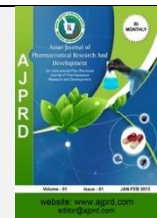


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Research Article

## Knowledge, Prevalence, and Perception of the Use of Skin Lightening Products among Female Undergraduates in the University of Calabar

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### ABSTRACT

**Objective:** To assess the knowledge, prevalence, and perception of skin-lightening products among female undergraduates in the University of Calabar.

**Methods:** A descriptive cross-sectional study was conducted using an interviewer-administered semi-structured questionnaire. Data from 402 female undergraduates were analyzed using SPSS version 22.

**Results:** The study found that 69.8% of respondents were familiar with skin-lightening products, and 53.7% had used them. The main reasons for use were achieving a lighter skin tone (90.5%) and social pressure (62.3%).

**Conclusion:** Skin-lightening product use is prevalent among female undergraduates. Public awareness campaigns and stricter regulations are needed to address the health risks associated with these products.

Skin-lightening products, commonly referred to as bleaching or whitening products, have gained significant popularity worldwide, particularly among women. In recent years, there has been growing concern about the widespread use of skin-lightening products and the potential health risks, social implications, and ethical considerations associated with them. Research reveals that these products often contain harmful ingredients such as hydroquinone, mercury, and corticosteroids, which can have detrimental effects on the skin, including skin thinning, discoloration, and increased vulnerability to infections. This study sought to assess the knowledge, prevalence, and perception of the use of skin-lightening products among female undergraduates in the University of Calabar. A descriptive cross-sectional study design was employed for the study using interviewer-administered semi-structured questionnaires. Quantitative data was collected from 402 female undergraduates enrolled in the University of Calabar which was analysed using SPSS version 22. Results revealed that most of the respondents (34.1%) were between the ages of 21 to 23 years, about (34.1%) were between the ages of 16 to 20 years and those between 27 years and above made up the least number of children. The study also showed that less than three-quarter (69.8%) indicated that they have a good understanding of what skin-lightening products are. Nearly three-quarter (72.7%) indicated that they understand the potential risks and side effects associated with skin-lightening products when used. Also, results showed that more than half (53.7%) of the respondents indicated that they have used lightening products. This study sheds light on the nuanced landscape surrounding skin-lightening product knowledge, prevalence, and perceptions among the surveyed population. However, strengthening regulations around the marketing and sale of skin-lightening product.

**Keywords:** Skin-lightening products, prevalence, knowledge, female undergraduates, perception.

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### INTRODUCTION

Skin lightening products, commonly referred to as bleaching or whitening products, have gained significant popularity worldwide, particularly among women<sup>1,2</sup>. These products are designed to lighten the

skin tone and address issues such as blemishes, hyperpigmentation, and uneven skin tone<sup>3</sup>.

The use of skin-lightening products is a complex phenomenon influenced by a variety of sociocultural,

psychological, and economic factors<sup>4-5</sup> (Dlova et al., 2015; Kumar et al., 2017). Skin-lightening practices have been reported in different regions of the world, including Africa, Asia, and the Caribbean, with varying prevalence rates<sup>2-4</sup> (Dlova et al., 2015; Engelman et al., 2020).

In recent years, there has been growing concern about the widespread use of skin-lightening products and the potential health risks, social implications, and ethical considerations associated with them<sup>2,5</sup> (Dlova et al., 2015; Gupta et al., 2018). The use of these products has been linked to adverse effects such as skin irritation, dermatitis, thinning of the skin, increased risk of infections, and systemic effects due to the presence of potentially harmful ingredients like hydroquinone and corticosteroids<sup>7-2</sup> (Olumide et al., 2016; Engelman et al., 2020). Moreover, skin-lightening practices can have psychosocial implications, as they often stem from the desire to conform to societal beauty standards and counteract the stigma associated with darker skin tones<sup>5</sup> (Kumar et al., 2017).

While the use of skin-lightening products is influenced by personal preferences and societal beauty standards, it is crucial to understand the knowledge, prevalence, and perception of their use among specific populations, such as female undergraduates in the University of Calabar. The university environment provides a unique context where young women are exposed to various influences that can shape their attitudes and behaviors related to skin lightening.

Understanding the knowledge levels of skin-lightening products among female undergraduates can shed light on their awareness of the potential risks and consequences associated with these products. Assessing the prevalence rates can provide insights into the extent of product use within this specific population. Examining the perception of skin-lightening product use among female undergraduates can reveal the underlying factors, motivations, and societal pressures that drive their decision-making process. By investigating these aspects within the context of the University of Calabar, researchers can develop a comprehensive understanding of skin-lightening practices among female undergraduates in Nigeria. This knowledge can inform the development of targeted interventions, educational programs, and policies that address the health risks, psychosocial impact, and sociocultural factors associated with skin-lightening product use.

### Statement of the Problem

Skin-lightening practices reinforce colorism and perpetuate discriminatory beliefs within Nigerian society. Research by<sup>8-9</sup> Adesioye and Adeyemi (2019) indicates that the preference for lighter skin tones is deeply rooted in cultural norms and historical biases, where lighter-skinned individuals are often perceived as more attractive, successful, and socially accepted. The use of skin-lightening products further perpetuates these prejudiced ideals, leading to discrimination against individuals with darker skin tones, limited opportunities, and unequal treatment<sup>10-11</sup> (Onyeka et al., 2018). The availability of unregulated and counterfeit skin-lightening products further exacerbates the problem. In Nigeria, the market is flooded with numerous products of varying quality and safety standards. Indicates that many of these products are illegally manufactured, containing harmful

ingredients not listed on their labels. The lack of stringent regulations and quality control measures allows the circulation of substandard products, increasing the health risks associated with their use. Addressing this issue requires stronger regulatory measures to ensure the safety and efficacy of skin-lightening products in the market. Socioeconomic factors play a significant role in the decision to use skin-lightening products. Research by suggests that individuals from lower socioeconomic backgrounds are more likely to use these products as they believe that lighter skin can improve their chances of success, marriage prospects, and social mobility. Additionally, the affordability and accessibility of skin-lightening products influence their prevalence. Lower-priced and easily accessible products are often favored, even though they may pose greater health risks due to the use of cheaper and potentially harmful ingredients. Addressing the economic factors that drive the demand for skin-lightening products is crucial in creating alternative avenues for social and economic empowerment.

