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IMPLEMENTATION AND RESULTS OF SURVEY HELD IN THE AWARENESS OF PUBLIC ON ALLERGIC CONTACT DERMATITIS

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ABSTRACT

Allergic Contact Dermatitis due to cosmetic products is a common dermatologic complaint that considerably affects the quality of life. Most cases are caused by skin hygiene and moisturizing products followed by cosmetic hair and nail products.

Fragrances are the most cause of allergy to cosmetics, followed by hair dyes and preservative [1]. **Patch Testing** remains the gold standard for identification of causative allergens [5]. Careful determination of allergen avoidance can result in dramatic clinical improvement.

KEYWORDS

Allergic Contact Dermatitis , Cosmetics ,Fragrances ,Hair dyes ,Patch test , Allergen avoidance.

INTRODUCTION

Contact dermatitis due to cosmetic products is a common dermatologic complaint that considerably affects the patient's quality of life. Diagnosis, treatment, and preventive strategies represent a substantial cost. This condition accounts for 2% to 4% of all visits to the dermatologist, and approximately 60% of cases are allergic in origin. Most cases are caused by skin hygiene and moisturizing products, followed by cosmetic hair and nail products. Fragrances are the most common cause of allergy to cosmetics, followed by preservatives and hair dyes; however, all components, including natural ingredients, should be considered potential sensitizers. We provide relevant information on the most frequent allergens in cosmetic products, namely, fragrances, preservatives, antioxidants, excipients, surfactants, humectants, emulsifiers, natural ingredients, hair dyes, sunscreens, and nail cosmetics [1].

Allergic contact dermatitis (ACD) to cosmetics is extremely common-probably the most common reason patients present for patch testing. The diagnosis should initially be suspected based on the patient history and the distribution of the dermatitis. Once the diagnosis is suspected, empiric recommendations for low allergenicity products should be implemented until patch testing is performed. The face is exposed to greatest number of cosmetics, and as a result, facial dermatitis is the prototypical presentation of cosmetic contact dermatitis. In particular, the eyelids are frequently involved, with common sources including shampoo, conditioner, facial cleansers, makeup remover, mascara, nail polish, acrylic nails, makeup sponges, eyelash curlers, and allergens transferred from the hands. Other typical facial distributions include lateral facial dermatitis, central facial dermatitis, and generalized facial dermatitis, each with its own unique set of most likely causes. Lateral facial and/or neck

dermatitis is often a "rinse-off" pattern, with shampoo and/or conditioner rinsing down over these areas. Central facial dermatitis, when due to ACD, can be due to gold being released from gold rings and contaminating makeup foundation or to ingredients in moisturizers, wrinkle creams, topical medications, or makeup. Sparing of the lateral face is largely due to the fact that patients are more assiduous about applying the aforementioned substances to the central face than to the lateral face. Generalized facial dermatitis should trigger consideration of airborne contacts, facial cleansers, makeup foundation, and moisturizers and medications that are being applied confluent [2].

Allergic contact dermatitis to fragrance is common. The most common fragrance screeners in most baseline series include fragrance mix 1, fragrance mix 2, and Balsam of Peru. The addition of hydroxy iso-hexyl 3-cyclohexene carboxaldehyde, hydroperoxides of limonene, and hydroperoxides of linalool to screening series can further aid in the diagnosis of fragrance allergy [3]. Consumer products and topical medications today contain many allergens that can cause a reaction on the skin as allergic contact dermatitis [4].

Cosmetics are an important cause of allergic contact dermatitis (ACD). Fragrances and preservatives are the two most clinically relevant allergens found in cosmetic products [5]. In patients presenting with a complaint of rash, contact dermatitis is often the underlying diagnosis making it an entity with which health care providers should be familiar. Contact dermatitis can be divided into irritant contact dermatitis and allergic contact dermatitis. In a patient suspected of having allergic contact dermatitis, patch testing can be done to identify specific allergens. Education focused on allergen avoidance and safe products is an integral part of treatment for the contact dermatitis patient.

Knowledge of the most common allergens is helpful for clinicians to be able to provide this education [6].

