

ENSIGN COLLEGE OF PUBLIC HEALTH KPONG – E/R, GHANA

**SKIN-LIGHTENING PRACTICES AMONG FEMALE SENIOR HIGH
SCHOOL STUDENTS IN FOUR DISTRICTS IN BRONG AHAFO REGION
OF GHANA**

By

Osei Michael

**A Thesis submitted to the Community Health in the Faculty of Public Health in partial
fulfillment of the requirements for the degree**

MASTER OF PUBLIC HEALTH

April 2017

DECLARATION AND CERTIFICATION

I, Osei Michael, declare that this submission is my own work towards the MPH and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

Osei Michael
Student's name	Signature	Date

157100034
Student's ID

Certified by:

Dr. Frank Baiden
Supervisor's name	Signature	Date

Certified by:

Dr. Stephen Manortey
(Ag Head of Academic Programme)	Signature	Date

DEDICATION

I dedicate this work to God Almighty, to my dear wife (Osei Owusu Gloria) and my lovely children (Osei Apperkon Erica, Osei Gyamfuah Michelle and Osei Sarfo Adu Graham). My dedication also goes to all my teachers at all levels, who diligently taught me the value of knowledge. I am very grateful.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to Almighty God for guiding my every move during the course of this work. Indeed, all glory goes to Him for giving my work a spontaneous beginning and a solid finish.

People helped with this piece of work in ways they cannot imagine and did not realize. This is a chance to thank them.

My sincerest thanks go to my Supervisor, Dr. Dr. Frank E. Baiden of the faculty of Epidemiology for his constructive criticisms, guidance and insistence on a refined work. His contributions have made this work a reality.

My sincere appreciation goes to Dr. Juliana Enos for her support, advise and encouragement, I say God richly bless you.

I cannot leave out Dr. Stephen Manortey, Mr. Reuben Ahwiren and the entire staff of the college for your immense contribution and hospitality during my course of study.

My family has been my backbone in terms of emotional and financial support. For this cause, the Boadi Djan and Gyanfuah family in Atebubu would be affectionately remembered. I shall forever remain indebted to Mercy Boakyewaah, Alice Gyambeah, and Mr. Eric C. Apperkon for their invaluable contribution to this work.

Last but not the least, appreciation goes to all respondents in all study sites for their contribution. To posterity and all who would undertake further research on this topic and all who will implement the content of this dissertation.

My gratitude goes to all whose names could not be acknowledged individually but invariably contributed to this work.

Abbreviation / Acronyms

APF: Allocation Proportion Formula

CDD: Curriculum Development Division

GES: Ghana Education Service

IRB: Institutional Review Board

SHS: Senior High School

SL: Skin Lightening

Abstract

Introduction

Despite the public, physiological and emotional effects that skin-lightening presents, it has become a popular practice among individuals of different age groups, gender and religious affiliations in Ghana and worldwide. An objective observation would identify a particular group as being mostly involved in the practice than the others. Upon this setting, this study investigated skin-lightening practices among female senior high school students in four districts in Brong Ahafo Region of Ghana.

Methods

The instrument employed for the study was self-administered Questionnaire designed by the researcher. The data collected were analyzed as descriptive and bivariate using percentages, mean and chi-square test statistical measures and logistics regression to determine the prevalence of skin-lightening creams, their perceived advantage and the level of knowledge of awareness of harmful effects.

Results

The sample included four hundred and ten female students across four senior high schools in Brong Ahafo Region of Ghana. The major findings revealed that female senior high school students highly engaged in skin-lightening practices as a method of receiving desired attention, prettier, attractive and relationship from the opposite sex and charm the desired marriage partners. The study revealed after a bivariate analysis on the relationship between socio-

demographic characteristics of the students and the likelihood that they have used a skin-lightening cream, shows that age, religion, ethnic group, place of residence, monthly pocket money and status of the students has no significant influence on the practice regarding skin-lightening while form (class) has significant influence (OR= 1.90, p= 0.04 95 CI 1.15-3.13).

Conclusion

Therefore, Counsellors, Ghana Education Service, Curriculum Development Division and the entire policy makers should include health education into their syllabus to enlighten female students on best practice in body beautification and guide them on life building skills such as assertiveness, decision making and healthy living.

Table of Contents

CHAPTER 1	1
1.0 INTRODUCTION.....	1
1.1 Background of the study.....	1
1.2 Problem statement	4
1.3 Rationale of the study.....	4
1.4 OBJECTIVES	5
1.4.1 General Objective of the study	5
1.4.1 Primary objective	5
1.4.2 Secondary Objectives	5
1.5 Research Question	5
1.6 Research Hypotheses.....	6
CHAPTER 2	7
2.0 Literature Review.....	7
CHAPTER 3	13
3.0 Methodology.....	13
3.1 Study design.....	13
3.2 Study area/site.....	13
3.2.1 Background of Kwame Danso (Sene West)	13
3.2.2 Background of Prang (Pru)	14
3.2.3 Background of Techiman	15
3.2.4 Background of Nkoranza	16
3.3 Sampling technique	17
3.3.1 Student selection allocation proportion	18
3.4 Sample size.....	18
3.5 Data collection	19
3.6 Data management and Analysis.	19
3.7 Ethical considerations	19
3.8 Limitation	20
CHAPTER 4	21
4.0 Results.....	21
4.1 Demographic characteristics of the respondents.....	21
4.2 Relationship between socio-demographic background of students and the likelihood of.....	24

having used skin-lightening creams.....	24
4.3 Prevalence of skin-lightening practices	24
4.3.1 Friends who uses creams with intent to look lighter in skin	25
4.3.2 Out of 10 friends who have used skin lightening creams before.	26
4.3.3 Prevalence of skin-lightening practices	28
4.4 Perceived advantage(s) of skin-lightening practices among female in senior high.....	28
school students.....	28
4.5 Level of knowledge of awareness of the harmful effects of skin-lightening among	29
female senior high school students	29
4.5.1 Sources of information of harmful effects of skin-lightening creams	29
4.5.2 Awareness of harmful effects of skin-lightening creams	31
4.6 Skin-lightening products and their sources	32
CHAPTER 5	33
5.0 Discussion.....	33
5.1 Perceived advantage(s) of skin-lightening	33
5.2 Prevalence of skin lightening practices.....	34
5.3 Level of knowledge of awareness of the harmful effects.....	35
5.4 Commonly-used skin-lightening products and their sources	36
CHAPTER 6	37
6.0 Conclusion.....	37
6.1 Recommendation.....	38
References:	40
APPENDIX 1	47
List of commonly-used in order to appear lighter in skin.....	47
APPENDIX 2	49
APPENDIX 3	52
Questionnaire for respondent / assent form.....	52
Student Assent Form	52
APPENDIX 4	56
Introductory letters.....	56
APPENDIX 5	64
IRB Approval letter.....	64

LIST OF FIGURES

Figure 1. Friends who uses creams with intent to look lighter in skin	24
Figure 2. Out of 10 friends who have used skin lightening creams before.	25
Figure 3. Perceived advantage(s) of skin-lightening practices among female in senior high school students	29
Figure 4. Level of knowledge of the harmful effects of skin-lightening among female senior high school students	31
Figure 5. Skin-lightening products and their sources	32

LIST OF MAPS

Maps	49
----------------------------	----

LIST OF TABLES

Table 1. Relationship between socio-demographic background of students and the likelihood of having used skin-lightening creams	23
Table 2. Prevalence of skin-lightening practices	27
Table 3. Sources of information of harmful effects of skin-lightening creams	30

CHAPTER 1

1.0 INTRODUCTION

1.1 Background of the study

Skin lightening is an aesthetic practice of global concern. Commonly referred to as “bleaching” (Ly F et al 2007), it is the process by which chemicals are used to lessen melanin in the skin. Among the common agents in the chemical products used in skin lightening are hydroquinone, mercury, corticosteroids, and caustic agents. These products lighten the skin by causing a chemical reaction that blocks pigmentation by cells called melanocytes.

The use of skin-lightening (SL) cosmetics appears to be common throughout the world, among dark-skinned women from sub-Saharan Africa (kamagaju et al 2016, Lartey M et al 2016). Adeleye (2007) found that in Mali, 25% of the country’s population practice skin-lightening while in Senegal up to 52% prevalence was observed. There is however an indication that various studies in the past have not specifically considered the perception of female senior high school students in Ghana, especially in Brong Ahafo region of Ghana on skin-lightening practices. Brong Ahafo is one the largest regions in the country. Ghana sharing boarder with Cote d’Ivoire in West Africa sub-region, which may influence the inhabitants to different modern world practices. Such could happen as a result of the influx of skin-lightening agents, easy access to information and practice in other parts of the world, urban civilization and competitive pattern of city life. In most cases the young female is always at risk of various social practices, such as skin-lightening.

Medical experts consider skin-lightening and skin-bleaching practices as one of the most common forms of harmful body modification practices (Jacobs M et al 2016, Charles C 2016).

Although skin bleaching (also known as skin whitening/lightening/toning), is one of the most prevalent and dangerous methods of body alteration used worldwide (Mahè et al, 2003). The art of body remodeling is not a new practice to humanity. The science of beautification and beauty contests has been in existence from time immemorial. In both the Ancient and Medieval times people have learnt to adorn their bodies in different styles. Areas where people acquire skills of decoration include hairdressing, aesthetic facial work and general body management. However, the degree to which attention is being focused on beautification, specifically bleaching, calls for special concern. The art of body beautification has progressed from ordinary maintenance of the natural complexion to complete skin bleaching – an art of changing the colour of the body to become lighter. Olumide (2006) inferred that skin bleaching has taken over all other patterns of body beautification and thus making it complex to define the art of beauty (in the modern world) without mentioning the concept and practice of skin bleaching. Skin lightening can be considered to be a process of permanent or temporary alteration of the outer (upper most) layer of the skin, otherwise known as epidermis (Andrew, 2007). In a similar opinion, Adeleye (2007) viewed skin bleaching as the purposeful lightening of the skin, which is most common through the use of different substance or methods. Olumide (2006) identified the constituency of skin bleaching creams as including those that contained hydroquinone or ammoniated mercury. By implication, body bleaching involves the application of substances or solutions that are capable of removing the upper surface of the skin, thereby making the colour of the body to become lighter. Irrespective of the reasons that may be offered by those that engage in the practice, it is always

clear that the terrible effect of skin bleaching exist in contrast with the benefits; in some cases the effects overwhelm the benefits.

It is true that skin-lightening practices cuts across all ages, races, beliefs and ideologies. Even the white race that might claim advantage over others still engage in skin bleaching, probably as a method of maintaining their body colour or for other purposes as could be advanced. Nevertheless, young female adolescents have been identified as most prone to skin bleaching practices (Adebayo, 2008). One may therefore raise a riddle in order to ascertain the causes of higher participation of female adolescents in skin bleaching practice. The present study therefore has considered it necessary to explore the perception of female senior high school students (who are incidentally adolescents) in the Brong Ahafo region on skin bleaching practices.

The history of skin-lightening spans through thousands of years of human existence with peculiarity to each society. Adeleye, (2007) testified that the first archaeological evidence of skin-lightening substance was found in Ancient Egypt around 4000 BC. In another study (Andrew, 2007), it was reported that the art of skin-lightening with Kohl and Henna have long ago been recorded in North Africa. In the slave-trade era, it was discovered that the European slave masters had their skin affected by long-term exposure to the sun. Their naturally light skins became darkened because as a results of the scourge of the sun. The experience prompted the European slave masters to adopt various methods (skin-lightening) that brought improvement to their skin (Adeleye, 2007). Thus, skin-lightening was practiced in the 16th century. In another study (Agbodeka, 1992), it was reported that during the early years of the 20th century, skin-lightening, which is considered a major component of make-up, became fashionable in the United States of America and Europe. The development became more popular with the launching of skin-lightening cosmetics in Philadelphia in 1950 and 1965.

1.2 Problem statement

Skin-lightening practice in the society is a phenomenon that raises attention of people from all spheres of life. The practice has always been reported among adult members of the society in the past but the trend has changed with the involvement of larger number of (especially) female adolescents. What agitate the mind are the terrible consequences of bleaching, not only on these young individuals who are the hope of society but also on the subsequent generation that may carelessly adopt the practice (skin-lightening) through socialization. The prevalence of the practice of skin-lightening is as high as 50% in some societies. A recent study in among adults in urban fishing communities in Accra Ghana found a prevalence level of 50.3%, with duration of practice ranging from 2 months to 17 years. Despite attempts to create awareness of the harmful effect of skin-lightening, the practices persist among the adult population in the country. A possible window of opportunity exists in supporting adolescents to appreciate the harmful effects of the practice and staying away from it.

1.3 Rationale of the study

The study seeks to explore or investigate and to reduce the prevalence of skin lightening effects like dark grey spots, skin and blood cancer, acne, swelling of the skin, thinning of the skin, cataracts, neurological and kidney damage due to high level of mercury used in the creams, psychiatric disorders, severe birth defects, asthma and Liver damage etc. Symptoms of mercury toxicity that could occur immediately among users include: irritability, headaches, difficulty concentrating, forgetfulness, memory loss, numbness, tingling in the hands, feet or around the lips, insomnia, depression and weight loss among others makes the study very important since it

will help enlighten, educate and alert the youth and the subsequent generations on the dangers associated with skin whitening and lightening.