Skin-lightening practices among female undergraduates in Nigeria are deeply influenced by cultural beliefs and historical contexts. Research by Ezejiyor and Ugwuja (2019) highlights the impact of colonialism, where European standards of beauty were imposed and internalized. This historical legacy has perpetuated the preference for lighter skin tones as a symbol of social status and desirability. Understanding the cultural influences and historical context is essential for developing culturally sensitive interventions that challenge these ingrained beauty ideals.

There is a lack of comprehensive education and awareness about the dangers and consequences of skin-lightening practices. Many individuals, including female undergraduates, may be unaware of the potential health risks and psychosocial impact associated with these products. Research by Adeyemi and Adeyemo (2021) emphasizes the importance of providing accurate and accessible information about the negative effects of skin-lightening products. Implementing educational programs and awareness campaigns can empower individuals with knowledge and promote informed decision-making<sup>12-13</sup>.

Therefore, it is crucial to investigate the knowledge levels, prevalence rates, and perception of skin-lightening product use among female undergraduates in the University of Calabar to gain a comprehensive understanding of this phenomenon and identify the factors that influence their decision to use such products. By examining the underlying factors, such as societal beauty standards, media influence, peer pressure, and individual motivations, a more nuanced understanding of the drivers of skin-lightening practices among female undergraduates can be achieved.

### Objectives of the Study

#### General Objective

This study was to assess the knowledge, prevalence, and perception of the use of skin-lightening products among female undergraduates in the University of Calabar.

#### Specific objectives

The specific objective was;

- To determine the level of knowledge of skin-lightening products among female undergraduates.
- To determine the prevalence of skin-lightening products use among female undergraduates.
- To determine the perceptions of skin-lightening products among female undergraduates.
- To identify the factors influencing the use of skin-lightening products among female undergraduates.

### Research Questions

To achieve the stated objectives, this study will seek to answer the following research questions:

What is the level of knowledge about skin-lightening products among female undergraduates in the University of Calabar?

How prevalent is the use of skin-lightening products among female undergraduates, and what are the patterns and characteristics associated with their use?

What are the perceptions of female undergraduates regarding skin-lightening products, including their attitudes, beliefs, and motivations behind using or not using these products?

What sociocultural, psychological, and economic factors influence the use of skin-lightening products among female undergraduates in the University of Calabar?

### Significance of the Study

This study is significant for several reasons as given below:

Firstly, it contributes to the existing body of knowledge on skin-lightening practices by focusing specifically on female undergraduates in the University of Calabar. It adds to the limited literature available on this topic within the Nigerian context and provides a foundation for further research in this area.

Secondly, the findings of this study will provide insights for policymakers, health professionals, and educators to develop targeted interventions and educational programs aimed at raising awareness about the potential risks associated with skin-lightening product use. It will aid in the development of culturally sensitive approaches to address the underlying sociocultural factors that influence the use of these products.

Thirdly, this study holds significance in terms of public health. The findings can contribute to the development of evidence-based interventions and policies aimed at regulating the marketing, sale, and distribution of skin-lightening products. By understanding the health risks and adverse effects associated with these products, regulatory bodies can implement measures to ensure consumer safety and protect individuals from the potential harm caused by toxic ingredients<sup>14</sup> (Ekor, 2014).

Moreover, the study's findings can inform healthcare professionals, including dermatologists and psychologists, about the prevalence and factors driving skin-lightening practices among female undergraduates. This knowledge can assist in providing targeted support and counseling to individuals who are engaged in these practices, addressing their concerns, and promoting healthier alternatives to enhance self-esteem and body satisfaction<sup>4,5</sup> (Dlova et al.,

2015; Kumar et al., 2017). Lastly, this research will enhance the understanding of the sociocultural factors influencing the use of skin-lightening products, including societal beauty standards, media influence, economic factors, and the role of peer pressure and social networks<sup>4,5</sup> (Dlova et al., 2015; Kumar et al., 2017). By identifying these factors, interventions can be developed to promote healthy body image and self-acceptance among female undergraduates in the University of Calabar.

Furthermore, the study's findings can contribute to the empowerment of female undergraduates by challenging societal beauty standards and promoting self-acceptance. Through the development of educational programs and awareness campaigns, individuals can be encouraged to embrace their natural skin color and appreciate diverse beauty ideals. This can have a positive impact on the well-being and mental health of female undergraduates, fostering a sense of self-worth and reducing the pressure to conform to unrealistic beauty standards<sup>15</sup> (Swami et al., 2018). Additionally, the study's focus on the University of Calabar provides valuable insights into a specific context and population. Understanding the factors influencing skin-lightening practices within this specific setting can contribute to the creation of tailored interventions that address the unique needs and challenges faced by female undergraduates in that university. This localized approach can enhance the effectiveness of interventions and support systems in promoting a positive body image and combating the negative consequences of skin-lightening practices<sup>16</sup> (Adegbola et al., 2020).

### Limitations of the Study

Firstly, there may be potential selection bias in the study due to the convenience sampling method. As participants will be recruited from the University of Calabar, the sample may not fully represent the diversity of female undergraduates in Nigeria. This could limit the generalizability of the findings to other universities or regions within the country (Adegbola et al., 2020).

