age)

## RESULTS

A total of 270 people participated in this study, with a response rate of 98.5%. As the results of Table 1 show, 266 responded to inquiries about knowledge and attitude while using skin lighteners, thereby responding to inquiries about practices. Gender distribution shows 9.4% male and 90.6% female participants. In terms of marital status, 13.1% of participants were married, while 86.8% were unmarried.

**Table 1**

	Response	
	Gender	Male
	Female	241(90.6%)
Marital status	Married	35(13.1%)
	Un-Married	231(86.8%)
Skin Tone	Light	86(23.3%)
	Light Brown	173(65%)
	Dark Brown	08(3%)
Skin Type	Dry	73(27.4%)
	Oily	58(22%)
	combination	135(50.7%)
Monthly pocket money	Less than Rs 2000	73(27.4%)

	Between Rs 2000-5000	111(41.7%)
	More than Rs 5000	82(30.8%)
Use any kind of skin-lightening product	Yes	194(73%)
	No	72(27%)

A significant finding of the study was related to the use of skin-lightening products. Among the participants, 73% reported using some form of skin-

lightening product, while 27% reported not using any such product.

**Table 2: Knowledge about skin whitening products**

Perception about skin tone	Make me more beautiful	55(20.7%)
	Provides self-esteem	60(22.5%)
	Gives a young look	35(13%)
	Symbolic of belonging to a higher social class	10(3.8%)
	Increasing chances of getting married	16(6%)
	Other	90(34%)
Skin whitening product use in the past year	1-10 time	178(67%)
	More than 10 time	25(9.3%)
Method of skin lightening (select all that apply)	Injection	14(5.2%)
	Pills	07(2.6%)
	Cream	105(39.4%)
	Serum	55(21%)
	Lotion	62(23.3%)
	Foundation	60(22.5%)
Get knowledge about skin whitening cream	Friend	43(16%)
	Advertisement	62(23.3%)
	Social media	115(43%)
	Other media	45(17%)
Reasons for practicing skin whitening product	Lighter skin tone	122(46%)
	Hyperpigmentary disorder	48(18%)
	Both	43(16%)
Knowledge about skin whitening creams harming the skin	Yes	187(70.3%)
	No	80(30%)
Active ingredient within skin lightening product	Glutathione	46(17.3%)
	Vitamin C (antioxidant)	63(23.7%)
	Hydroquinone	23(8.6%)
	Steroid	27(10.2%)
	Mercury	14(5.2%)
	Kligman formulation	06(2.2%)
	Don't know	108(40.6%)
Any problems related to skin lightening product usage? (Select all that apply):	Redness	23(8.6%)
	Discoloration	13(4.9%)
	Irritation	36(13.5%)
	Acne	42(15.8%)
	Eczema (atopic dermatitis)	06(2.3%)
	None	64(24%)
Are you satisfied with your skin-lightening product usage	Yes	63(23.7%)
	No	61(23%)
	May be	93(35%)

As Table 2 shows, A substantial proportion of participants associated lighter skin tones with enhanced beauty (20.7%) and increased self-esteem (22.5%). Moreover, a notable percentage believed that using skin whitening products could provide a more youthful appearance (13%) and potentially lead to improved marriage prospects (6%). Among the reasons for practicing skin whitening product usage, seeking a

lighter skin tone emerged as the predominant motivation (46%), followed by addressing hyperpigmented disorders (18%).

A significant portion of participants reported using skin whitening products, with 67% having employed these products 1-10 times in the past year. The methods of skin lightening varied, with creams being the

most commonly used (39.4%), followed by serums (21%) and lotions (23.3%). Importantly, participants showed diverse sources of knowledge acquisition, with social media playing a prominent role (43%), followed by advertisements (23.3%).

Participants demonstrated a notable awareness of potential harm from skin whitening creams, as 70.3% acknowledged the potential negative effects on the skin. Active ingredients within these products were recognized to varying extents, including glutathione (17.3%) and vitamin C (23.7%), while a significant proportion admitted to not knowing the active ingredient (40.6%). Problems related to skin-lightening product usage were prevalent, with acne (15.8%) and irritation (13.5%) being notable concerns. Interestingly, satisfaction levels with skin-lightening product usage were mixed, with 23.7% expressing contentment, 23% indicating dissatisfaction, and 35% falling into the 'may be' category, suggesting a nuanced and complex relationship with these products.