Some of these side effects could be seen almost immediately while some are seen after prolonged use of skin whitening creams. The seeks to determine the factors influencing skin-lightening practices among female senior high school students in four districts in the Brong Ahafo region of Ghana.

1.4 OBJECTIVES

1.4.1 General Objective of the study

To determine the factors influencing skin-lightening practices among female senior high school students in four districts in the Brong Ahafo region of Ghana.

1.4.1 Primary objective

To determine the prevalence of skin-lightening among the female high school students.

1.4.2 Secondary Objectives

- To identify the perceived advantage(s) of skin-lightening.
- Assess the level of knowledge of the harmful effect(s) of skin-lightening.
- Identify the commonly-used skin-lightening products and their sources.
- Identify potential interventions to eliminate the practice among high school students.

1.5 Research Question

1. What is the perception of female senior high school students in Ghana on skin lightning?
2. What is the prevalence of skin-lightening among female senior high school students?
3. What is the knowledge level awareness of female senior high school students in Brong Ahafo on skin-lightening practices?
4. What are some of the commonly-used skin-lightening products and their sources?
5. Are there some possible interventions to eliminate the practice among high school students?

1.6 Research Hypotheses

The study is exploratory and not based on a prior hypothesis

CHAPTER 2

2.0 Literature Review

The history of skin lightening may be traced to the period when race first appeared on the face of Ghana. Such initial contact could have created awareness about people with lighter complexion. Hence, the reason for the contact would be the slave trade dispensation and other commercial bloc. However, the method and degrees at which skin lightening was practiced in those days would definitely be different from the present. Skin lightening, which resorts to artificial removal of the topmost layer of the skin, could be done in different styles. Previous studies had focused on different areas of skin-lightening. Adebayo (2008) established that there is high incidence rate of cosmetic skin-lightening among young adults in the urban centers. Irrespective of the means by which the practice is carried out, the part of the body that is bleached suggests the type or pattern of skin lightening. According to Olumide (2006), some forms of skin lightening region include the face, upper body, lower parts and private (sexual) parts. The reason for choosing which type or pattern of skin lightening depends largely on the individual and the purpose of doing it.

Facial skin lightening: This refers to the removal of the upper skin layer of the face region to the extent of changing the skin colour, most especially to become lighter (Akerlele, 2006). By implication, the person involved applies the skin lightening agents on the face for a specified period of time or until when he/she feels satisfied with the change. It is evident that facial bleaching is more frequently practiced than any other. Those that prefer facial skin lightening above other types might believe that it increases their social acceptance and does add commercial value to their quality.

Upper parts skin lightening: The upper part skin lightening is the application of skin lightening agents to the upper region of the body. The upper region includes face, neck, arms, the chest and stomach. The practice is aimed at making the upper parts of the body lighter than the lower parts. Adeleye (2007), while reporting the various patterns of skin lightening in Ghana, stated that the application of skin lightening agents to the upper parts helps those that practice the act to minimize racial discrimination and other social barriers, thus, upper parts skin lightening aims at beautifying half of the body.

Lower parts skin lightening: This applies to the removal of the topmost skin layer of the lower parts of the body. The lower parts region includes the legs, the waist and the feet. Those that practice it believe that the lower parts carry the same value as the upper parts. However, it has been established (Adeleye, 2007) that those that indulge in lower part skin lightening equally include other parts such as the face, neck, chest etc.

Private parts skin lightening: The practice involves the removal of the topmost skin layer of the private (sexual organs) part. Similar to other types, the skin lightening agent is applied on the sexually sensitive parts of the body in order to become lighter. The private parts, which may be involved, include the breasts, penis, the buttocks and the thighs. The purpose of private parts bleaching could be for sexual attraction of the opposite sex, which is popular among commercial sex workers.

The whole body skin lightening: Some people prefer to completely bleach the whole body parts, not exempting any region. One may present the reason as being an attempt to attract public and probably to attain a balanced body colour. People not only gained friends through skin lightening but they equally attract attention and popularity. It is apparent that many individuals

think that skin lightening helps them to gain adequate attention at social services. By attending and making contacts at large events, where social hierarchies are created and maintained, women (especially) who bleach their skins gain sense of social prestige (Andrew, 2007). In his own view, Akerele (2006) believe that reasons why people bleach their skin could be to establish relationship, eradicate racial discrimination, deal with inferiority complex, effect body modification, achieve emancipation from slavery, and promote prostitution and fashion.

From the relationship perspective, men tend to show interest in light complexion ladies. Because of the imminent need for young women to get attached to a man (for the purpose of marriage) the former employs all possible bait, which includes skin bleaching, in order to attract their target (men). Nevertheless, the married women equally engage in skin lightening with the belief that it helps them to sustain their marriages. Men are not however left out because they also engage in skin lightening for the purpose of becoming attractive to their female counterparts.

Racial discrimination is another contributing factor. In some parts of the world where there is the practice of racial discrimination, the Blacks who are being discriminated may resort to skin lightening with the aim of removing the colour stigma. The problem of racial discrimination, as a result of skin colour was mainly responsible for skin lightening among African victims of the obnoxious slave trade. Nevertheless, the problem of racial discrimination still exists in many societies, especially where the blacks may find themselves looking for greener pastures in other countries. People therefore bleach their skins in order to be acceptable in the foreign land.

Inferiority complex compels the black skin individuals to bleach off their inherited dark colour. In an attempt to compensate these misconceptions, so as to be able to compete favorably with

their white counterparts, blacks end up lightening their skins. Such practice, they believe, would enhance their smooth integration into the society.

Commodification, as a factor, has a long history through the slave trade period. In the 1600 AD, when the slave masters were busy with their inhuman business, they equally created value in the female Africans. Having realized the interest of the “superior creatures” the African women took pleasure in marketing themselves for better offer from the slave masters.

Adeleye (2007) reported that during the 19th century West African women adopted fashionable clothing, using their bodies as valuable goods to develop social capital especially within the Gold Coast. Beginning from the 1940s, and continuing to the present day, women created similar form of social capital and material wealth by bleaching their skin (Buah, 1998). Hence, skin lightening, just like slavery, prostitution and fashion is a means of turning the female body into a valuable commodity. According to Adeleye (2007), the element of “to-be-looked-at-ness” is what defines a commodity. Skin lightening shares this element with other related practice (prostitution and sex slavery).

Prostitution is another significant factor which could be responsible for skin lightening practice. The concept of the body, especially the female body, as a commodity may also be traced to prostitution. It is however worthwhile to examine alone the act of prostitution from other factors. Skin lightening is major strategy most often employed by the sex workers for the purpose of making their bodies attractive to the target individuals. Prostitution, which started in Ghana shortly after the Europeans built trading outposts in the 15th century, was promoted and globalized through body advertisement (Durasaro A. I. et al, 2012)

Skin lightening change body colour of African women and made them to appear more acceptable to the non-Africans. Going by history, it is apparent that prostitution, as a strictly commercial venture, which did not exist in Ghana prior to the presence of the Europeans. Hence, the act of skin lightening, which was adopted by the sex workers might be a strategy for social integration with the white men.

Fashion as an element of body beautification, has close relation with other factors discussed earlier. Buah (1998) stated that fashion (skin lightening) is arguably the arena within which the wares of consumerism are fervently endorsed as constituting a way of life. Hence, skin lightening could be seen as part of the process of bodily commodification through fashion. In the wake of the 19th century, successful West Africans began to emulate body colour fashions in order to show prestige, becoming part of a new world class of wealthy merchants men and women and adopting European fashions in the name of civilization (Adeleye, 2007). He further stated that skin fashion has reached a stage of provoking controversy as men and women use it to express support for contested ideologies and gain commercial attention.

It is true that skin lightening has been adopted as a significant aspect of the entire art of body beautification. Many individuals have adopted the practice for different purpose; some for private value while others may be for social relevance, body commodification, professional beauty pursuit, racial emancipation and many more.

However, the good reasons why people adopt skin lightening practice do not remove its consequences.

Irrespective of the method applied in carrying out the skin lightening, the part of the body affected usually becomes unnecessarily exposed to infections. This is because the exposure of inner parts of the skin to infections. Naturally, the uppermost part (surface) of the skin is

potentially protective because it is resistant to foreign attack. The part of the body that has been bleached becomes very light, fragile and tears easily. Skin lightening also leaves spots on the skin after being scratched or hard hit by an object. Such spots make the body surface to look rough and unattractive.

The Toxic-Shock Syndrome (TSS), a recently discovered illness caused by a toxic produced by staphylococcus aureus, has been identified with the extensive use of skin lightening agents. The illness is severe with a mortality rate of 10% (Olumide, 2005). Some of the symptoms of Toxic Shock Syndrome (TSS) are severe muscle pain, drop in the blood pressure, dizziness, the eyes, mouth and vagina become sore, reddish spot on the skin and few days after the appearance of the illness there is peeling of the skin of the hands and soles of the feet. Walvin (2001) submitted that, the persistent use of skin lightening agents containing hydroquinone usually causes ochoronosis and the formation of pigmented colloid millium. It leads to an extensive degeneration of dermal collagen, which causes proneness to tearing of skin when stitching especially during surgical operations.

CHAPTER 3

3.0 Methodology

3.1 Study design

The study is a cross sectional, descriptive study which has some of its features to be determining the prevalence and generating hypotheses. It is also stable in nature.

3.2 Study area/site

The study was carried out in four Senior High Schools (SHS) in four different Districts in the Brong Ahafo region of Ghana. The study sites were Kwame Danso Senior High Technical School, Prang Senior High School, Nkoranza Senior High School and Techiman Senior High School. The schools are selected based on their location within the region, thus urban, semi-urban and rural setting. These schools are all boarding and day schools.

3.2.1 Background of Kwame Danso (Sene West)

The population of Sene West District, according to the 2010 Population and Housing Census, is 57,734 representing 2.5 percent of the region's total population. Males constitute 50.7 percent and females represent 49.3 percent. Seven in ten (74.1%) of the population is rural. The District has a sex ratio of 102.8. The population of the District is youthful (43.8%) depicting a broad base population pyramid which tapers off with a small number of elderly persons (0.6%). The total age dependency ratio for the District is 91.4, the age dependency ratio for males is higher (93.7) than that of females (89.1).

The total SHS population was 1834 with 42.09% (772) females against 57.90% (1062). They no better school health programmes that could help sensitize the students on some of these health harmful effects among.

Economic Activity Status

About 78.2 percent of the population aged 15 years and older are economically active while 21.8 per cent are economically not active. Of the economically active population, 98.4 percent are employed while 1.6 percent are unemployed. For those who are economically not active, a larger percentage of them are students and house helps constituting 54.1 percent and 23.4 percent respectively. More than half (52.0%) of the unemployed are seeking work for the first time.

Occupation

Of the employed population, about 77 percent are engaged as skilled agricultural, forestry and fishery workers, 5.9 percent in service and sales, 9.5 percent in craft and related trade, and 3.7 percent are engaged as managers, professionals, and technicians.

3.2.2 Background of Prang (Pru)

Prang is one of the sub-district under Pru district with a total population of 26,089 projected by the 2010 population census. It is located on the Atebubu-Yeji truck road, 26 kilometres from Atebubu and 40 kilometres from Yeji. It shares boundaries with the following sub districts, on the North by Parambo, West by Abease, South by Atebubu and East by Sene district.

Economic activity status

More than eight out of ten (81.2%) of the population aged 15 years and older are economically active while 18.8 percent are economically not active. Of the economically active population, 95.3 percent are employed while 4.7 percent are unemployed. For those who are economically not active, a larger percentage of them are students (53.2%), 21.9 percent perform household

duties and 4.2 percent are disabled or too sick to work. More than seven out of ten (73.4%) of the unemployed are seeking work for the first time.

Prang sub-district has student population of 1208, 48.67% representing 588 females while 51.32% constituting 620 male students in the school.

Occupation

Of the employed population, about 46.3 percent are engaged as skilled agricultural forestry and fishery workers, 21.2 percent in service and sales, 14.9 percent in craft and related trade, 5.6 percent in Plant and machine operators and assemblers, with only 12 percent engaged as managers, professionals and technicians.

3.2.3 Background of Techiman

The population of Techiman Municipality, according to the 2010 Population and Housing Census, is 147,788 representing 6.4 percent of the region's total population. Males constitute 48.5 percent and females represent 51.5 percent. A greater percentage of the population (64.5%) live in urban areas as compared with 35.5 percent in the rural areas. The Municipality has a sex ratio of 94.5. The population of the Municipality is youthful (13.6%) of the 0-4 age group, depicting a broad base population pyramid which tapers off with a small number of the 70 plus years (3.0%). The total age dependency ratio for the Municipality is 75.2, the age dependency ratio for males is higher (78.9) than that of females (71.9). Techiman SHS too has students population of 2454 this has 32.72% (803) females whereas males constitute 67.27% (1651).

Economic activity status

More than seven out of ten (74.2%) of the population aged 15 years and older are economically active while 25.8 percent are economically not active. Of the economically active population, 95.3 percent are employed while 4.7 percent are unemployed. For those who are economically not active, a larger percentage of them are students (56.2%), 22.9 percent perform household duties and 4.2 percent are disabled or too sick to work. More than six out of ten (63.4%) of the unemployed are seeking work for the first time.

