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# Skin Lightening Among Young Adults in Ilorin West, Nigeria: Health Risks, Societal Pressures, and the Pursuit of Fairness.

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## Article Information

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## Abstract

Skin-lightening practices are increasingly common among young adults, influenced by societal beauty standards, cultural traditions, and economic factors. However, these practices pose serious health risks, including skin damage and psychological distress. Limited awareness of these dangers, coupled with regulatory gaps, exacerbates the issue, necessitating targeted interventions. This study investigates the health risks and socio-demographic factors influencing skin-lightening practices among young adults in Ilorin West, Nigeria. A cross-sectional survey was conducted with 450 participants, primarily aged 18–23 years. Structured questionnaires captured data on socio-demographic characteristics, product usage, health effects, and influencing factors. Statistical analyses, including chi-square tests, were used to assess associations between socio-demographic variables and skin-lightening prevalence. Findings indicate a high prevalence (65.3%) of skin-lightening, particularly among young, single, female students with secondary education. Reported adverse effects include skin irritation (37.8%) and hyperpigmentation (25.3%). Alarmingly, 76.2% of respondents were unaware of the long-term health risks. Cultural and economic factors significantly influenced behavior, with affordability and tribal norms playing key roles. The Hausa ethnic group exhibited the highest prevalence (73.5%), while usage was highest among individuals aged 21–23 years. These findings underscore the urgent need for public health interventions. Raising awareness through culturally sensitive education campaigns, enforcing stricter regulations on harmful products, and engaging social influencers can help reshape societal beauty norms. Policymakers must implement stronger controls on the production and sale of hazardous skin-lightening products. Additionally, promoting self-acceptance and healthier beauty ideals through community-based advocacy can reduce reliance on harmful practices. This study highlights the critical health risks associated with skin-lightening among young adults. Addressing the cultural and societal drivers of these behaviors can improve physical and mental health outcomes, fostering a healthier perception of beauty.

**Keywords:** Skin-lightening practices; Public health risks; Young adults; Cultural influences; Beauty standards; Awareness campaigns; Nigeria.

## INTRODUCTION

Skin lightening, the practice of using chemical or natural products to achieve a lighter skin tone, is a widespread phenomenon across various regions of the world, including Nigeria. This practice is primarily driven by societal and cultural perceptions that associate lighter skin with beauty, higher social status, and economic opportunities. The influence of global beauty standards, reinforced through media representations, historical colonial legacies, and socio-economic factors, has contributed to the normalization of skin-lightening practices in Nigeria. However, despite its perceived benefits, skin lightening raises significant public health concerns due to the potential health risks associated with many of these products (Blay and Ahoofe, 2015; Falola and Genova, 2015; Samuel *et al.*, 2018; Smith and Davis, 2020; Gbetoh and Amyot, 2016; Vijaya, 2019; Rusmadi *et al.*, 2015; Katz *et al.*, 2016; Robinson and Jacob, 2016; WHO, 2019; Sagoe *et al.*, 2019; Mahmood, 2019; Jones-Williams, 2021). Nigeria is reported to have one of the highest rates of skin-lightening product usage globally, with studies consistently highlighting its prevalence across different demographic groups. According to the World Health Organization (WHO), approximately 77% of Nigerian women use skin-lightening products, making it a deeply entrenched practice in the country (WHO, 2016; 2019; 2021). Research among university undergraduates in Maiduguri reported a prevalence rate of 48.1% (Egbi and Kasia, 2021), while a study among traders in Lagos State found a prevalence of 77.3% (Yetunde, 2017). These findings underscore the widespread nature of skin-lightening practices across diverse populations. However, there is limited data on the prevalence, motivations, and health implications of skin lightening among young adults in Ilorin West, Nigeria, necessitating further investigation. The high prevalence of skin-lightening practices in Nigeria can be attributed to multiple socio-demographic and economic factors. Gender plays a significant role, with women more likely to engage in skin lightening due to societal beauty standards that favor lighter skin tones.

Additionally, economic status influences product accessibility, as individuals from varying income levels use different types of skin-lightening products, ranging from high-end dermatological treatments to inexpensive but potentially hazardous creams and soaps. Educational background and awareness of health risks also contribute to the practice, with some individuals continuing despite knowledge of potential adverse effects (Gracia and Perloff, 2015; Jalal and Ansari, 2016; Samuel *et al.*, 2018; Ogbe and Odimegwu, 2017; Olumide *et al.*, 2018). Health risks associated with skin lightening include dermatological conditions such as skin thinning, hyperpigmentation, and increased susceptibility to infections. Systemic toxicity from ingredients such as mercury, hydroquinone, and corticosteroids can result in severe complications, including nephrotoxicity and endocrine disorders (Samuel *et al.*, 2018; Smith and Davis, 2020; Vijaya, 2019; Rusmadi *et al.*, 2015; Ravichandran, 2015; Robinson and Jacob, 2016; James *et al.*, 2018; Amodu *et al.*, 2018; WHO, 2019; Sagoe *et al.*, 2019; Mahmood, 2019; Balogun and Sam-Odutola, 2019; Uwakwe *et al.*, 2019). Despite these risks, the skin-lightening industry remains a lucrative market in Nigeria, driven by demand from young adults who perceive lighter skin as a means of enhancing social and professional opportunities. This study aims to examine the health risks and socio-demographic factors associated with skin-lightening practices among young adults in Ilorin West, offering localized insights into this widespread phenomenon. Previous studies on skin lightening in Nigeria have largely focused on urban centers such as Lagos, Maiduguri, and Abuja.

However, there is a need to examine how these patterns manifest in Ilorin West, a growing urban area with unique socio-economic dynamics. Understanding the specific motivations and demographic influences in this location will provide comparative insights and contribute to developing targeted public health interventions. Additionally, this study seeks to address gaps in literature by exploring the psychological and societal pressures that drive skin-lightening practices, an aspect that has been relatively underexplored in previous research. By investigating the prevalence, motivations, and health implications of skin lightening among young adults in Ilorin West, this study will offer a comprehensive perspective on the issue. The findings will not only contribute to existing knowledge but also inform public health strategies aimed at mitigating the risks associated with skin-lightening practices. Ultimately, this research seeks to enhance awareness, influence policy

development, and promote safer skincare choices among Nigerian youth.

