

BRIEF REPORT

USE OF SKIN WHITENING PRODUCTS IN SRI LANKA: AN OBSERVATIONAL STUDY

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Abstract

Background: Fair complexion is often considered a symbol of social dignity in South Asian cultures and the use of skin whitening products is prevalent.

Objectives: To ascertain the pattern of usage and adverse effects of skin whitening products used in Sri Lanka.

Settings and Design: This observational study was conducted at an outpatient Dermatology clinic in Kandy, Sri Lanka.

Methods and Material: Patients who had a history of skin whitening product application were enrolled. Patients who used topical or systemic steroids for medical indications were excluded. Enrolled patients were evaluated by a consultant dermatologist. Data were collected by using an interviewer- administered questionnaire.

Results: A total of 100 patients (94 females) with an age range of 13 to 51 years were recruited. Most patients had applied skin whitening products on the recommendation of friends. The commonest duration of use was two to four months. The adverse effects observed were skin atrophy (63%), telangiectasia (61%), acne (48%), pigmentary changes (38%), and hypertrichosis (19%).

Conclusions: Use of skin whitening products is associated with adverse effects such as acne, skin atrophy, hypertrichosis and telangiectasia that have some resemblance to steroid-induced skin changes. Therefore, the promotion and sale of these products should be regulated more strictly by the relevant authorities.

Key-words: skin whitening products, adverse effects, pattern of usage



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Introduction

Fair complexion is often considered a symbol of social dignity in South Asian cultures. This attitude gained wider social acceptance as a result of the European colonialism in the region¹. Being a tropical country, Sri Lankans generally have a dark complexion falling into type 5 in the Fitzpatrick scale. The skin lightening industry has flourished in this cultural background. Skin whitening products are readily available from grocery stores, pharmacies and over the Internet. These products are marketed as skin “whitening”, “lightening”, “brightening”, “fading” or “fairness” creams².

However, such skin care products do not necessarily improve the skin colour as the name would suggest and some give rise to undesired adverse effects as well. Although the efficacy and safety of skin whitening products marketed in Sri Lanka have not been widely studied, some products have been found to contain harmful ingredients³.

Patients seek medical advice for complications of long term use of whitening products adding an extra burden to an already overburdened healthcare system in the country. These adverse effects have significant psychosocial implications. This situation prompted us to study the pattern of usage of skin whitening products and their adverse effects.

Subjects and Methods

This observational study was conducted at an outpatient Dermatology clinic in Kandy, Sri Lanka for a period of three months from 1st August to 31st October, 2018. The Institutional Ethics Review Committee of the Faculty of Medicine, University of Peradeniya approved the research protocol. Patients who had a

history of skin whitening product application were enrolled to the study. Patients who applied topical steroids for medical indications and patients on systemic steroid therapy within the last three months were excluded from the study. Once the patients were enrolled, they were interviewed and examined by a consultant dermatologist and the data were collected by using an interviewer-administered questionnaire.

Results

A total of 100 patients (94 females and 6 males) with an age range of 13 to 51 years were recruited to the study. The age distribution of the study population was as follows: less than 21 years (20%), 21-30 years (59%), 31-40 years (13%) and greater than 40 years (8%). We identified 17 brands of whitening products used by the patients. Two products were manufactured in Sri Lanka, eight in other South Asian countries, four in South East Asia, one in the Middle East and one in the United States. Most of the patients used only one type of skin whitening product. However, ten patients used two products, one patient used three products and one patient used four products. The area of application was mainly the face but one patient had applied it over the hands and legs as well.

The patients presented to the clinic with acne (84%), hyperpigmentation (55%), acne with hyperpigmentation (6%) and telangiectasia (visible capillaries in the skin) (61%) and hypertrichosis (excessive growth of vellus hair in the body)(19%).

The reasons for applying skin whitening products were to achieve fairness (47%), reduction of acne (36%), reduction of acne scars (16%), reduction of hyperpigmentation (17%) and moisturisation (7%). The sources of recommendation for using skin whitening

products were friends (38%), own self (26%), beautician (15%), pharmacy (6%), cosmetic shop (6%), family member (5%), doctor (3%) and the media (1%).

