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Original article

Knowledge among medical students regarding the prevention of future risk of allergic contact dermatitis

Connaissances des étudiants en médecine concernant les mesures visant à prévenir le risque futur d'avoir une dermatite de contact allergique

B. Mutar Mahdi^{a,*}, Q. Saadi^b, R. Hamed^b, S. Nawfal^b

^a Consultant Clinical Immunology, Head of the HLA Research Unit, Department of Microbiology, Al-Kindy College of Medicine, University of Baghdad, Baghdad, Iraq

^b Al-Kindy College of Medicine, University of Baghdad, Baghdad, Iraq

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ABSTRACT

Background. – Contact dermatitis is an extremely common disease in out-patient clinics. It is an inflammatory skin disease that occurs following exposure to allergic substances.

Aim of the study. – To determine the extent of knowledge and information possessed by medical students in order to prevent this disease, according to the stage of their studies.

Patients and methods. – A cross-sectional study was conducted from December 2020 to April 2021 to assess the frequency of contact dermatitis and the extent of knowledge about the disease among medical students. The study was conducted in 315 medical students attending Al-Kindy Medical College, University of Baghdad, Baghdad, Iraq. Data was collected via an online questionnaire using Google forms.

Results. – Most participants were female (62.2%). The mean age was 19.85 years ($SD \pm 1.33$). Most participants did not have the disease and did not know about treatment; however, a small percentage of females showed a significant difference from males ($p = 0.000$) as regards diagnosis of CD, knowledge about treatment, and awareness that it is a life-long disease (8.2%).

Discussion. – Contact dermatitis is a major health concern that markedly affects many individuals. The frequency of CD in our study was 8.2% and concerned the female group alone; these subjects had knowledge about treatment of the disease and its life-long presence, while no male participants had the disease. This may be due to frequent use of house detergents, make-up lotions and ointments among females.

Conclusions. – The disease was reported in a small percentage of female medical students and knowledge about CD was more common in students in the clinical-studies stage.

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R É S U M É

Contexte. – La dermatite de contact est une maladie extrêmement courante en consultation externe. Il s'agit d'une maladie inflammatoire de la peau due à l'exposition à des substances allergisantes.

Objectif de l'étude. – Connaître les connaissances et les informations dont disposent les étudiants en médecine pour prévenir cette maladie à différentes étapes de leur scolarité.

Patients et méthodes. – Une étude transversale a été menée de décembre 2020 à avril 2021 pour évaluer la fréquence et identifier les connaissances des étudiants en médecine sur la dermatite de contact chez les étudiants en médecine. Cette étude a été menée auprès de 315 étudiants en médecine du Collège médical Al-Kindy, Université de Bagdad, Bagdad-Irak. Un questionnaire en ligne de Google Forms a été utilisé pour collecter les données.

* Corresponding author.

E-mail addresses: abas_susan@yahoo.com, batoolmutar@kmc.uobaghdad.edu.iq (B. Mutar Mahdi).

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Résultats. – La majorité d'entre eux étaient des femmes (62,2 %) et les autres étaient des hommes (37,8 %). L'âge moyen était de 19,85 ans ($SD \pm 1,33$). La plupart d'entre eux n'avaient pas cette maladie et ne connaissaient cependant pas le traitement; seul un faible pourcentage de femmes a montré une différence significative par rapport aux hommes ($p=0,000$) en ce qui concerne le diagnostic de la dermatite de contact, la connaissance de son traitement et la maladie à vie (8,2 %).

Discussion. – La dermatite de contact est un problème de santé majeur qui affecte de manière marquée de nombreuses personnes. La fréquence de la dermatite de contact dans cette étude était de 8,2 % dans le groupe des femmes uniquement qui connaissait; connaître le traitement de cette maladie et sa durée de vie alors que les hommes n'avaient pas cette maladie. Cela peut être dû à l'utilisation fréquente de détergents ménagers et de lotions de maquillage, d'onguents par les femmes.

Conclusions. – La maladie a été signalée chez un faible pourcentage d'étudiantes en médecine et la connaissance de cette maladie est plus fréquente chez les étudiantes en stage clinique.