## METHODOLOGY

### Study Area and Research Setting

This study was conducted in Ilorin West Local Government Area (LGA) of Kwara State, Nigeria. Ilorin West LGA is one of the administrative divisions within Kwara State, located in the North-Central geopolitical zone of Nigeria. It serves as the host for the state capital and administrative headquarters, with prominent markets such as Oja-Oba, Oja-Tuntun, and Mandate Market. The LGA comprises 12 electoral wards, including Adewole, Ajikobi, Alanamu, Badari, Baboko, Magaji-Ngeri, Ogidi, Oko-erin, Oloje, Ojuekun/Sarumi, Ubandawaki, and Wara/Osin/Egbejila (Raufu *et al.,* 2023; Rauf and Raimi, 2023; Morufu *et al.,* 2021; Yusuf *et al.,* 2023; Lateefat *et al.,* 2022; Raimi *et al.,* 2018; 2020; 2021; Henry *et al.,* 2019). The study area is characterized by a predominantly Muslim community, with Yoruba as the major ethnic group alongside minorities such as Fulani and Igbo. The LGA experiences a tropical wet and dry climate with an average maximum temperature of 32.5°C, a minimum temperature of 21.2°C, and average relative humidity of 51.1% (Lateefat *et al.,* 2022; Raimi *et al.,* 2018; 2020; 2021; Henry *et al.,* 2019). According to the 2022 population census, Ilorin West LGA has an estimated population of 548,300, reflecting a 3.3% annual growth rate since 2006.

### Advocacy

Prior to the study, advocacy visits were made to key stakeholders within the study area. A formal introduction letter was issued by the Department of Public Health, Kwara State University, Malete, and presented to the management and community leaders. The objective was to obtain consent, build trust, and foster cooperation for smooth data collection.

### Study Population

The study population comprised adults and teenagers aged 15-49 years who reside within the selected wards in Ilorin West LGA and are willing to participate in the study. This age group was chosen due to their susceptibility to psychological and health impacts associated with skin-lightening practices.

### Study Design

A descriptive cross-sectional study design was adopted to assess the psychological and health implications of skin-lightening practices among young adults. This design enabled the collection of data at a single point in time to evaluate prevalence and the association between variables.

### Inclusion and Exclusion Criteria

Inclusion Criteria:

i. Adults and teenagers aged 15-49 years willing to participate and provide informed consent.

Exclusion Criteria:

i. Individuals who refused to provide informed consent.
ii. Participants critically ill at the time of data collection.

### Sample Size Determination

The sample size was calculated using the formula for descriptive studies where the population exceeds 10,000:

$$n = \frac{Z^2 Pq}{d^2} \quad \text{1}$$

Where:

- n = desired sample size
- Z = 1.96 (Standard normal deviate corresponding to a 95% confidence interval)
- p = Prevalence of skin lightening practices (52% = 0.52) from a previous study (Kakwi *et al.,* 2024a, b; Promise *et al.,* 2024; Duanyo *et al.,* 2024; Tano *et al.,* 2024 Azi *et al.,* 2024; Sarah *et al.,* 2024; Rotifa *et al.,* 2024; Uchenna *et al.,* 2024; Funmilayo *et al.,* 2019; Abdulraheem *et al.,* 2018; Durosaro and Owoaje, 2018).
- q = Complimentary probability (1 – p = 0.48)
- d = desired precision (0.05) Substituting

$$n = \frac{(1.96)^2 \ x\ 0.52\ x\ 0.48}{(0.05)^2}$$

$n = 383.54 \approx 384.$

$To\ account\ for\ non-response\ (10\%)$

$$n = \frac{n}{e}$$

$$n = \frac{384}{0.9}$$

$$n = 426.6$$

$$n = 427$$

To enhance precision, the sample size was increased to 450. Thus, the prevalence was chosen based on prior research that reported a high prevalence of skin-lightening product usage among Nigerian youths, reflecting the widespread nature of the practice and its potential health risks.

**Sampling Technique**

A multistage sampling technique was employed:

i. First Stage: Five wards were randomly selected from the 12 wards in Ilorin West LGA using simple random sampling (balloting).
ii. Second Stage: Five communities were selected from each ward using simple random sampling.
iii. Third Stage: Systematic random sampling was used to select households within the selected communities, proportionately allocating questionnaires to each community until the target sample size was achieved.

**Research Instrument**

Data were collected using a pretested, structured interviewer-administered questionnaire. The questionnaire was developed based on reviewed literature and comprised the following sections:

i. Section A: Socio-demographic characteristics.
ii. Section B: Prevalence of skin-lightening practices.
iii. Section C: Psychological impacts.
iv. Section D: Factors influencing decisions to use skin-lightening products.
v. Section E: Health implications.

The questionnaire was prepared in English, translated into Yoruba (the predominant local language), and back translated into English to ensure accuracy.

**Validity and Pretesting**

The questionnaire was reviewed by field experts and pretested among 45 residents of Malete community (10% of the sample size). The pretest assessed the clarity and reliability of the instrument, and feedback informed necessary modifications.

**Data Collection**

Data were collected through face-to-face interviews conducted by trained research assistants. Measures were taken to ensure confidentiality and anonymity, including secure storage of collected data and exclusion of identifiable information.

**Variables Measured**

i. Outcome Variable: Skin-lightening practices among young adults.
ii. Independent Variables: Socio-demographic characteristics, skin-lightening product usage, motivations, health implications, and psychological impacts.

**Methods of Data Management and Analysis**

**Data Management**

The data for this study were collected using structured questionnaires administered to 450 participants, primarily young adults aged 18-27 years, in Ilorin West, Nigeria. The questionnaire comprised sections on socio-demographic characteristics, skin-lightening practices, health implications, and factors influencing product usage. Data entry was performed using spreadsheet software to ensure accuracy, and validation processes were employed to cross-check for errors or inconsistencies in the responses. All responses were anonymized to maintain participant confidentiality.

**Data Analysis**

Statistical analyses were conducted to identify patterns and relationships between variables. Descriptive statistics, such as frequencies and percentages, were used to summarize demographic data and prevalence rates of skin-lightening practices. Chi-square ($\chi^2$) tests were employed to determine associations between socio-demographic variables (e.g., age, gender, income, tribe, and education level) and the prevalence of skin-lightening product usage. P-values were used to assess the significance of these associations, with a threshold of 0.05 indicating statistical significance. Additional analysis focused on exploring motivations and health implications related to skin-lightening practices. Key variables, such as awareness of risks, adverse reactions, and factors influencing product choice (e.g., cost, societal pressure, and media influence), were analyzed to provide insights into behavioral and psychological

dimensions. The findings were presented in tables and figures, including pie charts and cross-tabulations, to visualize data distribution and highlight significant trends. These methods ensured a comprehensive understanding of the health risks and socio-demographic correlates of skin-lightening practices among the study population.