Occupation

Of the employed population, about 36.3 percent are engaged as skilled agricultural forestry and fishery workers, 28.2 percent in service and sales, 13.9 percent in craft and related trade, 5.4 percent in Plant and machine operators and assemblers, with only 9 percent engaged as managers, professionals and technicians.

3.2.4 Background of Nkoranza

The population of Nkoranza North District, according to the 2010 Population and Housing Census, is 65,895 representing 2.9 percent of the region's total population. Males constitute 50.5 percent and females represent 49.5 percent. A large proportion (81.5%) of the population reside in rural localities. The district has a sex ratio of 101.9. The population of the district is youthful (41.3 percent of the population is below 15 years) depicting a broad base population pyramid which tapers off with a small number of elderly persons (60 years and older) representing 7.8 percent. The total age dependency ratio for the district is 88.5. The age dependency ratio for rural

localities is 90.3 percent which is higher than that of urban localities (81.2). Student population Nkoranza was also 2633 with 37.33 (983) as against 62.66% (1650)

Economic Activity Status

About 79.9 percent of the population aged 15 years and older are economically active and 20.1 percent are economically not active. Of the economically active population, 97.6 percent are employed while 2.4 percent are unemployed. For those who are economically not active, those who are students have larger percentage (47.0%), than any other group. Twenty four percent perform household duties and 14.3 percent are either too young or old to work. Seven out of ten (70.3%) of unemployed persons in the district are seeking work for the first time.

Occupation

Of the employed population 15 years and older, the highest proportion (81.5%) are engaged as skilled agricultural, forestry and fishery workers. About seven percent are engaged in service and sales; 4.3 percent in craft and related trades, and 2.7 percent engaged as professionals.

3.3 Sampling technique

A stratified probability sampling method was adopted for the selection of the classes since they are in stratum, which included all the levels (SHS 1, SHS 2 & SHS 3.). Purposive sampling was used to select the schools and simple random sampling was employ for selection of respondents from each class. The study espouses inclusion criteria of all female students, and exclusion criteria of all male students. This is simply because females are typically involved in the practice of skin lightening (bleaching) than men. To ensure high participation, the researcher engaged some teachers from the school as research assistants and for assurance of confidentiality, no names of respondents appear on the questionnaire form.

3.3.1 Student selection allocation proportion

The total female population for the study was 3096. Using Allocation Proportion Formula (APF).

Therefore: $APF = \text{total number female students} / \text{grand total number of female students} \times 100$.

So with above formula, selected for the study were as follows: Kwame Danso was 96 students, Prang was 78 students, and Techiman too was 803 students while Nkoranza was also 983 students who were randomly selected by the researcher. The selection was statistically done by counting and including every 5th student till I exhaust the number in each class and this was done through the three forms/class.

3.4 Sample size

The sample size calculation using Cochran's Formula gives an assumption:

$$n = (z)^2 \times p(1 - p) / d^2$$

Where:

z = confidence interval of 95% (1.96)

p = prevalence (assume 50% if unknown)

d = standard error (0.05)

Therefore:

$$\begin{aligned} n &= (1.96)^2 \times 0.5(1 - 0.5) / (0.05)^2 \\ &= (3.84) (0.5) (0.5) / 0.0025 \\ &= 0.96 / 0.0025 \\ &= 384 \end{aligned}$$

Thus, the sample size for the study is 384 respondents, plus 10% adjustment of the total sample size.

3.5 Data collection

A self-administered structured questionnaire was employed as data collection tool which was distributed to respondents. The questionnaire consists of 4 sections in which “Section A” examined the demographic characteristics of respondents, “Section B” explored the practice (prevalence) of skin lightening and perceived advantage(s) of skin lightening by respondents, “Section C” assessed awareness of the harmful effect(s) of skin lightening and “Section D” investigated the types of skin lightening materials and their sources. Pretesting of the questionnaire was done in Atebubu Senior High School, to check all anomalies and also ensure the authenticity of the questionnaire.

3.6 Data management and Analysis.

The researcher used excel for the data entering and cleaning. The data was entered manually and cross checked for missing information. The data was subsequently imported into STATA statistical software package (IC 14) for analysis. A bivariate logistic regression analysis was done between demographic characteristics and used skin-lightening creams.

3.7 Ethical considerations

Institutional Review Board (IRB) and the Ethics Committee of Ensign Collage Of Public Health approval was given and Ghana Education Service (GES) of the four study sites granted permission before the investigation introductory letters were given by the directors the of GES

and sent to the school headmaster with the college introductory letter attached detailing the participating schools and the study purpose. One on one conversation were held with the academic heads and senior headmistress in each school detailing the study procedures, after the heads of the schools had given permission. Consents were obtained from each class teacher before the study was carried out. Assent was also obtained from individual students.

3.8 Limitation

Funding was major constraint or challenge for this study, since the researcher had to travel across the study sites for data collection, correspondence, and dissemination of the findings. The study was to explored and not without limitations. The study is purposive in nature and encompassed mainly SHS students. Deducing the findings of this study implicates several considerations. First, data for this study came from respondents' on sensitive topics; social needed response is always a menace. Some of the questions that were highly private or possibly embarrassing in some way may have caused respondents to respond different than reality. Efforts to minimize this impact comprised the modification of established measures from previous studies that have shown little variability in respondents' reports and the survey conducting in an atmosphere where confidentiality was assured. Second, these findings may or may not be representative of all SHS students in Brong Ahafo since private schools were not investigated.

It would be good for future research to review more broadly at challenging results that may be associated with skin-lightening practice. And wish further research be conducted on the same age group who are out of school like the apprentice compare the results or outcome.

CHAPTER 4

4.0 Results

This section presents the results of a descriptive cross-sectional study of 410 Senior High School (SHS) female students in four districts of the Brong Ahafo Region of Ghana. The study was conducted at Kwame Danso senior high technical school, Prang senior high school, Techiman senior high school and Nkoranza senior high school from 30th January to 27th March, 2017. All questionnaires were returned revealing 100% response rate.

4.1 Demographic characteristics of the respondents

The mean age of the respondents was 18 years with ± 1.58 . The study reveals that, respondents within the age group 14-16 years are 25.61% (105) whereas 17-19 years are 62.68% (257) and 20-24 years are 11.71% (48) indicating that averagely students in SHS's are between the ages of 18 years. Also respondents from Kwame Danso SHS were 96 representing 23.41%, Prang SHS were 78 constituting 19.02%, Techiman SHS were 106 representing 25.85% while Nkoranza SHS were 130 constituting 31.71%. Respondents were Day students are 48.78% (200) while 51.22% (210) were in boarding facilities. 316 77.07% (316) of the respondents are Christians, 22.20% (91) are Muslims while 3 are Traditionalists (0.73%).

Also 151 36.83% (151) of the respondents were SHS 1 students, 30.24% (124) were SHS 2 students whereas 32.93% (135) were SHS 3 students. It was indicated that respondents monthly keeping money were as follows; 34.15% (140) were "none" meaning they are not given money to keep while going to school, 28.54% (117) were those with less than 50ghc as monthly keeping money, 25.12% (103) get 50-100ghc while 12.20% (50) were those who are given more than 100ghc monthly.

Twenty percent of the respondents (82) were from Kwame Danso, Atebubu was 3.66% (15), Kajaji 1.46% (6), respondents from Yeji were 4.39% (18), Tepa 0.24% (1), Prang 13.17% (54), Abease 2.20% (9), Nkoranza 16.83% (69), Jema 2 (0.49%), Drobo 0.98 (4), Kintampo 26 6.34% (26), Techiman 14.63% (60), Sunyani 3.17% (13), Wenchi 1.46% (6), Berekum 0.98% (4), Dormaa 0.49% (2) and Others 9.51% (39) who took part in the study.

Finally, the ethnic group of the respondents was also captured where Akan were 41.46% (170), Hausa 10.00% (41), Ga 1.98% (8), Ewe 3.41% (14), Dagare/Wala 18 (4.39%), Guan 15.61% (64) while other tribes were 23.17% (95).

Table 1. Relationship between socio-demographic background of students and the likelihood of having used skin-lightening creams

Variable	Category	Use skin-lightening creams before		OR(95% C I)	P - Value
		Yes	No		
Age	18yrs and above	143(63.6%)	82(36.4%)	0.82(0.54 - 1.23)	0.33
	18yrs and below	126(68.1%)	59(31.9%)	1.00	
Religion	Christian	206(65.2%)	110(34.8%)	0.92(0.50 – 1.51)	0.74
	Muslim	61(67.0%)	30(33.0%)	1.00	
Ethnic Group	Akan	108(63.5%)	62(36.5%)	0.9(0.60 – 1.50)	0.69
	Hausa/Wala/Dagare	41(69.5%)	18(30.5%)	1.28(0.65 – 2.50)	
	Guan	45(70.3%)	19(29.7%)	1.32(0.69 – 2.50)	
	Others	75(64.1%)	42(35.9%)	1.00	
Place of residence	Location of school	172(64.9%)	93(35.1%)	0.92(0.62 – 1.41)	0.70
	Outside of school	97(66.9%)	48(33.1%)	1.00	
Monthly pocket money	>100ghc	34(68.0%)	16(32.0%)	1.13(0.76 – 1.72)	0.50
	<-100ghc	235(65.3%)	125(34.7%)	1.00	
Status	Boarder	141(67.1%)	69(32.9%)	1.15(0.76 – 1.73)	0.50
	Day Students	128(64.0%)	72(36.0%)	1.00	
Form/Class	SHS 1	109(72.2%)	42(27.8%)	1.90(1.15 – 3.13)	0.04
	SHS 2	82(66.1%)	42(33.9%)	1.43(0.86 – 2.37)	
	SHS 3	78(57.8%)	57(42.2%)	1.00	

4.2 Relationship between socio-demographic background of students and the likelihood of having used skin-lightening creams

The above table shows the relationship between socio-demographic background of the students and the likelihood of having used skin-lightening creams after bivariate analysis was performed.

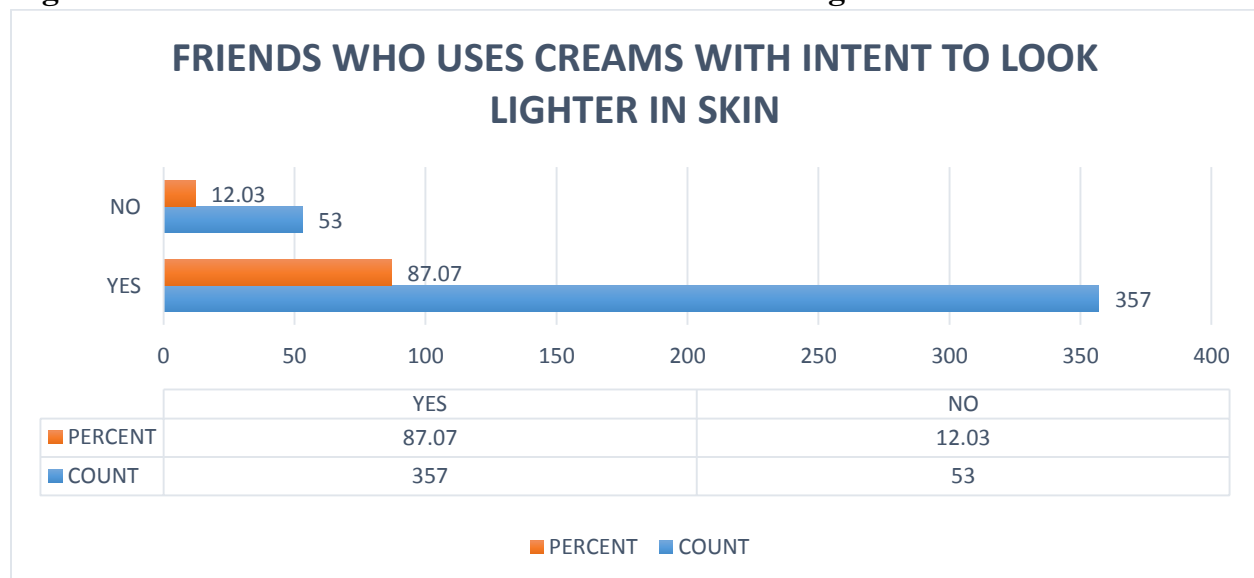
From the output you find that form 1 (SHS 1) students are 1.90 times more likely to have used Skin-lightening creams compared to their form 3 (SHS 3) counter parts. This implies that it statistically significant. You can see that form 2s (SHS 2) are also 1.43 times more likely than form 3s.

Although, this is not significant, but it shows a trend towards increased likelihood of use from SHS 3 to SHS 2 to SHS 1. The chi-square for the trend is highly significant at P-value = 0.04.

Now, what does this tell us? It suggest that the prevalence of the practice of Skin-lightening is increasing with each year group of entry into the Senior High Schools studied.

