

Self-use of Skin Bleaching Products among Female Attending Family Medicine Clinic at Prince Mansour Military Hospital, Taif 2017

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Abstract

Introduction: The cosmetic use of skin bleaching products is a common practice in colored-skinned women. The use of skin lightening creams is common and widespread in the African, Asian, and North American populations. Use of skin bleaching agents has been reported in Saudi Arabia. The long-term use of these products for several months to years may cause cutaneous or systemic side-effects.

Aims: This study aimed was to assess the prevalence of self-use of skin bleaching agents among Saudi women as well as the level of awareness, attitudes and practice towards use of these agents.

Methods: A cross-sectional study was conducted by selection of systematic random sampling of female attending family medicine clinic at Prince Mansour Military Hospital. The data collected by structured questionnaire included information about background variables, attitudes, awareness and practice regarding use of skin bleaching agents. The data were analyzed using statistical software to yield descriptive and inferential statistics.

Results: A total of 358 women aged between 18-55 years old were included in this study. About 25% of the women were current users of skin bleaching agents, while 39.6% were only previous users. Thus, more than half of these women were either current or previous users, while 12% of them used creams previously and still use it currently. About a third of women used bleaching creams as treatment for hypo or hyperpigmented skin and 29.4% used them for cosmetic purposes. Regarding the source of these agents, 38% of women obtaining them by medical prescription and 27.8% were from pharmacy without prescription, while the remaining women obtaining them from the market. Reason of using skin bleaching creams was varying among females, 51.6% of females used creams for increase beauty, 51% for making a new look, 6% for rising self-confidence, and 4.3% to increase stability of marriage. About 56% of women reported that cortisone is the most dangerous component in the skin bleaching agents. About 33% of women agreed to use a quick whitening agent from an unknown source. Significant associations were detected between use of skin bleaching agents and each of education, income, and occupation, while the associations with marital status and age were not statistically significant.

Conclusion: The lifetime use of skin bleaching agents was relatively high divided evenly on cosmetic and curative purposes. The level of awareness about these agents is low since a considerable proportion of them agreed to use agents from unknown sources. In addition to high use of skin bleaching agents obtained without medical or pharmacist consultation.

Keywords: Skin bleaching; Steroids; Neurotoxicity; Steroids; Family medicine

Introduction

Skin bleaching formulas refers to the use of the chemical product to lighten skin color sometimes for therapeutic purposes but more common for cosmetic purpose [1]. There is a high prevalence (25-96%) of skin bleaching use in African and Asian people for several previous decades [2,3]. A significantly higher proportion of skin-lightening product users believed that lighter skin tone plays a role in self-esteem, the perception of beauty and youth, marriage and employment chances when compared with non-user, the colonial legacy in South Asia is said to be one of the contributory factors for the belief that white is dominant and white is beautiful as normally the white race was the director and the dark natives were the directed [4]. Several fairness

cosmetics may include skin bleaching products like hydroquinone, high potent steroids, mercury, hydrogen peroxide and magnesium peroxide among others. These may cause many side effects including dermatological, neurotoxicity, mercury induced nephropathy and immune-toxicity [5].

It is reported that up to 60% of those who practice skin lightening may suffer from at least one complication [6]. Health problem related to skin lightening products add a burden on health care services and on the economy of many developing countries. In a Saudi study conducted in Riyadh region, only 26.7% of the women used bleaching products for medical purposes to treat abnormal skin hyperpigmentation, 20.8% were ready to use any skin lightening product that gives quick effects [7]. Evidence showed that about 45% of the tested skin-lightening cream in Saudi Arabia contained mercury at levels well above the FDA's acceptable limit of 1 ppm [8]. There is no

previous study aimed to assess the prevalence skin lightening use among female in Taif area, thus this study aimed to investigate the extent of use of bleaching agents among women as well as the determinants of this use.