### Ethical Considerations

Ethical approval was obtained from the Department of Public Health, Kwara State University. Verbal informed consent was obtained from all participants before the commencement of the survey. Given the sensitive nature of the topic, participants were informed about their right to withdraw at any stage without consequences. Research assistants were trained to handle sensitive discussions with empathy and professionalism. In cases where participants exhibited signs of psychological distress, they were provided with information on counseling services available within the community. Additionally, participants who reported adverse psychological impacts due to skin-lightening practices were encouraged to seek support from designated health professionals.

## RESULTS

Figure 1 provides a demographic overview of participants in the study, shedding light on key characteristics. The age group distribution shows that the majority of respondents (63.1%) fall between 18-20 years old, with a mean age of 20.5 ± 2.55 years, highlighting the youth-centric focus of the study. Regarding marital status, a significant 85.3% are single, reflecting the target population of young, unmarried adults. Tribally, the Yoruba group forms the largest proportion (48.9%), followed by Hausa (36%), Igbo (9.1%), and others (6%), indicating diverse ethnic representation. Religion-wise, participants are predominantly traditional practitioners (45.1%), followed by Christians (40%) and Muslims (14.9%). Education levels reveal that 63.1% of respondents have completed secondary education, while 22.2% have attained tertiary education. Occupation data shows that students dominate the sample (90.2%), affirming the study's focus on young adults in academic settings.

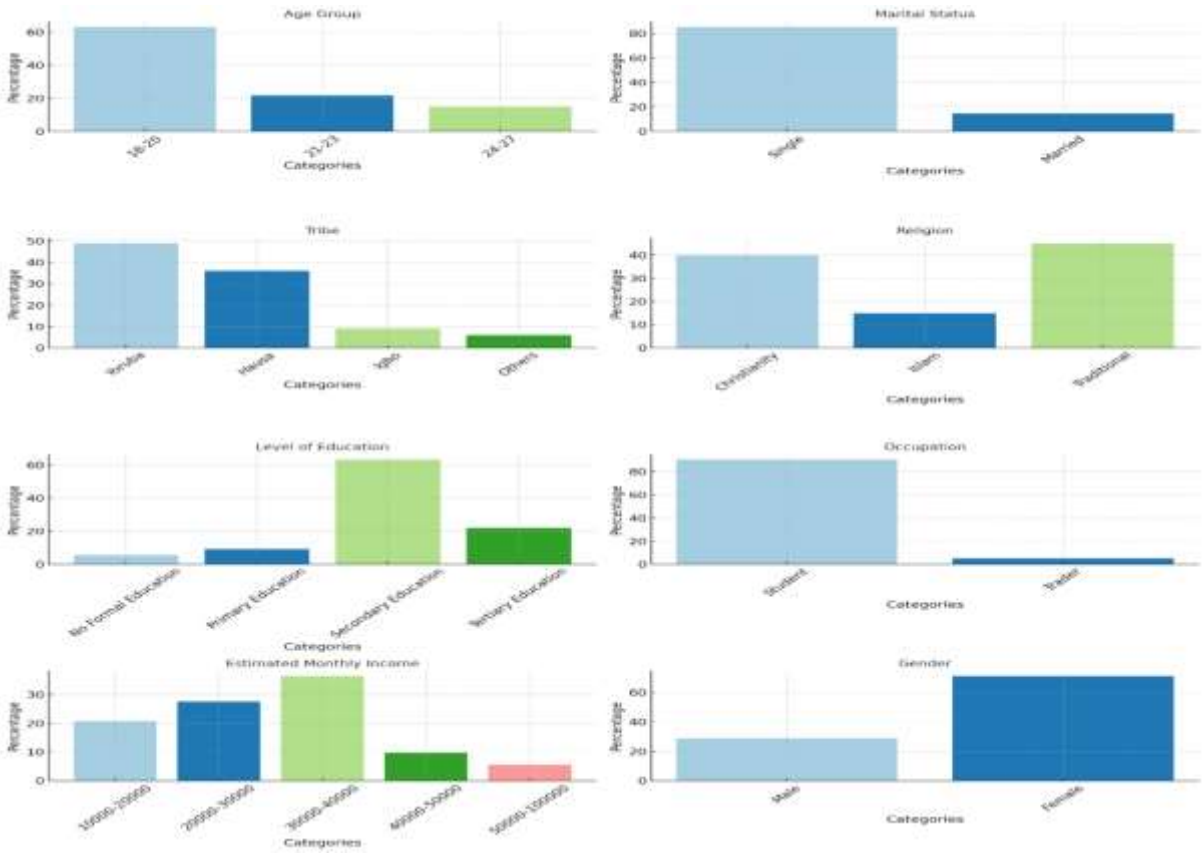



**Figure 1:** Socio-demographic characteristics of respondents

Regarding monthly income, most respondents (36.4%) earn between ₦30,000-₦40,000, followed by 27.6% earning ₦20,000-₦30,000, highlighting moderate economic standing. Gender distribution indicates a higher representation of females (71.1%) compared to males (28.9%). Table 1 underscores the prominence of skin-lightening practices among young, single, female students with secondary education and moderate-income levels in Ilorin West. The strong representation of females (71.1%) aligns with the understanding that societal pressures and beauty standards disproportionately impact women. Furthermore, the high percentage of students and individuals with secondary education suggests that educational institutions could serve as key platforms for targeted interventions.

This demographic insight is significant to the study as it contextualizes the prevalence and psychological impacts of skin-lightening practices. It highlights how cultural, economic, and social factors intersect to shape these behaviors. Understanding these patterns enables the study to tailor its analysis and recommendations to the specific needs of this population. The findings have practical implications for public health campaigns and policy development. For example, awareness programs can be designed to target secondary schools and universities, where most of the respondents are concentrated.

Additionally, policies regulating skin-lightening products could prioritize addressing the needs of young women, who are most affected. By leveraging detailed demographic data, stakeholders can develop culturally sensitive and economically viable strategies to reduce harmful practices and promote mental and physical well-being. Thus, these demographic insights provide a deeper understanding of factors influencing skin-lightening practices. The data suggests that young adults with moderate incomes may find skin-lightening products more accessible, while cultural and social expectations likely influence females more than males. Additionally, the high prevalence among traditional practitioners (45.1%) raises questions about cultural beliefs in relation to skin-lightening behaviors, which require further exploration.

