

A Study on impact of 5p's on Women Health

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ABSTRACT:

Women effort to seem more beautiful. To enhance their beauty women depend on cosmetics. Beauty products fulfill the inner desires and dreams of women. Even though the concept of beauty varies from culture to culture the usage of cosmetics is global. Cosmetics are used to alter the appearance of the face, fragrance and texture of the body. These include skin-care creams, creams, powders, fragrances, lipsticks, nail polish, eye and facial makeup, hair colors, oral sprays, deodorants etc. Due to the wide usage of these products health related issues are pertaining to women of all age groups. The tendency to develop disorders related to breast cancer, fibroids or reproduction is unique to women's health as per earlier studies. The study aims at examining the factors that are responsible for health deterioration in women. This review also addresses studies looking at the use of 5 products used in cosmetics and their exposure and outcomes on women's health. Parabens, Phthalates, Polyquaternum, Polyethylene glycol, petrolatum are the harmful toxins used in beauty products. These act as Endocrine-disrupting chemicals which pose severe threat to women health. Breast and uterine cancer are the most frequent female-related cancers whose growth is mostly estrogen dependent. The present paper discuss about the impact of these 5P's on women health.

Introduction

Globalization, Education and Changing trends are changing the life style of women. Life of women in developing countries is changing day by day. Economy and awareness lead the women progressive in developing nations. Women are now educated and improved the quality of life through good career. This economical development made the women life independent and changed the lifestyle of modern women. Women became stylish with the recent trends of fashion. They want to look more beautiful. Now a day's women are dependent on cosmetics to enhance their beauty. Though the usage of cosmetics for beauty is an old concept. Dependence on cosmetics for looking beautiful is increasing day by day. Cosmetic products are used as moisturizers, sun screen lotions, skin care products, perfumes, talcum powders, deodorants etc. These products are used to improve the skin colour, moisturize, to get good fragrance and to promote attractiveness. Cosmetics improve the external appearance and also cover the flaws of that person using that product. Women who apply make-up are insecure, anxious and not confident according to the study of (Robertson et al.). Some factors such as advertisement, peer pressure and social acceptance, influence the choice of skincare products applied by most women (Okereke et.al.2015). Usage of Cosmetics had become a part of life of women in present day life.

Methodology

This review paper present the earlier studies from 1988 to 2018. Various articles on use of cosmetics and their effect on health were reviewed. Many papers from well reputed journals give a scope of study about various chemicals used in cosmetics. Their impact on health and their use in production process is taken into consideration for writing this paper. All the articles were searched through Google scholar and other search engines. Key words like Cosmetics, endocrine disruptors, Health impacts, Body care products, Hazardous chemicals in cosmetics are used for searching the articles. The referred papers are from medical journals

which published the health risks by usage of certain chemicals. The main concept is to make the women get familiar with at least few chemicals used in cosmetics which start with 'P' letter.

5 P's used in Cosmetics

Many ingredients are used in the production and manufacturing of various beauty and hair care products. Due to the wide usage of chemicals in cosmetics health-related issues are pertaining to women of all age groups according to early research. Most cosmetic products contain hazardous chemicals like Sodium Laureth Sulphate, Talcum, Parabens, Coal tar dye, Phthalates, Fragrance, Mineral oil, Triethanolamine and some heavy metals like Lead, Arsenic, Nickel, Cadmium, and Mercury. (Okereke et.al.2015). Practically it is a well known fact that general problems arise due to cosmetics such as skin allergies, damage to nails, irritation, asthma etc. According to medical studies other health problems are generating due to the wide use of various chemicals. Among various chemicals used in cosmetics few chemicals used regularly start with letter 'P'. This study particularly reviews the impact of few chemicals start with 'p' which includes Parabens, Phthalates, Petrolatum Polyquaternium, and Polyethylene glycol.

Possible Impact of 5 'P's on Women Health

Parabens are used as preservative in cosmetics. Though they are used in low level, they can easily penetrate into the body and interferes the function of hormones. An estimated 75 to 90 per cent of cosmetics contain parabens (typically at very low levels). Even though long run use of Parabens affect on reproductive function. Parabens mimic female sex hormone oestrogen. Even some types of parabens lead to genetic defects by damaging the structure of D.N.A., In addition, studies indicate that methylparaben applied on the skin reacts with other chemicals, leading to increased skin aging and DNA damage. Women are exposed to Parabens 50mg per day from cosmetics(G.Vince.,2015) They are associated with cancer and neurotoxicity among other adverse health effects according to available literature of U.S.Environmental Protection Agency (EPA)

Phthalates are used in nail polish, fragrance and in hair sprays. They act as endocrine disrupting chemicals. They adversely affect on reproductive system and thyroid problems. Now a day's women with thyroid irregularities are increasing in number. Plastic packaging increases the intensity of phthalates.

Petrolatum or petroleum jelly has been used in moisturizers. It is used in hair care products for shining of hair. The other name of petrolatum is mineral oil jelly. Petrolatum after reacting with hydrocarbons cause cancer when cosmetic products with petrolatum are used for a long time. Based on the evidences European Union categorised it as a carcinogenic agent and restricted the use of petrolatum in cosmetics.(G.Ulrich, 2004).

