

## ORIGINAL ARTICLE

# Hair comb Allergenesity Used for the Scalp Skin

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### ABSTRACT

*Dandruff (Pityriasis capitis) is a non-inflammatory form of seborrheic dermatitis. People reporting dandruff often have seborrheic dermatitis, but can also have other diseases. In this study, relation between type of comb and allergic inflammatory response and dandruff appears in skin and hairs were studied. Results showed that plastic comb was allergen and this was high in men. The most common treatment for dandruff is the use of shampoo formulations and avoid of allergen with suing of wooden comb.*

**Key Words:** Dandruff, seborrheic dermatitis, Allergen, electrostatic, comb

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### INTRODUCTION

Dandruff (Pityriasis capitis) is a non-inflammatory form of seborrheic dermatitis, with increased scalp scaling, which represents the more active end of the spectrum of physiological desquamation, while seborrheic dermatitis (Pityrosporal dermatitis, dermatitis of the seborrheic areas) is an inflammatory, erythematous, scaly eruption that occurs primarily in seborrheic areas, that is, mainly in areas with a high number and activity of sebaceous glands, such as, scalp, central areas of the face, and upper trunk. Seborrheic dermatitis is one of the accelerated epidermal growths resulting in retention of nuclei that have not had sufficient time to completely mature, in the cells of the stratum corneum. Dandruff and seborrheic dermatitis are common chronic relapsing scalp skin disorders that share some clinical features with psoriasis and atopic dermatitis. While seborrheic dermatitis can affect sebum-rich areas other than the scalp, we routinely refer to these conditions on the scalp collectively as dandruff [1-5].

The key clinical features of dandruff include flaking and itch, and although much descriptivework has been done, the precise underlying events that provoke these symptoms are incompletely understood. People reporting dandruff often have seborrheic dermatitis, but can also have other diseases, such as psoriasis or eczema. Although it is considered a very common condition, no published epidemiological study evaluating the frequency of dandruff could be found in the literature. Scalp pruritus is also frequent and is often associated with dandruff [3-6].

Although each of the above can cause dandruff and scalp irritation but here, there is further discussion of the use of different materials for hair comb include plastic, metal and wood and because comb has very contact with Scalp therefore it could be a allergen and lead to inflammatory and allergic reactions in skin that this was appeared in dandruff shape without any infections. In this study, relation between type of comb and allergic inflammatory response and dandruff appears in skin and hairs were studied [2, 6-8].

### MATERIAL AND METHODS

In this study, 800 patients information about sex and age were received. Then abut type of used comb, having dandruff and other problems were taken and analyzed.

### RESULT

In this study 90 of 800 patients with dandruff, have other scalp problems such as conflict and other types of dermatitis and alopecia, thus they were excluded from the study and only people who have dandruff, which are divided in the following table.

Table 1: All ages and genders

			With dandruff		Without dandruff		total
			men	women	men	women	
Age (year)	0-10	Plastic comb	43	18	9	13	83
		Metal comb	21	28	4	0	53
		Wooden comb	0	0	4	3	7
	11-20	Plastic comb	34	16	9	10	69
		Metal comb	39	9	9	14	71
		Wooden comb	0	0	1	2	3
	21-35	Plastic comb	41	34	0	3	78
		Metal comb	19	14	9	9	51
		Wooden comb	0	0	7	4	11
	36-50	Plastic comb	25	21	0	8	54
		Metal comb	31	19	5	6	61
		Wooden comb	2	0	8	17	27
	51-70	Plastic comb	26	16	1	0	43
		Metal comb	29	12	0	7	48
		Wooden comb	0	0	26	25	51
total			310	187	92	121	710