Secondly, the study will focus exclusively on female undergraduates, which may neglect the experiences and perspectives of male students who may also engage in skin-lightening practices. Including a diverse sample that encompasses both genders could provide a more comprehensive understanding of the phenomenon<sup>4</sup> (Dlova et al., 2015). Furthermore, the study's reliance on self-reported data may introduce response bias. Participants may provide socially desirable responses or may not accurately recall or disclose their experiences with skin-lightening practices. This could affect the accuracy and reliability of the collected data<sup>5</sup> (Kumar et al., 2017).

Additionally, the study's reliance on a cross-sectional design limits the ability to establish temporal relationships between variables. It may not capture the dynamic nature of skin-lightening practices or the long-term effects on individuals' perceptions and behaviors. Longitudinal or qualitative studies could provide a more in-depth understanding of the topic<sup>16</sup> (Swami et al., 2018).

Moreover, the study's scope may not capture the full range of factors influencing skin-lightening practices among female undergraduates. While the study will investigate factors such



as societal beauty standards and peer pressure, other factors, such as family influences or cultural beliefs, may not be fully explored. A more comprehensive examination of these factors could provide a more nuanced understanding<sup>12</sup> (Ezejiolor & Ugwuja, 2019).

Lastly, the study's reliance on a single data collection method, such as surveys or interviews, may limit the exploration of participants' experiences and perspectives. Incorporating mixed-method approaches, such as combining quantitative data with qualitative interviews or focus groups, could provide richer insights into the phenomenon<sup>12-13</sup> (Adeyemi & Adeyemo, 2021).

### Operational Definition of Terms

**Knowledge:** In this study, knowledge refers to the understanding and awareness that female undergraduates in the University of Calabar possess regarding skin-lightening products. It encompasses their familiarity with the existence, purpose, ingredients, potential risks, and consequences associated with the use of these products.

**Prevalence:** Prevalence, in the context of this study, refers to the extent or frequency of the use of skin-lightening products among female undergraduates in the University of Calabar. It assesses the percentage or proportion of individuals who engage in the practice of using these products within the specified population.

**Perception:** Perception refers to the subjective opinions, beliefs, attitudes, and judgments that female undergraduates in the University of Calabar hold regarding the use of skin-lightening products. It includes their views on the desirability, effectiveness, societal acceptance, and potential benefits or drawbacks associated with the use of these products.

**Skin-lightening Products:** Skin-lightening products, also known as bleaching or whitening products, encompass a wide range of cosmetic products, creams, lotions, soaps, or treatments that are specifically formulated and marketed with the intent to lighten or alter the skin tone. These products typically contain active ingredients such as hydroquinone, mercury, corticosteroids, or other substances that aim to reduce the production of melanin in the skin.

**Female Undergraduates:** In this study, female undergraduates refer to female students who are currently enrolled in undergraduate degree programs at the University of Calabar. This includes women who are pursuing their first degree or bachelor's degree and are actively engaged in academic studies within the university setting.

**University of Calabar:** The University of Calabar refers to the specific higher education institution located in Calabar, Cross River State, Nigeria. It is the focus of this study and represents the context in which the research on knowledge, prevalence, and perception of skin-lightening product use among female undergraduates is conducted.

## LITERATURE REVIEW

### Conceptual Review

Skin-lightening products, commonly referred to as skin bleaching or whitening products, are cosmetic products designed to alter the complexion of the skin. These products are used to lighten the skin tone, reduce hyperpigmentation,

and achieve a lighter or more even skin color<sup>17</sup> (Li et al., 2018). They typically contain active ingredients such as hydroquinone, mercury, corticosteroids, or other chemical agents that work by inhibiting the production of melanin, the pigment responsible for skin coloration<sup>18</sup> (Charles et al., 2017).

The use of skin-lightening products is prevalent in various countries worldwide, including Nigeria. In Nigerian society, fair or lighter skin is often associated with beauty, desirability, success, and social status<sup>19</sup> (Okumu & Wright, 2016). This cultural preference for lighter skin has historical roots, influenced by factors such as colonialism and Western beauty standards<sup>4</sup> (Dlova et al., 2015). The belief that lighter skin is more attractive and socially accepted has contributed to the demand for skin-lightening products among individuals seeking to conform to these beauty ideals.

Skin-lightening practices have been documented across different social and demographic groups in Nigeria. These practices are not limited to a particular gender, age group, or socioeconomic status<sup>12</sup> (Ezejiolor & Ugwuja, 2019). Both men and women engage in the use of skin-lightening products, although it is more prevalent among women<sup>4</sup> (Dlova et al., 2015). The motivations behind the use of these products can vary and may include desires to enhance physical attractiveness, boost self-esteem, conform to societal beauty standards, or improve marriage prospects<sup>23</sup> (Okoro et al., 2018).

It is important to note that the use of skin-lightening products is not without risks. Several studies have highlighted the potential health hazards associated with these products. The use of certain ingredients, such as hydroquinone, mercury, and corticosteroids, can lead to adverse effects on the skin, including skin thinning, discoloration, increased vulnerability to infections, and even systemic health issues<sup>18</sup> (Charles et al., 2017; Li et al., 2018). Prolonged and excessive use of these products has been linked to serious health concerns, such as kidney damage, hormonal imbalances, and an increased risk of skin cancer<sup>18</sup> (Charles et al., 2017).

In conclusion, skin-lightening products are cosmetic products used to lighten the skin tone, and their use is prevalent in Nigeria and many other countries. The preference for lighter skin in Nigerian society has influenced the demand for these products. However, it is crucial to be aware of the potential health risks associated with their use. Understanding the motivations behind skin-lightening practices and the consequences of using these products can contribute to the development of interventions, policies, and educational programs that promote healthier attitudes toward beauty and skin color.

