

Level of Awareness of Effects of the Use of Cosmetic Bleaching Products among Women: A Case Study of Bolgatanga Municipality of Ghana

Richard A. Kuffour^{*}, Emmanuel Dartey, Wellington Owusu and Philip M. Dabuoh
Department of Environmental Health and Sanitation Education, University of Education, Winneba
P.O. Box M40, Ashanti-Mampong, Ghana

^{*} E-mail of the corresponding author: rakuffour@gmail.com

E-mail: emmeldartey@yahoo.co.uk; wellington.owusu@yahoo.com; Dabuohphilip@yahoo.com

Abstract

This study intends to find out the level of awareness of the harmful effects of cosmetic bleaching products among women in Bolgatanga municipality of Ghana. The study also investigated the motives for skin bleaching as well as observing any physical manifestation of bleaching effects on the skin. Structured questionnaire was the main instrument used for the data collection. The questionnaires were administered in ten (10) selected communities in the Bolgatanga Municipality from which one hundred and twenty (120) women were randomly selected. The results showed that 39.2% of the women interviewed used cosmetics bleaching products, 9 women representing 7.5% experienced related side-effects and 82.4% had no knowledge on the side effects of these bleaching products. Chi-square analysis showed that lack of formal education could account for their ignorance. High amount of sunshine in addition to skin bleaching could serve as a predisposing factor which would lead to the contraction of skin cancer. The knowledge of the effects of cosmetic bleaching products is an imperative measure in maintaining a healthy skin.

Keywords: women, cosmetics, bleaching products, skin.

1. Introduction

In September 2006, The Food and Drugs Administration (FDA) in the United States of America recommended that products containing hydroquinone be sold only with a prescription due to their opinion that it posed certain health risks. Hydroquinone has also been linked with the medical condition known as Ochronosis in which the skin becomes dark and thick. The FDA asserts that study in rodents shows evidence of hydroquinone acting as a carcinogen or cancer-causing chemical (FDA, 2006). This product has been banned in Japan, the European Union, and Australia (Tracey A. *et al.*, 2011). Some of the side effects of skin-bleaching products include: skin thinning, acne, stretch marks, visible blood vessels, skin redness and irritation, easy bruising of the skin, skin darkening e.g. around the eyes and on the knuckles, sunburn, skin ageing, skin cancer and harmful internal effects ([Http://jamaica-gleaner.com/gleaner/20120808/health/health1.html](http://jamaica-gleaner.com/gleaner/20120808/health/health1.html)) (Accessed on 11/01/2013, 12:05pm). In Ghana, the use of skin bleaching products is more prevalent in the towns and cities due to the growing general perception that women with light- skin (fair women) are more beautiful than women with dark-skin. This belief has compelled many young women to bleach their skin using depigmentation agents such as Kojic acid, corticosteroids and hydroquinone based products.

There are reports indicating severe side-effects of prolonged use of such products. Bolgatanga is one of the Municipalities in Ghana which experiences high amount of sunshine throughout the year. This climatic condition coupled with skin bleaching could make the skin vulnerable to the dangerous effects of ultraviolet light rays which cause familial malignant melanoma (skin cancer).

2. Methodology

The Bolgatanga Municipal is one of the nine (9) districts in the Upper East Region of northern Ghana. The capital is the town Bolgatanga, which also serves as the capital of the Upper East Region. It is located in typical savanna vegetation where vast grass land is seen with very few trees. Rainfall pattern is very poor with a long dry season period. Temperatures are very high especially between February and June ranging between 26°C – 43°C (<http://bolga.ghanadistricts.gov.gh/> (accessed on 02/01/2013, 10:05am).

The area can be windy and dusty during the dry season. The inhabitants of the district belong predominantly to different peoples of Northern Ghana. The town of Bolgatanga, however, has a cosmopolitan character. The inhabitants comprise people of the north, but also members of the major ethnic groups including the Akan, Ewe, and Ga peoples. The natural vegetation of the district consists of tree savanna, with baobab, and acacia trees (<http://bolga.ghanadistricts.gov.gh/> (accessed on 02/01/2013, 10:05am). Figure 1 shows the location of Bolgatanga Municipal in the Upper East Region of Ghana (highlighted).

