

Potential Risks of Henna Tattoos in Children

Jesús Rodríguez Calleja*

Department of Pediatric Allergology, Río Carrión Hospital, Palencia, Spain

ABSTRACT

Physical examination of the case study; would we offer a cigarette to your 7 years old child? With absolute certainty we would not. What would we do if we see a person who gives cocaine to their child? Surely we would report this fact to the competent authorities. The same way would do people with other situations concerning child and other drugs including alcohol. However, there was a time when giving certain drug to children was quite normal. Also, it was considered good for children's health as we could see in advertising, including medicines advertising.

Keywords: Henna tattoos; Allergic contact dermatitis; Paraphenylenediamine (PPD); Child safety; Legislation on cosmetic products; Health hazards in tattoos; Awareness campaigns

INTRODUCTION

For instance, in the 19th century, cocaine was used for the treatment of dental pain in children [1], opium and heroin were used for the treatment of cough [2] and in the first half of the 20th century, in some countries, alcoholic drinks were recommended for the whole family, including children [3]. Fortunately, nowadays there is a general awareness on children's rights and child protection. The same way has happened with other areas relating to children safety such as security precautions at home or traveling and food legislation. If we focus on dermatology, in developed countries there is a general awareness of sunscreen use in children and in general population, for instance. But, what happens with tattoos? [4]. A type of tattoo that is increasing in Europe and North America, is henna tattoo [5-7] and, as a temporary tattoo, it is widely accepted in children [8]. Nevertheless, sometimes henna used in these tattoos is adulterated with Paraphenylenediamine (PPD), which achieves a darker and more durable coloration, increasing the duration of the tattoo [8]. However, PPD is a hazard for health because it is an allergen implicated in allergic contact dermatitis. The manifestations of allergy to PPDA usually include symptoms of local eczema, and also cases of lichenoid reactions and systemic manifestations such as erythema multiforme. Although the prognosis is usually favorable, cases with necrotic lesions with unsightly healing, keloids and residual hypopigmentation, and cases with vital compromise have been

described [9-11]. Because it's potential risk for contact sensitization, PPD to the skin in cosmetic products, has been an act prohibited by the FDA since 1938. According to the FDA, the only legal use for PPD in cosmetics is in hair dye [12]. Nevertheless, despite this permission of use of PPD in hair dye, there are reported cases of hair and clothing dye allergy after a sensitization by PPD in henna tattoos [7]. Relating to European Union legislation, currently it is allowed the use of PPDA in hair dyes up to a maximum concentration of 2% [13,14] and prohibits its use in henna tattoos [9]. Despite this prohibition, PPD is one of the 5 most potentially sensitizing contact allergens in general population [9,15] and one of the 10 most common contact allergens in children [16].

LITERATURE REVIEW

Moreover, not only the incidence of allergic contact dermatitis and its aftermaths are increasing, but also it is affecting at younger children, as young as 6 years old [17] and in some cases with permanent aftermath, like a permanent residual hypopigmentation reported in a 7 year old child [18]. In fact, American Contact Dermatitis Society awarded PPD the title of Allergen of the Year in 2006 to raise awareness of this important allergen [19]. Despite these legislation and awareness campaigns, the incidence of allergic contact dermatitis due to PPD and its aftermaths are increasing (Figure 1 and 2).

Correspondence to: Jesús Rodríguez Calleja, Department of Pediatric Allergology, Río Carrión Hospital, Palencia, Spain, E-mail: jrodriguez@saludcastillayleon.es

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Figure 1: Allergic contact dermatitis due to PPD in a 7 years old child.



Figure 2: Hypopigmentation as an aftermath due to PPD in a 7 years old child 15 weeks after tattoo.

DISCUSSION

First of all, it is necessary to raise awareness in the population of the hazard for health due to henna tattoos particularly and all tattoos in general. This intervention does not turn out an easy task nowadays specially in childhood and teenagers, as they follow and imitate an increasing amount of famous actors, singers, athletes and others public people on social networks wearing tattoos all over their skin. On the other hand, many parents are unaware of the hazards and may unknowingly allow their children to participate in this cosmetic novelty trend [5,20]. So, it would be useful create awareness in parents, as they

can forbid this practice in their younger children and, at least, convey this information to their teenager one. In the same way, educational professionals and other people who work with children, as child-care workers or sport trainers, should be trained in this topic as they are trained in other health topics. Finally, it would be desirable that all the population take awareness of the hazards of this practice in the same way they are aware of other health threats such as drugs, certain risk behaviors at home, traveling, unhealthy food or certain internet contents.

Secondly, more supervision by authorities of existing regulation is necessary. Inspections must be carried out at the place of henna production, supply chains and sites of tattooing in order to look for henna adulterated with PPD. Also, it is necessary legislation to be extended to artists who sell tattoos at holiday resort venues such as streets, boardwalks or beaches, as it has been already proposed [5,12]. With regard to underage population, the question has even arisen as to whether it might be appropriate an all-out ban of this practice in minors by health authorities in order to protect vulnerable youth from exposure [12]. In relation to PPD in hair and clothing dye, although it would not be necessary an all-out ban of PPD in these products, as they do not penetrate the skin, it would be desirable to warn of its presence in the labeling of these products, as it is already warned the presence of allergens in food labeling. This recommendation could be extended to other contact allergens. Also, it would be pertinent a closer surveillance of PPD concentrations in traded hair and clothing dye, as they could be beyond the permitted levels.

Thirdly, a higher health professional involvement in the population education, in order to avoid these practices, is necessary. Even though health professionals do not have the power to draft legislation designed to regulate tattoo components or their uses, they are the first and direct contact of population and health systems. Ranging from general practitioners or primary care physicians to dermatologist and right up to pediatricians or allergist, all of them are given the capacity of influence in general population. They have a close contact with their patients and their patients trust in their doctors recommendations. For all that, this is probably the more useful tool to prevent this behavior and its health consequences. To carry out these measures it is necessary to engage all the professionals, who must be led by medical societies and other community organizations doctors to drive preventive actions, as it is done already in other areas of preventive medicine, in order to reduce the incidence of this health problem.

CONCLUSION

Henna tattoos are increasing in frequency in general population and especially in children. It is necessary to raise awareness in the population of the hazard for health due to henna tattoos. More supervision by authorities of existing regulation is necessary. A restrict legislation should be drafted for underage population. It is necessary a higher health professional involvement in the population education, in order to avoid the practice of henna tattoos.

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