

SKIN-LIGHTENING PRACTICE AMONG WOMEN LIVING IN LAHORE

Skin-Lightening Practice among Women living in Lahore: Prevalence, Determinants, and User's Awareness

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ABSTRACT:

Skin lightening is practiced in many parts of the world, sometimes for hyperpigmentary disorders on physician's recommendation but often for social purpose to achieve fairness. This is a prevalent practice in Pakistan too, lot of products are visible in market. But this is not without adverse effects as many harmful chemicals are used in them. This study was conducted to observe the determinants, prevalence of use and user's awareness about the use and misuse of skin lightening products in Lahore, Pakistan. A convenience sample of 61 female respondents was collected on a structured questionnaire and chi square test was used to analyze possible association between variables. Prevalence of use is 59% in studied population, while most agreed to perception that lighter skin tone is more beautiful, helps in getting marriage and results in more Men's consideration. Due to high harm-benefit ratio, there is a need of regulation for these products and corporate social responsibility by marketing firms.

Key words: skin lightening products, adverse effects, fairness, Pakistani females, Skin care

INTRODUCTION:

Beauty is the element craved by every human. Words “beauty” and “fairness” are used synonymously in South Asian culture; dark skin color is an undesirable feature for women (Philips, 2004). Appearance is the main judgmental factor for worth of women. They try to get lighter by various means though skin color is a fixed feature. It is enhancing the ideology of “white is right” transmitted by western culture. Persons with dark skin color are considered less intelligent. (Glenn, 2008) Historically, British ruled South Asia for two centuries, so colonialism is a significant factor in generating this perceived notion that white is powerful and beautiful, while English media has also put a powerful impact on South Asians liking’s. Lighter complexion is taken as a measure for innocence and purity (Shankar & Subish, 2007). The myth is not much different in other parts of the world, as Spanish American literature associates dark complexion with ugliness and immorality while fair complexion with aesthetics (Jackson, 1975). Even in America, complexion plays a role in life achievements, e.g. earning, jobs, status (Hall, 1995). Indian beauty pageants are always lighter and honey colored and skin tone affects marriages and partner selection (Shankar & Subish, 2007).

Skin lightening is also practiced in Pakistan; many products are visible at skin care racks of shopping & skin care stores. The practice causes many adverse side effects mentioned below in literature review. This study was conducted to find the perceptions of females of Lahore about lighter skin, prevalence of use and their knowledge about products. Results came up with many unusual facts about skin lightening practice.

LITERATURE REVIEW:

The pigment, which leads to skin color called “Melanin”, is protector of skin against the harmful effects of Ultra violet rays of sun and in neutralizing toxic chemicals and drugs (Solano, Briganti, Picardo, & Ghanem, 2006). But to achieve the perceived benefits like beauty and success, skin lightening is practiced in many areas of the world, started with self-administered products which were either without any results or effective but containing toxic ingredients such as mercury or lead (Glenn, 2008) (Hamed, Tayyem, Nimer, & Alkhatib, 2010). Preparations of various ingredients e.g. Mercury, Hydroquinone, Corticosteroids, Ascorbic acid, Tretinoin, Azelaic acid etc. are misused for the social purpose (Arbab & Eltahir, 2010) (AlGhamdi, 2010). Though in dermatology practice, these depigmenting agents are used with enormous success for melasma and hyperpigmentation, but when self-therapies are done and products are applied on generalized areas for longer period of times, the practice appeared with range of adverse effects, as by the misuse of Hydroquinone, many cases of oxogeno-ochronosis reported in Africa in 1970 while spending on skin lighteners were estimated about \$30 million in South Africa by mid 1980’s (Dadzie, 2010) (Dadzie & Petit, 2009) In 2008, Indian skin care market was of \$180 million, with 10-15% annual growth, more than half market was of skin whiteners (Shevde, 2008). Dadzie 2010 also reports the use of tooth pastes, washing liquid, washing soda, hair straighteners, sand, cement and battery fluid for skin lightening. Skin lightening for social reasons resulted in

