

BURDEN OF SMOKING IN LEBANON

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SMOKING AND POLITICS

While Westerners are recoiling from the horrors of lung cancer and refusing to light up

- The Lebanese seem to be developing ever stronger ties to tobacco
- Tobacco companies in the US and Britain have found In Lebanon, the perfect market for their products
- *"Lebanon is 4th largest consumer of US cigarettes"*
(<http://www.idrel.com.lb/idrel/subscription.htm>)
- The average Lebanese smoker consumes around 3,300 cigarettes each year -- about 165 packs

Tobacco industry is very powerful

- They controlled the media and certain political decision through advertising and lobbying
- Tobacco consumption is looked by the financial minister as a part of Economy
- Water-pipe smoking is a tourism attraction and sponsored by the tourism minister

WHO-FCTC

Ratification: 07/12/2005

Entry into force: 07/03/2006

Latest report submitted: 17/01/2018

Next implementation report: Early 2023

Area (thousands of km²): 10.23

Population (in thousands): 6007



- A law was passed requiring cigarette packages warning labels have to be pictorial not verbal to carry more efficient warning labels **applied**
- Technically, smoking is banned in public buildings **starting 2012 in all public places**

*The American University Hospital, Hotel-Dieu Hospital, St George Hospital applied non smoking policy within all their premises

*Banks banned smoking, even inside offices



WHO-FCTC LEBANON REPORT 2020



- Smoking prevalence in the adult population (all)
- Current smokers Prevalence
- MALE 39.4% FEMALE 31.9 % TOTAL (males and females) 35.7%

Tobacco use by young persons



- Age range SMOKING TOBACCO –
- Prevalence (%) SMOKELESS TOBACCO - Prevalence (%) WATER PIPE -
Prevalence (%)

- BOYS - Current users 13-15 17.7 %
- GIRLS - Current users 13-15 YEARS OLD 6%
- TOTAL (boys and girls) - Current users 13-15 YEARS OLD 11.3%

Lebanese Antismoking Education

- Lebanese hospitality
- The large tray loaded with every brand of cigarette available that greets you when you visit friends needs to go
- Smoking friends can be gently asked to smoke outside, using their own cigarettes. (That's the norm here at home.)
- Anti-tobacco education at school is needed

Hindawi Publishing Corporation

Pulmonary Medicine

Volume 2012, Article ID 868294, 10 pages

doi:10.1155/2012/868294

Research Article

Cigarette and Waterpipe Smoking Decrease Respiratory Quality of Life in Adults: Results from a National Cross-Sectional Study