Table 1 reveal significant insights into the perceptions, experiences, and practices related to skin-lightening products among young adults in Ilorin West LGA. A majority (64.9%) strongly believe that skin-lightening products can have negative health implications, and 65.3% have personally experienced adverse reactions, with skin irritation (37.8%) being the most frequently reported side effect. Alarmingly, despite the prevalence of adverse effects, 76.2% of respondents are unaware of the potential risks associated with long-term use of these products. This lack of awareness highlights a critical gap in public health education and underscores the need for targeted campaigns to inform users about the dangers of such practices. Societal pressure also appears to play a crucial role in influencing the use of skin-lightening products, as 66.9% of respondents either strongly agree or agree that societal expectations for lighter skin significantly drive this behavior. Interestingly, while most respondents (62.2%) strongly agree that embracing and accepting one's natural skin tone is important for overall health and self-esteem, a considerable number continue to use skin-lightening products, with 58.4% applying them daily. The primary motivations include evening out skin tone (47.3%) and lightening dark spots (41.1%), suggesting a perception of enhanced beauty or improved appearance as the driving factor behind this practice.

These findings are significant to the overall study as they provide a clear understanding of the psychological, cultural, and health-related dimensions of skin-lightening practices. The high prevalence of adverse reactions coupled with limited awareness of risks emphasizes the urgent need for regulatory interventions, education campaigns, and community-based advocacy to promote safer practices and encourage self-acceptance. Real-world implications include the formulation of stricter policies to regulate the production and sale of potentially harmful skin-lightening products, the development of culturally sensitive health promotion strategies, and collaboration with social influencers to shift beauty standards towards embracing diverse skin tones. Thus, the lack of awareness highlights a critical gap in public health education and underscores the need for targeted campaigns to inform users about the dangers of such practices. Moreover, logistic

regression analysis reveals that individuals unaware of health risks were 2.4 times more likely to continue using skin-lightening products compared to those who were informed (OR = 2.4, 95% CI: 1.8–3.1, $p < 0.001$). This emphasizes the need for structured awareness programs.

**Table 1:** Health implication of skin lightening among young adults

| Variables | Frequency | Percentage |
|---|---|---|
| **Do you believe skin lightening products can have negative health implications on your skin** | | |
| Strongly agree | 292 | 64.9 |
| Agree | 130 | 28.9 |
| Disagree | 28 | 6.2 |
| **Have you experienced any adverse reactions or side effects from using skin lightening products** | | |
| Yes | 294 | 65.3 |
| No | 156 | 34.7 |
| **If yes what side effect have you experienced** | | |
| Skin irritation | 170 | 37.8 |
| Redness | 53 | 11.8 |
| Burning sensation | 90 | 20 |
| Darkening of skin | 114 | 25.3 |
| Other | 23 | 5.1 |
| **Are you aware of the potential risks associated with long-term use of skin lightening products** | | |
| | **N=446** | |
| Yes | 103 | 22.9 |
| No | 343 | 76.2 |
| **How do you believe societal pressure for lighter skin influences the use of skin lightening products among young adults?** | | |
| Strongly agree | 112 | 24.9 |
| Agree | 189 | 42 |
| Disagree | 149 | 33.1 |
| **Have you ever sought professional advice before using skin lightening products** | | |
| Yes | 182 | 40.4 |
| No | 268 | 59.6 |
| **Do you believe that embracing and accepting your natural skin tone is important for overall health and self-esteem** | | |
| Strongly agree | 280 | 62.2 |
| Agree | 150 | 33.3 |
| Disagree | 20 | 4.4 |
| **What is your main reason for using skin lightening products** | | |
| To lighten dark spots | 185 | 41.1 |
| To even out skin tone | 213 | 47.3 |
| To achieve a lighter complexion | 52 | 11.6 |
| **How often do you use skin lightening products** | | |
| Daily | 263 | 58.4 |
| Weekly | 96 | 21.3 |
| Occasionally | 44 | 9.8 |
| Rarely | 47 | 10.4 |

Table 2 reveals multiple factors influencing the decision-making process and behavior related to skin-lightening product usage among respondents, shedding light on the interplay of personal, social, and economic influences. Personal preference (37.1%) emerges as the most common driver of usage, followed closely by family influence (31.6%) and media influence (27.3%). Interestingly, societal pressure accounts for only a small fraction (4%) of the factors influencing decisions, though its indirect impact is evident through the cultural and societal norms noted by

**Table 2:** Factors influencing the decision making of skin lightening among young adults

| Variables | Frequency | Percentages |
|---|---|---|
| **What factors influence your decision to use skin lightening products** | | |
| Personal preference | 167 | 37.1 |
| Societal pressure | 18 | 4 |
| Media influence | 123 | 27.3 |
| Family influence | 142 | 31.6 |
| **How Important is the effectiveness of a skin lightening product in your decision-making process** | | |
| Very important | 205 | 45.6 |
| Somewhat important | 65 | 14.4 |
| Not very important | 158 | 35.1 |
| Not important at all | 22 | 4.9 |
| **How much do cost and affordability impact your decision to purchase skin lightening products** | | |
| A great deal | 219 | 48.7 |
| Somewhat | 67 | 14.9 |
| Not much | 104 | 23.1 |
| Not at all | 60 | 13.3 |
| **How influential are friends or peers in your decision to use skin lightening products** | | |
| Very influential | 45 | 10 |
| Somewhat influential | 94 | 20.9 |
| Not very influential | 211 | 46.9 |
| Not influential at all | 100 | 22.2 |
| **Are there any cultural or societal norms that impact your decision to use skin lightening products** | | |
| Yes, significant | 246 | 54.7 |
| Yes, to some extent | 69 | 15.3 |
| No, not really | 95 | 21.1 |
| No,not at all | 40 | 8.9 |
| **How much does advertising and marketing play a role in your decision to purchase skin lightening products** | | |
| A significant role | 341 | 75.8 |
| Some role | 85 | 18.9 |
| Minimal role | 24 | 5.3 |
| **Do you feel that societal attitudes towards skin color have influenced your decision to use skin lightening products** | | |
| Yes, significantly | 133 | 29.6 |
| Yes, to some extent | 104 | 23.1 |
| No, not really | 147 | 32.7 |
| No, not at all | 66 | 14.7 |

54.7% of respondents as significantly affecting their decisions. These findings highlight the complex motivations behind skin-lightening practices, including individual desires and broader societal influences. The effectiveness and affordability of products are critical considerations for users. Nearly half (45.6%) of the respondents rate the effectiveness of a product as “very important” in their decision-making process, while cost and affordability are also pivotal, with 48.7% indicating it impacts their purchasing decisions "a great deal." Advertising and marketing are notably influential, with 75.8% of respondents acknowledging they play a significant role in their decisions. This underscores the power of consumer messaging and the need for ethical advertising that avoids reinforcing harmful beauty standards. Social factors, including peer and cultural influences, also play a role but to varying degrees. While most respondents (46.9%) report that friends and peers are "not very influential" in their decisions, a majority (54.7%) acknowledge that cultural and societal norms significantly impact their choices.