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1. Introduction

Contact dermatitis is a widespread eczematous inflammatory skin disease characterized by erythematous and pruritic skin lesions that occur after contact with a foreign material [1]. There are two types of contact dermatitis: irritant and allergic. Irritant contact dermatitis arises through the non-immune mechanism of irritation of the skin by a substance, leading to skin lesions, while allergic contact dermatitis is a delayed hypersensitivity reaction (Type IV hypersensitivity) in which an allergenic substance comes into contact with the skin, with skin lesions occurring after further exposure to the said allergen [2]. The most common allergens causing contact dermatitis are poison ivy, nickel, nail cosmetics, watch leather, and fragrances. At present, the COVID-19 pandemic has resulted in increased hand-washing with soap and water and use of hand hygiene, hand cleansing, and of hand antiseptics and detergents to prevent viral transmission. These hand hygiene products are available in a variety of forms that, while effective against COVID-19, also impair the integrity of the skin barrier and function resulting in an increase in both irritant contact and allergic contact dermatitis of hands. Other antiseptics such as alcohol-based hand sanitizers have the least sensitizing and irritancy potential when compared to soaps and other synthetic detergents used to reduce transmission of the virus [3]. Contact dermatitis usually leads to erythema, itching, discomfort, vesicles and scaling while chronic cases may involve lichen, cracks and fissures, and may progress to erythema multiforme [4]. Diagnosis of allergic contact dermatitis is based on a complete history, physical examination, and in vivo patch testing using several commercially available panels of patch tests. The basis of treatment is avoidance of the allergen, and localized acute allergic contact dermatitis lesions may be successfully treated with mid- or high-potency topical steroids, such as triamcinolone 0.1% or clobetasol 0.05%, which are used to treat exacerbations, or systemic steroids, which are used when extensive areas of skin are involved, although they should be avoided in long-term treatment [5].

Our study thus attempts to shed light on the knowledge and information concerning prevention of this disease possessed by medical students during their different stages of study.

2. Patients and methods

2.1. Study design and period

A cross-sectional study was conducted from December 2020 to April 2021 to assess the frequency of contact dermatitis and to identify knowledge about the disease among medical students.

2.2. Study setting

The study was conducted among medical students at Al-Kindy Medical College, University of Baghdad, Baghdad, Iraq.

2.3. Samples

The population comprised medical students at different stages of their studies at Al-Kindy Medical College at the University of Baghdad.

The population of 315 students was divided into six groups according to the six stages of college studies, and each group was further divided into two subgroups by gender, and the percentage number of participants was determined in relation to the study population.

2.4. Inclusion and exclusion criteria

- Inclusion criteria: we included medical students studying at the college during the study period.
- Exclusion criteria: staff, lecturers, teachers and other administrative personnel in the college were excluded.

2.5. Questionnaire

An online questionnaire created in Google forms was used to collect the data and acted as a screening instrument to determine the frequency of contact dermatitis. It contains numerous questions regarding contact dermatitis and other information. Sociodemographic questions such as stage of studies, age and gender were added to the original questionnaire. Adequate explanation of the study objectives was provided for the participants, and informed consent was obtained concerning use of their data for research purposes.

2.6. Statistical analysis

The data were analyzed using SPSS 25. Descriptive statistics including frequencies, percentages and Chi-square independence test were used.

A p -value < 0.05 was considered statically significant.

3. Results

The study included 315 medical students at Al-Kindy College of Medicine-University of Baghdad, with a response rate of 30%. The majority were female (62.2%) and the mean age was 19.85 years ($SD \pm 1.33$).

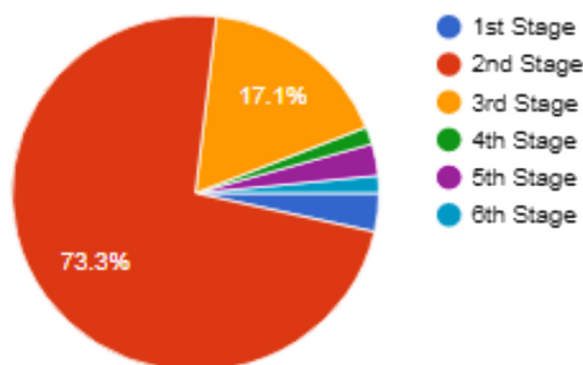


Fig. 1. Distribution of students by stage of studies.



