KNOWLEDGE AND PRACTICES OF UNDERGRADUATE STUDENTS OF ALEXANDRIA FACULTY OF MEDICINE REGARDING NONCOMMUNICABLE DISEASES

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Introduction

Noncommunicable diseases (NCDs) are a global health crisis, causing 74% of all deaths annually, with 77% occurring in low- and middle-income countries. Cardiovascular diseases lead this burden, alongside diabetes, chronic respiratory conditions, and cancers. Key risk factors such as tobacco use, unhealthy diets, physical inactivity, and harmful alcohol consumption significantly contribute to NCDs. Tobacco alone causes over 8 million deaths annually, while insufficient physical activity accounts for 830,000 deaths. Tackling these modifiable behaviors is crucial for effective prevention. Prevention strategies require multi-sectoral collaboration and cost-effective interventions to reduce risks and improve early detection and management. Medical students, as future healthcare providers, play a critical role in NCD prevention and advocacy. Equipping them with the necessary knowledge and practices is essential to addressing this growing global health challenge.

Aim of the Work

The aim of the work was to assess the knowledge and practices of undergraduate students of Alexandria Faculty of Medicine regarding Noncommunicable diseases .

Subjects and Methods

This study employed a descriptive cross-sectional survey to evaluate the knowledge and practices of undergraduate medical students regarding noncommunicable diseases (NCDs) and their risk factors. Conducted at Alexandria University Faculty of Medicine during the 2023-2024 academic year, the study targeted 380 students from the general program, almost equally sampled across all five academic years (79, 80, 73, 72 and 76 students in first, second, third, forth and fifth year respectively). Students were from different countries namely, Egypt, Iraq, Sudan, Jordan, Palestine, Syria, Mauritania and Dominican Republic. Data were collected using a semi-structured self-administered questionnaire covering socio-demographics, knowledge of NCDs and practices related to smoking, alcohol consumption, diet, and physical activity. Responses were analyzed using SPSS, with results deemed significant at a p-value of <0.05. Ethical approval was obtained, and confidentiality was maintained throughout the study.

Results

During the academic year 2023-2024, a total of 380 students were enrolled into our study. Almost half (49.2%) had moderate knowledge (scored 50-75%) about NCDs while 38.7% showed poor knowledge (scored <50%). Almost a tenth (9.7%) smoked, most being males (15.9%), and 26.8% reported secondhand smoke exposure. Only 3.7% consumed alcohol, predominantly males and third and fifth year students. Practicing physical activity was moderate, with 43.9% exercising 3–5 days weekly, but 11.8% reported not practicing. Fruit and vegetable consumption was low, with only 18.9% and 30.3% consuming them daily, respectively. Senior students (third, forth, fifth year) exhibited better knowledge and healthier practices, but overall gaps and suboptimal behaviors underscore the need for targeted education to improve awareness and lifestyle choices among future healthcare providers.

Table 1: Relation between knowledge scores of non-communicable disease among medical students and their sociodemographic data

Socio-demographic characteristics	Category	NCDs Knowledge scores			Chi-square p-value
		Poor (n = 147)	Good (n = 187)	Very Good (n = 46)	
Gender	Male	61 (41.5%)	88 (47.1%)	27 (58.7%)	4.250 (0.119)
	Female	86 (58.5%)	99 (52.9%)	19 (41.3%)	
Nationality	Egyptian	120 (81.6%)	141 (75.4%)	39 (84.8%)	2.995 (0.224)
	Other	27 (18.4%)	46 (24.6%)	7 (15.2%)	
Residence	Urban	126 (85.7%)	164 (87.7%)	37 (80.4%)	1.647 (0.439)
	Rural	21 (14.3%)	23 (12.3%)	9 (19.6%)	
Academic year	First year	46 (31.3%)	29 (15.5%)	4 (8.7%)	76.017* (<0.001*)
	Second year	47 (32.0%)	27 (14.4%)	6 (13.0%)	
	Third year	18 (12.2%)	49 (26.2%)	6 (13.0%)	
	Fourth year	16 (10.9%)	50 (26.7%)	6 (13.0%)	
	Fifth year	20 (13.6%)	32 (17.1%)	24 (52.2%)	

Table 2 : Relation between sociodemographic data of medical students and their smoking status

Socio-demographic characteristics	Category	Current smoking				Chi-square p-value
		No (n = 343)	% (No)	Yes (n = 37)	% (yes)	
Gender	Male	148	43.1%	28	75.7%	14.211* (<0.001*)
	Female	195	56.9%	9	24.3%	
Nationality	Egyptian	281	81.9%	19	51.4%	18.782* (<0.001*)
	Other	62	18.1%	18	48.6%	
Residence	Urban	296	86.3%	31	83.8%	0.176 (0.675)
	Rural	47	13.7%	6	16.2%	
Academic year	First year	76	22.2%	3	8.1%	21.016* (<0.001*)
	Second year	75	21.9%	5	13.5%	
	Third year	56	16.3%	17	45.9%	
	Fourth year	68	19.8%	4	10.8%	
	Fifth year	68	19.8%	8	21.6%	

Table 3 : Relation between sociodemographic data of medical students and frequency of vegetables intake per week

Socio-demographic characteristics	Category	Days of eating vegetables per week				Test of Sig. (p)
		Every day (n = 72)	3-5 days (n = 176)	1-2 days (n = 111)	Never (n = 21)	
Gender	Male	60 (52.2%)	78 (40.2%)	35 (55.6%)	3 (37.5%)	χ^2=6.914 (0.073)
	Female	55 (47.8%)	116 (59.8%)	28 (44.4%)	5 (62.5%)	
Nationality	Egyptian	87 (75.7%)	162 (83.5%)	44 (69.8%)	7 (87.5%)	χ^2=6.671 (0.083)
	Other	28 (24.3%)	32 (16.5%)	19 (30.2%)	1 (12.5%)	
Residence	Urban	97 (84.3%)	168 (86.6%)	55 (87.3%)	7 (87.5%)	χ^2=0.422 (0.936)
	Rural	18 (15.7%)	26 (13.4%)	8 (12.7%)	1 (12.5%)	
Academic year	First year	28 (24.3%)	33 (17.0%)	14 (22.2%)	4 (50.0%)	χ^2=17.483 (0.099)
	Second year	21 (18.3%)	44 (22.7%)	12 (19.0%)	3 (37.5%)	
	Third year	24 (20.9%)	33 (17.0%)	15 (23.8%)	1 (12.5%)	
	Fourth year	16 (13.9%)	48 (24.7%)	8 (12.7%)	0 (0.0%)	
	Fifth year	26 (22.6%)	36 (18.6%)	14 (22.2%)	0 (0.0%)	

Conclusion

The current study highlights significant gaps in knowledge and practices regarding noncommunicable diseases (NCDs) among medical students. While senior students demonstrated better awareness and healthier behaviors, suboptimal practices, such as low fruit and vegetable intake and insufficient physical activity, were prevalent. Smoking rates and secondhand smoke exposure further emphasized the need for intervention. These findings underscore the urgency of targeted educational programs to enhance awareness, promote healthy lifestyles, and better prepare future healthcare providers to address the growing burden of NCDs.