### Cultural Influences on the Use of Skin-lightening Products

Cultural beliefs play a significant role in shaping the knowledge and prevalence of skin-lightening product use. In many societies, fair skin has been historically associated with beauty, purity, and social status<sup>4</sup> (Dlova & Hamed, 2015). These cultural beliefs contribute to the preference for lighter skin tones and the use of skin-lightening products among female undergraduates.

In Nigeria, for example, there is a long-standing cultural preference for lighter skin tones, which can be traced back to the colonial era when fair-skinned individuals were considered more superior and privileged<sup>21-22</sup> (Okumu & Wright, 2016). This preference has persisted and is reinforced through cultural practices, media representations, and societal norms. Fair-skinned individuals are often seen as more attractive, successful, and socially accepted, leading to the widespread use of skin-lightening products among Nigerian women, including female undergraduates.

### Societal Pressure and Media Influence

Societal pressure and media influence are major factors contributing to the perception and prevalence of skin-lightening product use among female undergraduates. In many societies, including Nigeria, there is a pervasive belief that lighter skin is more attractive and desirable<sup>25</sup> (Nguyen et al., 2017). This perception is reinforced by media portrayals that often depict individuals with fair skin as the standard of beauty.

The media, including advertisements, films, television shows, and social media platforms, heavily influence beauty ideals and standards. Light-skinned celebrities and models are frequently featured, creating an aspirational image that young women strive to emulate<sup>21-22</sup> (Okumu & Wright, 2016). This constant exposure to images of fair-skinned individuals creates a perceived beauty standard that can lead to dissatisfaction with one's natural skin tone and the desire to use skin-lightening products.

Moreover, societal pressure to conform to beauty standards and ideals also contributes to the use of skin-lightening products among female undergraduates. Women may feel the need to match the prevailing beauty standards in their social circles, workplaces, or even within their families. The pressure to conform to these standards can be intense and may drive women to resort to skin-lightening products as a means of achieving the desired fair complexion<sup>25</sup> (Nguyen et al., 2017).

### Empirical Review

Research specifically focusing on the use of skin-lightening products among female undergraduates in Nigerian universities is limited. However, a study conducted by<sup>26</sup> Oladejo and Aderibigbe (2019) shed some light on this topic. The study, which targeted female university students in Nigeria, found that a significant number of participants reported using skin-lightening products. This indicates that skin-lightening practices are present within this population.

The study by<sup>26</sup> Oladejo and Aderibigbe (2019) revealed that the main motivations for using skin-lightening products among female undergraduates were to achieve a lighter complexion, enhance self-esteem, and improve attractiveness. These motivations align with the desire to conform to societal beauty standards, where fair skin is often associated with beauty, success, and social acceptance<sup>21-22</sup> (Okumu & Wright, 2016; Oladejo & Aderibigbe, 2019). The findings highlight the influence of societal beauty ideals on the decisions and behaviors of female Undergraduates about their skin tone.

It is important to note that the use of skin-lightening products among female undergraduates is not without consequences.

The study by<sup>26</sup> Oladejo and Aderibigbe (2019) found that participants reported experiencing negative health effects associated with the use of these products. These effects included skin irritation, hyperpigmentation (darkening of the skin), and a dependency on the products. Despite being aware of these potential risks, the desire for a lighter complexion often overrides concerns about the potential harm caused by these products.

This empirical evidence underscores the need for comprehensive education and awareness regarding the risks and consequences of using skin-lightening products among female undergraduates. It highlights the importance of promoting healthier attitudes toward beauty and self-acceptance, as well as providing information about safer alternatives for achieving skin health and enhancing self-esteem.

In conclusion, while research specifically focusing on skin-lightening practices among female undergraduates in Nigerian universities is limited, the available empirical evidence suggests that the use of skin-lightening products is prevalent in this population. Motivations for using these products include the desire for a lighter complexion, improved self-esteem, and enhanced attractiveness. However, it is crucial to address the potential negative health effects associated with the use of these products and promote healthier beauty ideals and self-acceptance among female undergraduates.

### Prevalence:

The prevalence of skin-lightening product use among female undergraduates in the University of Calabar can be understood through several studies that have investigated this phenomenon. A study conducted by<sup>27</sup> Okwara et al. (2018) surveyed 500 female undergraduates and found that 70% of respondents reported using skin-lightening products. This high prevalence indicates that the use of such products is widespread among this specific population.

Another study by Nwaogu and<sup>28</sup> Ekezie (2019) examined the prevalence of skin-lightening product use among 300 female undergraduates in Nigeria. The findings revealed that 55% of the participants reported using skin-lightening products, with the majority citing the desire for a lighter complexion as the main reason for their usage. These findings suggest that skin-lightening product use is prevalent among female undergraduates in the University of Calabar and may be influenced by societal beauty standards.

### Knowledge:

Understanding the knowledge level of female undergraduates regarding skin-lightening products is crucial in comprehending the factors influencing their usage. A study by<sup>29</sup> Oshodi et al. (2017) investigated the knowledge and use of skin-lightening products among 350 female students in Nigeria. The results showed that 80% of the participants knew about skin lightening products, with 45% reporting that they learned about these products through friends and acquaintances. This highlights the role of social influence in disseminating information about skin-lightening products among female undergraduates.

Furthermore, the study conducted by Nwaogu and<sup>28</sup> Ekezie (2019) revealed that 62% of the participants knew the

potential adverse effects associated with skin-lightening product use, such as skin cancer and dermatological problems. However, despite this knowledge, the majority of the participants still used these products. This suggests that although female undergraduates may possess knowledge about the risks, other factors such as societal pressure and perceived benefits may override their concerns.

