

Survey on Safety of Cosmetics: Cosmetovigilance

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ABSTRACT

The phrase "pharmacovigilance" refers to the tasks of collecting, detecting, evaluating, monitoring, and preventing adverse drug reactions. The term "vigilance" has recently been expanded to include the safety of herbal and cosmetic items. The word "cosmetovigilance" was coined to describe industry-wide surveillance to address the safety of cosmetic products. A cosmetic is any preparation applied to the skin, eyes, lips, hair, or nails for the purposes of cleansing, enhancing appearance, providing a pleasant scent, or providing protection. Despite the fact that cosmetics are mostly diffused compounds applied topically to wash, scent, or improve appearance, the number of documented adverse reactions is extremely low, because to underreporting. Cosmetovigilance allows us to rule out or regulate potentially harmful substances, putting our minds at ease about the items we buy. The goal of the study was to determine the prevalence and characteristics of adverse cosmetic events (ACEs) reported, through survey.

KEYWORDS: Adverse cosmetics reactions, cosmetovigilance, cosmetics safety, surveillance

INTRODUCTION

Cosmetic products are defined as any product used to enhance the user's facial characteristics or overall look, according to the Pharmaceutical Affairs Act.[1]Cosmetics are substances that are applied to the human body for the purpose of cleansing, beautifying, enhancing attractiveness, or changing the appearance without interfering with the body's natural beauty functionality or structure.[2] Cosmetic goods can cause a variety of known and undiscovered adverse responses, ranging from minor local reactions like irritation, burning, and contact urticarial rash to more serious including convulsions, Anemia.[3] As a result, consumer awareness is critical not just for their economic well-being, but also for their health. Many people who use cosmetics are ignorant of the risks that they pose to their health. [4] Consumers' desire to be "beautiful looking," combined with a lack of public understanding of the goods' safety," has resulted in an increase in cosmetics use. [5,6] Despite popular perceptions of their safety and tolerability, evidence of negative consequences of these products has emerged in recent decades [7,8] Globally, reported numbers of adverse events are so far very low.[9]Self-diagnosis, self-use (medication), and the lack of medical consultation are all factors that

contribute to this underestimation. Users, in particular, may fail to detect or pay attention to mild and moderately hazardous events.[9] Furthermore, the absence of systematic and reliable monitoring mechanisms ('cosmetovigilance') may contribute to underestimating of such adverse impacts.[10] Therefore in this study conducted there were majority of people who are not aware of the consequences and the effects of using cosmetics. It can be speculated that there will be numbers of unreported potentially harmful and severe Incidents caused by cosmetics. Therefore, the aim of this study was to assess the prevalence and determinants of cosmetic-related adverse events.

Objectives of the study and methodology:

Present research work has been taken up with the objectives

- To analyze the consumer's awareness of the safety issue towards cosmetic products.
- To analyze adverse effects/reactions occurring while using cosmetic products.

Materials and methods

It is a cross-sectional study; the data of this study was collected through online survey, which was

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conducted through Google forms (consisting of questionnaire), and was spread widely in social media such as Facebook, Twitter and through online messenger services like WhatsApp. The questionnaire was only spread in region of Dehradun during 15th of June to 21th of June 2021. A total number of 234 respondents submitted their responses for the questionnaire. The target population for the study was young-adults both male and females from 15 to 55 years old, who were cosmetic users. Table no.1 provides demographic information of the respondents who participated in the study. The sample Respondents were dominated by female (81.1%). People whose Age group is between 15-25 years old also dominated as sample respondents (78.5%). For a research dealing with safety issues of cosmetic and skin care products, it is important to know the gender category of the respondents as in the current scenario, males are equally personality sensitive as compared to women.

Table no.1: Demographic characteristics of Respondents.

Age group	% of population
15-25	78.5%
25-35	18%
35-45	2.6%
45-55	0.9%
Preferred not to disclose their age	0.9%
Male	18%
Female	81.1%

Results:

The perception of adult cosmetic users indicates their understanding of products which they use-

- 72.6% (162) of respondents agreed that the ingredients or the product labels are misleading, while 27.4% (61) of them were uncertain and they disagreed.
- 88.5% (200) of the respondents prefer to check mfg/expiry date before buying cosmetics, while 4.4% (10) never cared to check, whereas 7.1% (16) of the respondents are uncertain whether to check the mfg/expiry/ date before buying cosmetics.
- As mention in table no.2, only 26.9% (61) people thinks that it is safe to use cosmetics and toiletries on babies and young children, while 73.1% (166) thinks it is not safe to use cosmetics and toiletries on babies and young children.
- As per the table no.2 43% (98) of cosmetics users encountered with the side effects whereas about 4.4% (10) didn't come up with side effects and 52.6% (120) were uncertain about the side effects.

- 33.6% (76) users agreed to the product being made according to their skin concern while 19.9% (45) disagreed to it, while 46.5% (105) does not know about it.

Overall, the respondent exhibited a high concern towards safety issue associated with product followed by product attribute and product ingredients.

Graying of the scalp hair is an inevitable physiologic process in human aging. We surveyed clinical findings of gray hair.