The study was predominantly on a descriptive survey using structured questionnaires and extensive observation of women to assess their level of Knowledge on the use of bleaching products and the effect of prolong usage of

those products. The study parameters assessed included the age, the level of education, the bleaching status, reasons for bleaching, effect of bleaching, some common bleaching products and the level of knowledge and dangers associated with skin bleaching. A total of hundred and twenty (120) women were randomly selected from different houses in ten (10) selected communities of the Municipality namely; Bukere, Atulibabisi, Tanzui, Zongo, Dagweo, Zuarungu/Sawaba, Eastates/Tindonsobligo, Tindonmoligo, Soe/Zaare, and Yikene.

The results from the study (quantitative data) were analyzed with the Statistical Package for Social Sciences (SPSS, Version 16.0) using descriptive statistics such as frequencies and percentages. Comparative analysis to determine association between study parameters was carried out with the chi square (χ^2) test at 5% significance level.

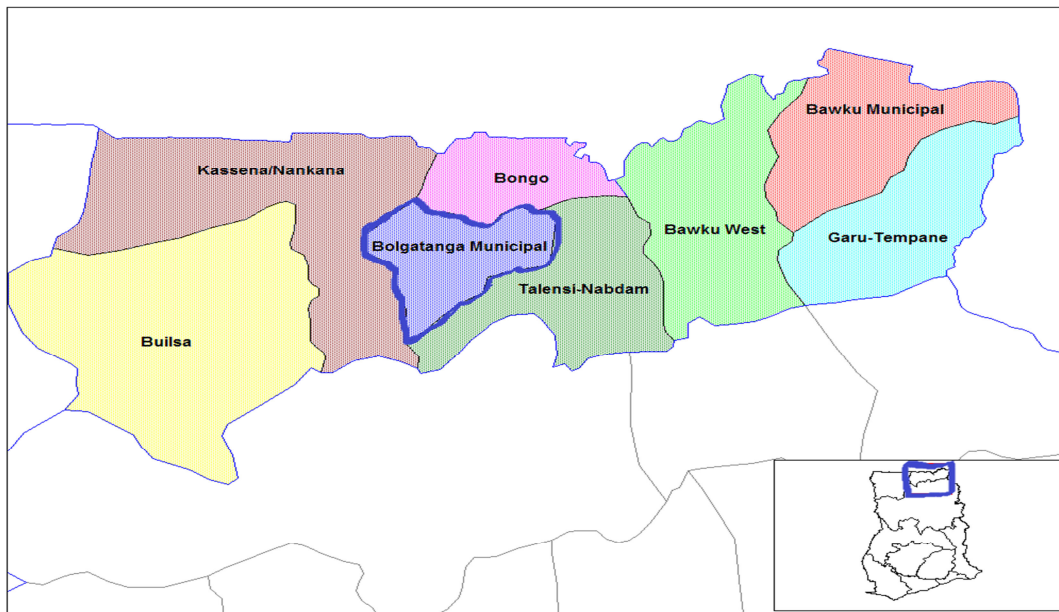


Figure 1. Location of Bolgatanga Municipal in the Upper East Region of Ghana ($10^{\circ}47'N$ $00^{\circ}51'W$ / $10.783^{\circ}N$ $0.850^{\circ}W$); courtesy: <http://bolga.ghanadistricts.gov.gh>.

3. Results and Discussion

3.1 General Information of Respondents

The study showed that 22.5%, 20.0%, 20.8%, 25.8% and 10.8% of the women had their ages ranging from 15-20 years, 21-25 years, 26-30 years, 31-36 years and 36-40 years respectively. Educational level of the women revealed that 45.8% had basic education, 30.0% had secondary education, 8.3% had tertiary while 15.8% had no education at all. The information on the educational background of the women could influence their level of knowledge concerning current health issues. The study showed that 45% of the women were married, 52.5% were unmarried women, 2.5% were divorcees. All of them were engaged in various forms of occupation; 20.8% were traders, 8.3% were seamstress, 10.8% hairdressers, 17.5% being house wives, whilst 42.5% were engaged in other jobs not captured in the questionnaire items (Table 1).