severe adverse effects (Dadzie O. E., 2010). Hydroquinone remained gold standard therapy in United States (Draeos, 2007). Until 2006, Hydroquinone 2% was declared safe concentration and allowed for Over the Counter (OTC) by US Food and Drug Administration (FDA) but after 29th August 2006, all Hydroquinone products were banned until they comply with the new drug application process (Dadzie & Petit, 2009). Hydroquinone is associated with Ochronosis by which skin starts to darken by side effects of the same cream which is consumed for lightening intention, with continued use, users fall into “skin lightener trap” and feeling of guilt doesn’t allow them to disclose the usage of such creams (Williams, 1992). Most important adverse effect by Hydroquinone is Exogenousochronosis, while irritant & allergic contact dermatitis, discoloration of nails & post inflammatory hyperpigmentation are categorized as acute. Higher concentration of Hydroquinone lead to irreversible hypopigmentation leading to leukoderma (Katsambas & Stratigos, 2001) (Olumide, et al., 2008) (Suzuki, Yagami, & Matsunaga, 2011). “The risks of long-term effects (cancer) of topically applied hydroquinone may no longer be ignored” (Kooyers & Westerhof, 2006).

Use of potent topical corticosteroids reported adverse effects such as widespread irritation and itchiness, bizarre rashes, macular hyperpigmentation, widespread striae, easy bruisability & hypertrichosis. Associated medical conditions noted are diabetes mellitus, obesity and hypertension. While steroids also cause withdrawal dermatitis upon withdrawal (Nnoruka & Okoye, 2006). Incorrect use of topical steroids also resulted in Facial acne, Plethoric face, Cutaneous atrophy, Stretch marks, Pyoderma and *Tinia incognito* (Al-Dhalimi & Aljawahiry, 2006). Mercury is also one of skin lightener used in creams, causing adverse effects like darkness of nails & skin due to its deposition. Kidney (Kibukamusoke, Davies, & Hutt, 1974) and Neurological damage, as well as acrodynia may result due to mercury poisoning in chronic cases. Acute toxicity may result in pneumonitis and gastric discomfort (Olumide, et al., 2008) (Oakley, 2008). In some cases mercury concentration are very high in creams (Peregrino, Moreno, Miranda, Rubio, & Leal, 2011) while US FDA prohibits the use of mercury in cosmetics (Important Alert 53-18; U.S. Food and Drug Administration, 2011).

There is heavy criticism by civil society & human rights organizations on skin lightening manufacturing and marketing companies, as Karnani mentions consumerism movements in India against Hindustan Unilever’s product “Fair & Lovely”, argues that Corporate Social Responsibility should be practiced by companies when there is conflict between public welfare & private profits (Karnani, 2007)

RESEARCH METHODOLOGY:

Well-structured questionnaire of 33 questions developed and used by (Hamed, Tayyem, Nimer, & Alkhatib, 2010) was obtained through email. Three irrelevant questions were deleted and rest 30 questions were used as such.

The division of questionnaire was in four sections: (a) Demographic profile, (b) Respondents’ perceptions about lighter skin tone (c) Prevalence of use of skin-

Respondent's perception about lighter skin tone is presented in table 2. Majority of women (59%) agreed that lighter skin tone is more beautiful and results are strongly associated with the use of skin lightening products ($\chi^2 = 22.855$, d.f. = 3, $P = 0.000$). This perception is also associated with skin tone ($\chi^2 = 19.174$, d.f. = 9, $P < 0.024$), as shown in chart 1, women with lighter complexion tend towards disagree more as compared to lighter complexion.

On the notion that men consider women with lighter skin tone more beautiful, 82% of studied women agreed which seems a significant contributing factor in usage of skin lightening products, as shown association ($\chi^2 = 10.787$, d.f. = 2, $P < 0.005$).

The perception about light skin (a new scale variable) was tapped by 7 questions given in table 2. The cronbach's alpha in reliability analysis of items was 0.714 which is satisfactory.

Reliability Statistics

Cronbach's Alpha	Cronbach's Standardized Items	Alpha Based on N of Items
.713	.714	7

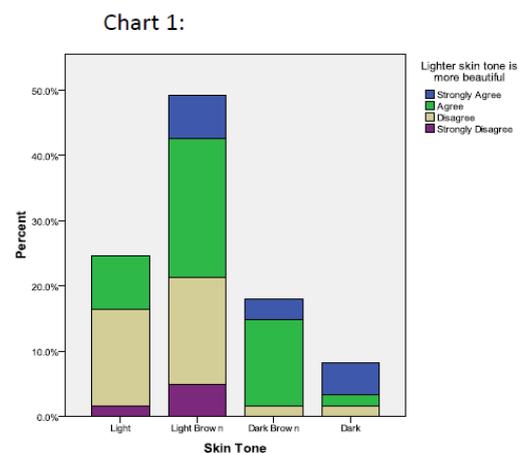


Table 2: Respondent's perception about lighter skin tone (valid percentage)

