

PEDIATRIC COSMETOLOGY: CURRENT AND FUTURE TRENDS

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Synopsis

The first part of this paper deals with the marketing of cosmetics to infants, children, and young adults in the U.S.A. and selected European markets. An analysis of marketing techniques and the objectives of directing cosmetic sales to certain age groups under certain circumstances are outlined. The size and the potential dollar value of these markets is indicated and the importance to the industry and the degree of effort exercised in promoting these markets will be discussed.

The second part of the paper deals with some of the scientific aspects of the development of cosmetics for various young age groups. These are discussed under the following subject headings:

1. Systemic toxicity issues, reabsorption and ingestion
2. Skin, eye, and genital irritation
3. Preservatives in skin flora issues
4. Allergic sensitization and photosensitization issues
5. Packaging issues

Riassunto

Nella prima parte di questo lavoro viene effettuata un'analisi di marketing dei cosmetici rivolti ai bambini ed ai giovani, in genere sia sul mercato USA che su quello europeo. Vengono poste in evidenza anche le tecniche di vendita utilizzata per i cosmetici rivolti alle diverse fasce di età, valutandone il valore economico e l'importanza finanziaria delle industrie cosmetiche.

Nella seconda parte vengono posti in evidenza gli studi scientifici di controllo necessari per la messa a punto di prodotti cosmetici alle diverse fasce di età:

1. Studi sistemici sulla tossicità dovuta ad assorbimento
2. Controllo della irritazione oculare, cutanea e degli organi genitali
3. Controllo del sistema di preservazione
4. Controllo dell'eventuale effetto sensibilizzante e fotosensibilizzante
5. Studio sul packaging

All consumers oriented industries are constantly looking for new customers. This constant search for new sources of business is the job of the marketing branch of the industry. Market managers have proved to be innovative and dynamic in promoting various segments of the population into becoming prospective customers for cosmetics. Considerable success in promoting teenage female use of cosmetics may be contrasted with the general failure to successfully penetrate the adult male market. nevertheless, other potential markets such as senior citizens, teenage males and children are in the process of being developed.

Developing a market for children's cosmetics is a challenge for marketing innovation. Why do children whose skin and hair are so naturally endowed need embellishment with cosmetics? Is this not painting the lily? Also, who is going to pay for these items. These questions have been adequately addressed by the cosmetic industry.

The children's market can be divided into three groups: Babies, the 3-12 age bracket and the 12-17 age group.

Cosmetic targeted for babies are primarily personal care products such as shampoos, baby bath products, baby lotion, baby oil, fragrance and powder. They are generally advertised as having undergone dermatological testing for skin and eye irritation, toxicity safety and bacteriological control. Also certain lines stress the elimination of allergens or irritants such as talc, paba, color dyes, alcohols, petroleum derivatives and promotion of natural ingredients such as soap-free baby bath, vegetable based baby oil, vegetable jelly that has no petroleum derivatives or mineral oil and corn starch or oatmeal powders. The baby shampoos are advertised as mild and are tear-free, dye-free and hypo-allergic.

In the 3-12 year old bracket there are more than 36 million children in the U.S.A. Parents spend over \$60B on products for them. Cosmetics for

this segment divide into toys and toiletries. The toy cosmetic market targeted to the younger children stresses the play and educational value of the cosmetics. the advertising for this group soft pedals the pretty or nicer sexually connotative words and stresses the play and educational value of the products helping mom to teach basic hygiene to the kids. The packaging of these products is innovative and can be converted into toy purses or novelty containers indicating the imagination of the marketing people.

The toiletry portion of this market is the older children in the 3-12 year bracket and is frequently targeted to the mothers. The health and hygiene of these products as well as the growing up mimicry of the parents appeals to mom. In addition the Saturday a.m. T.V. advertisements bombard the kids with marketing messages which are not forgotten. Even sophisticated upscale such as children's perfumes are promoted. These are fashioned after the popular international children's book characters such as Mickey and Minnie Mouse and Babar the elephant and his wife Celeste, popular in France for example.

Also the natural ingredient pure botanical lines which stress environmental protection and uses pH balanced shampoos that cleanse without detergents and environmental protection cream that purports to protect against environmental elements such as wind, pollution and heating and air conditioning systems. In addition endangered species soap in the form of rhinoceroses, green turtles, blue whales and giant pandas have been introduced to combine cleansing of the skin with information about protection of endangered species.

The older children 13-17 are estimated to spend \$ 33B of their own disposable monies. This market addresses products in the adult market with a youthful marketing twist. All toiletries as well as embellishing cosmetics are promoted and used. Cleansing agents, shampoos, con-

ditioners and moisturizers are promoted as slowing down of aging of the skin as well as prevention of skin cancer.

Dermatologists are recommending their use routinely in over 3 year olds and under certain circumstances under 3 years of age. The bronzed look introduced by Coco Chanel in the late 30's is giving way to the alabaster look of the pre-World War I era. The skin cancer foundation has been warning that "by the time many children reach early adulthood, they have already soaked up enough sunlight to grow their first skin cancer".

The sun tanning booths popular in the U.S. the past 10 years are being rightly given bad publicity as potential health hazards and are being brought under control of local authorities and regulating bodies in many states.