Salamé Joseph,¹ Salameh Pascale,² Khayat Georges,³ and Waked Mirna⁴

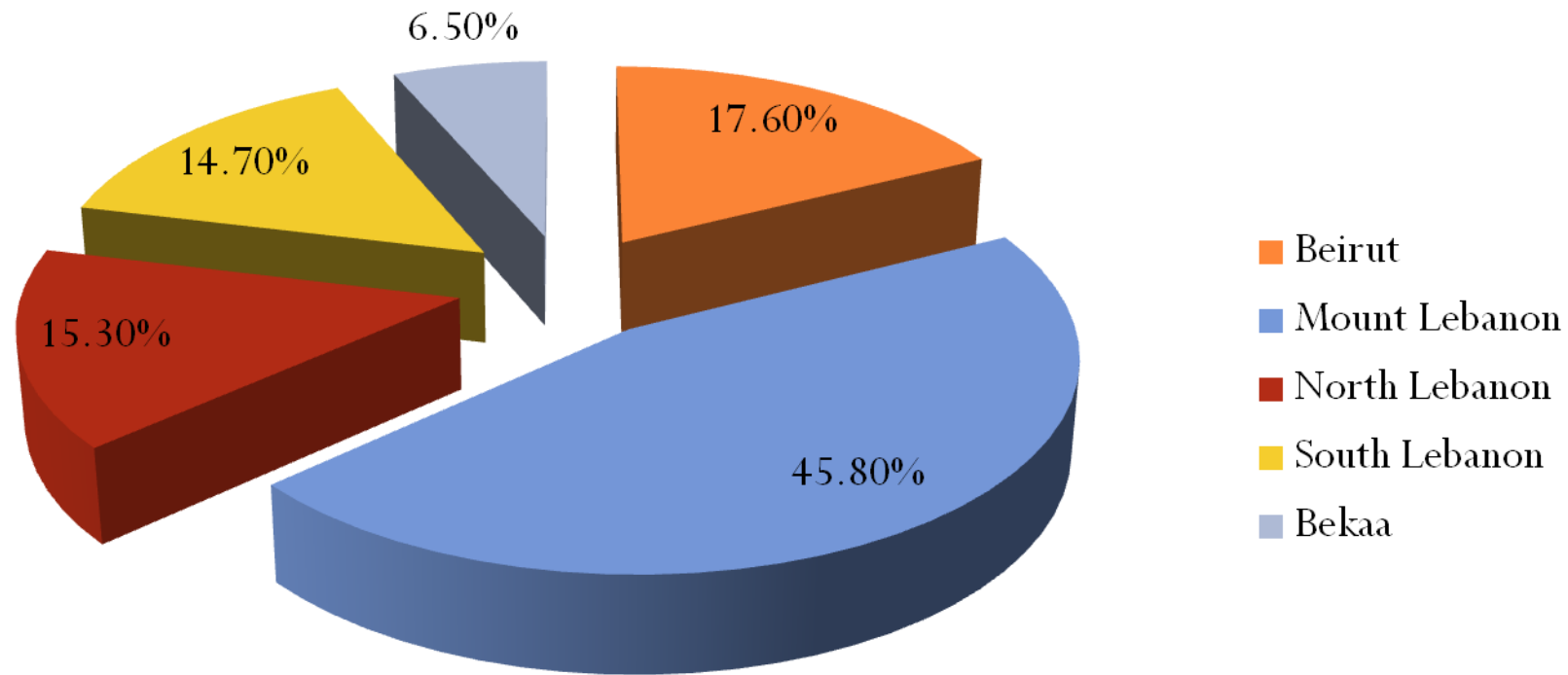
Background. Chronic obstructive pulmonary disease (COPD) is gaining an importance over the world, and its effect on quality of life is better grasped. Our objective was to use the Clinical COPD Questionnaire (CCQ) to describe the respiratory quality of life in the Lebanese population, stressing on differences between smokers and nonsmokers. *Methods.* Using data from a cross-sectional national study, we checked the construct validity and reliability of the CCQ. Factors and items correlation with postbronchodilator FEV1/FVC were reported, in addition to factors and scale association with COPD and its severity. We then conducted a multiple regression to find predictors of quality of life. *Results.* The CCQ demonstrated excellent psychometric properties, with adequacy to the sample and high consistency. Smokers had a decreased respiratory quality of life versus nonsmokers, independently of their respiratory disease status and severity. This finding was confirmed in COPD individuals, where several environmental factors, lower education, and cumulative smoking of cigarette and of waterpipe were found to be independent predictors of a lower quality of life, after adjusting for COPD severity. *Conclusions.* Smoking decreases the respiratory quality of life of Lebanese adults; this issue has to be further emphasized during smoking cessation and patients' education.

Clinical Epidemiology

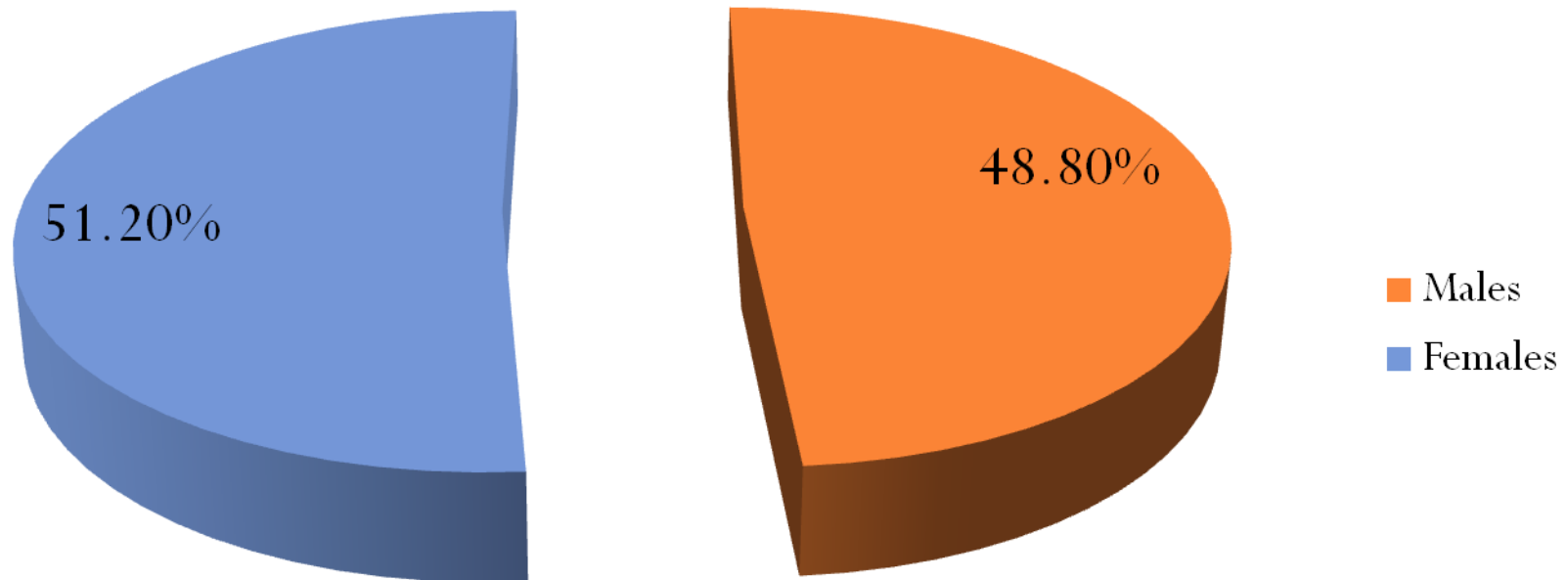
Chronic obstructive pulmonary disease prevalence in Lebanon: a cross-sectional descriptive study