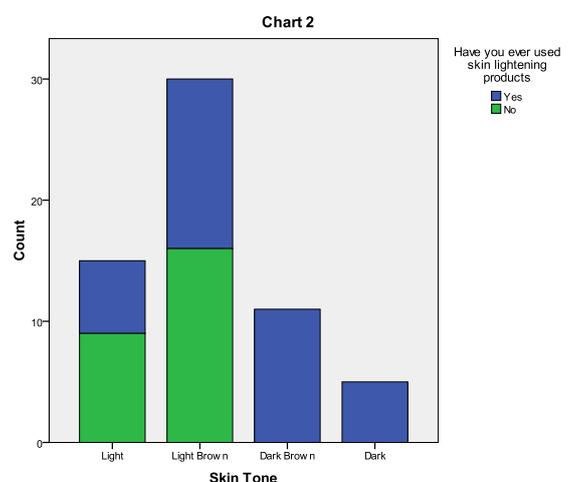
Question	Strongly Agree	Agree	Disagree	Strongly Disagree
Lighter skin tone is more beautiful	11.5	47.5	37.7	3.3
Lighter skin tone provides women higher self esteem	9.8	42.6	44.3	3.3
Lighter skin tone gives female a younger look	11.5	26.2	52.5	9.8
Lighter skin tone implies that woman belongs to higher social class	19.7	19.7	50.8	29.5
Lighter skin tone helps a woman get better job	3.3	47.5	37.7	11.5
Lighter skin tone increase a woman's chance of getting married	26.2	44.3	27.9	1.6
Men consider woman with lighter skin more beautiful	19.7	62.3	18	0

The spearman's rho was used to analyze the correlation between perception about light skin, prevalence of use and skin tone. There is a statistically significant, weak positive correlation between perception about lighter skin and prevalence of use of skin lightening products. While there is a statistically significant moderate negative relationship between skin tone and prevalence of use shown in chart 2.

Correlations

		Perception about skin	Have you ever used skin lightening products	Skin Tone	
Spearman's rho	Perception about light skin	Correlation Coefficient	1.000	.277*	-.053
		Sig. (2-tailed)	.	.030	.682
		N	61	61	61
	Have you ever used skin lightening products	Correlation Coefficient	.277*	1.000	-.439**
		Sig. (2-tailed)	.030	.	.000
		N	61	61	61
	Skin Tone	Correlation Coefficient	-.053	-.439**	1.000
		Sig. (2-tailed)	.682	.000	.
		N	61	61	61

*. Correlation is significant at the 0.05 level (2-tailed).



** . Correlation is significant at the 0.01 level (2-tailed).

Most of the women in studied population disagree with the notions that lighter skin tone influences on appearance of age and social class. 70.5% agreed that lighter skin tone increases women chance of getting married with no significant association with product usage ($\chi^2= 4.957$, d.f. = 3, $P < 0.175$), age category ($\chi^2= 3.357$, d.f. = 6, $P < 0.763$) and skin tone ($\chi^2= 8.583$, d.f. = 9, $P < 0.477$). On the notion that men consider women with lighter skin tone more beautiful, 82% of studied women agreed with significant association with usage of skin lightening products ($\chi^2= 10.787$, d.f. = 2, $P < 0.005$) shown in chart 3.

Television commercials about skin lightening products are believed to change the perception of women regarding complexion, which is evident from the results that 90.2% respondents agreed on that. The prevalence of use of skin lightening products is irrespective of monthly income of respondents ($\chi^2= 7.759$, d.f. = 12, $P < 0.804$) & skin tone ($\chi^2= 15.845$, d.f. = 9, $P < 0.070$).

The results about usage are given below in Table 2; valid percentages are used to interpret. Data is based upon the respondents who used the skin lightening products.