Table 1: Personal information of respondents.

Study Parameter		Frequency (n = 120)	Percentage (%)
Age group (years)	15 - 20	27	22.5
	21 - 25	24	20.0
	26 - 30	25	20.8
	31 - 35	31	25.8
	36 - 40	13	10.8
Education	No education	19	15.8
	Basic	55	45.8
	Secondary	36	30.0
	Tertiary	10	8.3
Marital Status	Married	54	45
	Unmarried	63	52.5
	Divorced	3	2.5
Occupation	Trader	25	20.8
	Seamstress	10	8.3
	Hair dressing	13	10.8
	House wife	21	17.5
	Others	51	42.5

3.2 Information on Skin Bleaching

The cosmetic use of skin bleaching products is a common practice in dark-skinned women from sub-Saharan Africa (Godlee F, 1992). In Bamako, the capital of Mali, 25% of adult women reported current use of such products (Mahe *et al.*, 1993). In South Africa, the total sales volume of skin lighteners was estimated in 1986 at £30 million (Hardwick N., 1989). The study showed that 39.2% of the women do use skin lighteners. This is converse to the study conducted by Palokinam *et al.*, 2000 in which out of the 910 women investigated, 58.9% used skin-bleaching cosmetic products.

There was low level of knowledge of the use of cosmetic bleaching products among the women in the communities since 84.2% were totally ignorant. This could be attributed to inadequate education.

It was observed that some of the cosmetic products used include: claire (sivoclaire, peauclaire), movate, skin light and biotone. There are several reports indicating that these products contain quantities of hydroquinone, mercury, phenol and corticosteroids which are depigmenting agents causing skin bleaching (Lerner AB & Fitzpatrick TB, 1952; Jimbow K. *et al.*, 1974). Goeckermann noted that a brown-gray discoloration of the face and neck (especially the skin folds and eyelids) was associated with prolonged use of mercury containing creams (Goeckermann, 1975). Hydroquinone effectively inhibits the creation of melanin in the skin which is what gives skin its colour. Unfortunately, over time, this ingredient can seep into the skin and enter the body, producing some potentially severe side effects.

In the UK and other European countries, stringent measures are being used to curb the use of chemicals such as hydroquinone, mercury etc in the market ([Http://www.fda.gov/OHRMS/DOCKETS/98fr/E6-14263.htm](http://www.fda.gov/OHRMS/DOCKETS/98fr/E6-14263.htm).accessed on 13/01/2013, 12:40pm).

It was also observed that 9 out of 47 women that use cosmetic bleaching products had various kinds of skin complications such as skin itching, body odour, and blackspots. Severe side-effects such as Exogenous Ochronosis and Familial Malignant Melanoma are the possible future occurrences. The pigmented exogenous ochronotic lesions are most marked on sun-exposed areas of the body namely, face, upper chest and upper back. Dogliotte described 3 stages of this condition: (1) Erythema and mild pigmentation; (2) hyperpigmentation, black colloid milia and scanty atrophy; and (3) papulonodules with or without surrounding inflammation (Dogliotte & Liebowitz, 1979). Familial Malignant Melanoma is a type of cancer that can easily occur in people who use skin tonners to make their skin light. The ultra-violet rays from the sun directly act on the skin causing genetic mutation ([Http://www.cancer.net/cancer-types/familial-malignant-melanoma](http://www.cancer.net/cancer-types/familial-malignant-melanoma) (accessed on 13/01/2013, 10:12am).

Table 2: Information on skin bleaching.

Study Parameter		Frequency (n = 120)	Percentage (%)
Bleaching Status (n = 120)	Yes	47	39.2
	No	73	60.8
Knowledge of bleaching (n = 120)	Yes	19	15.8
	No	101	84.2
Product used (n = 47)	Claire	19	40.43
	Motivate	3	6.38
	Skin light	16	34.04
	Biotone	9	19.15
Nature of Effect (n = 9)	Skin itching	5	55.56
	Body odour	1	11.11
	Black spot	3	33.33

3.3 General Views of Women Concerning Skin Bleaching

The study revealed that 60.8% of the women are not involved in the practice. Some reasons of their noninvolvement include; fear of critics (25%), cannot afford the cost(19.17%), not interested(16.67%). This could be attributed to the fact that most of them are very religious and perceived the act as a violation to their belief system.