Mirna Waked¹
George Khayat²
Pascale Salameh³

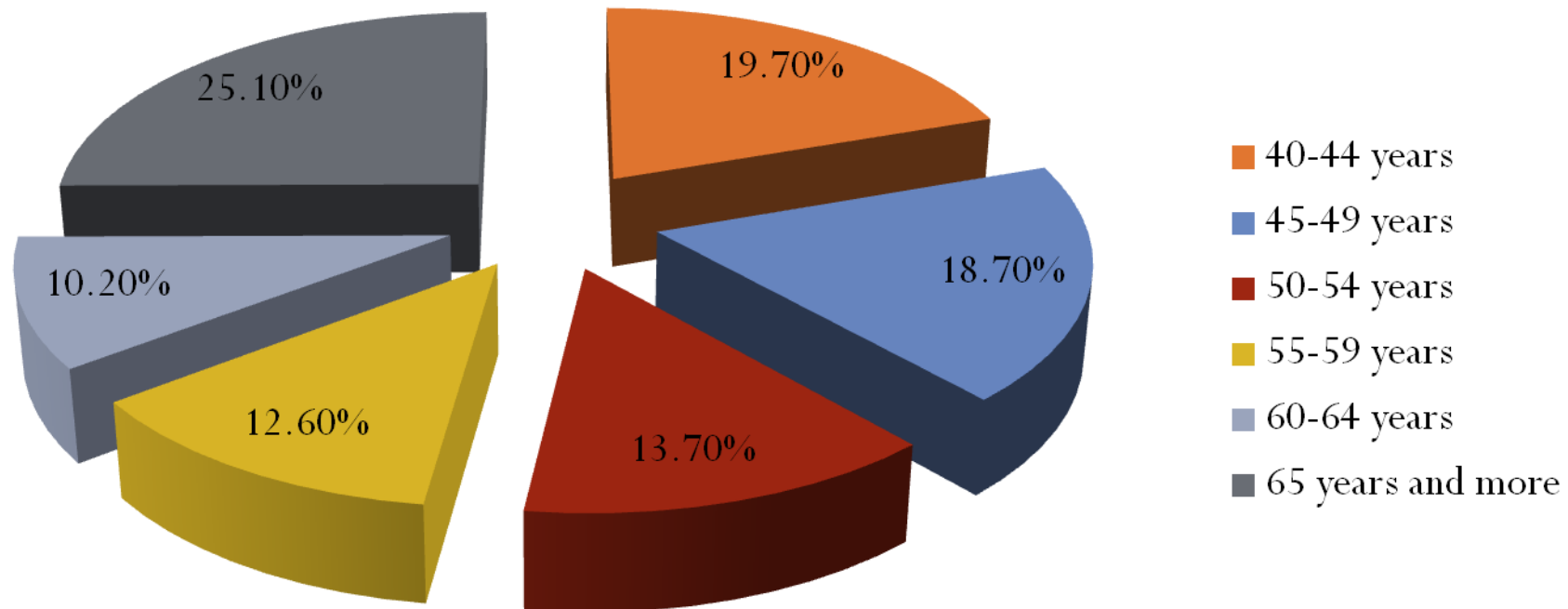
Geographic distribution of the sample (n=2201)