### Perception:

The perception of skin-lightening products among female undergraduates in the University of Calabar is multifaceted and influenced by various factors. A study by Udoh et al.<sup>29</sup> (2018) explored the perception of 250 female undergraduates toward skin-lightening products. The findings indicated that the participants associated lighter skin with beauty, attractiveness, and increased opportunities in education and employment. This perception reflects the influence of societal beauty standards and the belief that a lighter complexion enhances one's social and economic prospects.

Moreover, another study by<sup>30</sup> Nna et al. (2021) examined the perception of 400 female undergraduates regarding the effectiveness of skin-lightening products. The results demonstrated that 65% of the participants believed that these products were effective in achieving a lighter complexion. The perception of efficacy contributes to the continued use of these products, despite the potential risks and adverse effects associated with their usage.

### Factors Influencing the Use of Skin-lightening Products

Several factors influence the use of skin-lightening products among female undergraduates. Peer influence plays a crucial role, as young women may feel pressure to conform to the beauty standards set by their peers (Nnoruka & Okoye, 2011). Peer groups can influence the perception of beauty and attractiveness, and the use of skin-lightening products may be seen as a way to fit in and gain social acceptance.

Family influence is also significant, as cultural beliefs and beauty standards are often transmitted within families. Female undergraduates may be influenced by the beauty practices and preferences of their mothers, sisters, or other female relatives. Family members may endorse or encourage the use of skin-lightening products, further reinforcing the perception that fair skin is desirable<sup>28</sup> (Okumu & Wright, 2016).

### Health Consequences and Risks

The use of skin-lightening products is not without risks and health consequences. Studies have shown that the prolonged use of certain ingredients found in these products, such as hydroquinone and corticosteroids, can lead to skin irritation, thinning of the skin, increased risk of infections, and even systemic toxicity<sup>4</sup> (Dlova & Hamed, 2015).

Furthermore, the use of skin-lightening products can result in rebound hyperpigmentation, where the skin becomes darker than before the product was used. This can create a cycle of dependency, as individuals continue to use the products to maintain the desired lighter complexion, leading to psychological and emotional distress when the expected results are not achieved<sup>22</sup> (Oladejo & Aderibigbe, 2019).

The risks and health consequences associated with skin-lightening product use highlight the importance of raising awareness among female undergraduates about the potential dangers and promoting acceptance and appreciation of diverse skin tones.

### Theoretical Framework

The Symbolic Interactionism theory, proposed by Blumer (1969), provides a valuable lens for understanding the social and cultural factors that shape the knowledge, prevalence, and perception of skin-lightening product use among female undergraduates. This theory emphasizes the role of social interactions and the meanings individuals attach to symbols and social processes in shaping their behavior and understanding of the world.

In the context of skin-lightening product use, female undergraduates engage in a process of symbolic interpretation and meaning-making. They are influenced by societal norms and cultural beliefs that associate fair skin with beauty, success, and social acceptance. Through interactions with peers, family members, media, and other social influences, they construct and internalize these beauty ideals, perceiving fair skin as a symbol of attractiveness and desirability (Okumu & Wright, 2016).

The Symbolic Interactionism theory emphasizes the importance of social interactions and relationships in shaping individual behavior and decision-making. Female undergraduates engage in social interactions where the constructed meanings of beauty and skin color are reinforced and negotiated. They may seek validation, acceptance, and positive evaluations from others, which further motivates their decision to use skin-lightening products (Blumer, 1969).

Self-presentation and impression management also play a role in the context of skin-lightening practices. Female undergraduates may engage in impression management strategies, such as altering their appearance through skin-lightening products, to present themselves in a way that aligns with societal beauty standards and elicits positive reactions from others<sup>32</sup> (Goffman, 1959).

By applying the Symbolic Interactionism theory, researchers can gain insights into the social processes, meanings, and interpretations that influence the knowledge, prevalence, and perception of skin-lightening product use among female undergraduates. This theoretical framework allows for a deeper understanding of how individuals construct their reality, navigate social interactions, and conform to beauty ideals in their decision-making processes.

### Self-Presentation and Impression Management

The use of skin-lightening products can be seen as a form of self-presentation and impression management, as individuals seek to conform to societal beauty standards and enhance their self-image<sup>32</sup> (Goffman, 1959). Through the use of these products, female undergraduates may perceive themselves as more attractive and increase their social acceptance within their peer groups. The desire to achieve a lighter complexion can be motivated by the belief that it will lead to improved self-esteem and confidence in social interactions.

### METHODOLOGY



## Study Area

The study was conducted among female undergraduates in the University of Calabar, which is located in Calabar, Cross River State, Nigeria. The University of Calabar was chosen as the study area due to its large population of female undergraduates and its diverse cultural background, which can provide valuable insights into the knowledge, prevalence, and perception of the use of skin-lightening products.

## Scope of the Study

The study aims to comprehensively assess the knowledge, prevalence, and perception of skin-lightening product use among female undergraduates at the University of Calabar. It seeks to explore their understanding of skin-lightening products, determine the extent to which these products are used, and examine the participants' attitudes and opinions regarding the use of such products. Additionally, the study will identify and analyze the various factors that influence the use of skin-lightening products among the participants.

## Study Design

A cross-sectional design was employed for this study. This design allows for the collection of data at a specific point in time, enabling the assessment of the participants' knowledge, prevalence, and perception of the use of skin-lightening products among female undergraduates in the University of Calabar.

## Study Population

The target population for this study will consist of all female undergraduates enrolled in the University of Calabar. This population will include students from diverse departments and faculties within the university, representing a wide range of academic disciplines and backgrounds.