In addition all embellishing cosmetics: Hair products, eye make-up, foundation, blush, lipstick, fragrance, moisturizers and toners are highly promoted in this age group by standard and innovative marketing techniques.

The scientific touchstones to the development of children's cosmetics relate to special risks of products sold for children and a basic dictum. The dictum is "primum non nocere" do not do any harm.

The areas of concern are:

- I. Systemic toxicity issues re-absorption and ingestion.
- II. Skin, eye and genital irritation.
- III. Preservatives and skin flora issues.
- IV. Allergic sensitization and photosensitization issues.
- V. Packing issues.

I. Systemic toxicity issues re-absorption and ingestion.

In my previous paper on percutaneous absorption of chemicals through the intact skin of infants and children it was pointed out that prema-

ture infants absorbed potentially toxic materials through the intact skin at a much greater rate than term-birth babies. Also the high body surface to weight ratio of infants and young children would promote increased absorption of certain solutes if they used over a large area of skin surface. Also there was a selective absorption of some materials through the intact skin.

These points are of paramount importance since infant deaths have been reported from the absorption of 3% hexachlorophene and phenol: thyroid disease from iodine containing cleansers; Cushings disease from steroids and cyanosis from Castellani's paint (phenol and resorcin) and toxicity from boric acid.

It goes without saying that potentially toxic substances should be eliminated from cosmetic formulations for infant and children's skin. All substances used in cosmetics for infants should be screened by both in vitro and if possible in vivo studies to delineate absorption into the system.

II. Skin, eye and genital irritation.

Genital irritation and cystitis from bubble bath products in young females was an FDA issue in 1978. The chief culprit was sodium lauryl sulphate and other surface tension lowering agents which also irritate the eyes if contained in shampoos.

Other shampoos containing lye can cause serious irritation around the eyes. Artificial straightening of children's hair requires strong chemicals which are potentially irritating to both skin and mucous membranes of the eye.

Cosmetically induced acne is a potential hazard in pre-teens and teens. Chronic use of materials such as isopropyl myristate, octyl palmitate, decyl oleate, butyl stearate and lanolin deriva-

tives - found in cosmetic cream vehicles - which are all comedogenic by virtue of blocking normal exfoliation of epithelial cells in the sebaceous duct have been indicted in this respect after long-term use.

III. Preservatives and skin flora issues.

The normal skin of infants and children is resistant to most bacteria by virtue of its protective desquamating process of the stratum corneum. Previously it was theorized that the low pH of the skin provided an "acid mantle" which together with fatty acids protected the skin from bacteria. Today it is felt that the relative dryness of the skin coupled with the constant shedding of the stratum corneum including the bacteria thereon is the major protection of the skin from infection. Bacteria thrive in the skin normally and are actually helpful to normal physiology. These are the so-called resident flora. There are also transient bacteria which may cause infection in broken or diseased skin.

Cleansing preparation for children: soaps, liquid lotions, do not routinely require antiseptic or antibacterial ingredients. Antimicrobial soaps should require a warning label for use in infants because of the potential for percutaneous absorption of toxic substances such as hexachlorophene.

Cosmetic preparations should be formulated so as not to promote bacterial growth. This is accomplished with preservatives which prevent bacterial growth. Generally speaking preservatives do not irritate or sensitize normal non-disrupted skin. Agents such as parabens are excellent preservatives and are not highly sensitizing to normal skin but are quite sensitizing to irritate or eczematous skin. Other agents such as imidazole urea and triclosan are frequently found in cosmetics and have a low allergenizing potential.

IV. Allergic sensitizing and photosensitizing issues.

The chronic use of cosmetics may promote allergic sensitization and photosensitization. While the skin of infants and young children to the age of 8 are not easily sensitized, older children do not differ from adults in that regard. Therefore if they use potentially allergenic substances early in life and continue to do so the potential for sensitization is enhanced theoretically. Before the introduction of cosmetics into the children's market most allergic dermatitis in children came from inadvertent contact with mothers cosmetics - primarily their fragrance. This observation has held true for children's cosmetics as well in which perfumes and balsam of Peru a cross reactor are identified as causing allergic reactions.

Photosensitization is caused by a toxic or allergic reaction from materials applied to the skin and exposed to ultraviolet A or B. Typical cosmetic reactions come from photosensitization to sunscreens or fragrances. An uncommon but striking photosensitization reaction is from furocoumarins such as lime juice and celery. Red-purple streaking in areas of application of the material - face, neck, hands, forearms - and sun exposure is classical in making this diagnosis.

In general the identification of the sensitizing culprit and their elimination is all that is necessary.

V. Packaging issues.

The packaging of cosmetics potentially hazardous to children if ingested should be done in child-proof containers. While there is not a high incidence if this type of poisoning there are some agents such as bromate home permanents, sculptured nail acetonitrile glue remover and talcum powder in liquid look-alike nursing bottles which might cause aspiration of talcum powder if improperly used.

For the most part cosmetics designed for children's use do not contain potentially toxic chemicals if ingested.

The cosmetic industry like all consumer industries must evaluate the risks versus benefit of all its products released to the public for general use. We live in a litigious society in the USA where burden of proof of product liability is not as important as the deep pockets of any agency involved in the manufacture, packaging or selling of any given product. The "caveat emptor" of the last century has been changed to "caveat vendor" today.

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