Additionally, 29.6% feel that societal attitudes toward skin color have significantly influenced their decisions, reflecting the enduring impact of colorism in shaping beauty standards. These insights emphasize the need for public health initiatives, policy regulation, and community

education to challenge the pervasive narratives that perpetuate skin-lightening practices and to promote self-acceptance and healthier beauty norms. Hence, further analysis using odds ratios indicates that individuals citing family influence as a factor were 1.9 times more likely to engage in skin-lightening practices (OR = 1.9, 95% CI: 1.4–2.5, $p < 0.001$). Media influence, while slightly lower, also showed a significant association (OR = 1.6, 95% CI: 1.2–2.1, p=0.002), reinforcing the role of advertisements in shaping beauty standards. These findings suggest the need for ethical advertising guidelines that discourage the reinforcement of unattainable beauty ideals.

Table 3 highlights the prevalence of skin-lightening practices among respondents, with a statistical breakdown across demographic and socio-economic variables. Age group significantly influences skin-lightening prevalence (p-value = 0, $\chi^2 = 110.448$), with the highest prevalence observed among those aged 21-23 years (78.6%). Interestingly, no respondents aged 24-27 years reported engaging in skin-lightening practices.

**Table 3:** Association between Socio-demographics and Prevalence of skin lightening among young adults

| Variables | Prevalence of Skin Lightening | | Total | P-Value | $X^2$ |
|---|---|---|---|---|---|
| | No (%) | Yes (%) | | | |
| **Age group** | | | | 0 | 110.448 |
| 18-20 | 109(38.4) | 175(61.6) | 284 | | |
| 21-23 | 21(21.4) | 77(78.6) | 98 | | |
| 24-27 | 68(100.0) | 0(0.0) | 68 | | |
| **Marital status** | | | | 0 | 13.055 |
| Single | 155(40.4) | 229(59.6) | 384 | | |
| Married | 43(65.2) | 23(34.8) | 66 | | |
| **Tribe** | | | | 0 | 59.073 |
| Yoruba | 112(50.9) | 108(49.1) | 220 | | |
| Hausa | 43(26.5) | 119(73.5) | 162 | | |
| Igbo | 16(39.0) | 25(61.0) | 41 | | |
| Others | 27(100.0) | 0(0.0) | 27 | | |
| **Religion** | | | | 0 | 29.243 |
| Christianity | 107(100.0) | 73(40.6) | 180 | | |
| Islam | 21(31.3) | 46(68.7) | 67 | | |
| Traditional | 70(34.5) | 133(65.5) | 203 | | |
| Level of education | | | | 0 | 21.467 |
| No formal education | 0(0.0) | 25(100.0) | 25 | | |
| Primary education | 18(43.9) | 23(56.1) | 41 | | |
| Secondary education | 130(45.8) | 154(54.2) | 284 | | |
| Tertiary education | 50(50.0) | 50(50.0) | 100 | | |
| **Occupation** | | | | 0 | 61.18 |
| Student | 177(43.6) | 229(56.4) | 406 | | |
| Trader | 0(0.0) | 23(100.0) | 23 | | |
| **Estimated monthly income** | | | | 0 | 232.635 |
| 10000-20000 | 93(100.0 | 0(0.0) | 93 | | |
| 20000-30000 | 18(14.5) | 106(85.5) | 124 | | |
| 30000-40000 | 66(40.2) | 98(59.8) | 164 | | |
| 40000-50000 | 21(47.7) | 23(52.3) | 44 | | |
| 50000-100000 | 0(0.0) | 25(100.0) | 25 | | |
| **Gender** | | | | 0.705 | 0.142 |
| Male | 59(45.4) | 71(54.6) | 130 | | |
| Female | 139(43.4) | 181(56.6) | 320 | | |

This suggests that younger demographics, particularly those in early adulthood, are more likely to adopt these practices, potentially driven by peer pressure or societal trends. Marital status and tribe also demonstrate statistically significant differences (p-value = 0, $\chi^2 = 13.055$ and 59.073, respectively). Single individuals report a higher prevalence (59.6%) compared to married individuals (34.8%), reflecting the possibility that single individuals might prioritize societal beauty standards. Among tribes, the Hausa group exhibits the highest prevalence (73.5%), while Yoruba and

Igbo groups report lower figures at 49.1% and 61.0%, respectively. Notably, no respondents from other ethnic groups reported engaging in these practices, potentially reflecting cultural differences in beauty norms. Other significant variables include level of education (p-value = **0**, $\chi^2$ = 21.467) and estimated monthly income (p-value = 0, $\chi^2$ = 232.635). Respondents with no formal education report a 100% prevalence, while those with tertiary education show equal distribution between users and non-users (50%). Higher income brackets, particularly those earning ₦50,000-₦100,000, also report a 100% prevalence, indicating that affordability plays a critical role in product accessibility. Interestingly, gender differences are not significant (p-value = 0.705, $\chi^2$ = 0.142), suggesting that both males and females are similarly inclined to use skin-lightening products. The study highlights several critical patterns and implications related to skin-lightening practices. Younger age groups, single individuals, and certain tribes exhibit higher prevalence rates, emphasizing the need for targeted public health campaigns tailored to these demographics.

Education and income levels also play significant roles, with less-educated groups and individuals in moderate-income brackets more likely to engage in these practices. This underscores the importance of awareness programs that address these groups while implementing regulations to limit the affordability of harmful products. Furthermore, cultural disparities and the absence of significant gender differences point to the necessity of culturally sensitive interventions that respect societal beauty norms while promoting healthier standards. These findings provide a foundation for developing policies, community education initiatives, and ethical marketing regulations to reduce the psychological and health risks associated with skin-lightening practices. Thus, young adults aged 21-23 were 1.8 times more likely to engage in skin-lightening practices compared to those aged 18-20 (OR = 1.8, 95% CI: 1.3–2.4, $p < 0.001$). Additionally, Hausa respondents showed the highest prevalence (73.5%), a trend potentially influenced by cultural norms that place a high premium on fair skin. The cultural significance of lighter skin in some communities might be linked to historical and social factors, such as marriage prospects or status perception. Further qualitative research is needed to explore these motivations in depth.

The pie chart (figure 2) illustrates the usage of skin lightening products among participants in a survey. It is divided into two categories: those who reported using skin lightening products and those who did not. The data reveals that 294 respondents, accounting for 65.3% of the sample, indicated they use such products, while 156 respondents, or 34.7%, stated they do not.