39.2% that were involved do so in order to attract men (12.5%), enhancement of beauty (15%), please their men (9.17%) and to change skin color (2.5%) as captured in Fig. 2.

Skin colour plays a significant role in the lives of Ghanaian women. Many Ghanaian women's feelings about beauty, attractiveness and the marriage market are associated with skin complexion. They believed that Ghanaian men found lighter-skinned women more attractive (Fokuo,2009).

Globally, young women and single women make more use of this practice than others. This is explained in essence by the desire to seduce. Educated women are more likely to be influenced by the models of Western beauty brought to them by magazines and the audiovisual media (Hardwick, 1989).

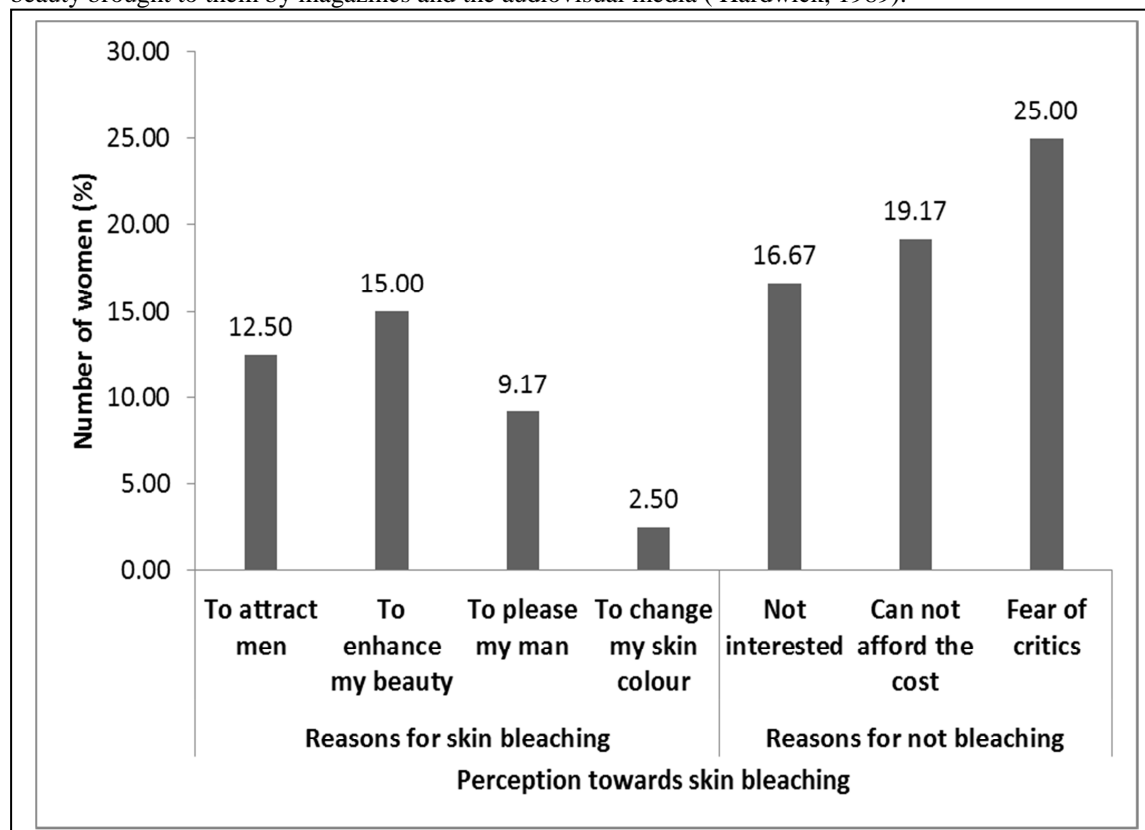


Figure 2: Perception towards skin bleaching

3.4 Association between level of education and knowledge of bleaching effects.

Results of the chi-square test carried out to establish the relationship between the level of education and the knowledge of bleaching effects revealed a significant statistical difference ($p = 0.006$). This indicates that the educational level of the women and their knowledge of bleaching effects are necessarily interrelated. Figure 3 shows that 100% of the women without education responded "No" to