## DISCUSSION

The obtained results in our study sheds light on several noteworthy insights related to participants' perceptions, practices, and knowledge about skin tone and the use of skin whitening products. These findings provide a deeper understanding of the underlying factors driving the prevalent use of such products, as well as the potential implications for individuals' well-being and societal perceptions [7]. This study's revelations regarding participants' perceptions of skin tone are particularly intriguing. The association of lighter skin with enhanced beauty and increased self-esteem aligns with existing sociocultural narratives that often emphasize fair skin as a standard of attractiveness [1-3]. This perception could be influenced by media portrayals and societal norms that perpetuate a certain beauty ideal. Furthermore, the belief that lighter skin may lead to improved marriage prospects underscores the socio-psychological importance of skin tone within certain cultural contexts, where marriage is considered a significant life event [1].

The prevalence of skin whitening product usage, as indicated by 67% of participants having used these products 1-10 times in the past year, highlights the widespread adoption of these practices. The various methods employed, ranging from creams to serums and lotions, underscore the diverse approaches individuals take to achieve their desired skin tone [8, 9]. The significant role of social media and advertisements in disseminating information about these products highlights the need for responsible messaging to ensure individuals are well-informed about potential risks and benefits [9]. It is encouraging to note that a considerable proportion of Participants demonstrated awareness of the potential harm associated with skin whitening creams (70.3%) [3-10]. This suggests a growing consciousness among individuals regarding the risks posed by certain

skin-lightening products. However, the finding that a significant number of participants could not identify the active ingredients within these products (40.6%) emphasizes the need for improved education and transparency in the skincare industry [11, 12].

The reported problems related to skin lightening product usage, such as acne and irritation, are indicative of the complexities involved in altering one's skin tone [10]. These issues underscore the importance of considering both short-term and long-term effects when making decisions about product usage [12]. The mixed satisfaction levels (23.7% satisfied, 23% dissatisfied, and 35% uncertain) further emphasize the intricate interplay of individual preferences, societal pressures, and the actual outcomes of using skin whitening products [13, 14]. This nuanced response highlights the need for a more holistic approach to addressing the broader factors that influence these preferences, rather than solely focusing on the products themselves [15, 16].

In conclusion, the study's results contribute valuable insights into the multifaceted landscape of skin tone perceptions, skin whitening product usage, and the associated complexities. These findings underscore the importance of considering cultural, psychological, and health-related aspects when examining such practices. Moving forward, the information gleaned from this study could inform public health interventions, consumer education campaigns, and the development of more inclusive beauty standards that respect and celebrate diverse skin tones.

### 1. Age

- A. Less than 20 years
- B. 20-25 years
- C. More than 25 years

### 2. Gender

- A. Male
- B. Female

### 3. Marital Status

- A. Single
- B. Married

### 4. Skin Tone

- A. Light
- B. Light brown
- C. Dark brown

### 5. Skin Type

- A. Dry
- B. Oily
- C. Combination

### 6. Monthly Pocket Money

- A. Less than 2000
- B. 2000-5000
- C. More than 5000

D. More

**7. Do you use any Kind of Whitening Product?**

- A. Yes
- B. No

**8. Perception About Skin Tone (Select all that Apply)**

- A. It is more beautiful
- B. Provides self-esteem
- C. Gives a young look
- D. Symbolic of belonging to a higher social class
- E. Increasing chances of getting married
- F. Other

**9. Skin Whitening Product use in the Past Year**

- A. 1-10 times
- B. More than 10 times

**10. Method of Skin Lightening (Select all that Apply)**

- A. Injection
- B. Pills
- C. Cream
- D. Serum
- E. Lotion
- F. Foundation

**11. Where did you Get Knowledge about Skin Whitening Cream (Select all that Apply)**

- A. Friend
- B. Advertisement
- C. Social media
- D. Other media

**12. Reasons for Practicing Skin Whitening Product (Select all that Apply)**

- A. Lighter skin tone
- B. Hyperpigmentary disorder
- C. Both

**13. Knowledge about Skin Whitening Cream Harming the Skin**

- A. Yes
- B. No

**14. Do you check the Ingredients before Purchasing a Skin-Lightening Product?**

- A. Yes
- B. No

**15. Active Ingredient within Skin Lightening Product (Select all That Apply)**

- A. Glutathione
- B. Vitamin C (antioxidant)
- C. Hydroquinone
- D. Steroid
- E. Mercury
- F. Kligman formulation
- G. Don't know

**16. Have you experienced any Problems Related to Skin Lightening Product Usage? (Select all That Apply)**

- A. Redness
- B. Discoloration
- C. Irritation
- D. Acne
- E. Eczema (atopic dermatitis)
- F. None

**17. Are you satisfied with Your Skin-Lightening Product Usage?**

- A. Yes
- B. Maybe
- C. No

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