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CASE AND RESEARCH LETTER

Acne in Medical Students, Morocco: A Cross-sectional Study

Acné en estudiantes de medicina, Marruecos: un estudio transversal

To the Editor,

Acne is a common chronic inflammatory disease of the pilosebaceous follicle that affect about 9% of the world's population. The prevalence of acne among medical students all over the world ranges from 34.4 to 97.9%.¹

Several risk factors are involved, in particular, genetic background and hormonal alterations as well as the lifestyle.² The psycho-social impact of acne is significant and should not be neglected.³

Epidemiological studies are scarce in Arabian countries, in which some habits might be slightly different from Western countries.

We performed a multicenter cross-sectional study including medical students, aged 18–30 years, of the seven Schools of Medicine in Morocco from June to August 2021.

The characteristics evaluated were gender, body mass index, eating habits, water intake, mask wearing, smoking, face hygiene, sleep time, physical activity, and stress level. The Perceived Stress Scale (PSS) was used to measure the participants stress levels. The survey was sent to all medical students from the first to the seventh year by email using the database of representatives of all medical faculties in Morocco. Data collection was done through an online survey on the Google Form platform, saved on Excel and analyzed on the SPSS statistics version 21 software.

In the period studied, out of 806 medical students to whom the survey was sent, 242 answered (30%). The studied population had a mean age of 22.6 ± 2.7 years. The acne prevalence was 67.4% (Table 1). Acne was more common in females (54.1%) ($p=0.04$).

A water intake of at least 1.5 L/day was significantly associated with acne abortion ($p<0.001$) as well as it was an athletic activity ($p=0.004$). The use of sunscreen ($p=0.04$), and cleansing gel were significantly associated with acne ($p=0.021$). Wearing a mask, smoking, body mass index, and diet were not significantly associated with acne.



The impact of acne on self-confidence was reported in 60.6% and on relationships with the opposite sex in 28.8%.

In Morocco, the prevalence of acne in the general population has not been estimated yet. In this study, we observed a relatively high prevalence among university students. There was a female predominance in our study, which was in accordance with most studies.¹ The link between diet and acne has been a hot topic especially over the past two decades, principally for dairy products which was not the case in our study.⁴

Moreover with the arrival of covid-19 pandemic, the link between wearing mask and acne has been reported in several publications. The synthetic mask and the long wearing time were more associated with the onset of acne.⁵ In our case only 6.2% wore a cloth masks and the duration was less than 8h/day for most. Concerning the cleansing gel effect, most publications in the literature were inconclusive, as since they differ according on the formulation of each product. However, the role of sunscreen in preventing acne and its scars is indisputable.⁶ Our results were not in agreement with the literature, since the prevalence of acne was high among students using the cleansing gel and sunscreen, which can be explained by their prescription which is done mainly in patients who are suffering from acne.

The stress level, measured by the PSS scale, was very high in most of the students in our study with a score >27 in 89.7%, so the link could not be established with acne, this may be due to the psychic repercussions of the current pandemic situation.

Regular sports activity was significantly associated with the absence of acne in our study, this determinant was not often investigated in the literature except in the context of polycystic ovary syndrome.⁷ We suggest further prospective studies with a larger number of patients with acne, to confirm this link. Finally, the other particularity of our results was water intake and its significant link with the absence of acne. This association has not been investigated before.

Increasing daily water intake could provide several health benefits and should be advised anyway.

The results of our study demonstrated a high prevalence of acne among Moroccan medical students. Additionally, although minor differences were noted, the results of this study revealed a probable link between acne and water intake and physical activity, which must be explored.

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Table 1 Association of acne with independent variables.

Acne Variables	Yes	No	p value
Sex			
Woman	131	50	0.007
Man	32	29	
Body mass index			
Underweight	17	06	0.382
Normal weight	113	51	
Overweight and obesity	28	19	
Smoking			
Yes	14	10	0.321
No	149	69	
Wearing mask			
Cloth	07	08	0.092
Synthetic	156	71	
Wearing time			
<4 h	74	39	0.824
4–8 h	77	34	
>8 h	12	06	
Sleep time			
<6 h	40	18	0.764
>6 h	123	61	
Physical exercise			
Not at all	51	14	0.004
Occasionally	58	23	
Sometimes	39	23	
Often	15	19	
Water intake			
<1 L/d	67	17	0.000
1–1.5 L/d	77	38	
>1.5 L/d	19	24	
Fast-food consumption			
Not at all/occasionally	57	33	0.559
Sometimes	63	26	
Often	43	20	
Dairy products consumption			
Not at all/occasionally	28	14	0.950
Sometimes	51	26	
Often	84	39	
Sweets consumption			
Not at all/occasionally	27	22	0.122
Sometimes	49	21	
Often	87	36	
Face washing per day			
1 time	32	25	0.118
2 or 3	93	38	
>3 time	38	16	
Cleansing gel			
Yes	115	44	0.022
No	48	35	

Table 1 (Continued)

Acne Variables	Yes	No	p value
Sunscreen			
Not at all	42	27	0.040
Occasionally	16	15	
Sometimes	26	12	
Often	79	25	
PSS scale			
<21	01	01	0.539
>21	156	73	

Conflict of interest

The authors declare that they have no conflict of interest.

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