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LETTER

Prevalence and Risk Factors of Chronic Obstructive Pulmonary Disease Among Users of Primary Health Care Facilities in Morocco [Letter]

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Dear editor

We have perused a research article entitled "Prevalence and Risk Factors of Chronic Obstructive Pulmonary Disease Among Users of Primary Health Care Facilities in Morocco" by Al wachami et al.[1] It is a very valuable and meaningful study. We congratulate the authors of this good paper. The strengths of this study are as follows: (1) Chronic obstructive pulmonary disease (COPD) remains an under-diagnosed disease in the world and Morocco,[1,2] which poses a great challenge to its prevention and management. This study is the first to determine the prevalence of COPD based on spirometry and identify its risk factors among users of primary health care facilities in Settat, Morocco. It has played an important role in understanding the epidemiology of COPD in Morocco, such as the prevalence and contributing factors of COPD; (2) This study provides clear and reliable diagnostic criteria for COPD, the authors diagnose COPD based on the Global Initiative for Obstructive Lung Disease (GOLD) criteria, which is the most widely used and effective method;[3] (3) This study explores multifaceted risk factors related to COPD in Morocco, eg, socio-demographic factors, respiratory symptoms, potential COPD risk factors, comorbidities, etc. In addition, this study provides a very clear definition or explanation for some risk factors, such as smoking status, occupational exposure and biomass exposure; (4) The authors conducted in-depth discussion on their research findings and fully compared them with other similar studies, and analyzed the specific reasons for these discrepancies. Additionally, the authors also provided some public health policy recommendations for the prevention and management of COPD.

However, this study has also encountered certain constraints and several areas that need to be improved in the future, namely: (1) Regarding the risk factors associated with COPD, the authors may consider using Chi-square test to conduct univariate analysis; (2) There are three areas in the text that need to be corrected: (*a*) Page 377, regarding the description of "The average number of packs smoked per year was 4.97 ± 15.13", since the mean is less than the standard deviation, we suggest that the authors use the median (M) and interquartile range (IQR) to describe the distribution characteristic of this variable. (*b*) Page 381, regarding the description of "The total prevalence of COPD in the 40–49 age group was 3.3%, and reached 16.9% among people aged 70 and over ($p = 0.001$)", the p-value is inconsistent with the results in Table 3 of page 381. The corrigendum is shown in Table 1 of our letter. (*c*) Page 383, the description of"In univariate analysis, we observed that gender, age, low level of education, body mass index, smoking, childhood exposure to tobacco smoke, family history of respiratory disease, previous diagnosis of asthma and childhood hospitalization for lung disease were significantly associated with COPD "is inconsistent with the results in Table 3 of page 381–383. "Body mass index" and "childhood exposure to tobacco smoke" were not associated with COPD ($p > 0.05$); However, this limitation can be resolved by incorporating factors with p-values less than 0.1 or 0.2 in univariate analysis into multivariate analysis; (3) The authors did not include all the general characteristics of the study sample in the univariate analysis, eg, employment.

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Table 1 Prevalence of COPD According to Studied Factors (N = 477)

	COPD		Prevalence (%)	Univariate Analysis		Multivariate Analysis	
	Yes Number (%)	No Number (%)		Crude OR (95% CI)	P-value	Adjusted OR (95% CI)	P-value
Total sample	32(6.7)	445(93.3)	6.7	–	–	–	–
Age categories							
40–49 years	6(3.3)	178(96.7)	3.3	Reference group		Reference group	
50–59 years	6(5)	113(95)	5	1.57 (0.49–5.00)	0.44	1.48 (0.38–5.73)	0.56
60–69 years	8(7.8)	95(92.2)	7.8	2.49 (0.84–7.41)	0.09	3.06 (0.78–11.93)	0.1
≥ 70 years	12(16.9)	59(83.1)	16.9	6.03 (2.16–16.78)	*0.001*	5.19 (1.27–21.10)	*0.02*

Note: Adapted with permission from Dove Medical Press. Al Wachami N, Arraji M, Iderdar Y, et al. Prevalence and risk factors of chronic obstructive pulmonary disease among users of primary health care facilities in Morocco. *Int J Chron Obstruct Pulmon Dis*. 2024;19:375–387.[1]
Abbreviations: COPD, Chronic obstructive pulmonary disease; OR, Odds ratio; CI, Confidence interval.

Additionally, Atassi reported a statistically significant association between low socio-economic status and COPD.[4] Thus, the authors can incorporate these factors into the analysis in future research to identify more comprehensive risk factors related to COPD; (4) This study was only conducted in the Settat region of Morocco, so the conclusion cannot represent the overall situation of COPD in Morocco.

To obtain more accurate and reliable results, we recommend that further study be carried out by (1) Collaborate with primary healthcare establishments in other regions of Morocco (eg, Tangier, Rabat, Casablanca, Marrakech, Meknes, Fez, Agadir, etc.) to conduct large-scale and multicenter studies to draw convincing conclusions; (2) The development of an effective questionnaire/scale to screen for COPD is necessary to promote early detection of this disease; (3) In future research, a control group can be established to compare the differences of COPD situation (eg, prevalence, risk factors) among different populations; (4) Work to establish a predictive model regarding the prevalence and risk factors of COPD based on medical big data and methods such as machine learning is essential for early precise screening of patients, and to develop appropriate and timely prevention and management strategies, and reduce the disease burden on a national scale in Morocco.

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Disclosure

The authors report no conflicts of interest in this communication.

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