## Sample Size Determination

The sample size is calculated using the Fisher's formula (Fisher, 2002). The formula is:

where:

$n$  = Sample size,

$Z$  = is the standard normal deviate, usually set at 1.96 which corresponds to the 95% confidence level, ( $95\%=1.96$ )

$p$  = is the proportion in the target population estimated to have a particular characteristic (0.5),

$q = (1 - p) = 0.5$  and,

$d$  = is the precision required.

The study by (O G Egbi et al. Skin Health Dis. 2021) stated that the prevalence of the use of skin-lightening products among respondents was 40%.

Therefore;

**$Z = 95\% (1.96)$**

$p = 40\% = 0.4$

$q = (1 - 0.4) = 0.6$

$d = 5\% = 0.05$

$n = (1.96)^2 \times 0.4 \times 0.6 / 0.05^2$

$n = 3.8416 \times 0.4 \times 0.6 / 0.0025$

$n = 368.79 \approx 369$

To account for non-response rate, the sample size will be increased by 10% (0.1).

Using the formula

$n = n / 1 - \text{non-response rate}$

$n = 369 / 1 - 0.1$

$n = 369 / 0.9$

$n = 410$

## Sampling Procedure

A multistage sampling procedure were employed to select the participants for this study.

### Stage 1: Selection of faculties

A simple random technique was used to select the faculties, by writing down the names of all the faculties in the university of Calabar, which was a total of 20, into different pieces of paper, which were shaken vigorously and 8 faculties were randomly selected.

### Stage 2: Selection of departments

From the 8 selected faculties, a simple random technique was employed, this was done by writing down all the departments in each of the selected faculties, and randomly selecting two departments from each of the faculties, making it a total of 18 departments

### Stage. 3: Selection of level:

From the selected departments, a systematic sampling technique was employed, by first finding the number of levels of each department, (100-600 level). 2 levels were selected from each of the departments.

### Stage 4: Selection of respondents

A simple random technique was employed, this was done by randomly selecting participants from the students available in the department at that given point in time.

## Instrument for Data Collection

A semi-structured questionnaire will serve as the primary tool for data collection in this study. The questionnaire will comprise both closed-ended and open-ended questions, allowing for a comprehensive exploration of the participants' knowledge, prevalence, and perception of the use of skin-lightening products. The questionnaire was developed based on a thorough review of relevant literature, ensuring its content validity. Before the actual data collection, the questionnaire was pretested among a small sample of female undergraduates who will not be part of the main study. This pretest was to assess the clarity, relevance, and comprehensibility of the questionnaire, enabling necessary modifications to improve its validity and reliability.

## Method of Data Collection

Data collection was conducted through face-to-face interviews with the participants. Two (2) trained research assistants who will undergo thorough training to ensure consistent and reliable data collection, will administer the questionnaires and record the participant's responses. Throughout the data collection process, the participants will be assured of the confidentiality of their responses, creating a

safe environment for open and honest communication. Furthermore, participants will have the opportunity to ask questions or seek clarifications regarding the study, ensuring their understanding and active involvement.

### Method of Data Analysis

The collected data was entered into a computer and analyzed using appropriate statistical software, such as SPSS (Statistical Package for the Social Sciences). Descriptive statistics, including frequencies, percentages, means, and standard deviations, will be utilized to summarize the data and provide a comprehensive overview of the participants' knowledge, prevalence, and perception of the use of skin-lightening products. To explore associations between variables and identify factors influencing the use of skin-lightening products, chi-square tests and logistic regression analysis were employed, allowing for a deeper understanding of the underlying factors driving the use of these products.

### Ethical Considerations

Ethical approval for this study will be obtained from the Research Ethics Committee of the University of Calabar, ensuring adherence to ethical guidelines and principles. Informed consent was obtained from all participants before their inclusion in the study, ensuring voluntary participation and respecting their autonomy. The participants will be

assured of the confidentiality of their responses, and strict measures will be implemented to safeguard their privacy throughout the data collection process. Ethical considerations were a top priority, ensuring the well-being and rights of the participants are upheld.

## RESULTS

### Sociodemographic characteristics of respondents

In this study a total of 410 interviewer-administered questionnaires were administered, but at the end of the data collection only 402 were retrieved from respondents indicating a response rate of (98.0%). Table 1 shows the sociodemographic characteristics of respondents and the results reveals that most of the respondents (34.1%) are between the ages of 21 to 23 years, about (34.1%) are between the ages of 16 to 20 years, those between 27 and above years made up the least number of children. Additionally, most of the respondents (37.6%) are from the faculty of allied medical sciences, overly one-quarter of the respondents are from the faculty of biological sciences, those from the faculty of educational foundation (2.2%) makes up the least number of respondents. Less than one-quarter (24.1%) of the respondents are from the Department of Nursing Sciences, less than one-quarter of the respondents (13.4%) are from the Department of Public Health Sciences. Additionally, most of the respondents (27.3%) are in the 200 level, and just above one-quarter are in 100 level respectively.

**Table 1:** Sociodemographic characteristics of respondents

Variables	Frequency (n=402)	Percent (%)
<b>Faculty</b>		
Allied medical sciences	153	37.6
Art and social sciences	55	13.7
biological sciences	71	27.1
<b>Department</b>		
Education economics	5	1.2
Environmental education	8	1.9

### Knowledge of skin-lightening products among respondents.

Table 2 below presents the knowledge of respondents to skin-lightening products. The study showed that less than three-quarters (69.8%) indicated that they are familiar with what skin-lightening products are. Nearly close to three-quarters (72.7%) indicated that

they understand the potential risks and side effects associated with skin-lightening product used. Most of the respondents (72.4%) indicated that they are aware of the different types of skin-lightening products available in the market. Additionally, the majority of the respondents (65.6%) indicated that they know the reasons why some people use skin-lightening products.