Contact allergy (sensitisation) and allergic contact dermatitis (ACD) resulting from it have a considerable public health impact. New allergens, or previously described allergens found in a new exposure context or of other current importance, are described in sections according to substance classes, e.g., metals, preservatives, fragrances. Improved and complete ingredient labelling for all types of products, and not just cosmetics, must be put on the legislative agenda [7]. The term cosmetic has a broad definition and includes personal care products, hair care products, nail care products, and sunscreens. Modern cosmetics are safe for most users, and adverse reactions are very rare because the manufacturers invest heavily in safety, quality control, and product testing before releasing the product to the market. Despite these efforts, adverse reactions occur. Skin care products are major contributors to cosmetic allergic contact dermatitis (ACD), followed by hair care and nail care products. The diagnosis of cosmetic allergy is established by reviewing the patient's clinical history and physical examination findings and confirmed with skin patch testing. Patch testing is the standard method for detecting allergens responsible for eliciting ACD [8].

Human skin is exposed to a large variety of cosmetic allergens. Most allergic contact dermatitis occurs after exposure to fragrance, preservatives, and hair dyes. Such reactions can often be occult. As a result, a high index of suspicion is needed in assessing the patient with facial or cosmetic dermatitis. This contribution looks at why such a large number of chemicals are in everyday usage, at how dermatologists monitor trends in allergy to cosmetics, and at a number of new and

emerging allergens to consider in the assessment of suspected cosmetic allergy [9].

Allergic contact dermatitis is one of the most frequent forms of skin inflammation. Very often, we are exposed to mixtures of allergens with varying potencies, doses/areas, and exposure times. Therefore, improved knowledge about immune responses to combinations of contact allergens is highly relevant. According to the existing evidence, increased responses are induced following sensitization with combinations of allergens as compared with single allergens. The response to a mixture of allergens can be both additive and synergistic, depending on the dose and combination of allergens. Importantly, sensitization with combinations of either fragrance allergens or metal salts can result in increased challenge responses to specific allergens within the mixture. Taken together, the immune responses to mixtures of allergens are complex, and further studies are required to obtain the necessary knowledge to improve consumer safety [10].

MATERIALS AND METHOD

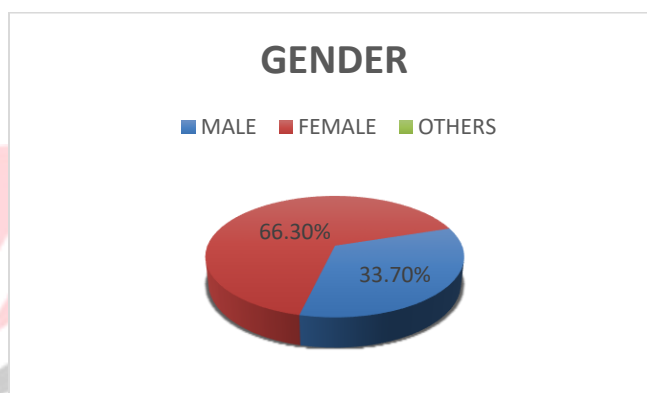
This study used an online Google Form questionnaire as the instrument. Invitation to participate in this survey was sent through the email and social media such as Instagram. The questionnaire was distributed in this way because each of the participants has his or her personal email account and most of them have their own Instagram account as well. Therefore, using online Google Form to reach each participant is the best choice.

The target respondents are the young people of Tashkent, Uzbekistan and India under the age of 25 because the young people ratio are more in this area. The questions in the developed questionnaire were distributed for this pilot to test the awareness of public