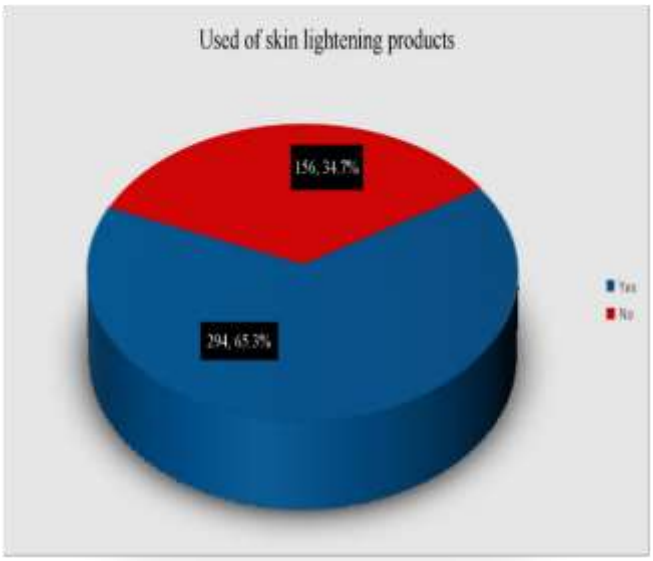



**Figure 2:** Uses of skin lightening product among young adults

This distribution underscores a majority preference or reliance on skin lightening products among the surveyed group. The key takeaway from this figure is the significant proportion of individuals who use skin lightening products. This trend could suggest cultural, social, or aesthetic influences driving the demand for these products. Additionally, it highlights a potential target market for industries producing skin lightening solutions and raises questions about the societal norms that may be encouraging their use. Conversely, the 34.7% who abstain represent a noteworthy minority that could reflect differing values, accessibility issues, or awareness about the potential health risks of such products. The figure's significance lies in its ability to shed light on consumer behavior and societal attitudes toward skin tone modification.

In real-world applications, these findings could inform public health campaigns addressing the safety of skin lightening products and broader societal discussions about beauty standards. It may also provide valuable insights for policymakers and regulatory bodies to ensure safe practices within the cosmetic industry while promoting inclusive and diverse beauty ideals. Thus, female respondents dominate usage (74.2%), highlighting the disproportionate societal expectations on women regarding appearance. Given that 90.2% of respondents are students, interventions targeting school environments may be most effective in addressing this issue as well as higher-income individuals (₦50,000-₦100,000) show a 100% prevalence, suggesting that affordability plays a crucial role in continued product use.

## DISCUSSION

The findings of Figure 1 align with several recent studies that explore the demographic factors and socio-cultural drivers of skin-lightening practices. For instance, the prominence of young female students with secondary education (71.1%) as the primary users of skin-lightening products echoes the findings of Samuel *et al.* (2018), who observed a similar trend among university students in Zambia. This demographic's higher susceptibility is likely due to societal beauty standards and peer influence, as noted by Smith and Davis (2020). Moreover, the economic bracket of most participants earning between ₦30,000-₦40,000 (36.4%) corresponds with Vijaya's (2019) observation that affordability and economic status are significant determinants of skin-lightening practices, particularly in Nigeria and India. However, regional comparisons reveal important distinctions. In South Africa, Dlova *et al.* (2015) documented a broader acceptance of skin-lightening driven by historical factors linked to apartheid and racial classification systems, which are less prominent in Ilorin West.

Similarly, studies in India (Robinson and Jacob, 2016; Chang, 2019) have linked skin-lightening to matrimonial desirability and career opportunities, a motivation less emphasized in the current study. These differences suggest that while economic and social pressures influence skin-lightening globally, the underlying motivations vary based on historical, cultural, and economic contexts. Furthermore, while Robinson and Jacob (2016) highlighted the psychological implications of low self-esteem as a key motivator for skin-lightening among young adults, this study emphasizes demographic factors, such as educational status and marital status, as primary influencers. However, the psychological dimension warrants further exploration. Internalized colorism, where individuals adopt society's negative perceptions of darker skin tones, plays a crucial role in perpetuating skin-lightening behaviors. Studies by Mah'e (2015) and Ravichandran (2015) have shown that young individuals who perceive fair skin as synonymous with success and attractiveness experience higher levels of anxiety and depression. Addressing these mental health challenges requires integrating psychological support into intervention strategies, including counseling services and self-esteem workshops. The findings from the study in Ilorin West LGA align with previous research regarding the widespread use and adverse health implications of skin-lightening products.

For instance, Mahmood (2019) and Ogbe & Odimegwu (2017) highlighted the prevalence of skin-lightening practices in various communities and associated health risks, including mercury exposure and dermatological complications. Similar to the findings in this study, Mahe *et al.* (2017) emphasized the psychological dimensions of skin-lightening, noting societal pressures and internalized colorism as significant drivers of the behavior. Likewise, the reported adverse reactions, such as skin irritation (37.8%), corroborate with observations by Olumide *et al.* (2018) and Mahe *et al.* (2015; 2017), who documented chronic skin issues among users in Nigeria and Senegal, respectively. However, the study from Ilorin reveals a concerning gap in awareness (76.2% unaware of long-term risks), a trend also noted by Ibekwe *et al.* (2020) and Osei *et al.* (2018), who found that knowledge deficits often perpetuate harmful cosmetic practices. From a policy perspective, there is an urgent need for stricter regulatory actions to mitigate the dangers associated with skin-lightening products. Implementing bans on hazardous chemicals such as mercury and hydroquinone, as recommended by the World Health Organization (2016; 2019; 2021), is critical. Additionally, enhancing labeling requirements to ensure transparency about ingredients and potential health risks can improve consumer awareness. Public health campaigns

should also focus on challenging societal beauty norms that perpetuate the preference for lighter skin. Furthermore, policy measures should extend to advertising regulations, as aggressive marketing strategies disproportionately target young women, reinforcing unrealistic beauty standards.