Fig. 2. Distribution of groups by knowledge of contact dermatitis.

Table 1
Percentages of medical students with CD by gender.

Information	Male No. (%) No. = 120	Female No. (%) No. = 195	p-value
Presenting CD	0.0 (0.0)	16 (8.20)	0.000
Not presenting CD	120 (100)	179 (91.79)	
Knowledge about treatment	0.0 (0.0)	16 (8.20)	
Awareness that CD is life-long	0.0 (0.0)	16 (8.20)	
Total	315		

Most study group members were in their second stage (73.3%) with the fewest being in the fourth stage (3%), as shown in Fig. 1. Fig. 2 shows that most of the latter group had knowledge about contact dermatitis (72.1%). Most participants did not have the disease and did not know about treatment, or that it is a life-long disease. Only a small percentage of female participants showed a significant difference from males ($p = 0.000$) regarding CD infection, with awareness about its treatment and that it is a life-long disease (8.2%), as shown in Table 1. The students were classified according to their level of learning stage into pre-clinical stage (58.09%) and clinical stage (41.9%). There was a significant difference ($p = 0.009$) between the two groups regarding knowledge of CD, of its treatment and of its status as a life-long disease.

4. Discussion

Contact dermatitis is a major health concern markedly impacting quality of life in many subjects. Our study comprised a cross-sectional investigation of medical college students to investigate the actual frequency of this disease and knowledge about the disease among medical students at Al-Kindy Medical College in different stages of studies. Of the 315 students included, the

Table 2
Percentages of medical students with knowledge of CD by study stage.

Information	Pre-clinical No. (%) No. = 183	Clinical No. (%) No. = 132	p-value
Knowledge of CD	124 (67.75)	102 (77.27)	0.009
Knowledge about treatment	84 (45.90)	102 (77.27)	
Awareness that CD is life-long	55 (30.05)	102 (77.27)	
Total	315		

response rate was 30% with females forming the majority (62.2%); some students, especially males, did not pay due care and attention to this form and study, despite agreeing to participate, possibly due to involvement in demanding university work and examinations. The frequency of CD in this study was 8.2% in the female group only, as was knowledge of treatment of this disease and its life-long persistence, with no males presenting the disease (Table 1). This may be due to frequent use of household detergents, make-up products and ointments by female students. Our study is comparable to other studies performed in Taiwan (8%) and Saudi Arabia (7.73%), possibly due to similarities in socioeconomic characteristics between the study samples [6,7]. This is in contrast with studies conducted in other countries showing higher percentages, such as Spain (36%) [8], Turkey (61.7%) [9], Greece (39.9%) [10], China (28.5%) [11], India (36.2%) [12] and the UK (49%) [13]. These differences might be due to differences in workplace, patient age (which was 19 years in our study), occupation, differences in sample size, disparities in the characteristics of study participants and data collection methods (Table 2).

Most of our participants were in the second stage of studies, i.e. pre-clinical (73.3%) (Fig. 1), but around 72.1% were aware of this disease and its causes (Fig. 2), and there was a significant difference (0.009) between clinical and pre-clinical students regarding knowledge of the nature, treatment and prognosis of the disease, since most of these clinical students were studying the immunopathogenesis, causes, treatment and risk factors of this disease, which is not surprising since such knowledge was naturally better after lectures or classes, or after training courses in internal medicine or dermatology. It is difficult to compare our results with other studies because our study sample consisted of medical students while other studies included subjects such as housewives, industrial workers and medical staff using detergents frequently. The percentage of students presenting CD was low (8.2%), so there was no effect of use of hand antiseptics or hand cleaners on the development of eczematous contact dermatitis during the COVID-19 pandemic among college students. Despite all these precautions, COVID-19 was still considered a threatening virus [14].

5. Conclusions

Presentation of contact dermatitis was reported in a small percentage of female medical students, and knowledge about this disease was more frequent among clinical-stage students.

6. Study limitations

- Small sample size.
- Poor response rate and participation of students in this study.

7. Recommendations

- Study of the relationship between contact dermatitis and COVID-19 due to frequent use of detergents and antiseptics.

- Increasing the sample size to involve a wider population in different occupations.
- Determining the most common cause of this disease through more extensive research.

Disclosure of interest

The authors declare that they have no competing interest.

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