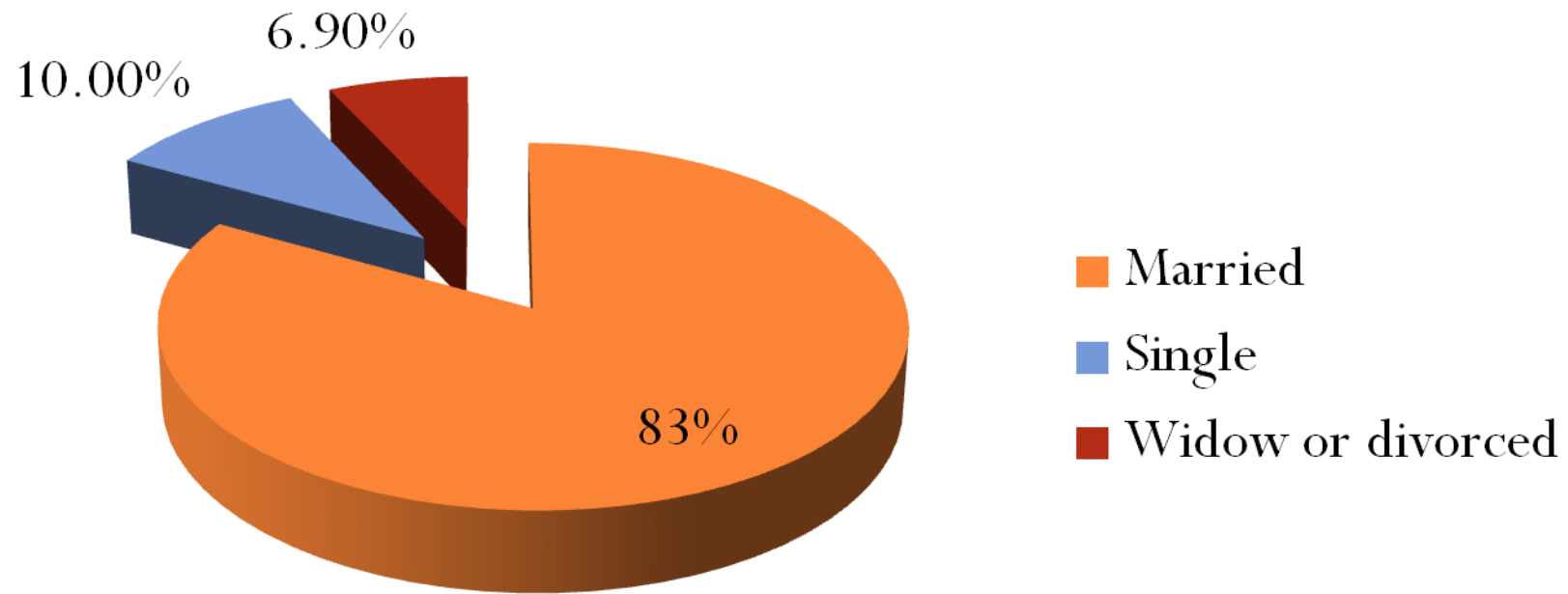
Sociodemographic characteristics: Gender