Methods

This was a cross-sectional study design that carried out in Prince Mansour Military Hospital in Taif city. Prince Mansour Military Hospital founded in 1951 and accommodates 210 beds. The hospital provides a high-quality care in family and community medicine. Taif City is a city in the Makkah Province of Saudi Arabia at an elevation of 1,879 m (6,165 ft.) on the slopes of the Sarawat Mountains. It has a population of ≈ 993.8 (General Census of Population and Housing in 1435 AH). This study recruited the Saudi female attendees of family medicine clinics at Prince Mansour hospitals. The sample size was determined according to the statistics of the patient's affairs Prince Mansour Military Hospital in Taif where the researcher found that the average number of monthly attendees of female clinics of family medicine department is 5500 attendees/month. Using EPI info version 7, sample size of population is determined by calculation of expected frequency of participant's awareness =50% with 95% confidence interval; thus sample size was 359 participants. The participants to see each day was selected using "systematic random sampling" technique with spacing unit (K) between sample fractions equal to 3 ($40 \div 12 \approx 3$). The first patient to select at the beginning of each working day was randomly selected from the first arriving 3 patients, and then every 3rd patient was invited until the entire 12 patients had been interviewed, by the end of the day. The procedure was repeated daily in each clinic until the entire sample population has all been covered over.

The instrument of the data collection was an Arabic language self-administered questionnaire with a letter explaining the need for the

study without mentioning names to ensure confidentiality. The questionnaire consisted of personal information such as age, education level, marital status, job, and income. Prevalence of use of skin lightening products, knowledge of skin lightening products, reasons for use, application practice, and products source. Respondents' perceptions about lighter skin use, side effects. In order to calibrate the questionnaire, the researcher distributed the questionnaire to three consultants included a family medicine physician, a dermatologist consultant and a public health consultant.

Data were collected and verified, variables were coded and entered to Statistical Package for Social Sciences (SPSS) software version 20, developed by IBM Corporation, with a help of a biostatistician. Descriptive statistics, e.g., number, proportions, cumulative proportions, mean and standard deviation, etc. will be displayed, as appropriate. Analytically, parametric and nonparametric techniques were used as required. All results of tests with pvalue equal or <0.05 were considered "statistically significant".

The Regional ethical committee approved the study protocol. Written consent was obtained from Prince Mansour Hospital administration before starting the study. Also, a consent was taken from each participant to voluntary participate in the study. Each participant was kept anonymous, and all information was used with respect the confidentiality and only the researcher and the statistician had access to the completed questionnaires.

Results

This study was done on females aged between 18-55 years old, with mean age 34 years ± 10.6 . The amount of monthly used cream was ranged between 20-180 grams with mean 41.7 ± 28 grams. The mean cost of monthly use was 210 SAR (Table 1).

Demographical characteristics	Frequency	Percent %	
Marital status (n=356)	Single	72	20.2
	Married	256	71.9
	Divorced	20	5.6
	Widowed	8	2.2
Education (n=357)	Illiterate	8	2.2
	Secondary or Less	132	37
	University or Higher	217	60.8
Occupation (n=343)	Student	68	19.8
	Unemployed	29	8.5
	Housewife	148	43.1
	Employee	98	28.6
Income (n=354)	<2000	14	3.9
	2000-5000	89	24.9
	5001-10000	168	23.2
	10001-20000	83	1.1

Age group (n=357)	≤ 18	12	3.4
	19-35	181	50.7
	>35	164	45.9

Table 1: Background characteristics of the respondents.

This study found that about a quarter of women were currently using creams, while 39.6% were previously use creams (Figure 1).

