

Self-reported hand contact dermatitis among female hairdressers in Basrah

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ABSTRACT

Background: Occupational skin diseases are common and deserve medical attention. Hairdressers are special risky group for skin diseases.

Objective: To determine the prevalence of self-reported hand contact dermatitis among female hairdressers in Basrah city.

Methods: Sixty one salons in Basrah city center were chosen randomly by using the systematic random sampling technique from a name's list of registered salons in Basrah General Health Directorate. A convenient sample of female hairdressers was chosen from these salons.

A special questionnaire form prepared for the purpose of the study was used for collection of data from female hairdressers who agreed to participate in the study by direct interview.

Results: A total of 80 female hairdressers were included in the study. Their age ranged between 19 and 65 years old with a median age of 32.5 years. The prevalence of self-reported hand contact dermatitis or eczema among female hairdressers was 31.3%. It was significantly associated with the age and nationality of female hairdressers (P-value = 0.021 and 0.035 respectively). Furthermore, there was significant association between self-reported hand contact dermatitis and personal history of atopy (P-value < 0.001) and family history of atopy. (P-value=0.031).

Conclusions: The self-reported hand contact dermatitis is fairly common and associated significantly with age of female hairdressers, nationality, personal and family history of atopy. We recommend to enhance occupational health measures for the hairdressers with special alteration in the preventive aspects

Key words: Hairdressers, contact dermatitis, Basrah.

التهاب الجلد التماسي المعلن عنه ذاتيا بين النساء العاملات بمهنة الحلاقة في البصرة
الخلفية: الأمراض الجلدية المهنية شائعة وتستحق الرعاية الطبية العاملين بمهنة الحلاقة هم أكثر عرضة للإصابة بالأمراض
الجلدية

الهدف من الدراسة: معرفة مدى انتشار التهاب الجلد التماسي لدى العاملات في مهنة الحلاقة في محافظة البصرة
طريقة العمل: اشتملت هذه الدراسة على ٦١ صالون في مركز مدينة البصرة اختيرت عشوائيا من قائمة اسماء الصالونات المسجلة في دائرة صحة
البصرة.

نتائج الدراسة: العدد الاجمالي للعاملات في مهنة الحلاقة في هذه الدراسة كان ٨٠ عاملة. العاملات اللواتي تضمنتهن الدراسة تراوحت اعمارهن بين
١٩ و ٦٥ عام وكان متوسط اعمارهن ٣٢.٥ عاما. وكان هناك ارتباط معتد احصائيا بين معدل انتشار التهاب الجلد التماسي لدى العاملات في مهنة
الحلاقة و عمر العاملة) على التوالي. (P- value = 0.021 & 0.035) وجنسيته
وكذلك يوجد ارتباط معتد احصائيا بين نسبة انتشار التهاب الجلد التماسي ووجود التهاب الجلد الاتوبي او في التاريخ العائلي لدى العاملات في مهنة
الحلاقة. (P-Value < 0.001 & 0.031) على التوالي.

الاستنتاجات: نستنتج من هذه الدراسة ان التهاب الجلد التماسي يرتبط بشكل كبير بسنّ العاملات في مهنة الحلاقة وجنسيتهن والتاريخ الشخصي
والعائلي للإصابة بالتهاب الجلد الاتوبي. من المهم تعزيز واقع الصحة المهنية للعاملات في مهنة الحلاقة.

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INTRODUCTION

Occupational skin diseases are described internationally as the second common group of occupational diseases after musculoskeletal disorders.^[1] Contact dermatitis is an important health problem in occupations, affects mostly manual work, and is usually described as a skin reaction caused by frequent contact with irritants or allergens.^[2] Hand contact dermatitis forms about 90-95% of occupational skin diseases. It could be allergic or irritant. The most common type is irritant contact dermatitis, seen in 70-80% of cases, while allergic contact dermatitis is approximately 20-25%.^[3] Hairdressing is one of the occupations that have been practiced thousands of years. They usually suffer from many occupational problems.^[4] Hairdressers are exposed to different chemical compounds that are present in hairstyling and care products.^[5] In Iraq and specifically in Basrah, it seems there is shortage in studies handling occupational skin diseases and in particular contact dermatitis among hairdressers.

The study aimed to determine the prevalence of self-reported hand contact dermatitis or eczema among female hairdressers in Basrah city.