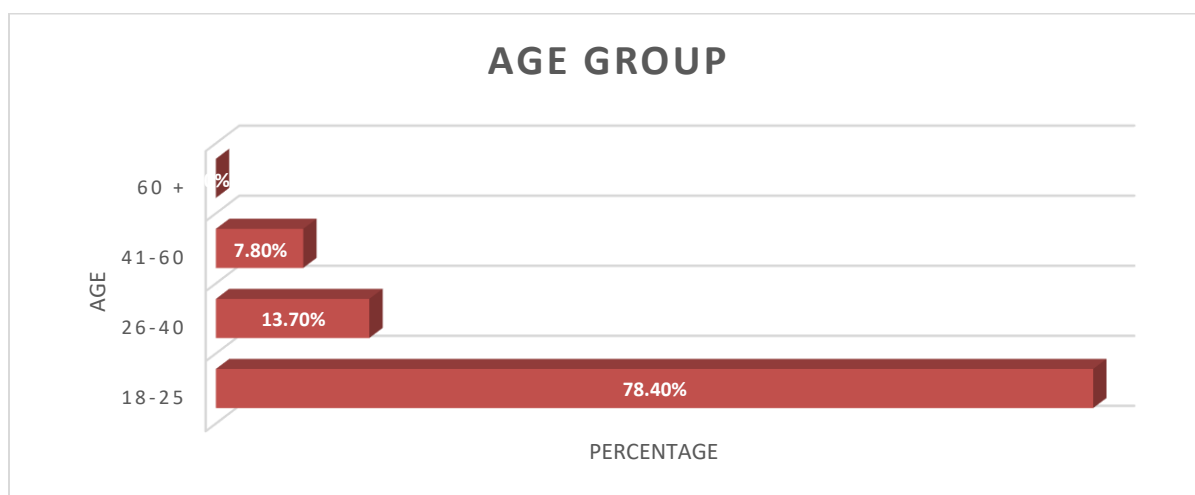
on allergen contact dermatitis. The population of this survey was 106 members. Among 106 responses, 4 sets of responses were incomplete. This work is done to create a awareness on the developing ACD among the youngsters using cosmetics. The search for literary sources was carried out using the bibliographic databases Web of Science, Scopus, DBLP, PubMed. When selecting sources, they paid attention to experimental articles, literary reviews, the number of their citations over the past year.

RESULTS

The survey was conducted using information and communication technologies, booklets, brochures, presentations, etc. All were asked to answer using a specially designed public awareness on allergen contact dermatitis questionnaire. The table below show the results of the survey. People of about 106 were under survey. Among them, Male (33.7%), Female (66.3%) and Others (0%).



The age of the participants was from 18-25 years old (78.4%), from 26-40 years old (13.7%), from 41-60 years old (7.8%) and from 60 and above (0%)



**AWARENESS OF PUBLIC ABOUT ALLERGEN CONTACT
DERMATITIS**
(Results of the Survey among the Public of Uzbekistan and India)

| No. | QUESTION | DAILY | OCCASIONALLY | NEVER |
|-----|---|-------|--------------|-------|
| 1. | How often do you use cosmetic products? | 26.5% | 51% | 22.5% |

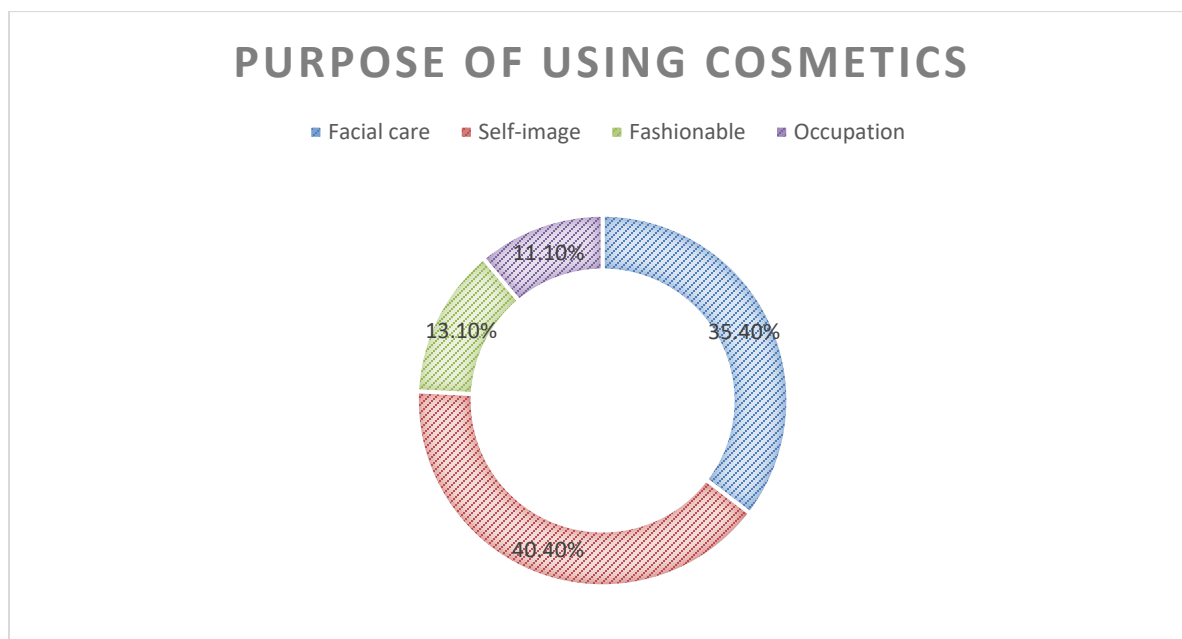
So, the respondents of my survey use cosmetic products occasionally (more than half-51%). But most of them never (22.55%) use cosmetics.