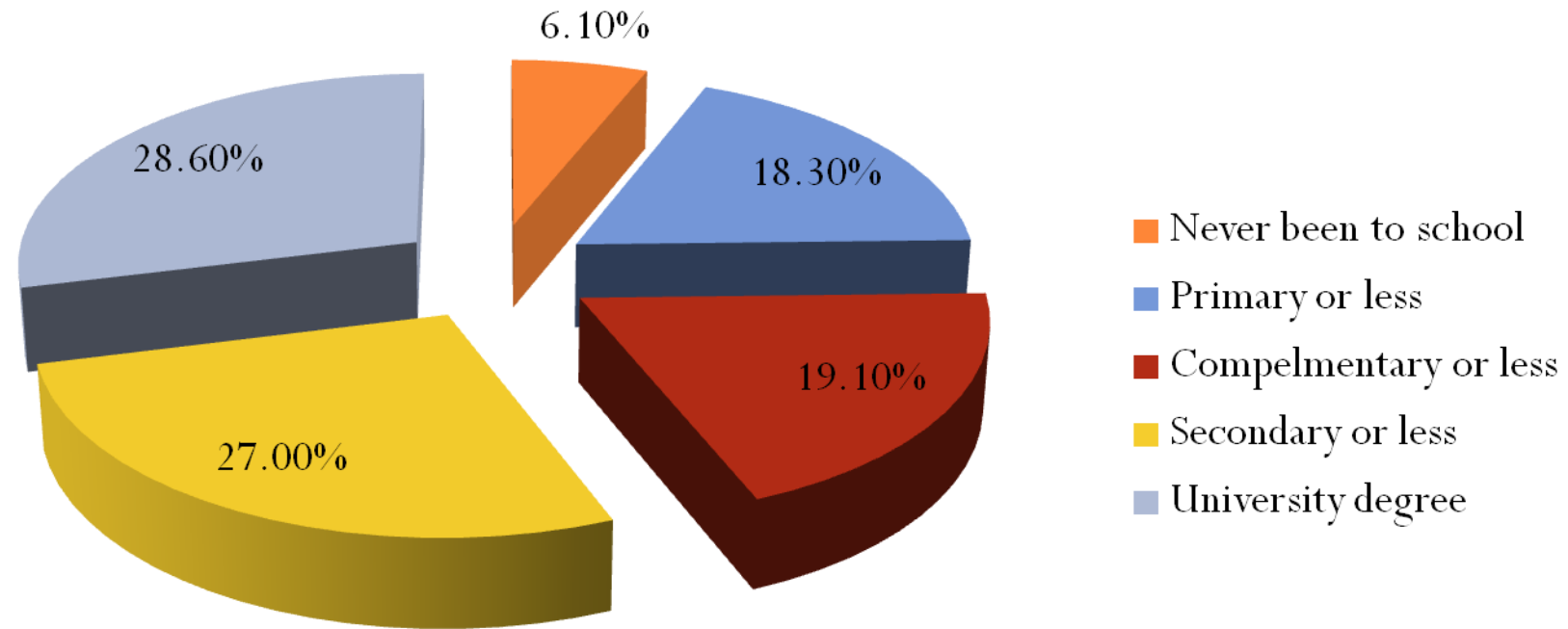
Sociodemographic characteristics: Age classes



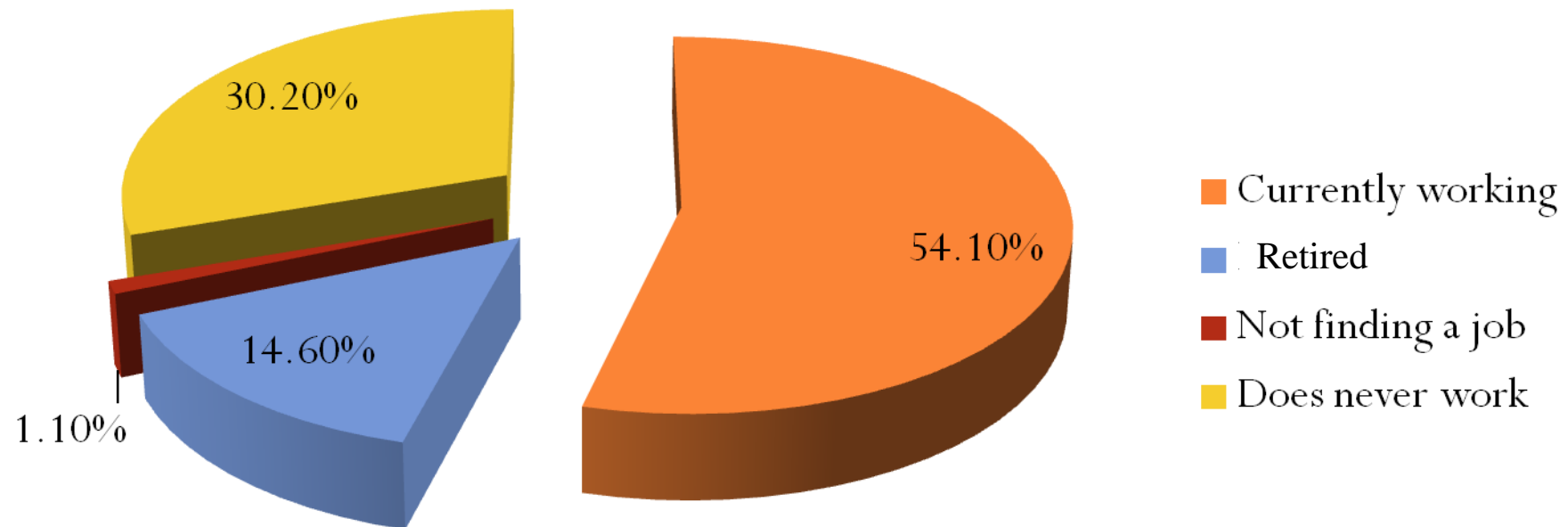
Sociodemographic characteristics: Marital status