METHODOLOGY

A cross-sectional study conducted during the period from the 1st of January to the 1st of June 2018. Sixty one salons out of 122 salons in Basrah city center were chosen randomly by using the systematic random sampling technique from a list of registered salons in Basrah General Health Directorate. A convenient sample of 80 female hairdressers was chosen from these salons. A special questionnaire form prepared for the purpose of the study was used for collection of data from female hairdressers who agreed to participate in the study by direct interview. The questionnaire included information about personal socio demographic characteristics like name of the salon, age, marital status, educational level, smoking status,

place of residency, age of starting job as a hairdresser, years of work as a hairdresser and questions regarding the daily work activities in their salons. Also asked about personal and family history of atopy. In addition, they were asked about the history of having hand contact dermatitis or eczema during the last year. The severity of the dermatitis was determined by asking if they needed for rest and received medical treatment. The data were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 20. Significance was tested using chi-square and exact- fisher tests whenever appropriate. A P- value of < 0.05 was the criterion of statistical significance.^[6]

RESULTS

Eighty female hairdressers were involved in this cross sectional study. Their age ranged from 19 to 65 years with a median age of 32.5 years. The majority of them (65.0%) were married and (55.0%) had intermediate and secondary levels of education. Most of the studied hairdressers are Iraqis (85.0%) while non-Iraqi constitute 15.0%. About half of the female hairdressers (48.7%) are currently smokers while non-smokers formed about (51.3%). Regarding work related characteristics, approximately half (53.8%) of the studied population had worked as a hairdresser in their salons for more than 5 years. The majority of them spent 20 - 40 hours per week working in their salons (91.2%). About half (55.0%) of female hairdressers frequently washed their hand (More than 20 times per day) when they were working in the salons. During visiting the salon most of the hairdressers insisted on that they used protective measures during work (90.0%). The percentage of female hairdressers who experienced hand contact dermatitis during the last year was 31.3%. Mainly affected the palms and web spaces of the hands (76.2%). Most of them consulted a dermatological clinics and received medical treatment. Forty-one

percentage of the studied female hairdressers had personal history of atopy and 6.2% of them had family history of atopy.

In the present study, the self-reported hand contact dermatitis among female hairdressers was significantly associated with the age and nationality of female hairdressers (P-value = 0.021 and 0.035 respectively). (Table-1), Furthermore, there was significant association between self-reported hand contact dermatitis or eczema and personal history of atopy (P-

value < 0.001) and family history of atopy. (P-value = 0.031). (Table-2) However, there was no significant association between the presence of hand contact dermatitis and educational level, smoking status, marital status, years of work as a hairdresser and hours of work in the salons. The results of logistic regression analysis showed that, the personal history of atopy was the only significantly associated with the presence of hand contact dermatitis with an OR, 21.3; 95% CI, 5.4 - 65.4; P < 0.001.

Table 1. The association of self-reported hand contact dermatitis and personal characteristics among female hairdressers

Variables		Self-reported hand contact dermatitis				P- value
		<i>Present</i>		<i>Absent</i>		
		<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	
Age / years	< 25	3	12.5	21	87.5	0.021
	25-40	18	45.0	22	55.0	
	> 40	4	25.0	12	75.0	
Educational level	Illiterate & primary	5	26.3	14	73.7	0.839
	Intermediate & secondary	14	31.8	30	68.2	
	Institute & collage	6	35.3	11	64.7	
Marital status	Unmarried	4	19.0	17	81.0	0.340
	Married	19	36.5	33	63.5	
	Divorced & widow	2	28.6	5	71.4	
Smoking status	Non smoker	13	31.7	28	68.3	0.928
	Current smoker	12	30.8	27	69.2	
Nationality	Iraqi	18	26.5	50	73.5	0.035
	Non-Iraqi	7	58.3	5	41.7	
Total		25	31.3	55	68.7	

Table 2. The association of self- reported hand contact dermatitis or eczema and clinical and occupational profile among female hairdressers