4.3 Prevalence of skin-lightening practices

Figure 1. Friends who uses creams with intent to look lighter in skin

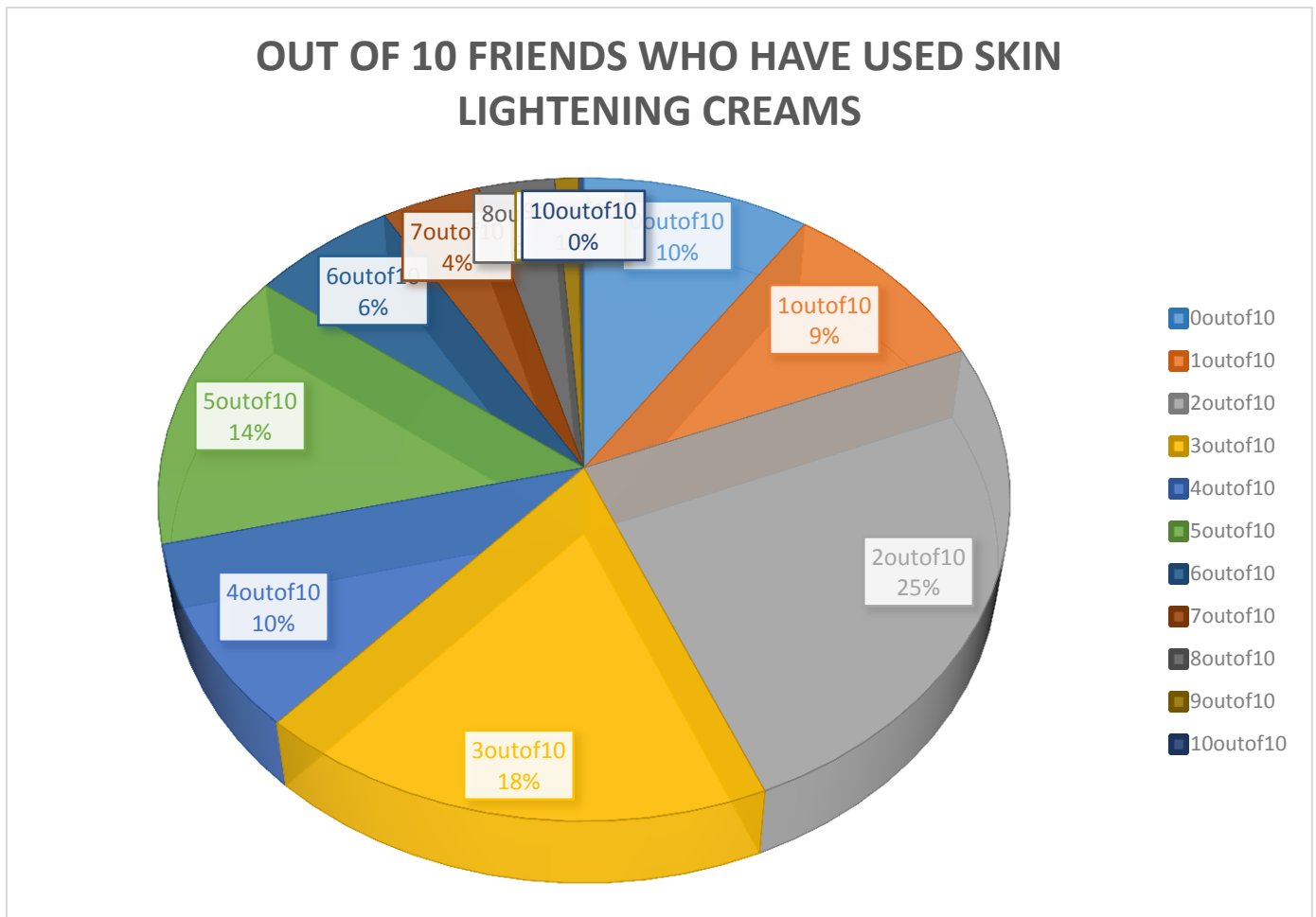


Source: field report, January 2017.

4.3.1 Friends who uses creams with intent to look lighter in skin

The figure above indicates that there is high prevalence of skin-lightening practices among the senior high students since friends who uses creams with intent to look lighter in skin were 87.07% against 12.03% which give an indication

Figure 2. Out of 10 friends who have used skin lightening creams before.



Source: field report, January 2017

4.3.2 Out of 10 friends who have used skin lightening creams before.

The figure above shows that averagely 2 out of their friends used skin-lightening creams among the senior high school students in the region. The above give clear indication of the practice in percentages.

From the above table, it is clearly shown that respondents who responded YES they knew friends who used creams with the intent of making their body skin look lighter in color were 357 (87.07%) while 53 (12.93%) have no idea of the that. The study also indicated that out of 10 of their friends who uses cream intended to make skin appear lighter in color ranges from “none to 10 out of 10” with the 102 (24.88%) responding “2 out of 10” been the highest and 1 (0.24%) been the lowest responding of “10 out of 10”.

Table 2. Prevalence of skin-lightening practices

Variable	Count	Percentage
Have you ever used it before?		
YES	269	65.61%
NO	141	34.39%
When did you first use such cream?		
While in primary school	11	2.68%
While in JHS	52	12.68%
While in SHS	162	39.51%
While at Home	60	14.63%
None/Others	125	30.49%
Who among the following do you know use/used such creams		
Mother		
YES	71	17.32%
NO	332	80.98%
DK (Don't Know)	7	1.71%
Father		
YES	30	7.33%
NO	374	91.44%
DK	5	1.22%
Female teacher		
YES	119	29.02%
NO	283	69.02%
DK	8	1.95%
Male teacher		
YES	68	16.59%
NO	331	80.73%
DK	11	2.68%
Sister		
YES	123	30.00%
NO	279	68.05%
DK	8	1.95%
Brother		
YES	56	13.66%
NO	346	84.15%
DK	5	1.22%
Friend		
YES	320	78.05%
NO	85	20.73%
DK (Don't Know)	5	1.22%

Source: field report, January 2017.

4.3.3 Prevalence of skin-lightening practices

The table indicated that 71.46% representing 293 respondents said they have ever been tempted to try such creams whereas 28.54% representing 117 respondents said NO. Respondents whose first time of tempted were as follows: while in the primary school was the lowest with 6.34% (26), while in JHS were 19.51 (80), while in SHS were 38.78% (159) and those who responded none of the above were 20.98% (86).

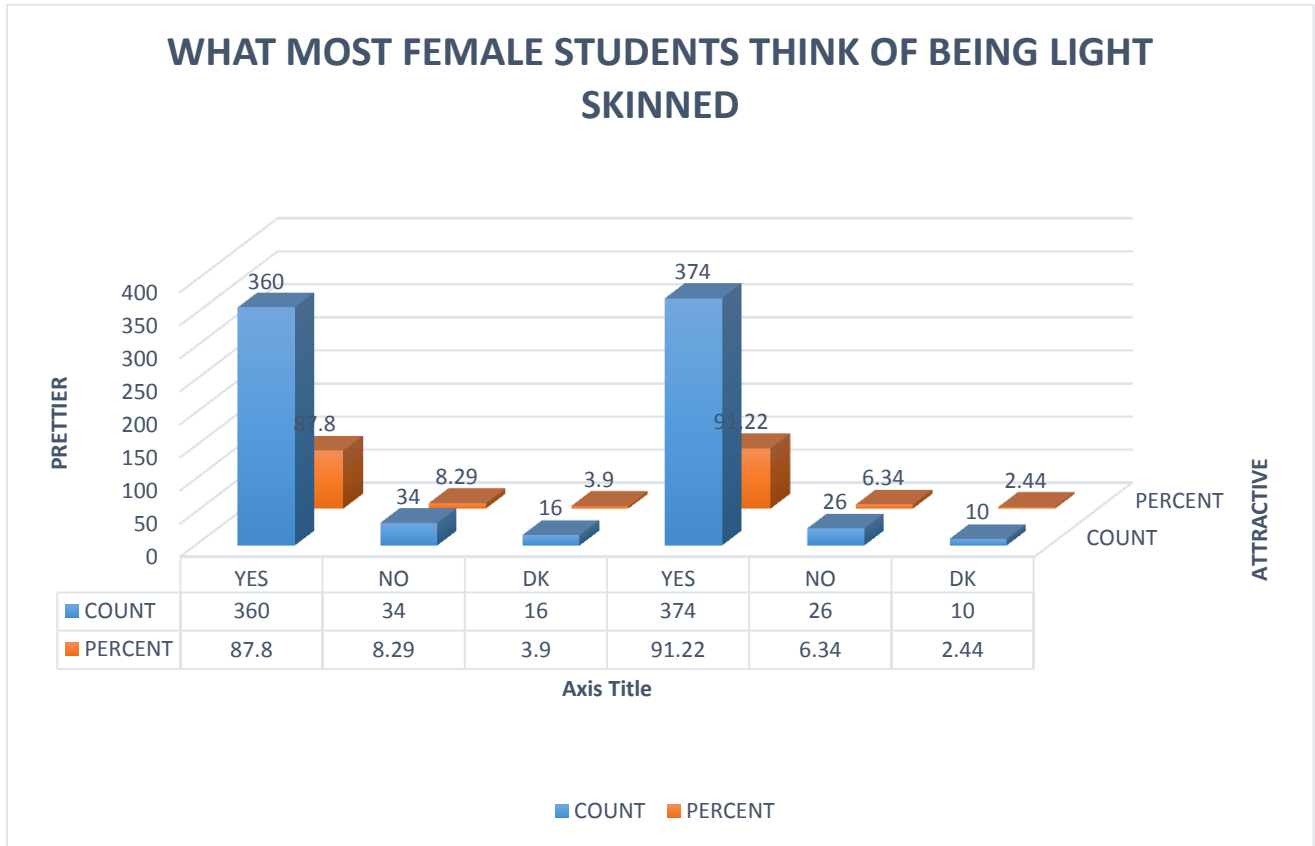
Of the participating students who have used it were 65.61% (269) while 34.39% (141) have not used such cream before. From the above majority stated that they used it while in SHS with responding rate of 39.51% representing 162 respondents. Trying to find out from the community members who used such creams indicated that; mother 17.32% (71), father 7.33% (30), female teacher 29.02% (119), male teacher 16.59% (68), sisters 30.00% (123), brother 13.66% (56) while those who said their friend were 78.05% (320).

4.4 Perceived advantage(s) of skin-lightening practices among female in senior high school students

From the table below, the motive behind becoming light skinned is either to become prettier or attractive, which the study indicated in the table that, YES to prettier were 360 respondents constituting 87.80%, NO were 34 representing 8.29% while those who Don't Know were 3.90% (16).

Respondents who said the perceived advantage was to be attractive were 91.22% (374), NO were 26 6.34% (26) whereas Don't Know were also 2.44% (10).

Figure 3. Perceived advantage(s) of skin-lightening practices among female in senior high school students



Source: field report, January 2017.

4.5 Level of knowledge of awareness of the harmful effects of skin-lightening among female senior high school students

4.5.1 Sources of information of harmful effects of skin-lightening creams

The table below depicts that the level of knowledge of awareness of the harmful effects of skin-lightening creams was 93.90% forming 385

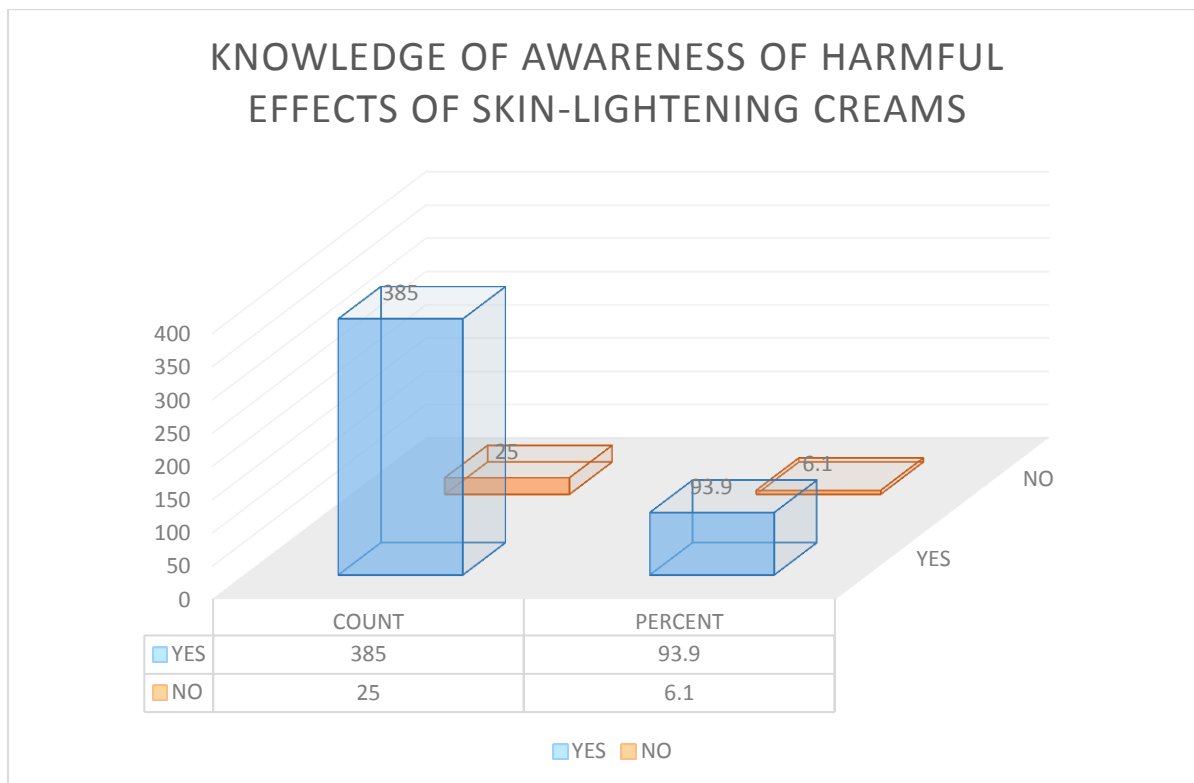
Soliciting for their source of information also revealed that, those who heard it from radio were 70.49% (289), television 76.77% (314), in school 76.83% (315), in church 65.37% (268), my parents 74.57% (305), brother/sister 64.88% (266) while from friend were 66.10 (271).