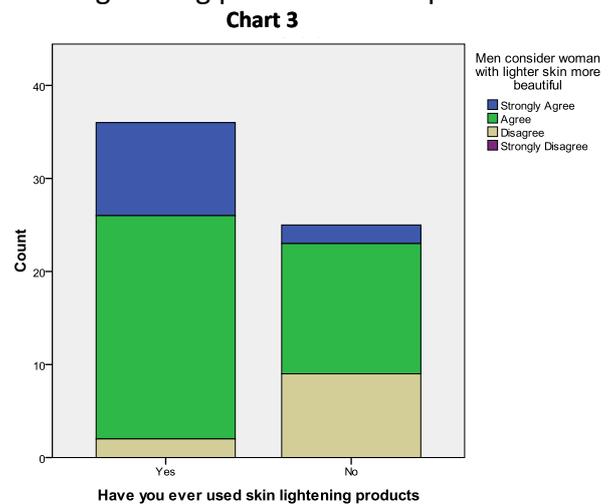


Table 2: Usage characteristics (Valid percentages)

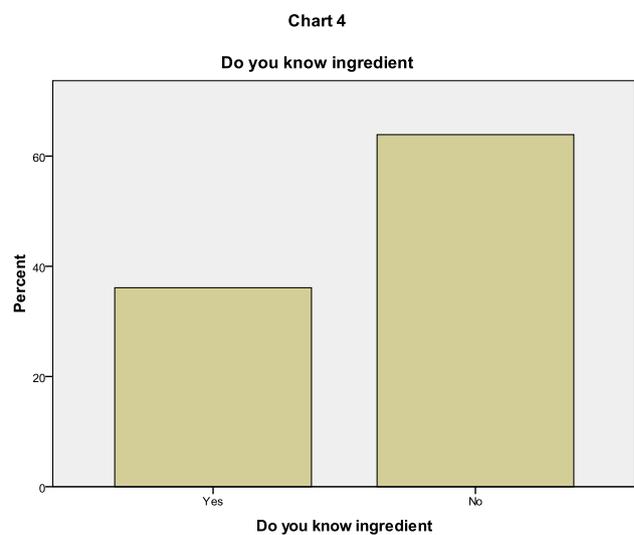
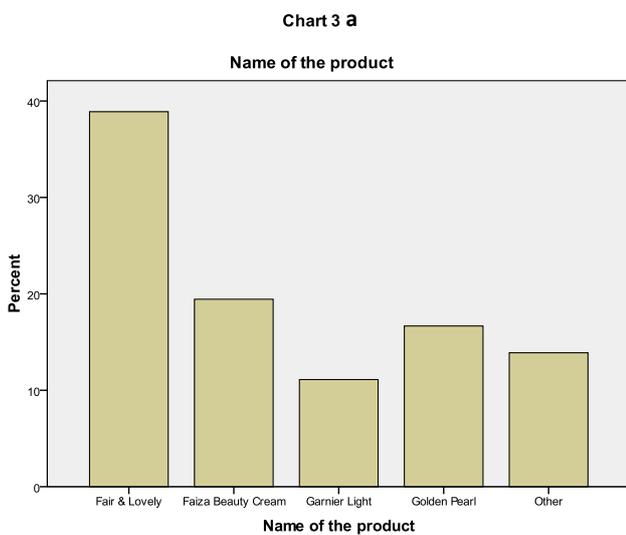
Usage Duration		Time of Application		Application Site		Buying Site	
	Percent		Percent		Percent		Percent
Less than a year	50	Morning	33.3	Face Only	94.4	Pharmacy	16.7
More than a year	50	Evening	36.1	Other	5.6	Makeup Store	80.6
		Other	30.6			Other	2.8

Monthly Spending		Product Advice		Usage Reason	
	Percent		Percent		Percent
Less than 1,000 PKR	69.4	Physician	11.1	Hyperpigmentation disorder	8.6
1,000 - 5,000 PKR	19.4	Pharmacist	2.8	To make skin lighter	85.7
5,000 - 10,000 PKR	11.1	Friend	38.9	Both	5.7
		TV Ads	33.3		
		Makeup	5.6		

		Seller Other	8.4		
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Some results are alarming among users, 80.6% purchased skin lightening product from small cosmetic & makeup stores while product choice is mostly based upon advice of friend and TV ads constituting 72.2% cumulatively. 85.7% of users were practicing skin lightening for social purpose. No significant association between these variables and demographic variables has been proved.