Variables		Self-reported hand contact dermatitis				P- value
		Present Total (25)		Absent Total (55)		
		No.	%	No.	%	
Years of work	≤5	8	21.6	29	78.4	0.085
	> 5	17	39.5	26	60.5	
Hours of work / week	< 20	2	28.6	5	71.4	0.360
	20-40	16	27.6	42	72.4	
	> 40	7	46.7	8	53.3	
Frequency of hand washing / day	< 10	4	26.7	11	73.3	0.826
	10-20	6	28.6	15	71.4	
	> 20	15	34.1	29	65.9	
Personal history of atopy	Yes	21	63.6	12	36.4	0.000
	No	4	8.5	43	91.5	
Family history of atopy	Yes	4	80.0	1	20.0	0.031*
	No	21	28.0	54	72.0	

*Fisher's Exact Test

DISCUSSION

Occupational disease is a disease developing primarily as a result of exposure to risk factors arising from work activity. Asian countries do not have an established system of reporting these diseases. Hence data regarding epidemiology is scarce.^[7] The present study is a cross sectional one, aimed to determine the prevalence of hand contact dermatitis or eczema among female hairdressers in Basrah city. It is considered as the first occupational health study among hairdressers in Iraq. The present study, showed that self- reported history of hand contact dermatitis during the last year was 31.3%. This agreed with other studies, as a cross sectional study done in UK,^[6] which showed that prevalence of hand dermatitis was 38.6% and a cross sectional study done in Nigeria by Douglas, et al (34.3%).^[9] Furthermore, a study was done by Tresukosol, et al.^[10] in Bangkok found that the palmer surface of hands and

fingers was the most commonly involved site of hand contact dermatitis among hairdressers (38.0%). Nevertheless, in the present study more than two thirds of the female hairdressers who had hand contact dermatitis predominantly affect the palmer surfaces and web spaces. Thirty six percent of female hairdressers had personal history of atopy in a study in Denmark.^[11] This is in agreement with the present study in which the percentage of female hairdressers who had a personal history of atopy was 41.3%. However, a polish study found that 15.8% had atopy.^[12] The present study found that 6.2% of female hairdressers had family history of atopy in contrast with a study in Saudi Arabia which observed that 56.3% of female hairdressers with contact dermatitis had family history of allergy.^[13] A cross sectional study was carried out by Perkins, et al.^[8] in UK realized that age of hairdressers was

significantly associated with high prevalence of hand contact dermatitis ($P = 0.01$) and this result is consistent with the results of this study (P -value = 0.021). The relationship between educational level of female hairdressers and prevalence of self-reported hand contact dermatitis in the present study was insignificant (P -value = 0.839) and this was agrees with other study.^[14] Additionally, there was no significant association in the present study between hand contact dermatitis and smoking status among female hairdressers. A result which, is in agreement with that reported by Bregnhøj, et al study^[15] and an Iranian study.^[14] Furthermore, there was significant association between contact dermatitis with nationality of female hairdressers by univariate analysis that was disagreed with a study which was carried out by Lestringant, et al in UAE.^[16] A study was done by Caroe, et al. among Danish female hairdressers showed a significant association between atopic dermatitis and hand eczema (P -value < 0.002).^[11] as in the present study, (P -value < 0.001). The finding supports the idea that atopic dermatitis significantly influences the development of hand eczema. Atopics have an irritable skin that is vulnerable to common irritants like soaps, detergents, environmental factors like hot humid weather, which can precipitate the disease.^[11]

In the present study, there was a significant association between family history of atopy and hand contact dermatitis (only by univariate analysis (P -value = 0.031) and this was reported by a study in Saudi Arabia in which hairdressers who had family history of any allergy had complained of hand dermatitis or eczema, ($P = 0.006$)^[13] There was no significant association between the prevalence of hand contact dermatitis among female hairdressers with years of work as a hairdresser in a salon, hours of works per week in the salon, frequency of hand washing and marital status.

CONCLUSION

The study showed that approximately one third of the studied female hairdressers were complaining from hand contact dermatitis. The age of female hairdressers, nationality, personal and family history of atopy were associated significantly with hand contact dermatitis. We recommend to enhance occupational health measures for the hairdressers with a special attention to preventive aspects like health education and periodic health examination. Health education should emphasis the effect of hazardous materials and how to prevent the adverse effects of such hazards.

LIMITATION OF THE STUDY

The diagnosis of hand contact dermatitis or eczema depended on self-reported history of acquiring dermatitis or eczema this mainly depends on their memory and associated with possibility of in accurate diagnosis.

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