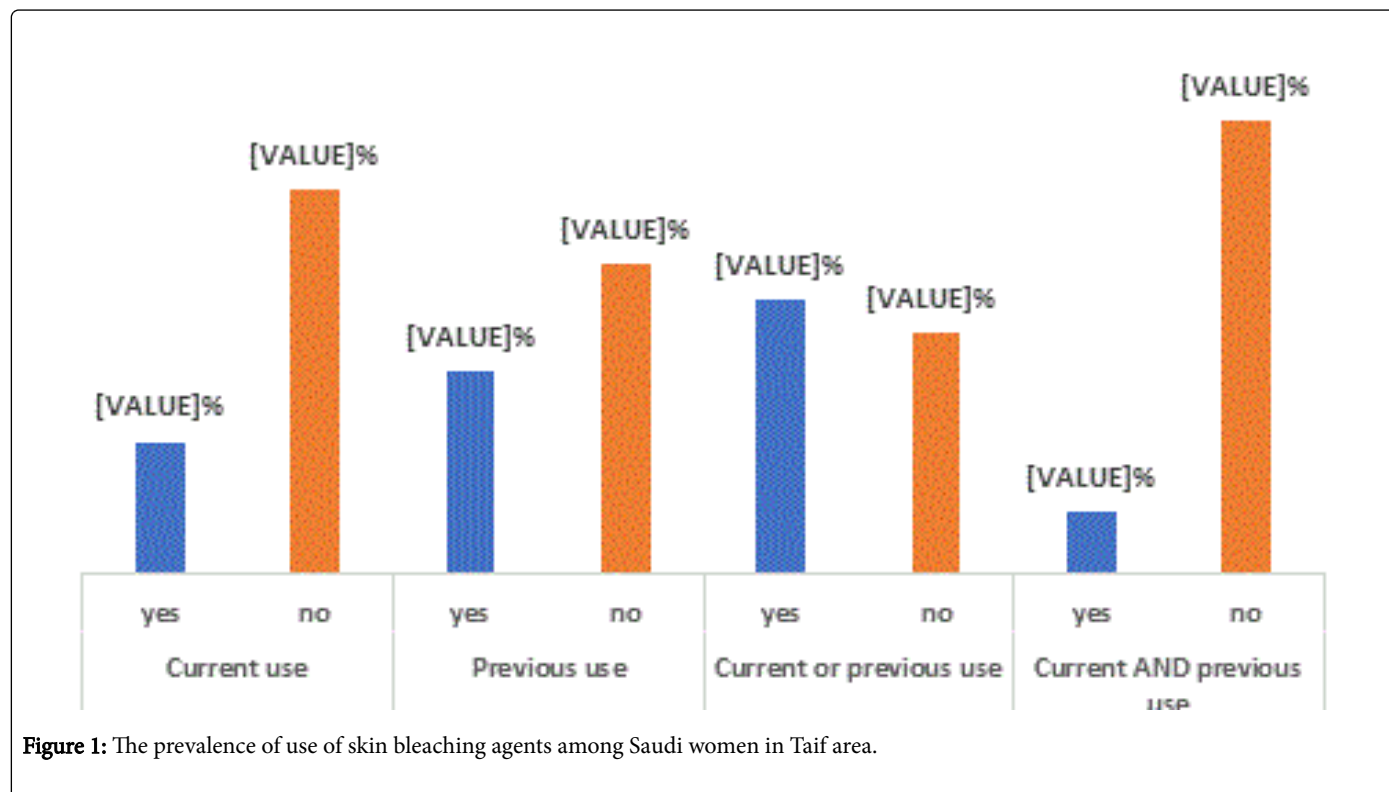


Figure 1: The prevalence of use of skin bleaching agents among Saudi women in Taif area.

Approximately, 53% of females were either current or previous users of skin bleaching creams, while 12% of females were previous users and still creams at the time of the study. The source of bleaching cream was reported as 38.1% of users obtain creams by medical prescriptions,

27.8% of them bought creams from pharmacy without prescriptions, while 23.2% of them bought them from markets and 10.8% from beauty shops (Table 2).

Characteristics		Frequency	Percent %
Current use (n=358)	Yes	91	25.4
	No	267	74.6
Previous use (n=356)	Yes	141	39.6
	No	215	60.4
Current or previous use (n=356)	No	167	46.9
	Yes	189	53.1
Current and previous use	No	315	88
	Yes	43	12

Source	Medical prescription	74	38.1
	From pharmacy without prescription	54	27.8
	From market	45	23.2
	From beauty shops	21	10.8
Composition	Ready medication of skin whitening from pharmacy	107	55.4
	A formula prepared in the pharmacy	7	3.6
	Prepared in in Itara	42	21.8
	Cosmetic product not medication	37	19.2
Purpose	As treatment for hypo or hyper pigmented skin	65	30.8
	Just for skin whitening	62	29.4
	Both curative and cosmetic purposes	62	29.4
	Not applicable	22	10.4
Use during pregnancy	Yes	15	8
	No	172	92
Use during lactation	Yes	58	31.4
	No	127	68.6
Frequency of use	1 per day	57	30.2
	2 per day	86	45.5
	3 per day	14	7.4

Table 2: Practices of women using bleaching creams of the skin.