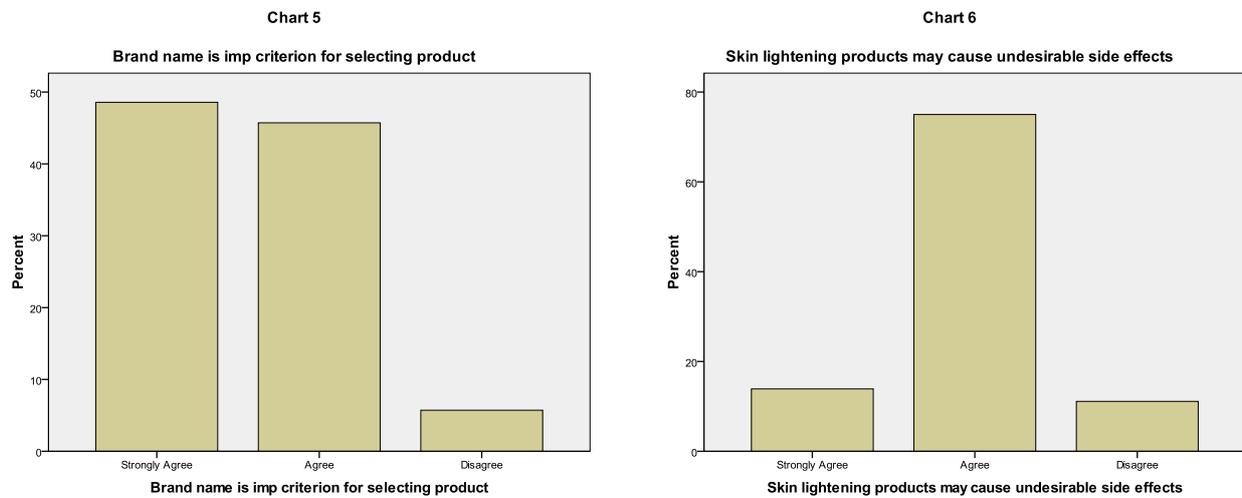
The most used product was Fair n Lovely by Unilever Pakistan (40%), followed by others



shown in chart 3 a.

Analysis of skin lightening products awareness variables revealed that 63.9% didn't know about the product's ingredient (Chart 4), this is also evident from the brand names mentioned in chart 3 which mostly are consumer/OTC brands who don't need to mention ingredients on packs, this result emphasizes the importance of corporate social responsibility from the manufacturing and marketing companies of these products while also indicates lack of healthcare control systems in Pakistan. While Brand loyalty is clear in Chart 5 that 94.3% of respondents agreed upon the notion that Brand name is important criterion for selecting the product regardless of age, marital status, income class and skin tone. Instead of use of skin lightening agents, 88.9% of users agreed that Skin lightening products may cause undesirable side effects (Chart 6).

With respect to the results and satisfaction of skin lightening products, 77.8% are satisfied that product used delivered the desirable effects.



CONCLUSION:

Skin lightening products prevalence of use in Lahore according to studied respondents is 59% that mostly recommended by friends and television ads (72.2%) and purchase is most of the times from small skin care stores (80.6%) instead of pharmacies. In Pakistan, most of the skin lightening products are marketed through consumer channel without mentioning the composition. There are reports that regulated ingredients like topical corticosteroids, hydroquinone and other alpha hydroxyl acids are used in formulation. Dermatologist claim that no externally applied formulation can change the skin color without the use of these harmful chemicals, though it's obvious that dark skin is healthier than light, the pigment melanin acts as protection against the harmful UV rays of sun (Karnani, 2007). A strong positive correlation is observed between skin pigmentation and intensity of UV rays in a specific area & skin color is believed to be adapted according to local protection needs of human against harmful sun rays (Norton, et al., 2007)

There is a need for proper regulation in health sector of Pakistan in terms of skin lightening products while responsibility also falls upon healthcare practitioners including physicians and pharmacists to educate the public. As the results show that most users know this practice is associated with adverse effects, governmental level regulations are more important and necessity of time. Manufacturing and marketing companies should also fulfill their corporate social responsibility. The marketing campaigns (Tv & print ads) are one of the cause of social divergence and perception making among society which depict dark skinned females with less professional and marriage opportunities, which is serious concern (Karnani, 2007).

Limitation of study:

Most of the respondents in sample were of age less than 30, as convenience random sample was used and data was collected from female university students and office ladies from 3 various offices. Representation of older and married females is less.

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