| No. | QUESTIONS | OFTEN | SOMETIMES | NOT REALLY |
|-----|---|-------|-----------|------------|
| 1. | Have you received any kind of irritations when you use cosmetic products? | 5.9% | 36.3% | 57.8% |
| 2. | Have you ever been affected by ACD? | 4% | 25.7% | 70.3% |

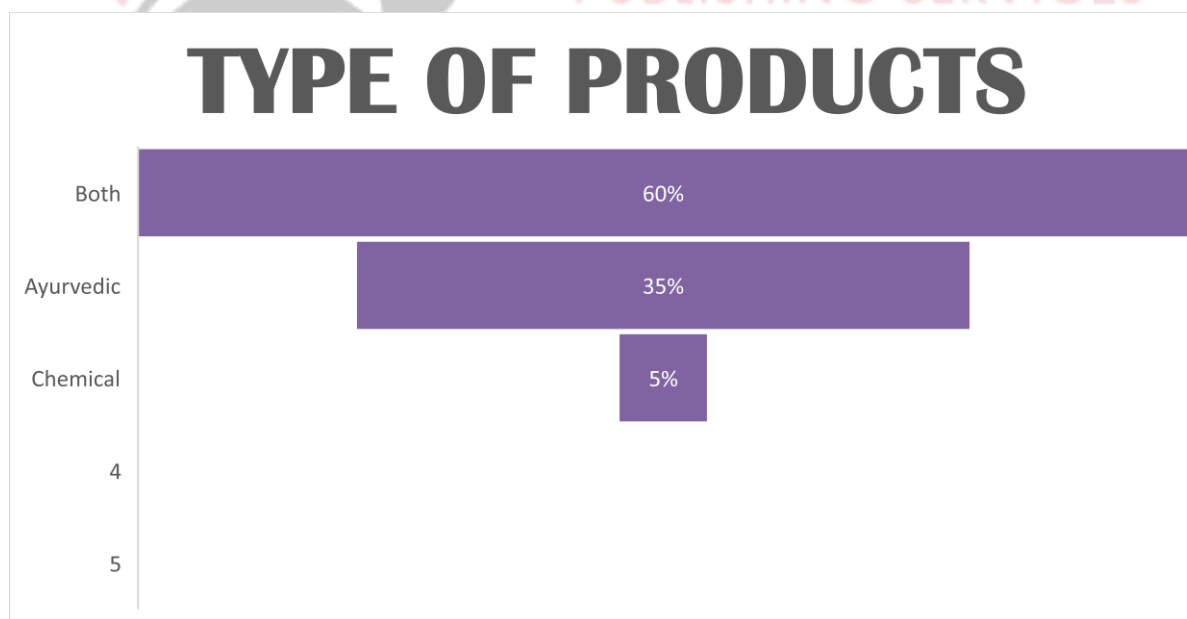
The people under survey have received some kind of irritations when using cosmetic products sometimes (36.3%) than often (5.9%). So, they should have been by ACD sometimes (25.7%)

| No. | QUESTIONS | YES | NO | MAYBE |
|-----|--|-------|-------|-------|
| 1. | Will you do any patch test before you use a cosmetic product ? | 14.7% | 60.8% | 24.5% |
| 2. | Do you recommend cosmetics on your own experience ? | 40% | 19% | 41% |
| 3. | Are you allergic to any kind of fragrance products ? | 15.8% | 73.3% | 10.9% |