- 20.4% (46) of people were facing graying of the hair, whereas 72.4% (173) were not facing any graying of the hair, while rests 7.1% (16) were not sure.
- 15.8% (34) have experienced side effects after coloring their gray hair, while 68.8% (148) never experienced side effects and rest 15.3% (33) were not sure.
- Gel nail polish is commonly used in manicures and for cosmetic purposes; however, research into the side-effects of gel nail polish is scarce and focuses mainly on allergic contact dermatitis.
- 11.8% (25) reported side effects while using gel nail polish, 73.9% (156) reported no side effects whereas 14.2% (30) were unsure of the side effects of gel nail polish.

Lead itself is a proven poison that messes with our brains and bodies, causing learning disabilities, seizures, infertility and yes, death – all reasons why the metal has been banned in everything from paint to gasoline, except cosmetics.

- 59.9% (130) cosmetics users are aware of presence of an extremely harmful chemical lead in lipstick, while 40.1% (87) are not aware of the presence of extremely harmful chemical lead in lipstick.

There is lead in lipstick in the first place. Makeup manufacturers aren't being deliberately malicious – lead is often introduced in the form of mineral-based color additives.

- Our study shows that 59.3% (127) believe that the presence of lead can cause allergy, irritation and chapping on lips and surrounding skin, whereas 21% (45) does not believe in the presence of lead and its side-effects, rest of the respondents 19.6% (42) are not aware of the effects of lead.

Kajal is one of the most popular cosmetic used widely.

- 40% (86) realized that Kajal sold in stores contains a lot of lead, 27.4% (59) are not aware of presence of lead in kajal and 32.6% (70) are not sure.

Table no.2 Knowledge of consumer towards Cosmetic products

Questions	Yes	No	May be
Is it safe to use cosmetics and toiletries on babies and young children?	26.9% (61)	73.1% (166)	
Cosmetic products have side effects?	43% (98)	4.4% (10)	52.6% (120)
Are they made according to your skin concern?	33.6% (76)	19.9% (45)	46.5% (105)
Do you have any gray hair? Have you ever been stressed out because of gray hair?	20.4% (46)	72.4% (163)	7.1% (16)
Have you ever experienced side effects after coloring your gray hair?	15.8% (34)	68.8% (148)	15.3% (33)
Have you experienced side effects associated with using gel nail polish?	11.8% (25)	73.9% (156)	14.2% (30)
Are you aware of presence of an extremely harmful chemical lead in lipstick?	59.9% (130)	49.1% (87)	
Do you know that presence of lead can cause allergy, irritation and chapping on lips and surrounding skin?	59.3% (127)	21% (45)	19.6 (42)
Do you realize that Kajal sold in stores contains a lot of lead?	40% (86)	27.4% (59)	32.6% (70)
Do you know due to long-term application excessive lead buildup in body that may affect the brain, bone marrow and induce convulsions and Anemia.	34.7% (74)	30.5% (65)	34.7% (74)

Table no. 3 Common side-effects encountered while using cosmetics.

Acne (pimples)	102 (46.4)%
Allergy	43(19.5)%
Inflammatory reaction	18 (18.2)%
Skin burn	16 (7.3)%
All of the above	87(39.5)%

Table number 3 shows all the side effects encountered by the respondents applying cosmetics as shown above, acne 43(46.4)% have been the most occurred side effects in youngsters, inflammatory reaction 18(18.2)% ,skin burn 16(7.3)% , allergy 43(19.5)% , and all of the above 87(39.5)% as followed.(N=220). 19(8.4)% tends to buy chemical while 115(51.1)% tends to buy ayurvedic and 91(40.4)% buy both chemical and ayurvedic cosmetics.(N=225). Gray hair naturally develops in the process of human aging. Many people with gray hair periodically dye their hair. Hair dyeing products are widely used and they can cause adverse effects. Therefore, the user's knowledge and recognition about hair dyeing and related side effects are important. 78 (43.1%) encountered excessive hair loss, 55 (30.4%) encountered hair dryness, 26 (14.4%) encountered excessive hair graying, 19 (10.5%) encountered itchiness, while 3(1.7%) encountered skin redness.(N= 181). 107 (49.8%) users didn't faced any adverse reactions to heavy makeup, 49(22.8%) faced headache, 34 (15.8%) faced tiredness, 14(6.5%) faced dizziness, 11(5.5%) faced nausea while applying heavy makeup.(N=215).

Conclusion:

The goal of this study is to look into the adverse effects/reactions occurring in customers using cosmetics. The survey advises that training degree performs an important position and their involvement toward protection problem in buying of beauty product. To assess the adequacy of each of these approaches, it is vital to understand how consumers behave when purchasing and using consumer products, as well as the potential negative consequences of using cosmetics. However, just a small percentage of respondents stated that safety was a factor in their decision to purchase a cosmetic. As a result, customers appear to be concerned about their safety, and those with more safety expertise tend to seek out more sources for safety information. The goal of good purchasing behavior and regulation is to eliminate dangerous products. Other cosmetic components, in addition to the active ingredient, have been linked to negative effects after using cosmetics. Despite the fact that there are many ADRs at the population level, reporting to the regulatory authorities is quite low. Therefore, the effective application of cosmetovigilance can aid in the control or elimination of potentially dangerous substances in cosmetics, increasing our trust in their use.

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