Fig1: Percent of Dandruff

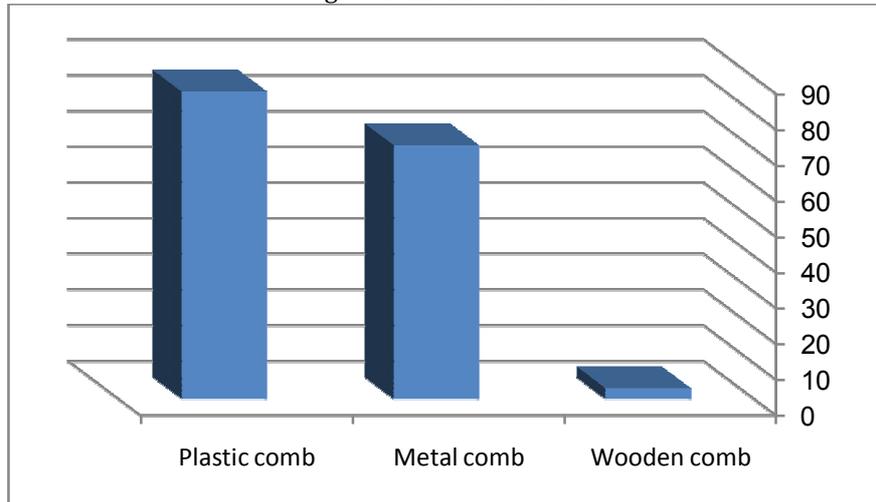


Fig2: Percent of Dandruff in gender

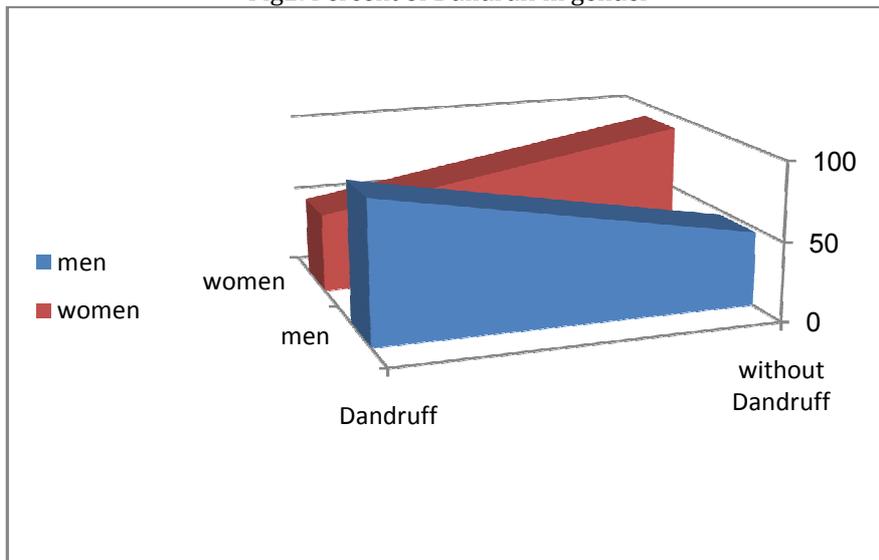
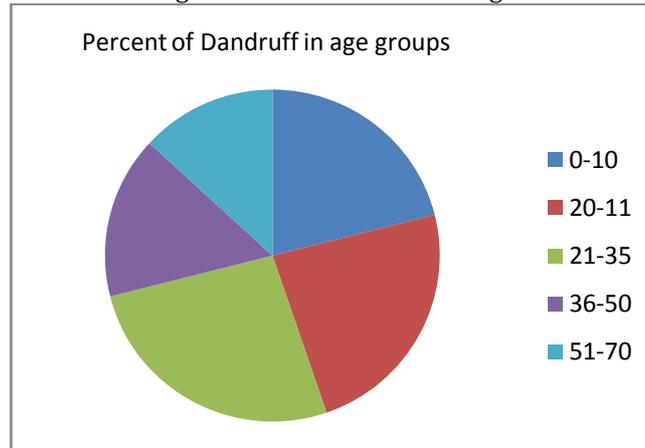


Fig3: Percent of Dandruff in age



## DISCUSSION

The potential non-microbial causes for dandruff are excessive exposure to sunlight, minimal irritation of the scalp due to over shampooing, frequent combing, use of certain cosmetic products, and exposure to dust and dirt, although experimental evidence is lacking. The microbial etiopathology that is most widely accepted is the presence of a lipophilic yeast belonging to the genus *Malassezia* [2,5, 7-10].

The prevalence of dandruff in the world population was high. No other study evaluating the prevalence of dandruff among adults could be identified. Dandruff is considered as very frequent, and appears to be more frequent among men than women and more frequent among young people than older people. seborrhoeic dermatitis could be more frequent among elderly people, especially in case of dependency, but did not report specific data on dandruff. thus it is important to be aware of this symptom in dandruff [11-15].

The most common treatment for dandruff is the use of shampoo formulations that most often contain fungistatic agents. Whilst most anti-dandruff shampoos are effective in resolving the symptoms of dandruff, these shampoos can often result in hair condition that is less than acceptable to consumers which, in turn, can lead to a tendency for them to revert to a non-anti-dandruff shampoo. This can have the effect of a rapid return of dandruff symptoms. To increase compliance, anti-dandruff shampoos must be formulated to deliver the anti-dandruff agent effectively to the scalp whilst providing excellent hair fibre properties [16-20].

Here is the argument that type of comb has different allergic reaction to the skin of head. In this study, dandruff from allergic reaction in men was higher from women and in 11-35 years old was higher from others.

In all groups, higher allergenicity were observed in plastic comb and in metal combs were lower than plastic and in wooden combs were very low. For this, maybe comb give electrostatic from their contact with hairs and this charge stimulated skin and cretinocytes and storing of this electricity charge lead to inflammation and allergic response.

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