The duration of use of skin whitening products amongst the study population is given in Table 1. The details of the adverse reactions detected are given in Tables 2 and 3.

A total of 84 patients were found to have acne. Skin whitening products had been

used by 36 patients as a treatment for pre-existing acne which persisted in 34 patients. Therefore, 48 patients developed acne as an adverse effect after starting the whitening products.

A total of 55 patients were found to have pigmentation. Skin whitening products had been used by 17 patients as a treatment for pre-existing pigmentation which persisted in 5 patients. Therefore, 38 patients developed pigmentation as an adverse effect after starting the whitening products.

Table 1: Duration of use of skin whitening products (n=100)

Duration (Months)	n
<2	24
2-4	27
4-6	10
6-8	09
8-10	03
10-12	00
>1 year	27

Table 2: Main adverse reactions observed

Adverse reaction	n
Skin atrophy	63
Telangiectasia	61
Acne	48
Pigmentation	38
Hypertrichosis	19

Table 3: Time of onset of acne as an adverse effect (n=48)

Time of onset	n (%)
While using whitening creams	36 (75)
<1 month after stopping	04 (8.3)
1-2 months after stopping	03 (6.2)
2-3 months after stopping	02 (4.1)
3-4 months after stopping	02 (4.1)
4 months after stopping	01 (2.0)

None of the patients were aware about the ingredients and the possible adverse effects of the products they used.

Discussion

The use of skin whitening products in Sri Lanka is so common that we were able to get 100 patients within a period as short as three months. Similar to findings in other studies, patients in the age group of 20-30 years mostly used skin whitening products^{4,5}.

We found that the patients' decision to apply such products was mainly influenced by friends but cosmetic shops, beauticians and pharmacies also played a significant role. Interestingly, the youngest patient in our group, who was 13 years of age, was given the product by her mother. Other studies also reveal a similar pattern in influencing the decision to start whitening products⁴.

At presentation, most of the patients had used the products for a period of two to four months or for more than a year. This is in keeping with another study in which the majority had been using the products for a period of three months⁵. Most of our patients used only one brand of whitening product. This finding is in contrast to other studies where most patients were found to have used more than one brand⁴.

Acne was the most common adverse reaction of whitening products in our study, as found in other studies as well⁶. In our cohort of patients, facial skin atrophy (thinning of epidermis and dermis) determined by clinical impression was common (63%) whereas in a similar study it was found in only 1.2%⁴. Hypertrichosis and telangiectasia were also a notable adverse effect in our study population. These adverse effects have some resemblance to those of long term topical

steroid application. Facial erythema, and rosacea-like eruptions were common among other studies but none of our patients had rosacea or similar facial erythema.

In our study the main reason for applying the skin whitening products was to obtain a fairer complexion. These patients were completely ignorant of the ingredients and possible adverse effects of skin whitening products. This is a common observation seen in other studies conducted in the South Asian region^{4-5,7}.

In Sri Lanka, the cosmetic market is filled with skin whitening products containing mercury and lead³. However, the steroid content of the whitening products has not yet been studied. It is not a common practise in Sri Lanka to use prescription-only steroid creams as skin whitening agents although a study done in an African country showed that potent topical steroids are predominantly used to whiten the face⁸.

While a culture of using skin whitening products is prevalent throughout the South Asian region, it is interesting to note that intra-regional variations and similarities exist. However, the lack of awareness about the ingredients and safety of these products seems to be the common unifying factor. Therefore, it is reasonable to conclude that measures to improve public awareness through print and electronic media and programs to educate the target population, are required to reduce the burden of skin whitening product misuse. Recommendations to ban products containing harmful ingredients should be considered by local regulatory authorities. Considering the popularity of such products among the population, a need for more in-depth studies to reveal the extent of use and burden of adverse effects clearly exists.

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