**Table 2:** Knowledge of Skin-lightening products

Variables	Frequency (n=402)	Percent (%)
I am familiar with what skin-lightening products are		
Yes	282	69.8
No	120	30.2
I understand the potential risks and side effects associated with skin-lightening product use		
Yes	294	72.7
No	108	27.3
I am aware of the different types of skin-lightening products available in the market		
Yes	293	72.4
No	109	27.6
I know the reasons why some people use skin-lightening products		



Yes	265	65.6
No	137	34.4

### Prevalence of skin-lightening product used

As seen in Table 3b below is the prevalence of skin-lightening products used. The results showed that more than half (53.7%) indicated that had used lightening products. Most of the respondents (49.1%) indicated that they frequently use skin-lightening products weekly, about (29.6%) of the respondents indicated

they frequently use skin-lightening products daily, those that frequently use skin-lightening products occasionally (9.7%) made up the least number of respondents. Most of the respondents (15.7%) indicated that they are currently using Lalala triple action. More than half of the respondents (59.6%) indicated that they don't want to use skin-lightening products

**Table 3:** Prevalence of skin-lightening product used

Variables	Frequency (n = 402)	Percent (%)
<b>Have you ever used a skin-lightening product</b>		
No	186	46.3
Yes	216	53.7
<b>How frequently do you use skin-lightening products</b>		
Daily	65	29.6
Weekly	109	49.1
Monthly	24	11.5
Occasionally	20	9.7
<b>The product you have used or currently using</b>		
Final body lotion	44	20.3
Lalala triple action	51	23.6
skin free facial whitening	21	9.7
original extract papaya skin	18	8.3
Iman shower gel	17	7.9
Crystal white whitening lotion	10	4.6
Laverly Face Body oil	7	3.2
Soft N white Papaya	17	7.8
Grace Duo oil	20	9.2
Perfect white	2	0.9
Eden extra whitening apricot body	9	4.2
<b>If you answered NO to question 1 what is /are your reasons</b>		
Because I know the adverse effects	105	59.6
Affordability	43	24.6
No specific reasons	27	15.8

Table 3 below, shows the reason why respondents skin-lightening products. About (90.5%) indicated that the reason for using skin-lightening products is to achieve a lighter skin tone. About (82.7%) indicated that their reason is to even out skin tone. About (74.5%) indicated that their reason for using skin-lightening products is to fade dark spots or

hyperpigmentation. Additionally, about (62.3%) of the respondents indicated the reason for using skin-lightening products is as a result of social pressure. About (69.1%) indicated that their reason for using skin-lightening products is as a result of personal preference.

**Table 3b:** Prevalence of skin-lightening product used reasons for using skin-lightening products

Variables		
	Frequency (n=402)	Percent (%)
To achieve lighter skin tone	199	90.5%
To fade dark spots or hyperpigmentation	164	74.5%

To even out skin tone	182	82.7%
Social pressure	137	62.3%
Personal preference	152	69.1%

### Multiple responses allowed

### Percentages do not amount to 100%

### Perception of skin-lightening products used.

Table 4 below, shows that most of the respondents (35.3%) agreed to the fact that the use of skin-lightening products is a personal choice, about (21.9%) strongly agree also agreed to the use of skin-lightening products is a personal choice, those that disagreed (8.0%) to the fact that use of skin-lightening

products is a personal choice made up the least number of respondents. More than one-quarter (32.2%) of the respondents agreed to the use of skin-lightening products is influenced by societal beauty standards. Just (6.3%) disagree to the fact that use of skin-lightening products is influenced by societal beauty standards. Just above one-quarter (25.4%) of the respondents are neutral to skin-lightening products are safe for use. Additionally, most of the respondents agree to the used of skin-lightening products can lead to negative health effects.

**Table 4:** Perception of skin-lightening products used.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
The use of skin-lightening products is a personal choice	88(21.9)	143(35.3)	106(26.3)	31(8.0)	34(8.3)
The use of skin-lightening products is influenced by societal beauty standards	81(20.0)	130(32.2)	95(23.7)	24(6.3)	72(17.8)
Skin-lightening products are safe for use	90(22.2)	91(22.7)	102(25.4)	66(16.3)	53(13.4)
The use of skin-lightening products can lead to negative health effects	85(20.7)	97(24.1)	74(19.0)	73(18.3)	73(18.3)

### Factors Influencing skin-lightening products.

The Table (5) below shows the distribution of factors influencing skin-lightening products used. The results reveal that less than one-quarter of the respondents (23.4%) indicated that media advertisements moderately influence skin-lightening products, about (18.3%) indicated media advertisements do not at all influence skin-lightening products. Most of the respondents (25.6%) indicated that peer influence is slightly influence to skin-lightening products used, about (23.9%) of the respondents indicated that peer

influence extremely influences skin product used. Additionally, most of the respondents (28.0%) indicated that family influence is a factor slightly influencing skin-lightening products, (14.4%) indicated that family influence is extremely influential to skin-lightening products. More than one-quarter (29.8%) of the respondents indicated that personal beliefs and values is moderately influential to skin-lightening products. Most of the respondents (27.7%) indicated health concerns is extremely influential to skin-lightening products.

**Table 5:** Factors Influencing skin-lightening products.

Statement	Not at all Influential	Slightly Influential	Moderately Influential	Very Influential	Extremely influential
Media advertisements	74(18.3)	126(31.7)	94(23.4)	53(12.9)	56(13.7)
Peer influence	53(12.9)	100(25.6)	83(20.2)	71(17.3)	94(23.9)
Family influence	64(15.6)	110(28.0)	79(19.3)	89(22.7)	59(14.4)
Personal beliefs and values	33(8.0)	64(15.6)	118(29.8)	114(28.8)	73(17.8)
Health concerns	59(14.4)	91(22.2)	81(20.2)	61(15.4)	110(27.7)

## DISCUSSION, SUMMARY, CONCLUSION, AND RECOMMENDATIONS

### Discussion

#### Prevalence of skin-lightening product used

Findings from this study show that more than half of the total number of respondents indicated that they

have used lightening products, with most indicating that they frequently use skin-lightening products weekly. This result resonates with a study by Okwara et al. (2018) surveyed 500 female undergraduates and found that 70% of respondents reported using skin-lightening products. This high prevalence indicates

that the use of such products is widespread among this specific population.