In regards to chemical composition of these bleaching creams, they were ready-made compounds found in the pharmacy in 55.4% of the cream users, while a pharmacist's prepared formula was used in 3.6% of cream users, 21.8% were prepared from a traditional formula and 19.2% were cosmetic products not medications. About 31% of females used bleaching creams as treatment for hypo or hyperpigmented skin, 29.4% used them only for cosmetic purpose, while 29.4% of them used skin bleaching creams for both curative and cosmetic purposes.

Regarding use of creams during pregnancy, it was found that only 8% of females used skin bleaching creams during pregnancy, while 92% did not use them. Concerning use of skin bleaching creams

during lactation, it was found that 31.4% of females used creams during lactation, while 68.6% did not use them during lactation. The frequency of use among studied women varied widely, 30.2% used skin bleaching creams once a day, and 45.5% used them twice a day, while 7.4% used these creams three times a day (Table 2).

The knowledge and attitudes among women towards using bleaching creams was explored in this study, 34.8% agreed with use of skin bleaching creams prepared by traditional methods, while 28.9% disagreed. In addition, about 33% of women agreed to recommend the use of these creams prepared by traditional methods (Itara), while 30.8% did not agree to recommend this type of preparation (Table 3).

Factors of knowledge and attitudes		Frequency	Percent (%)
Use cream from Itara (traditional formula)	Strongly agree	4	1.2
	Agree	119	34.8
	I don't know	64	18.7
	Disagree	99	28.9
	Strongly disagree	56	16.4
Itara recommended	Strongly agree	2	0.6
	Agree	113	33.1

	I don't know	70	20.5
	Disagree	105	30.8
	Strongly disagree	51	15
Reason of use	Increase beauty	101	31.3
	Increase self confidence	26	8
	Increase stability of marriage	6	1.9
	It is trend	52	16.1
	For new look	65	20.1
	Others	73	22.6
Quick whitening	Yes	113	32.7
	No	233	67.3
Desire of white skin	Strongly agree	80	23.8
	Agree	170	50.6
	I don't know	21	6.3
	Disagree	51	15.2
	Strongly disagree	14	4.2
Creams cause skin problems	Yes	116	33.3
	No	143	41.1
	I don't know	89	25.6
Most dangerous component	Cortisone	79	22.8
	Mercury	1	0.3
	Fruits acids	135	38.9
	Salicylic acid	132	38

Table 3: Knowledge and attitudes towards using bleaching creams.

Reason behind the use of skin bleaching creams were differed among cream users, about 31.3% of women used skin bleaching creams to increase beauty, 20.1% used them as a new look, 8% use them to increase self-confidence, 1.9% use them to increase stability of marriage and 52% because the use of such creams has perceived as a trend. About 33% of these women used creams that achieve quick whitening effect, while 67.3% did not use this kind of cream. Approximately 24% of cream users strongly agreed that they have a desire of white skin, 51% just agreed, while 15.2% disagreed and 4.2% strongly disagreed. This study found 33.3% of females thought that skin bleaching creams cause skin problems, 41.1% thought they did not, while 25.6% did not know that creams cause skin problem (Table 3).

In regards to the associations between demographics and (current or previous use) of skin bleaching creams, the association between marital status in one side and the current or previous use in another

side was not statistically significant (P-value=0.438). However, the association between educational level and current or previous use was statistically significant (P-value=0.00). About 62% of women with university or postgraduate degree were either current or previous users of skin bleaching creams in comparison to 41% of women with secondary school or less or only 13% of illiterate women.

In addition, the association between occupation and current or previous use was significant (P-value=0.024). Women who were employed were had the highest either current or previous prevalence of skin creams use. The association between income and current or previous use was significant (P-value=0.002). Women with income more than 1000 SAR had the highest percentage of bleaching cream use currently or previously. While the association between age group and current or previous use was not statistically significant (P - value=0.245) (Table 4).