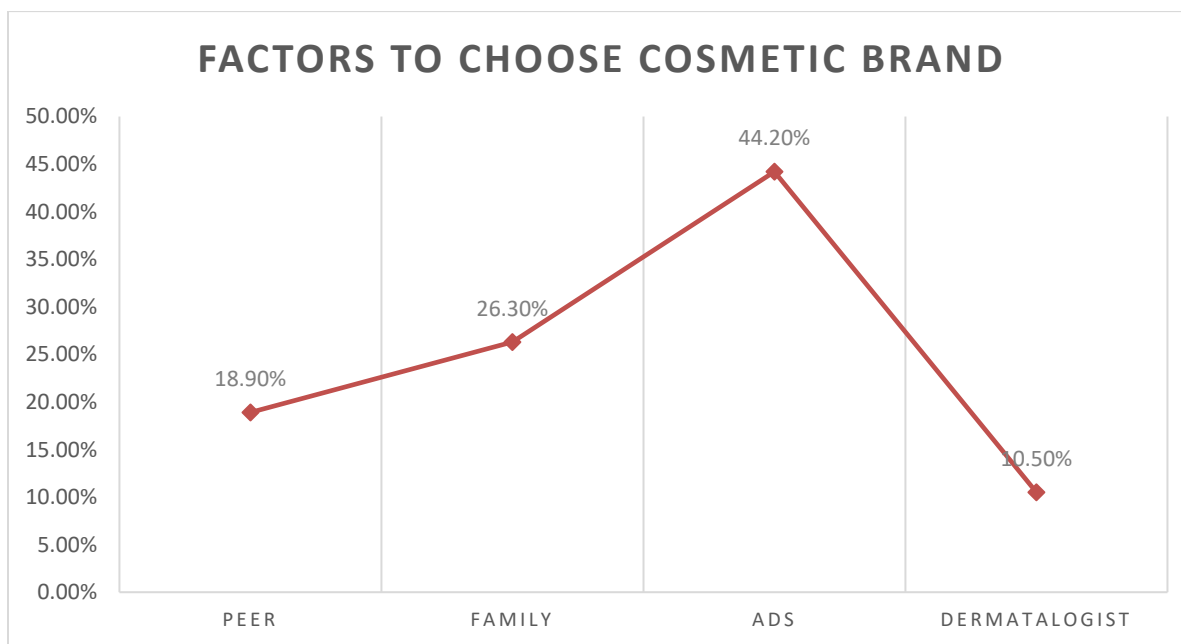
Most of the participants of the survey are prone to ACD since they say no (60.8%) to patch test before using cosmetics. But most of them are not (73.3%) allergic to any fragrance products.