knowledge of bleaching effects while out of 10 women with tertiary education background, 80% of them responded "Yes" to knowledge of bleaching effects thereby underscoring the importance of formal education in relation to knowledge on bleaching effects.

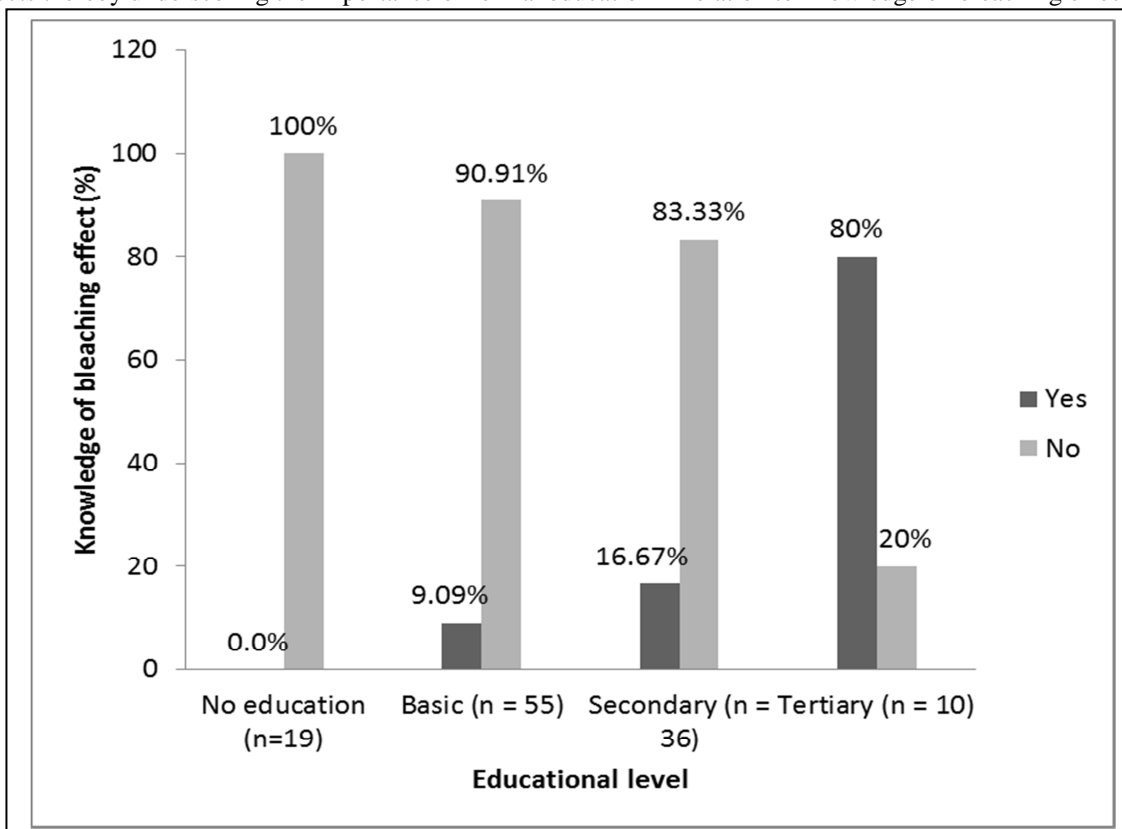


Figure 3: Comparative analysis between respondents' level of education and knowledge of bleaching effect

4. Conclusions

Most of the women in the Bolgatanga Municipality (84.2%) are not aware of the harmful effects of cosmetic bleaching products on their skin and body. Although 60.8% do not bleach their skin, it is very important that they get much information concerning their health so as to prevent any involvement in the near future. 39.2% used cosmetic bleaching products based on the perception that women with lighter skin are more beautiful and attractive to men than women with dark skin. The high amount of sunshine in the Municipality resulting in temperatures (26°C – 43°C) between February and June coupled with skin bleaching poses vulnerability to skin cancer (familial malignant melanoma) as well as other skin-related diseases. Result from the chi-square analysis proved that education is one of the factors that needs to be well addressed in order to restore sanity in the health of the people.