Table 3. Sources of information of harmful effects of skin-lightening creams

<u>Variables</u>	<u>counts</u>	<u>percentage</u>
Have you heard about the harmful effects of such creams of skin-lightening from any of the following sources?		
Radio		
YES	289	70.49%
NO	121	29.51%
Television		
YES	314	76.77%
NO	95	23.23%
In school		
YES	315	76.83%
NO	95	23.17%
In church		
YES	268	65.37%
NO	142	34.63%
My Parent		
YES	305	74.57%
NO	105	25.43%
Brothers/Sisters		
YES	266	64.88%
NO	144	35.12%
Friends		
YES	271	66.10%
NO	139	33.90%

Source: field report, January 2017.

Figure 4. Level of knowledge of the harmful effects of skin-lightening among female senior high school students

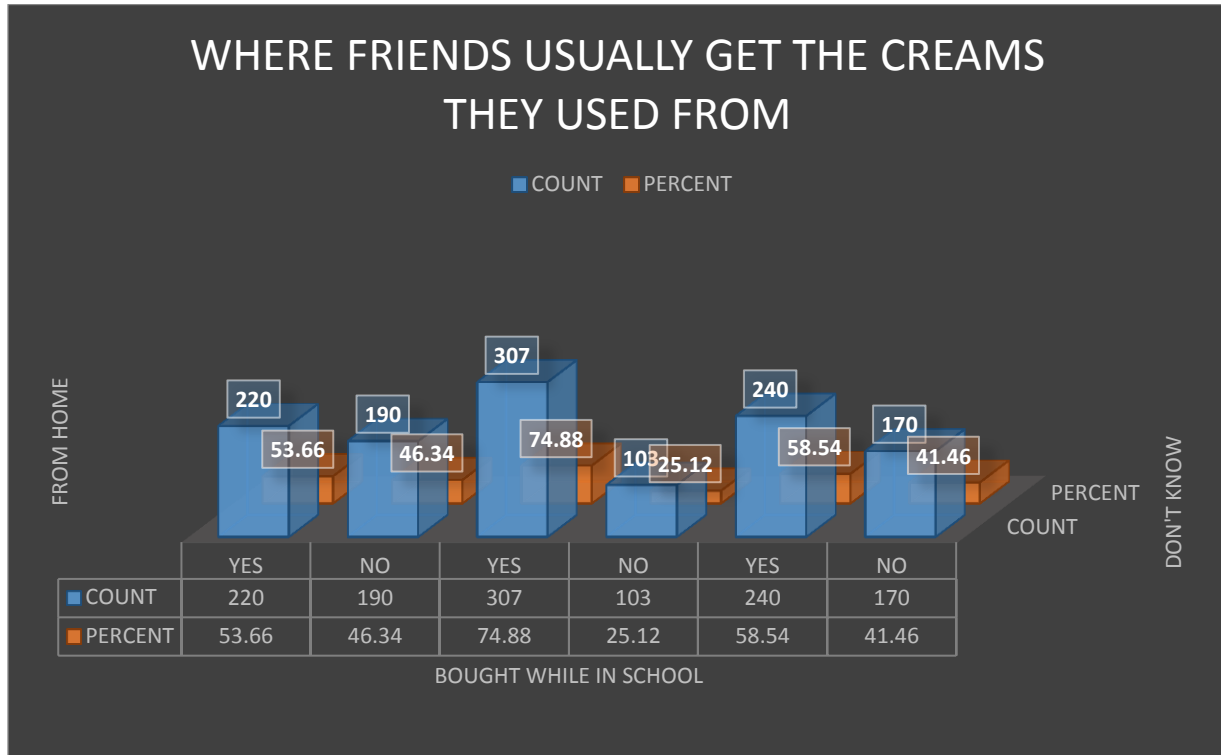


Source: field report, January 2017.

4.5.2 Awareness of harmful effects of skin-lightening creams

The above figure reveals that the students have ever heard that such creams are harmful to the skin meaning they higher knowledge of awareness of harmful effects of skin-lightening creams despite the high prevalence rate if the practice. Respondents who said YES were 93.9% (385) whereas 6.1% (25) responded NO.

Figure 5. Skin-lightening products and their sources



Source: field report January, 2017.

4.6 Skin-lightening products and their sources

Table 5, reveals where most students get their creams with intent to make their skin lighter, from the table, those get their creams from home were 53.66%, (220) students who bought their creams while in school too were 74.88% (307) whereas those responded they don't know where get them from were also 58.54% (240).

CHAPTER 5

5.0 Discussion

This discussion is centered on background characteristics of respondents, the research questions and objectives in the light of previous studies done. The key demographic variables that were studied include age, name of school, day/ boarder, residence, religion, form/class, monthly keeping money/income and ethnicity. The study area was dominated by people who belong to ethnic group from the region (90.49%). The finding is consistent with the population of the schools.

The mean age of the students sampled for the study (18 years) comparable to that of the students (14-16 years) who are early adolescence were 25.61% (105) are seen to perceived skin-lightening differently because Adebayo (2008) was with the assertion that, the level of understanding and perception of age group 11-14 years old (early adolescence) is often different from age group 15 and above (middle adolescence). Adegoke (2005) identified the different characteristics of each stage of adolescence; to him/her the characterization shows significant difference in the behavior pattern of the groups. This implies that, female senior high school students of different age groups should be treated differently because of dissimilarity in their understanding and perception.

5.1 Perceived advantage(s) of skin-lightening

The result of detail position indicates that respondent's perceived skin-lightening as helping them to be more attractive and prettier. From the results, it was indicated that what most female

students think about being light skinned was to become attractive constituting 91.22% (374) of the sample population and also being prettier represented 87.80% (360) out of the 410 sampled.

Durasaro A.I et al (2012) submitted that, respondents hold the perception that skin lightening assist girls to enter into connection with high caliber, attain high social standard, become more successful in life, look fashionable, express positive self-concept and be able to compete well with their male counterparts. This suggest that, those that engage in skin-lightening perceive it as a route to attaining success, especially having been able to attract public recognition through a “better skin complexion”.

The finding was also supported by the study of Adeleke (2007) that the major reason why people bleach their skin are to build heterosexual relationship and become public figure. Walvin (2001) also established that skin bleaching practices is a product of individual’s self-concept which is complemented by observed self-image. The present study only emphasized skin-lightening from the perspective, which in turn might help to remove preconception in the mind of respondents.

According to Robinson (2007), the perception of having lighter or fairer skin is important to understand the motivations behind the practice of skin-lightening among respondents. A study by Askari et al. shows that the most common perception of respondents in Lahore is that men consider women with lighter skin to be more beautiful (82.0%), light skin tone increases women’s chance of getting married (70.5%).

5.2 Prevalence of skin lightening practices

The study has proven that there are some and a lot of female senior high school students who uses creams with the intent to make their body look lighter in colour, this was indicated in the results that 87.07% were friends among them who uses creams with the intent of becoming

lighter skinned. The study went further to find out whether they have ever been approached to try such creams, this also rated 71.46% with their first approached been at the senior high school of 38.78%. In the study, 65.61% (269) confirmed they have used such creams before and most of them, their first time and place was at the senior high with 39.51% showing that skin-lightening practices is prevalent among senior high school students in Brong Ahafo of Ghana.

This was supported by Nnoruka E et al (2006) and Mahe' A et al (2003) that the prevalence of the practice was as high as 81.3% and 92.0% in Nigeria and Senegal respectively. It was expected that people of their caliber with such educational level knowing the risk of skin lightening products, would avoid their use. But the study has proven that the practice is most prevalent among respondents of the teen age and the 20s.

5.3 Level of knowledge of awareness of the harmful effects

The study revealed that, out of the total sample size of 410, 385 representing 93.90% have heard that skin-lightening creams are harmful to the skin of which some of the respondents indicated that those who heard it from the radio were 70.49% (289), television 76.77% (314), in school 76.83% (315), in church 65.37% (268), parents 74.57% (305), sister/brother 64.88% (266) while from friends 66.10% (271). This implies that students at the senior high schools in Brong Ahafo and in Ghana have some level of knowledge of awareness of the harmful effects of skin-lightening practices.

According to Durasaro A.I. et al (2012) irrespective of the method applied in carrying out the (skin) bleaching, the part of the body affected usually becomes unnecessarily exposed to infections. This is because the exposure of inner parts of the skin to infections. Naturally, the

uppermost part (surface) of the skin is potentially protective because it is resistant to foreign attack. The part of the body that has been bleached becomes very light, fragile and tears easily. Bleaching also leaves spots on the skin after being scratched or hard hit by an object. Such spots make the body surface to look rough and unattractive.

Siti Z.R et al (2015), reported that those who responded YES to knowing that skin lightening products might cause health effect were 94.63% (53).

5.4 Commonly-used skin-lightening products and their sources

The study point out that, where students or respondents usually get their creams that they use with intent to make their skin look lighter are as follows: students who brings them from home were 53.66% (220), bought while in school were 74.88 (307) whereas those who said they don't know were also 58.54% (240) this means that students in senior high schools have been getting their skin-lightening creams while in school and also from home for the practice.

The common place to purchase the product is in drugstores (N = 39, 61.9%), follow by department store (N = 19, 30.2%), convenience shop (N = 12, 19.0%), specialty beauty store (N = 12, 19.0%) and online (N = 8, 12.7%). A study in Jordan showed that drugstore (52.6%) and specialty beauty store (31.8%) are the common places to obtain skin lightening products, Hamed et al (2010).

CHAPTER 6

6.0 Conclusion

In conclusion, the study has proven that female senior high school students are among those who practice skin lightening with a higher prevalence rate of 87.07%. Most of these students are well exposed to the information and have good knowledge base on the awareness of the harmful effects of skin lightening products. They were able to name and list some commonly-used skin lightening products and where they get them from. However, despite their level of knowledge of awareness of the harmful effects of the practice and skin lightening products, it does not discourage the students from using it as they believe that having a lighter skin tone is for their own self-satisfaction.

It was also revealed that the use of skin lightening products is very common among female students of different age group with the intent of looking lighter in complexion and are consequently using skin lightening products excessively, which could cause several health problems.

The study also showed a statistically significant with the trend towards increased likelihood of skin-lightening creams use from SHS 3 to SHS 2 to SHS 1. The chi-square for the trend is highly significant at P-value = 0.01.

This simply suggest that the prevalence of the practice of SL is increasing with each year group of entry into the SHS studies.

6.1 Recommendation

Following the outcome of the study, it would be necessary for further research to be conducted to investigate the prevalence and the composition the ingredients in the skin lightening creams or products to ensure better education.

At their level, there is the need for health education on the risks of skin lightening creams or products use is clearly domineering and would allay the side-effects of their use.

Health education programmes should target females of the senior high school age group including those out of school going age like the apprentices through various media options including leaflets, television and radio. Within the senior high school setting, I suggest that education programmes about the dangers of misuse and overuse of skin lightening products be integrated into school curriculum as subject or course of study. The sales and marketing of skin lightening products must be controlled, which could be done by imposing fines and penalties on the marketers of such products. There is a need for a nationwide health-education campaign to tackle this issue.

There should be an increase in awareness to reduce the abuse of skin lightening products.

It would also be good that school counsellors should emphasize life building skills like assertiveness, decision-making and group formation that will help to enhance positive self-concept.

Epidemiological surveillance is required to withdraw all that contain corticosteroid, mercury and hydroquinone from the market, at the same time mass media counselling and activating the direct family role in counselling the younger female child.

Post marketing surveillance to withdraw unlicensed products and counselling by other safe alternative products, besides, the corticosteroid must be restricted for prescription only.

It is also recommended that government to enforce prescription legislation more effectively and enforce border controls. And also to publish a list of creams that are unsafe in the interim while working to get them off the market because “this will help people to avoid accidental skin lightening”.

References:

- A. H. Ezani, "Surveillance on registered/notified products in the market," 2014, <http://www.myhealth.gov.my/index.php/my/bagaimana-diabetes-dikesan/8568>.
- A. Mah'e, F. Ly, G. Aymard, and J. M. Dangou, "Skin diseases associated with the cosmetic use of bleaching products in women from Dakar, Senegal," *British Journal of Dermatology*, vol. 148, no. 3, pp. 493–500, 2003.
- A. Mah'e, F. Ly, G. Aymard, and J. M. Dangou, "Skin diseases associated with the cosmetic use of bleaching products in women from Dakar, Senegal," *British Journal of Dermatology*, vol. 148, no. 3, pp. 493–500, 2003
- Adebajo S. An epidemiological survey of the use of cosmetic skin lightening cosmetics among traders in Lagos, Nigeria. *West Afr Journal of Med* 2002; 21:51.
- Adebayo, B.S. (2008). *Incidence, consequences and attitude towards cosmetic-skin bleaching as expressed by secondary school students in Lagos, Nigeria*. An M.Ed project submitted to the University of Ilorin, Nigeria.
- Adegoke, A.A. (2005). *Adolescent in Africa: revealing the problem teenagers in a contemporary African society*. Ibadan: Hadassah Publishing.
- Adegoke, A.A. (2005). *Adolescent in Africa: revealing the problem teenagers in a contemporary African society*. Ibadan: Hadassah Publishing.
- Adeleke, O. (2006). *Skin care resources*. Retrieved on March 4th 2009 from: <http://www.medicine.com/derm/htm>.
- Adeleye, G. (2007) *Youth crime watch in Nigeria*. Retrieved on March 6th, 2009 from: www.oycwu/htm.