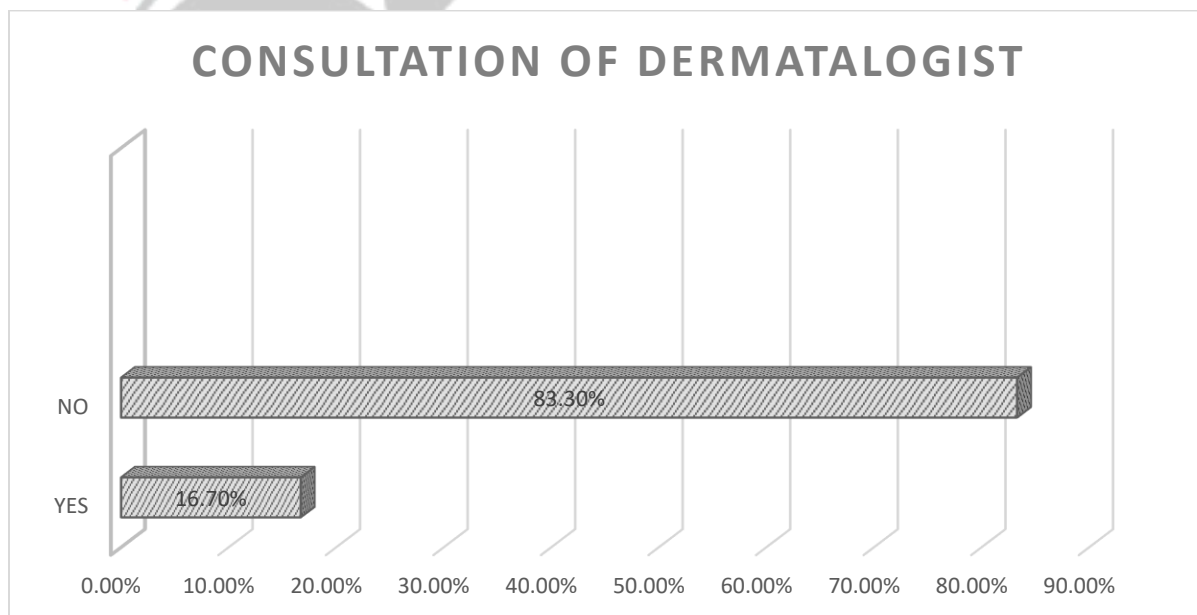
Many respondents use cosmetics only for improving self-image (40.4%) followed by facial care (35.4%). So in the way of developing their image in the society they use more cosmetics nowadays. This is a proof for that change in the society.



Most of the participants of the survey use both (60%) type of products which may be ayurvedic (35%) or chemical (5%). So, the public are aware that they are using the products which are chemical and dangerous to their skin.



The main criteria for choosing a cosmetic brand is advertisement (44.2%) nowadays, followed by family (26.3%) and peer (18.9%). Very less number of respondents prefer the opinion of dermatologist (10.5%) to choose a cosmetic brand.



The consultation to a dermatologist is getting very low nowadays among the public because most of the participants in the survey told no (83.3%) and very less people told yes (16.7%).

DISCUSSION

Although the response rate is good but there has several argued points in this survey. The respondents answer in the survey might be not the answers that expected. One of the reasons is because some of the respondents were new to the disease ACD. They might have difficulties in grasping the idea of survey and lack of awareness about ACD. On the other hand, those who understood the questionnaire and had experienced ACD might face the Internet access problem and this caused the method of distribution might not reached to the target respondents. This could have happened due to Internet access coverage not as expected and caused the limited or slow speed of Internet use. Some of the participants who could access the questionnaire might waive to answer this survey. Furthermore, these reasons might cause the results of this survey not reliable and accurate.

CONCLUSION

As an objective of this survey, this paper presented as to create and identify the awareness of public on allergen contact dermatitis using cosmetics. The results of the survey conducted made me realize the participants under the age of 25 were mostly influenced by the advertisements of the cosmetics and do not have much knowledge about allergen contact dermatitis. The young people should understand the hazard nature of all the chemical compounds used nowadays in all the cosmetic products brand. I evident it by the results of the survey that the younger people are not aware about the importance of the products which they use directly on their skin.

Many researchers have also found the addition of heavy metals in the cosmetics. In contrast to most of the researchers, in my survey almost no one is allergic to fragrance products because in most of the researcher's point of view fragrance type of allergen dermatitis is more common. A good cosmetic product should follow the guidelines before reaching the customers. If not, it'll make the user to fall in unnecessary skin problems. Additionally, the user may own the ACD for free of cost. Thus, the products must be tested through patch test before using it on entire skin. The need for awareness-raising activities among the population, especially among young people is inevitable. With regard to solving this problem, a preventive approach can be effective.

ACKNOWLEDGEMENT

Thus, the awareness of allergen contact dermatitis must be carried out in the following areas :

- Creating more awareness among young people
- Banning the chemically danger cosmetic products
- Testing before using any kind of cosmetic products
- Preventing the use of unnecessary instant result giving products

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