Polyquaternium is used as an anti static agent in shampoos, conditioners, hair sprays and cleansing products. Accordidng to Cosmetics Info., they inhibit the hair from absorbing moisture. It forms a thin coating on the hair. Polyquats used are allergic causing skin irritation. They may react with other impurities and form toxic products leading to cancer and other health problems.

Polyethyleneglycols are widely used in creams, moisturizers and other skin care products. It is used in solvents used for thickeners. Polyethyleneglycol enhance skin penetration. These are petroleum based compounds. They remain stable in the environment for a long time after rinsing.(B.Bridges.,2002) Polyethylene glycols are contaminated by a chemical 1,4 dioxane which are used for sweet odour in the production of cosmetics. Dioxins are carcinogenic in nature. Polyethylene glycols cause genotoxicity and skin irritation which leads to severe health problems. (Wangenheim J and Bolcsfoldi G., 1988).

Conclusion

Several ingredients are incorporated for manufacturing beauty products. These products may enhance the beauty by complexion, fragrance and give self confidence to women. At the same time they are posing threat to health. Particularly in developing nations the authorities should keep on checking these personal care products to avoid the usage of hazardous chemicals. Women should be aware of ingredients used in beauty products. It is best to prefer natural products which are less hazardous in health aspects.

References:

1. I.B. Bridges, "Fragrance: emerging health and environmental concerns," *Flavour Fragrances Journal*, 2002; 17:361–71
2. K.A. Biebl and E.M. Warshaw, "Allergic contact dermatitis to cosmetics," *DermatolClin*, 2006, vol. 24: 215-232.
3. Brashear, A. et al. "Ethylene oxide neurotoxicity: a cluster of 12 nurses with peripheral and central nervous system toxicity." *Neurology* 46, 4 (Apr 1996):992-8.
4. Cosmetic Ingredient Review. Ingredient Reports — Quick Reference Table (summarizing publications through Dec 2009). http://www.cir-safety.org/staff_files/PublicationsListDec2009.pdf
5. Environmental Defence, "Heavy metal hazards; the health risk of heavy metal in face hidden make up," http://environmentaldefence.ca/sites/default/files/report_files/HeavyMetalHazards%20FINAL.pdf, 2011. Retrieved, February 23, 2015.
6. G. Vince, "Cosmetic chemicals found in breast tumours," *New scientist*, <http://www.newscientist.com/article/dn4555-cosmetic-chemicals-found-in-breast-tumours.html>, 2004. Retrieved, March 15, 2015. [31] R.C. Anderson and J.H. Anderson,
7. J. Robertson, G. Fieldman and T.B. Hussey, "Who wears cosmetics? Individual differences and their relationship with cosmetic usage," *Individual DifferRes*, 2008, vol.6: 38–56.
8. K.A. Biebl and E.M. Warshaw, "Allergic contact dermatitis to cosmetics," *Dermatol Clin*, 2006, vol. 24: 215-232.
9. Lopaciuk, A., Loboda, M., 2013, Global beauty industry trends in the 21st century. International Conference, Zadar, Croatia.
10. Okereke J. N., Udebuani A. C., Ezeji E. U., Obasi K. O., Nnoli M. C. Possible Health Implications Associated with Cosmetics: A Review. *Science Journal of Public Health. Special Issue: Who Is Afraid of the Microbes. Vol. 3, No. 5-1, 2015*, pp. 58-63. doi: 10.11648/j.sjph.s.2015030501.21
11. World Health Organization (WHO), "Mercury in skin lightening product. Geneva, world health organization (preventing disease through healthy environment series)," <http://www.who.int/phe/new/mercury-flyer.pdf>, 2007, Retrieved, February 20, 2015.
12. G. Ulrich, "Sensitization to petrolatum: an unusual cause of false-positive drug patch-tests," *Allergy*, 2004; 59(9): 1006– 1009.
13. O.M. Badeeb, R.S. Ajlan and M.H. Walid, Kohl Al-Ethmed. Acute toxic effects of fragrance products. *JKAU: Medical Science*, 2008, vol. 15 (4): 59–67.
14. P.K. Nigam, "Adverse Reaction to cosmetics and method of testing," *Indian J DermatolVenerolLeprol*, 2009, vol. 75(1): 10–19.
15. P.D. Darbre, "Concentrations of Parabens in human breast tumours," *Journal of Applied Toxicology*, 2004; 24(1): 5–13.
16. R.C. Anderson and J.H. Anderson, "Acute toxic effects of fragrance products," *Archives of Environmental Health*, 1998; 53(2): 138–46.
17. Schechter A, Birnbaum L, Ryan JJ, Constable JD. Dioxins: an overview. *Environ Res* 2006;101(3):419–28.
18. Wangenheim J and Bolcsfoldi G. "Mouse lymphoma L5178Y thymidine kinase locus assay of 50 compounds." *Mutagenesis* 3, 3 (May 1988):193-205.
19. Y.Zhang, "Personal use of hair dye and the risk of certain subtypes of non-Hodgkin lymphoma." *American Journal of Epidemiology*, 2008; 167(11):1321– 1331.
20. Yazar, K., Johnsson, S., Lind, M.L., Boman, A., Lid ´en, C., 2010, Preservatives and fragrances in selected consumer - available cosmetics and detergents, *Contact Dermatitis*, 64: 265 - 272.