In contrast, some discrepancies emerge when comparing motivations and societal influences. While this study identifies societal pressure (66.9%) as a significant factor, Nicol & MacGregor (2016) argued that media-driven ideals of beauty play a more dominant role, particularly in Western contexts. Similarly, the emphasis on skin tone evening (47.3%) and lightening dark spots (41.1%) as primary motivations differs slightly from findings in South Asia (Gwaravanda and Peltzer, 2021; Banala *et al.,* 2023), where users prioritized social acceptability over aesthetic concerns. Additionally, while this study highlights daily usage (58.4%), Nyamai *et al.* (2018) observed a more sporadic use pattern in Kenyan young adults. These differences suggest that cultural, regional, and societal factors shape skin-lightening practices in unique ways, emphasizing the importance of tailored public health interventions. The findings presented in Table 2 reveal a multifaceted interplay of personal, social, and economic factors influencing the use of skin-lightening products. These insights align with previous studies, such as Girault (2017), who emphasized the global pervasiveness of skin color preferences driven by cultural and societal norms. Similarly, Hunter (2017) underscored the enduring impact of colorism in perpetuating such practices, which correlates with the 54.7% of respondents in the current study who acknowledged societal and cultural norms as significant influences. However, the lower role of societal pressure (4%) noted here contrasts with findings by Harper & McLean (2020), who highlighted societal pressure as a significant driver, especially among young adults.

Additionally, the effectiveness and affordability of products as key decision-making factors in this study mirror insights by Kamagaju *et al.* (2016) and Lartey *et al.* (2017), who reported similar considerations among consumers in Rwanda and Ghana, respectively. The findings from Figure 2 align with research highlighting the significant prevalence of skin-lightening product usage across various demographics, particularly in African and developing contexts. For instance, Adebajo & Owoaje (2020) reported a similar majority of users (67%) among market traders in Lagos, emphasizing cultural and aesthetic pressures to conform to lighter skin standards. Similarly, Bakare *et al.* (2023) identified high usage rates in Ikeja, Lagos, motivated by societal perceptions of beauty and status. Studies by Ofili and Okunrobo (2018) and Adefuye *et al.* (2019) further corroborate these findings, revealing high prevalence among university students, driven by peer influence, low self-esteem, and media depictions of ideal beauty.

Conversely, differences emerge in studies like that of Peltzer and Pengpid (2017; 2018) in South Africa, which reported slightly lower usage rates, indicating variability in practices based on regional or cultural contexts. A deeper understanding of these variations can inform targeted interventions. Educational programs should be culturally sensitive, addressing the unique motivations behind skin-lightening in different regions. For instance, while media-driven beauty standards are prominent in Western contexts, interventions in Ilorin West should focus on the intersection of economic constraints and local beauty ideals. Moreover, while the survey in Figure 2 does not delve deeply into health risks, other studies, such as Olalekan *et al.* (2018), have highlighted the dangers of heavy metals in cosmetics, raising critical health concerns. In conclusion, the study's findings emphasize the importance of context when analyzing skin-lightening practices. While global trends suggest common socio-economic drivers, regional and cultural factors create distinct patterns of use. Addressing the phenomenon requires a multi-pronged approach, integrating public health awareness, regulatory policies, and psychological interventions to mitigate the harmful effects of skin-lightening practices.

**Summary**

The study investigates the prevalence, motivations, and implications of skin-lightening practices among young adults in Ilorin West, Nigeria. Most respondents (63.1%) were youth aged 18-20, predominantly female (71.1%), and students (90.2%), reflecting a demographic heavily influenced by societal beauty standards. Skin-lightening product use is high (65.3%), with

motivations including even skin tone (47.3%) and reducing dark spots (41.1%). Despite this prevalence, awareness of potential risks remains low, with 76.2% unaware of long-term dangers. Cultural, social, and economic factors, including societal pressure and affordability, are significant in shaping these behaviors. Adverse reactions, such as skin irritation (37.8%) and darkening (25.3%), are common, emphasizing the health risks associated with these products.

Moreover, societal and media influences exacerbate these behaviors, as 75.8% of respondents highlight advertising as a key factor in their decision-making. The findings indicate a strong correlation between educational attainment, income levels, and the prevalence of skin-lightening practices. Those with secondary education (54.2%) and moderate income (₦30,000–₦40,000) are particularly affected. Statistical analysis underscores the role of cultural identity, with significant tribal variations. For instance, Hausa participants reported the highest prevalence (73.5%), highlighting cultural disparities in beauty norms.

Additionally, younger demographics, especially those aged 21-23, showed higher usage rates. This demographic insight highlights opportunities for targeted health campaigns and policy interventions. The study's findings provide critical insights into the psychological, cultural, and health dimensions of skin-lightening practices. They underscore the need for regulatory oversight, public education, and culturally sensitive advocacy to mitigate the associated risks and promote healthier beauty standards.

## CONCLUSIONS

Skin-lightening practices among young adults in Ilorin West are driven by a combination of cultural norms, societal pressures, and personal preferences. The high prevalence of usage, particularly among women, students, and individuals with moderate income levels, reflects a societal fixation on beauty standards that prioritize lighter skin tones. Despite recognizing the importance of natural skin tone acceptance, many respondents continue these practices, highlighting a gap between awareness and behavior. The study reveals that adverse health effects, such as irritation and discoloration, are prevalent but often overlooked due to lack of awareness. This lack of awareness not only leads to continued exposure to harmful substances like mercury and hydroquinone but also exacerbates long-term health disparities, particularly among economically disadvantaged groups with limited access to dermatological care. Addressing this issue aligns with broader public health goals, including reducing health inequalities and promoting mental well-being by encouraging self-acceptance and positive body image. Regulatory and educational interventions are urgently needed to address these health risks and inform the public about safer alternatives. Gender-neutral and culturally sensitive approaches could improve outreach and impact. Socioeconomic factors, including education and income, significantly influence behavior. Those with lower educational levels and higher income brackets exhibit higher usage rates, emphasizing the role of affordability and accessibility in perpetuating these practices.

Additionally, tribal and cultural disparities underscore the need for tailored interventions that address specific community norms and beliefs. Effective interventions require a multidimensional approach, combining regulatory measures, public health campaigns, and community-based advocacy. Beyond general awareness efforts, collaboration with social media influencers and local community leaders can enhance the reach and effectiveness of anti-skin-lightening campaigns. Programs such as #LoveYourSkin, which promote natural beauty and self-acceptance, should be integrated into national public health initiatives. Furthermore, partnerships with dermatologists and mental health professionals can provide evidence-based education on the dangers of skin-lightening products while addressing underlying issues of self-esteem and societal pressures. By addressing both the psychological and cultural factors driving these behaviors, stakeholders can promote self-acceptance and healthier beauty standards while reducing reliance on harmful practices. Ultimately, urgent action is required at multiple levels policy enforcement, community engagement, and educational reforms to ensure long-term behavioral change and mitigate the negative health impacts associated with skin-lightening practices.