Agbodeka, J. (1992) *Reasons for skin bleaching*. Retrieved on January, 2009 from:
<http://www.ghana/Africa/htm>.

Ajose FO. Consequences of skin bleaching in Nigerian men and women. *Int J Dermatol* 2005; 44(Suppl. 1): 41–43.

Akerele, .A. (2006). The browning consensus. *Observer Teenage Writer*. February 18th, 2006.

Al-Dhalimi MA, Aljawahiry N. Misuse of topical corticosteroids: a clinical study in an Iraqi hospital. *East Mediterr Health J* 2006; 12: 847–852.

Al-Saleh I, Al-Doush I. Mercury content in skin-lightening creams and potential hazards to the health of Saudi Women. *J Toxicol Environ Health* 1997; 51: 123–130.

Andrew, M.A. (2007). Epidemiological survey on the cosmetic use of bleaching agents by the women in Jamaica. *Dermatol Venerol* 120 (12), 870-3.

Author: DR AZADEH Senior Lecturer at the Medical School University of the Gambia, Senior Consultant in Obstetrics & Gynaecology, Clinical Director of Medicare Health Services.

Bogusz MJ, Al Tufail M, Hassan H. How natural are ‘natural herbal remedies’? A Saudi perspective. *Adverse Drug React Toxicol Rev* 2002; 21: 219–229.

Boyle J, Kennedy CT. Hydroquinone concentrations in skin lightening creams. *Br J Dermatol* 1986; 114: 501–504.

Buah, J. (1998). Body comodification practice, slavery, prostitution and fashion in Africa. Retrieved on March 6th, 2009 from:[http://www.ghanaweb.com/Ghana home page news/stm.x](http://www.ghanaweb.com/Ghana_home_page_news/stm.x)

Centers for Disease Control and Prevention. Mercury poisoning associated with Beauty cream – Texas, New Mexico, California, 1995–1996. *MMWR Morb Mortal Wkly Rep* 1996; 45: 400–403.

D. Shome, “Why you should be wary of skin-lightening products,” 2012, <http://www.thehealthsite.com/beauty/why-youshould-be-wary-of-skin-lightening-products/>.

Dadzie O, Petit A. Skin bleaching: highlighting the misuse of cutaneous depigmenting agents. *J Eur Acad Dermatol Venereol* 2009; 23:741–50.

de Souza MM. The concept of skin bleaching in Africa and its devastating health implications. *Clin Dermatol* 2008; 26: 27–29.

Del Giudice P, Yves P. The widespread use of skin lightening creams in Senegal: a persistent public health problem in West Africa. *Int J Dermatol* 2002; 41: 69–72.

Easton A. Women have deadly desire for paler skin in the Philippines. *Lancet* 1998; 352: 555.

Faye O, Keita S, Diakite F et al. Side effects of depigmenting products in Bamako, Mali. *Int J Dermatol* 2005; 44(Suppl. 1): 35–36.

<https://www.cia.gov/library/publications/the-world-factbook/geos/sa.html>.

I. Wone, A. Tal-Dia, O. F. Diallo, M. Badiane, K. Touré, and I. Diallo, “Prevalence of the use of skin bleaching cosmetics in two areas in Dakar (Sénégal),” *Dakar Medical*, vol. 45, no. 2, pp. 154–157, 2000.

K. M. Alghamdi, “The use of topical bleaching agents among women: a cross-sectional study of knowledge, attitude and practices,” *Journal of the European Academy of Dermatology and Venereology*, vol. 24, no. 10, pp. 1214–1219, 2010.

Levitt J. The safety of hydroquinone: a dermatologist's response to the 2006 Federal Register. *J Am Acad Dermatol* 2007; 57: 854–872.

Ly F, Soko AS, Dione DA et al. Aesthetic problems associated with the cosmetic use of bleaching products. *Int J Dermatol* 2007; 46 (Suppl. 1):15–17.

M. Daniel, "The fight over whiter skin," *The Star Online*, 2007, <http://www.thestar.com.my/>.

M. L. Hunter, "Buying racial capital: skin-bleaching and cosmetic surgery in a globalized world," *The Journal of Pan African Studies*, vol. 4, no. 4, pp. 142–164, 2011.

Mahe´ A, Blanc L, Halna JM et al. An epidemiologic survey on the cosmetic use of bleaching agents by the women of Bamako (Mali). *Ann Dermatol Venereol* 1993; 120: 870–873.

Mahe´ A, Ly F, Aymard G, Dangou JM. Skin diseases associated with the cosmetic use of bleaching products in women from Dakar, Senegal. *Br J Dermatol* 2003; 148: 493–500.

Mahe´ A, Perret JL, Ly F et al. The cosmetic use of skin-lightening products during pregnancy in Dakar, Senegal: a common and potentially hazardous practice. *Trans R Soc Trop Med Hyg* 2007; 101: 183–187.

MEI, "Annex II part 1—list of substances which must not form part of the composition of cosmetic products," in *Guidelines for Control of Cosmetic Products in Malaysia*, 2009.

Ministry of Health, "Consumers cautioned against using cosmetic product containing scheduled poison," 2014, <http://www.pharmacy.gov.my/v2/en/news/09-jul-2014/consumers-cautioned-against-using-cosmetic-product-containing-scheduledpoison.html>.

N. Dlova, S. H. Hamed, J. Tsoka-Gwegweni, A. Grobler, and R. Hift, "Women's perceptions of the benefits and risks of skin lightening creams in two South African communities," *Journal of Cosmetic Dermatology*, vol. 13, no. 3, pp. 236–241, 2014.

N. Dlova, S. H. Hamed, J. Tsoka-Gwegweni, A. Grobler, and R. Hift, “Women’s perceptions of the benefits and risks of skin lightening creams in two South African communities,” *Journal of Cosmetic Dermatology*, vol. 13, no. 3, pp. 236–241, 2014.

N. Ravichandran, “Skin whitening creams can cause long-term damage, doctors warn,” Mail Online India, 2013, <http://www.dailymail.co.uk/>.

Nnoruka E, Okoye O. Topical steroid abuse: its use as a depigmenting agent. *J Natl Med Assoc* 2006; 98: 934–939.

Obuekwe, I.F. and Ochei, U.M. (2004) An Epidemiological Survey on the Presence of Toxic Chemicals in Soaps and Cosmetics Used by Adolescent Female Students from a Nigerian University. *Journal of International Women’s Studies*, **5**, 5-86.

Olumide YM, Akinkugbe AO, Altraide D et al. Complications of chronic use of skin lightening cosmetics. *Int J Dermatol* 2008; 47: 344–353.

Olumide, O. (2005). Dangers involved in dyes cosmetics and permanent weave-on oil applied t hair and scalp. *Journal of Dermatology*, 5-29.

Olumide, Y. M. (2006). Effect of skin bleaching on Nigerian men and women. *International Journal of Dermatology*; 67; 65-66.

P. A. Robinson, “Perceptions of beauty and identity: the skin bleaching phenomenon in Jamaica,” in *Proceedings of the Adult Education Research Conference (AERC ’11)*, Sacramento, Calif, USA, 2011.

P. R. Shankar and P. Subish, “Fair skin in South Asia: an obsession?” *Journal of Pakistan Association of Dermatologists*, vol. 17, pp. 100–104, 2007.

Petit L, Pie´rard GE. Skin-lightening products revisited. *Int J Cosmet Sci* 2003; 25: 169–181.

S. B. Adebajo, "An epidemiological survey of the use of cosmetic skin lightening cosmetics among traders in Lagos, Nigeria," *West African Journal of Medicine*, vol. 21, no. 1, pp. 51–55, 2002.

S. H. Askari, A. Sajid, Z. Faran, and S. Z. Sarwar, "Skin-lightening practice among women living in Lahore: prevalence, determinants, and user's awareness," in *Proceedings of the 3rd International Conference on Business Management*, Lahore, India, February 2013.

S. H. Hamed, R. Tayyem, N. Nimer, and H. S. AlKhatib, "Skin lightening practice among women living in Jordan: prevalence, determinants, and user's awareness," *International Journal of Dermatology*, vol. 49, no. 4, pp. 414–420, 2010.

S. Leong, "Who's the fairest of them all? Television ads for skin whitening cosmetics in Hong Kong," *Asian Ethnicity*, vol. 7, no. 2, pp. 167–181, 2006.

Sin KW, Tsang HF. Large-scale mercury exposure due to a cream cosmetic: community-wide case series. *Hong Kong Med J* 2003; 9: 329–334.

Tang HL, Chu KH, Mak YF et al. Minimal change disease following exposure to mercury-containing skin lightening cream. *Hong Kong Med J* 2006; 12: 316–318.

Verma, S.B. 2010. "Obsession with Light Skin: Shedding some Light on Use of Skin Lightening Products in India." *International Journal of Dermatology*, 49(4): 464-465.

Walvin, J. (2001) *Black ivory: Slavery in the British Empire*. Massachusetts; Blackwell Publishers Ltd.

Weldon MM, Smolinski M, Maoufi A et al. Mercury poisoning associated with a Mexican beauty cream. *West J Med* 2000; 173: 15–18.

Y.M. Olumide, A. O. Akinkugbe, D. Altraide et al., “Complications of chronic use of skin lightening cosmetics,” *International Journal of Dermatology*, vol. 47, no. 4, pp. 344–353, 2008.

APPENDIX 1

List of commonly-used in order to appear lighter in skin

About 28 different names of creams were listed by respondents that are used by their friends to make their skin lighter and they are as follows;

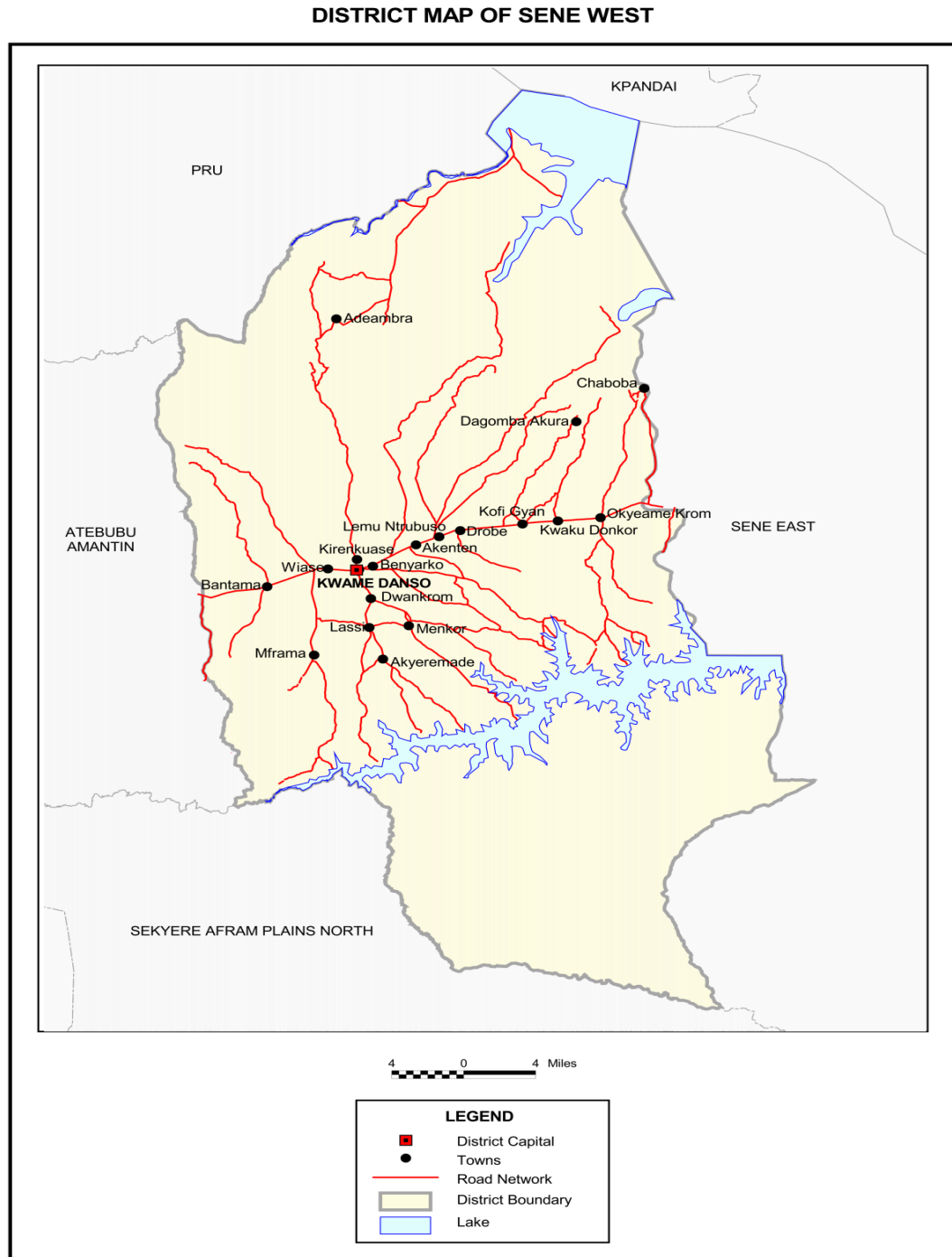
1. JRA
2. Jera
3. Perfect white
4. Skin light
5. Perfect skin
6. Caro tone
7. Body white
8. Pure skin
9. Duro
10. Bio tone
11. Caro white
12. I nova
13. Movite
14. Dodo
15. Clinic clear
16. Viva white
17. Day by Day
18. Cocoa white
19. Bio clear