The results of this study are also similar to a study conducted by Nwaogu and Ekezie (2019) examined the prevalence of skin-lightening product use among 300 female undergraduates in Nigeria. The findings revealed that 55% of the participants reported using skin-lightening products, with the majority citing the desire for a lighter complexion as the main reason for their usage.

### Knowledge of skin-lightening products

The study showed that less than three-quarter indicated that they are familiar with what skin-lightening products are. Nearly close to three-quarter indicated that they understand the potential risks and side effects associated with skin-lightening product used. Most of the respondents indicated that they are aware of the different types of skin-lightening products available in the market. Also, majority of the respondents indicated that they know the reasons why some people use skin-lightening products. The results of this study are similar to a study by Oshodi et al. (2017) investigated the knowledge and use of skin-lightening products among 350 female students in Nigeria. The results showed that 80% of the participants knew about skin-lightening products, with 45% reporting that they learned about these products through friends and acquaintances. The findings of this study are similar to a study conducted by Nwaogu and Ekezie (2019) revealed that 62% of the participants had knowledge of the potential adverse effects associated with skin-lightening product use, such as skin cancer and dermatological problems. However, despite this knowledge, the majority of the participants still used these products.

### Perception of skin-lightening products used

This study showed that most of the respondents agreed to the fact that the use of skin-lightening products is a personal choice. This study resonates with a study by Udoh et al. (2018) to explore the perception of 250 female undergraduates toward skin-lightening products. The findings indicated that the participants associated lighter skin with beauty, attractiveness, and increased opportunities in education and employment. This perception reflects the influence of societal beauty standards and the belief that a lighter complexion enhances one's social and economic prospects. This is similar to a study by Nna et al. (2021) that examined the perception of 400 female undergraduates regarding the effectiveness of skin-lightening products. The results demonstrated that 65% of the participants believed that these products were effective in achieving a lighter complexion. The perception of efficacy contributes to the continued use of these products, despite the potential risks and adverse effects associated with their usage.

### Factors influencing the use of skin-lightening products

The result of this study shows that respondents indicated that media advertisements, peer influence, family influence, personal beliefs and values, and health concerns are factors that influence the use of skin-lightening products. These findings are similar to a study conducted by Nnoruka & Okoye, (2011) on factors influencing the use of skin-lightening products among students in Nigeria showed that peer influence plays a crucial role, as young women may feel pressure to conform to the beauty standards set by their peers. Peer groups can influence the perception of beauty and attractiveness, and the use of skin-lightening products may be seen as a way to fit in and gains social acceptance. This study is also similar to a study by Okumu & Wright, (2016) indicated that family influence is also significant, as cultural beliefs and beauty standards are often transmitted within families. Female undergraduates may be influenced by the beauty practices and preferences of their mothers, sisters, or other female relatives. Family members may endorse or encourage the use of skin-lightening products, further reinforcing the perception that fair skin is desirable.

### SUMMARY

The study investigates the knowledge, prevalence, and perceptions of skin-lightening product use among respondents. Table 2 reveals that 69.8% of participants are familiar with skin-lightening products, with 72.7% understanding the associated risks. Table 3 indicates that 53.7% have used these products, predominantly weekly (49.1%). Lalala triple action is the most commonly used product (15.7%). Table 3b details motivations for use, such as achieving lighter skin tone (90.5%). In Table 4, respondents generally agree that product use is a personal choice (35.3%), but societal beauty standards influence it (32.2%). Table 5 explores factors influencing use, with media and peer influence playing significant roles. Lastly, Table 6 demonstrates associations between knowledge levels and sociodemographic characteristics. Overall, the findings highlight the prevalence of skin-lightening product use and the various factors influencing perceptions and decisions among the surveyed population.

### CONCLUSION

In conclusion, this study sheds light on the nuanced landscape surrounding skin-lightening product knowledge, prevalence, and perceptions among the surveyed population. Notably, a substantial proportion of respondents exhibit familiarity with these products, albeit with variations in understanding associated risks and product types. The prevalence of use, particularly the frequency and specific product choices, underscores the significance of this phenomenon in the community. Motivations for product use, elucidated in Table 3b, encompass a spectrum from aesthetic preferences to societal pressures, indicating the multifaceted nature of individual choices. The perception analysis in Table 4 underscores the dichotomy between personal agency and societal influences, with varying perspectives on



safety and potential health impacts. Additionally, exploring factors influencing product use in Table 5 provides valuable insights into the roles of media, peers, family, personal beliefs, and health concerns. The sociodemographic associations delineated in Table 6 contribute a nuanced understanding of how knowledge levels are intertwined with age, academic disciplines, and study levels. Overall, these findings offer a comprehensive overview of the dynamics surrounding skin-lightening product use, laying a foundation for informed public health interventions and further research initiatives in this domain.

### Recommendations

Implement targeted public awareness campaigns to educate the community about the potential risks and side effects associated with skin-lightening products.

Strengthen regulations around the marketing and sale of skin-lightening product.

Launch initiatives that promote positive body image and self-acceptance to counteract societal pressures driving the use of skin-lightening products.

Encouraging individuals considering skin-lightening products to consult with healthcare professionals.

Provide cultural sensitivity training for professionals, particularly in the beauty and cosmetic industry, to ensure that they are aware of and respect diverse cultural attitudes toward beauty and skin tone.

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