**Recommendations**

To effectively address the widespread use of skin-lightening products and mitigate associated health risks, a comprehensive, multi-sectoral approach is required. The following recommendations are proposed:

1. Strengthening Regulatory Frameworks:
   - The government should ban or strictly regulate harmful ingredients such as mercury, hydroquinone, and steroids in cosmetic products.
   - Mandatory labeling requirements should be enforced to ensure transparency about the risks associated with skin-lightening products.
   - Regulatory agencies should increase market surveillance to prevent the sale of unapproved and counterfeit products.
2. Public Health Education and Awareness Campaigns:
   - Develop and implement national skin health awareness programs that educate consumers on the risks of skin-lightening and promote self-acceptance.
   - Collaborate with local influencers, beauty bloggers, and social media personalities to launch campaigns like #LoveYourSkin, aimed at reshaping societal beauty norms.
   - Introduce skin health education into school curriculums to discourage early exposure to skin-lightening products.
3. Community-Based Interventions:
   - Traditional and religious leaders should be engaged to challenge societal beauty ideals that equate fair skin with attractiveness and success.
   - Community workshops should be organized to provide alternative beauty narratives and promote skin health without harmful modifications.
   - Incentivize local entrepreneurs to produce and market safer skincare alternatives, such as organic and locally sourced products.
4. Psychosocial and Mental Health Support:
   - Counseling programs should be developed to address self-esteem issues, body image concerns, and internalized colorism that contribute to the desire for skin-lightening.
   - Mental health professionals should work alongside dermatologists to provide psychological support for individuals experiencing anxiety or distress due to societal beauty standards.
   - Support groups for young women and other affected demographics should be established, providing a safe space to discuss and combat peer pressure related to skin-lightening.
5. Stronger Media Regulations and Responsible Advertising:
   - The government should establish guidelines that restrict misleading advertisements promoting unrealistic skin-lightening results.
   - The entertainment industry should be encouraged to diversify representation by featuring models and actors with a variety of skin tones, normalizing dark skin as beautiful.
   - Companies that promote inclusive beauty standards should receive incentives, such as tax reductions or government endorsements.
6. Research and Continuous Monitoring:
   - Further studies should be conducted to assess the long-term health effects of skin-lightening practices and identify effective intervention strategies.
   - Regular surveys should be conducted to monitor changes in public perception and behavior regarding skin-lightening.
   - Collaboration between researchers, policymakers, and public health agencies should be strengthened to ensure data-driven decision-making.

Implementing these recommendations requires coordinated efforts from policymakers, health professionals, educators, and community leaders. By addressing the issue from multiple perspectives i.e. policy, education, community engagement, and mental health support, stakeholders can create sustainable changes and reduce the reliance on harmful skin-lightening practices.

**Highlights/Summary Points**

i. Demographic Insights: Young, single, female students with secondary education dominate skin-lightening product users, reflecting targeted societal beauty standards.
ii. Health Implications: High rates of adverse effects, such as irritation and darkening, emphasize the need for public health education and regulatory action.
iii. Cultural Sensitivities: Significant tribal and cultural variations highlight the necessity for culturally tailored interventions.

iv. Societal Pressures: Advertising, media influence, and societal beauty norms are key drivers of these practices.

**Policy Implications and Future Research**

Regulatory policies should prioritize stricter controls on the production and sale of harmful skin-lightening products. Public health campaigns must focus on education, particularly among youth, emphasizing the dangers of long-term use and the importance of self-acceptance. Advertising regulations should discourage reinforcing harmful beauty standards, promoting inclusive and diverse representations instead. Culturally sensitive approaches are crucial in addressing tribal and societal disparities in skin-lightening practices. Research should explore deeper cultural motivations and alternative beauty norms to inform effective intervention strategies. Future studies should investigate the long-term psychological and health impacts of skin-lightening practices, assessing both urban and rural settings for comprehensive insights. Additionally, examining the role of digital media and influencers in perpetuating these norms could offer innovative solutions for public health messaging. Promoting inclusive beauty standards and educating communities about the risks associated with skin-lightening products is critical for reducing their usage and improving public health outcomes.

**Significance Health Statement**

Skin-lightening practices among young adults pose significant health risks due to high prevalence, adverse reactions, and limited awareness of long-term dangers. These behaviors, deeply rooted in cultural and societal norms, highlight the urgent need for regulatory oversight, public education, and community advocacy. Addressing these factors through targeted interventions and inclusive beauty campaigns can mitigate health risks and promote mental and physical well-being among vulnerable populations. Thus, graphically it is represented (Figure 3 below) as:

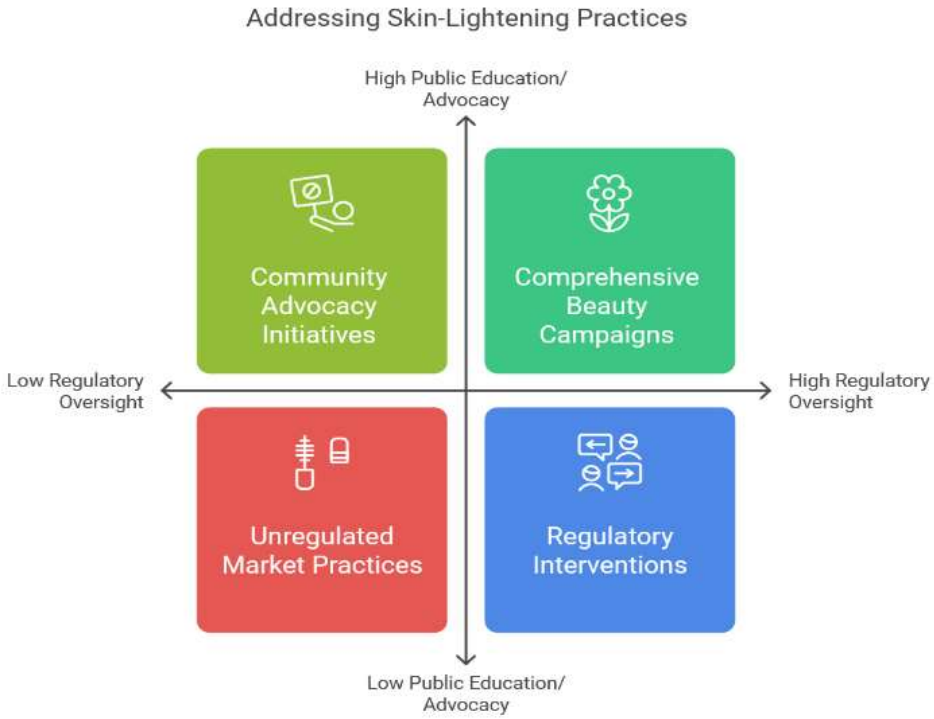



**Figure 3:** Addressing Skin Lightening Practices

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**Authors Contribution:**
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