20. TV3
21. Brown stone
22. Beauty body lotion
23. Cocodem
24. Perfect Lady
25. Pure skin
26. Epiderm
27. Queen clear
28. Care white

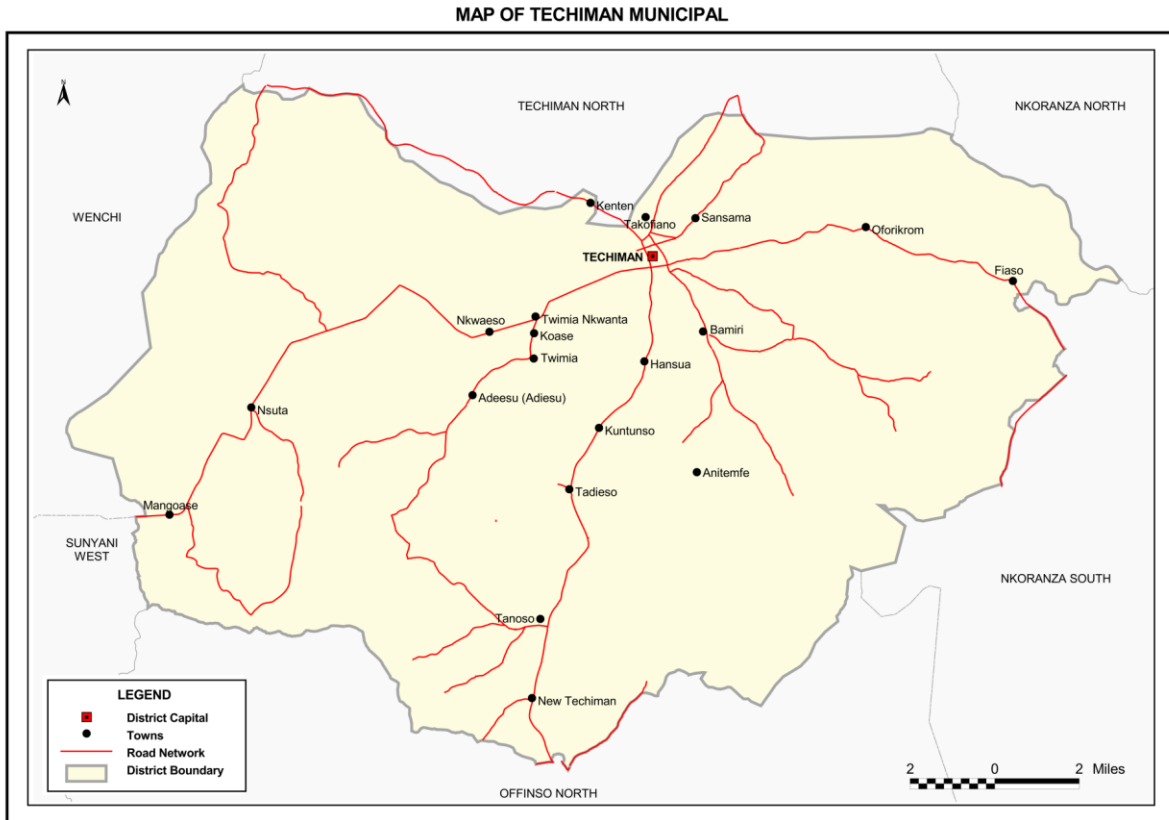
APPENDIX 2

Maps

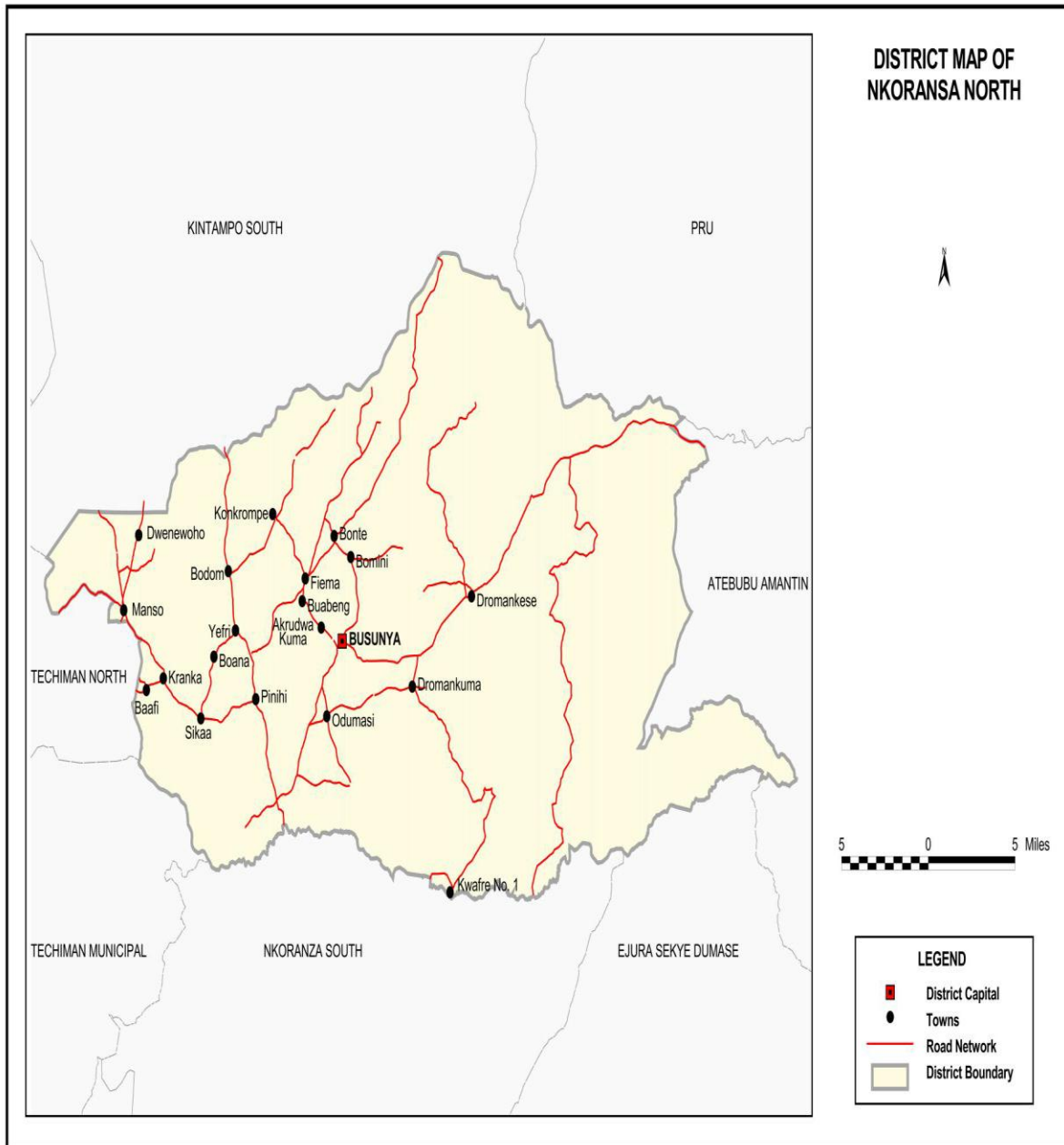
Map 1. District Map of Sene West



Map 2: Map of Techiman municipal



Map: District Map of Nkoranza



APPENDIX 3

Questionnaire for respondent / assent form

Student Assent Form

I am doing a study on skin-lightening practices among female senior high school students in four districts in Brong Ahafo Region of Ghana. I am asking you to help because I don't know how far knowledge your age group have about skin-lightening practice as a social practice.

If you agree to be in the study, I am going give out questionnaires which contain both opened and closed ended questions to solicit your views on skin-lightening as a respondent. Your confidentiality is assured since your name will not appear on the questionnaire form.

You can ask questions about this study at any time. If you decide at any time not to finish, you can ask us to stop.

The questions I will ask are only about what you think or know. There are no right or wrong answers because this is not a test.

If you sign this paper, it means that you have read this and that you want to be in the study. If you don't want to be in the study, don't sign this paper. Being in the study is up to you, and no one will be upset if you don't sign this paper or if you change your mind later.

Your signature: _____ Date _____

Signature of investigator obtaining consent: _____ Date _____

Name of investigator obtaining consent: _____ Date _____

QUESTIONNAIRE FOR RESPONDENTS

**TOPIC: SKIN-LIGHTENING PRACTICES AMONG FEMALE SENIOR
HIGH SCHOOL STUDENTS IN FOUR DISTRICTS IN BRONG
AHAFO REGION OF GHANA.**

This questionnaire is for academic purposes only. Therefore absolute confidentiality and anonymity is assured.

INSTRUCTIONS

(Please indicate your response with a tick {√} or circle {O} or write the most appropriate response in the space provided.)

SECTION A

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT

1	Age	_____ yrs	AGE
2	Name of School	
3	Day / Boarder	<input type="checkbox"/> 1. Day <input type="checkbox"/> 2. Boarder	DB
	Residence	<input type="checkbox"/> Kwame Danso <input type="checkbox"/> Prang <input type="checkbox"/> Kintampo <input type="checkbox"/> Atebubu <input type="checkbox"/> Abease <input type="checkbox"/> Techiman <input type="checkbox"/> Kajaji <input type="checkbox"/> Nkoranza <input type="checkbox"/> Sunyani <input type="checkbox"/> Yeji <input type="checkbox"/> Jema <input type="checkbox"/> Wenchi <input type="checkbox"/> Tepa <input type="checkbox"/> Gaoso <input type="checkbox"/> Berekum <input type="checkbox"/> Bechem <input type="checkbox"/> Drobo <input type="checkbox"/> Dormaa <input type="checkbox"/> Other: specify: _____	RESID
5	Religion	<input type="checkbox"/> 1. Christian <input type="checkbox"/> 2. Islam/Muslim <input type="checkbox"/> 3. Traditionalist <input type="checkbox"/> 4. Other, specify.....	REL
6	Form/class	<input type="checkbox"/> 1. SHS1 <input type="checkbox"/> 2. SHS2 <input type="checkbox"/> 3. SHS3	FCL
7	Monthly keeping money/ Income	<input type="checkbox"/> 1. None <input type="checkbox"/> 3.50 – 100 ghc <input type="checkbox"/> 2. Less than 50ghc <input type="checkbox"/> 4. More than 100ghc	MKMI
8	Ethnic Group	<input type="checkbox"/> 1. Akan <input type="checkbox"/> 3. Ga <input type="checkbox"/> 2. Hausa <input type="checkbox"/> 4. Ewe <input type="checkbox"/> 5. Dagara/Wala <input type="checkbox"/> 6. Guan <input type="checkbox"/> 7. Other: specify: _____	EGRP

SECTION B

PRACTICE (PREVALENCE) OF SKIN-LIGHTENING AND PERCEIVED ADVANTAGE(S)

9	Do you know whether some of your friends use creams with the intent to make their body look lighter in colour?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	LITER																																
10	Out of 10 friends you have, how many use cream intended to make their skin appear light in colour?	[] out of 10	OUTOF10																																
11	What are the names of three of the creams used by your friends to make their skin appear lighter?	1 2 3	NAME SC																																
12	What do most female students think about being light skinned	<table border="1"> <tr> <td>A. Prettier</td> <td><input type="checkbox"/></td> <td>1Yes</td> <td><input type="checkbox"/></td> <td>2No</td> <td><input type="checkbox"/></td> <td>3DK</td> </tr> <tr> <td>B. Attractive</td> <td><input type="checkbox"/></td> <td>1Yes</td> <td><input type="checkbox"/></td> <td>2No</td> <td><input type="checkbox"/></td> <td>3DK</td> </tr> </table>	A. Prettier	<input type="checkbox"/>	1Yes	<input type="checkbox"/>	2No	<input type="checkbox"/>	3DK	B. Attractive	<input type="checkbox"/>	1Yes	<input type="checkbox"/>	2No	<input type="checkbox"/>	3DK	TABL SKN																		
A. Prettier	<input type="checkbox"/>	1Yes	<input type="checkbox"/>	2No	<input type="checkbox"/>	3DK																													
B. Attractive	<input type="checkbox"/>	1Yes	<input type="checkbox"/>	2No	<input type="checkbox"/>	3DK																													
13	Have you ever been approach to try such cream yourself?	1. Yes <input type="checkbox"/> 2. No <input type="checkbox"/>	HYBATC																																
14	Where was your first approached?	1. <input type="checkbox"/> While in primary school 2. <input type="checkbox"/> While in JHS 3. <input type="checkbox"/> While in SHS 4. <input type="checkbox"/> While at home 5. <input type="checkbox"/> Other specify.....	WWFAPP																																
15	Have you ever used it before?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No	HYEUIBF																																
16	When did you first use such cream?	1. <input type="checkbox"/> While in primary school 2. <input type="checkbox"/> While in JHS 3. <input type="checkbox"/> While in SHS 4. <input type="checkbox"/> While at home 5. <input type="checkbox"/> Other specify.....	WYDYUC																																
17	Who among the following do you know use/used such creams	<table border="1"> <tr> <td>A.Mother</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>B.Father</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>C.Female teacher</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>D.Male teacher</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>E.Sister</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>F.Brother</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>G.Friend</td> <td><input type="checkbox"/> 1.Yes</td> <td><input type="checkbox"/> 2.No</td> <td>3.DK</td> </tr> <tr> <td>H.Other. Specify:</td> <td colspan="3">.....</td> </tr> </table>	A.Mother	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	B.Father	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	C.Female teacher	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	D.Male teacher	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	E.Sister	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	F.Brother	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	G.Friend	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK	H.Other. Specify:			WALDKC
A.Mother	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
B.Father	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
C.Female teacher	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
D.Male teacher	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
E.Sister	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
F.Brother	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
G.Friend	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	3.DK																																
H.Other. Specify:																																		