Variables		Current or previous use		P-value
		Yes (%)	No (%)	
Marital status	Single	38	34	0.438
		52.80%	47.20%	
	Married	116	138	
		45.70%	54.30%	
	Divorced	9	11	
45.00%		55.00%		
Widowed	2	6		
Education	Illiterate	1	7	0
		12.50%	87.50%	
	Secondary or Less	54	78	
		40.90%	59.10%	
	University or Higher	134	81	
62.30%		37.70%		
Occupation	Student	32	36	0.024
		47.10%	52.90%	
	Unemployed	17	12	
		58.60%	41.40%	
	Housewife	70	78	
		47.30%	52.70%	
Employee	63	33		
Income	<2000	5	9	0.002
		35.70%	64.30%	
	2000-5000	43	46	
		48.30%	51.70%	
	5001-10000	80	88	
		47.60%	52.40%	
	10001-20000	59	22	
72.80%		27.20%		
>20000	2	2		
Age group	≤ 18	7	5	0.245
		58.30%	41.70%	

		102	77	
	19-35	57.00%	43.00%	
	>35	79	85	
		48.20%	51.80%	

Table 4: Associations between demographics and (current or previous use) of bleaching creams.

Discussion

The cosmetic use of skin bleaching products is a common practice in dark-skinned women [9]. The use of skin lightening creams is common and widespread in the Sub-Saharan African population [10]; also it has been reported in many parts of the world such as Saudi Arabia [11]. The long-term use of these products for several months to years may cause cutaneous or systemic side-effects [12]. The prevalence of the current use of topical bleaching agents in our study (12%) is comparable with other prevalence studies carried out in Nigeria and Senegal. The studies conducted in Nigeria and Senegal showed that the use of cosmetic bleaching products ranged from 53-59% of people surveyed [6,13]. About 31.3% of females use bleaching creams to increase their beauty, this is because of that even skin color is considered a universal sign of youth and beauty [14].

The mean monthly cost of bleaching agents was 210 SAR among studied women; the cheaper cost of such uncontrolled products is likely to be the main reason for their trade [15]. The mean duration of use was 2.44 months; this was not in agreement with Del Giudice et al. [15], in which the mean duration of use was 50.5 months while a few women had used bleaching creams for longer periods, e.g. 20 years. The possible result of such extensive use is the occurrence of cutaneous adverse effects. The number of bleaching products used each month in our study ranged between 20 and 180 g (mean 41.7 g/month), which was compared with another study conducted in Saudi Arabia in which the amount of bleaching products used each month was ranged between 2 and 600 g (mean 90.09 g/month) [7]. In Nigeria, the quantity varied from 60 to 150 g/month, while in Senegal, the quantity ranged between 15 and 350 g/month [6,13]. The resultant mean of 41.7 g in our study seems quite enough, as 45 g of cream is required on average to cover the whole body [7].

Among the female adult population the use of bleaching creams was higher in single females this was not in agreement with a study done by Pitche et al. 1997 [10], this may be because of that they want to increase beauty to increase their chance of getting marriage. Use of bleaching creams was also higher (50%) in females with higher income; this was in agreement with a study done by Pitche et al. [10]. While it was disagree with Alghamdi et al. where there was no association between income and the use of bleaching products. However, it was expected that women with higher incomes would be the ones capable of paying for such cosmetic products [7]. About 35% of women in this study were agreeing to use cream from Itara (traditional formula); it may be attributed to easy accessibility and availability of traditional products on the streets or in market places. They are sold without any medical prescription and control, and imported from neighboring countries [10], in comparison with Alghamdi et al. study where about 75% of the bleaching products used were not obtained by a medical prescription. This surprisingly high percentage reveals the inadequate ways of obtaining such products and further highlights the importance of managing the problem [7].

Only 8% were use skin bleaching creams during pregnancy, while 92% did not use it during pregnancy, that's because pregnancy is associated with a particular risk for skin-bleaching use, especially in the last trimester [16]. About 31% of women used bleaching creams during lactation. The pictures were more gloomy in Senegal where 81% of the women carried on with their use during pregnancy and 87% did so during lactation [6,13]. About one third of females were aware that bleaching creams cause skin problems, 41% disagree with the statement that they can cause skin problems, while 25.6% of women did not know whether it can cause skin problems or not. However, the nature and methods of use of skin-lightening products, which are often applied to the whole body over a number of years, expose users to certain additional risks, connected with the passage into the systemic circulation of the active constituents in question. Thus, it appears increasingly clear that the cosmetic use of such products for the purpose of skin bleaching carries serious general risks and some behaviors appear particularly dangerous [16].

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