Based on the outcome of the study, the following recommendations were made.

- First of all, the Government should come out with clear policies to regulate the importation and sale of all cosmetic bleaching products in the country. The Government should ban all cosmetic products that contain harmful chemicals such as hydroquinone, corticosteroids, etc.
- Non-governmental organizations and the multi-media organizations via seminars and symposia can help educate the general public about the dangers of skin bleaching.
- Religious organizations should educate to their members during meetings on the need to maintain their God-given natural skin colour.
- The authorities of educational institutions, especially High Schools should allocate some amount of time to enlighten the young girls about skin bleaching.

Acknowledgments

We would like to express our deepest gratitude to the women in the selected communities of Bolgatanga Municipality for their kind reception and active participation in making this research a successful one.

References:

- Bolgatanga Municipal Assembly. <http://bolga.ghanadistricts.gov.gh/> (accessed on 02/01/2013, 10:05am)
- Bolgatanga Municipal District. en.m.wikipedia.org/wiki/Bolgatanga_Municipal_District (accessed on 20/02/2013, 01:31pm)
- Cancer Types. [Http://www.cancer.net/cancer-types/familial-malignant-melanoma](http://www.cancer.net/cancer-types/familial-malignant-melanoma) (accessed on 13/01/2013, 10:12am).
- Dogliotte M, Liebowitz M. Granulomatous ochronosis – a cosmetic-induced skin disorder in blacks. *S Afr Med J* 1979; 56: 757–760.
- Federal Register. [Http://www.fda.gov/OHRMS/DOCKETS/98fr/E6-14263.htm](http://www.fda.gov/OHRMS/DOCKETS/98fr/E6-14263.htm) (accessed on 13/01/2013, 12:40pm).
- Fokuo, Konadu J. *African and Asian Studies*, Volume 8, Numbers 1-2, 2009 , pp. 125-146(22).
- Food and Drugs Administration. Federal Register: August 29, 2006 (Volume 71, Number 167), Proposed Rules, Page 51146-51155.
- Godlee F. Skin lighteners cause permanent damage. *Br Med J* 1992 ; 305 : 333.
- Goeckermann WH. A peculiar discolouration of the skin. *JAMA* 1975; 84: 506–507.
- Hardwick N, van Gelder LW, van der Merwe CA, van der Merwe MP. Exogenous ochronosis: an epidemiological study. *Br J Der-matol* 1989;120: 229–38.
- Jimbow K, Obata H, Pathak MA. Mechanism of Depigmentation by Hydroquinone. *J Invest Dermatol* 1974; 62: 436.
- Lerner AB, Fitzpatrick TB. Inhibition of melanin formation by chemical agents. *J Invest Dermatol* 1952; 18: 119–135.
- Mahe A, Blanc L, Halna JM et al. Enquête e pide miologique sur l'utilisation cosmetique de produits depigmentants par les femmes de Bamako (Mali). *Ann Dermatol Venereol* 1993; 120:870–3.
- Palokinam Pitché, Koussake Kombaté, and Kisseem Tchangai-Walla, *Cosmetic use of skin-bleaching products and associated complications(2000)*. Department of Dermatology, Tokoin University Hospital, University of Lomé, Togo.
- The Gleaner. [Http://jamaica-gleaner.com/gleaner/20120808/health/health1.html](http://jamaica-gleaner.com/gleaner/20120808/health/health1.html) (Accessed on 11/01/2013, 12:05pm).
- Tracey A. Hotta BScN, RN, CPSN, *Plastic Surgical Nursing*, September 2011, Volume 31 Number 3, Pages 115 – 116.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