SECTION C

AWARENESS OF HARMFUL EFFECT (S) OF SKIN-LIGHTENING

18	Have you ever heard that such creams are harmful to the skin?	<input type="checkbox"/> 1. Yes <input type="checkbox"/> 2. No If No, skip to Ques. 20.		HAMFUL	
19	Have you heard about the harmful effects of such creams (bleaching) from any of the following sources?	Radio	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	WHHEB
		Television	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	
		In school	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	
		In church	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	
		My parents	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	
		Brothers/sisters	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	
		My friends	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	

SECTION D

SKIN-LIGHTENING MATERIALS AND THEIR SOURCES.

20	Where do your friend usually get the cream that they use with intent to make their skin look lighter?	<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	From home	SOURCE
		<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	Bought while in school	
		<input type="checkbox"/> 1.Yes	<input type="checkbox"/> 2.No	Don't know	

APPENDIX 4

Introductory letters

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ECOPH/DO/EL/ST.MO/034
YOUR REF:
Tel: +233 245762229
Email: info@ensign.edu.gh
Website: www.ensign.edu.gh



P. O. Box AK 136
Akosombo
Ghana

November 21, 2016

The District Director
Ghana Education Service
Sene-Kwame Danso, B/A

Dear Sir/Madam,

LETTER OF INTRODUCTION

We write to respectfully introduce to you Mr. Michael Osei (Student Identification number 157100034), a second year student of the Master of Public Health (MPH) degree program of the College.

As part of his graduation requirements, Mr. Michael Osei is writing a thesis on: **Bleaching practices among female senior high school students in four district in Brong Ahafo Region of Ghana**

He has indicated that the research methodology he will use for the study is structured questionnaires to students of some selected schools.

The student seeks to conduct a confidential and anonymous study and also seeks the consent of the individuals involved.

We would be grateful if you kindly accede him any assistance he may require in this regard.

Thank you.

Respectively yours,

Dr. Christopher N. Tetteh
Dean/ Head of Institution

Cc: The Head
Kwame Danso Senior High Technical School

BOARD OF DIRECTORS:

Mrs. Lynette N. Gay – Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Prof. Michael Hardman, Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Togbe Afede XIV

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ECOPH/DO/EL/ST.MO/034
YOUR REF:
Tel: +233 245762229
Email: info@ensign.edu.gh
Website: www.ensign.edu.gh



P. O. Box AK 136
Akosombo
Ghana

November 21, 2016

The Municipal Director
Ghana Education Service
Techiman, B/A

Dear Sir/Madam,

LETTER OF INTRODUCTION

We write to respectfully introduce to you Mr. Michael Osei (Student Identification number 157100034), a second year student of the Master of Public Health (MPH) degree program of the College.

As part of his graduation requirements, Mr. Michael Osei is writing a thesis on: **Bleaching practices among female senior high school students in four district in Brong Ahafo Region of Ghana**

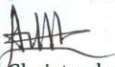
He has indicated that the research methodology he will use for the study is structured questionnaires to students of some selected schools.

The student seeks to conduct a confidential and anonymous study and also seeks the consent of the individuals involved.

We would be grateful if you kindly accede him any assistance he may require in this regard.

Thank you.

Respectively yours,


Dr. Christopher N. Tetteh
Dean/ Head of Institution

Cc: The Head
Techiman Senior High School

BOARD OF DIRECTORS:

Mrs. Lynette N. Gay – Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Prof. Michael Hardman, Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Togbe Afede XIV

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ECOPH/DO/EL/ST.MO/034
YOUR REF:
Tel: +233 245762229
Email: info@ensign.edu.gh
Website: www.ensign.edu.gh



P. O. Box AK 136
Akosombo
Ghana

November 21, 2016

The District Director
Ghana Education Service
Pru- Yeji, B/A

Dear Sir/Madam,

LETTER OF INTRODUCTION

We write to respectfully introduce to you Mr. Michael Osei (Student Identification number 157100034), a second year student of the Master of Public Health (MPH) degree program of the College.

As part of his graduation requirements, Mr. Michael Osei is writing a thesis on: **Bleaching practices among female senior high school students in four district in Brong Ahafo Region of Ghana**

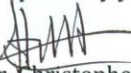
He has indicated that the research methodology he will use for the study is structured questionnaires to students of some selected schools.

The student seeks to conduct a confidential and anonymous study and also seeks the consent of the individuals involved.

We would be grateful if you kindly accede him any assistance he may require in this regard.

Thank you.

Respectively yours,


Dr. Christopher N. Tetteh
Dean/ Head of Institution

Cc: The Head
Prang Senior High School

BOARD OF DIRECTORS:

Mrs. Lynette N. Gay – Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Prof. Michael Hardman, Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Togbe Afede XIV

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ECOPH/DO/EL/ST.MO/034
YOUR REF:
Tel: +233 245762229
Email: info@ensign.edu.gh
Website: www.ensign.edu.gh



P. O. Box AK 136
Akosombo
Ghana

November 21, 2016

The District Director
Ghana Education Service
Nkoranza, B/A

Dear Sir/Madam,

LETTER OF INTRODUCTION

We write to respectfully introduce to you Mr. Michael Osei (Student Identification number 157100034), a second year student of the Master of Public Health (MPH) degree program of the College.

As part of his graduation requirements, Mr. Michael Osei is writing a thesis on: **Bleaching practices among female senior high school students in four district in Brong Ahafo Region of Ghana**

He has indicated that the research methodology he will use for the study is structured questionnaires to students of some selected schools.

The student seeks to conduct a confidential and anonymous study and also seeks the consent of the individuals involved.

We would be grateful if you kindly accede him any assistance he may require in this regard.

Thank you.

Respectively yours,

Dr. Christopher N. Tetteh
Dean/ Head of Institution

Cc: The Head
Nkoranza Senior High School

BOARD OF DIRECTORS:
Mrs. Lynette N. Gay – Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Prof. Michael Hardman,
Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Togbe Afede XIV

GHANA EDUCATION SERVICE

In case of reply
the number and the date of this letter should be
quoted



REPUBLIC OF GHANA

Sene District Office
Post Office Box 15
Kwame Danso, B/A
Ghana, West Africa

31st January, 2017

Telephone No.:
Our Ref No. GES/SWD/KDSHTS/52/VOL.7/5
Your Ref No.

**THE HEADMASTER
KDSHTS
POST OFFICE BOX 22
KWAME DANSO
SENE WEST-B/A**

LETTER OF INTRODUCTION

Mr. Osei Michael is a second year master student of Ensign College of Public Health, Kpong in the Lower Manya Krobo Municipality.


He is writing thesis on: "**Bleaching practices among female senior high school students in four districts in the Brong Ahafo Region of Ghana**" within the District.

I would be grateful if you could grant him the needed assistance.

I count on your usual cooperation.


(A.A. AKANGARE)
DISTRICT DIRECTOR

Noted
782 31/01/17
Asst. Academic & Administration please assist the learner


ASST. HEADMASTER (ACA)
KWAME DANSO SHR HIGH TECH. SCH.
SENE WEST - B/A
Noted
31/01/17
Seen
30/1/17 15.50 GMT

GHANA EDUCATION SERVICE

*In case of reply the number.
Date of this letter should be quote*

Telephone:

Our Ref: GES/PD/BA/RI/VOL.1/5.....

Your Ref:



republic of Ghana

Pru District Education Office
Post Office Box 6
Yeji – Brong Ahafo
GHANA W/AFRICA

DATE: 1st February, 2017

THE HEADMASTER
PRANG SENIOR HIGH SCHOOL
PRANG-B/A

RE: LETTER OF INTRODUCTION

We write to introduce to you Mr. Micheal Osei, a Second Year student of the Master of Public Health (MPH) degree programme. He seeks the consent of the District Education Directorate to conduct a confidential and anonymous study in your school as part of his graduation requirements.

Kindly accord him all the necessary assistance he may require from you for the purpose of his study in your school.

We count on your usual co-operation.

A handwritten signature in cursive script, appearing to read 'Emmanuel Effah-Sakyi'.

.....
EMMANUEL EFFAH-SAKYI (MR.)
DISTRICT DIRECTOR OF EDUCATION
PRU.

**GHANA EDUCATION SERVICE
TECHIMAN MUNICIPALITY**

In case of reply the number and date
of this letter should be quoted

Tel. No: 0352522628



Republic of Ghana

Post Office Box 12,
Techiman, B/A,
Ghana.

My Ref. No. GES/TMED/85/Vol7
Your Ref. No:

2nd February, 2017

THE HEADMASTER
TECHIMAN SHS
P. O. BOX 85
TECHIMAN

INTRODUCTORY LETTER, MR. MICHAEL OSEI

The Directorate would like to introduce to you Mr. Michael Osei, a student of Ensign College of Public Health-Kpong, who is pursuing a masters programme in Public Health.

Mr. Michael Osei is writing thesis on Bleaching Practices among female Senior High School Students as part of his graduation requirements and would like to solicit for your assistance and cooperation.

The Directorate would be grateful if you could assist him complete his work.

Please, find attached a copy of letter of introduction from his institution.

Thank you.

**PHILIP OBENG-ADJEI (VERY REV)
MUNICIPAL DIRECTOR**

*Asst Doni: kindly assist him.
Stubs should be used only outside the
official contact hours pls.*

[Signature] - 02/02/17

Attn

- 1. Asst Adm: -
- 2. Asst Hcs: -
- 3. Asst Doni: -
- 4. Sr Hcmstrs: -

NKORANZA MUNICIPAL ASSEMBLY

DEPARTMENT: EDUCATION YOUTH & SPORTS

In case of reply the number and date
of this letter should be quoted

Our Ref: GES/BA/NKZ/154/V.7/25

Your Ref:.....



REPUBLIC OF GHANA



Post Office Box 50
Nkoranza – B/A
Tel: 0352097134
gesnkoranzasouth@yahoo.com

February 3, 2017

THE HEADMASTER
NKORANZA SENIOR HIGH/TECH. SCHOOL
POST OFFICE BOX 28
NKORANZA, BRONG AHAFO

LETTER OF INTRODUCTION **MR MICHAEL OSEI**


Reference the attached letter on the above subject matter, I, hereby, introduce to you **Mr Michael Osei**, a second year student of the Master of Public Health (MPH) degree programme of the Ensign College of Public Health – Kpong for your assistance.

I count on your cooperation.


SULLEY, AL-HASSAN (MR)
(MUNICIPAL DIRECTOR)

cc:

Mr Michael Osei
Ensign College of Public Health
Kpong

Seen
03/02/2017

Asst. Headmaster (Acad).

*EKY

APPENDIX 5

IRB Approval letter

ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ENSIGN/IRB/M2
YOUR REF:
Tel: +233 245762229
Email: irb@ensign.edu.gh
Website: www.ensign.edu.gh



P. O. Box AK 136
Akosombo
Ghana

21st November, 2016

INSTITUTIONAL REVIEW BOARD SECRETARIAT

Micheal Osei
Ensign College of Public Health.

Dear Mr. Osei,

OUTCOME OF IRB REVIEW OF YOUR THESIS PROPOSAL


At a meeting of the INSTITUTIONAL REVIEW BOARD (IRB) of Ensign College of Public Health held on 16th and 17th November 2016, your proposal entitled "**Bleaching Practices among Female Senior High School Students in Ghana**" was considered.

Your proposal has been approved for data collection in the following settings:

1. Amend the topic to include the Brong Ahafo Region and its four districts.
2. Change the age bracket to 14 years and above.
3. Proof read for grammatical errors.

We wish you all the best.

Sincerely,


Dr (Mrs) Acquah-Arhin
(Chairperson)

Cc. Dean of Ensign College.

Cc: Ag. Academic Registrar, Ensign College.

BOARD OF TRUSTEES:

Mrs. Lynette N. Gay - Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Dr. DeVon C. Hale, Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Prof. Samuel Ofoosu Amaah , Togbe Afede XIV