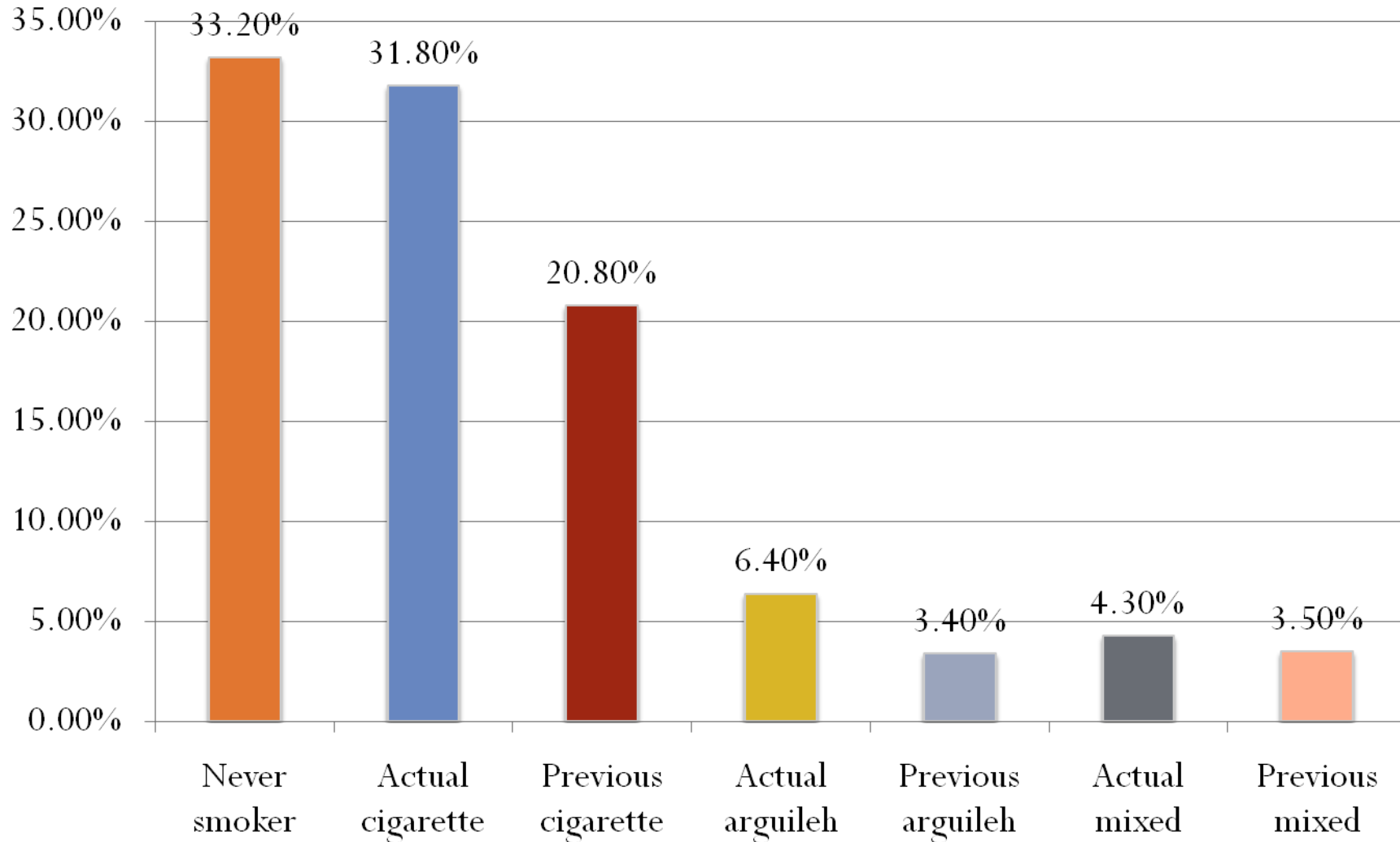
Sociodemographic characteristics: Educational level



Sociodemographic characteristics: Work status

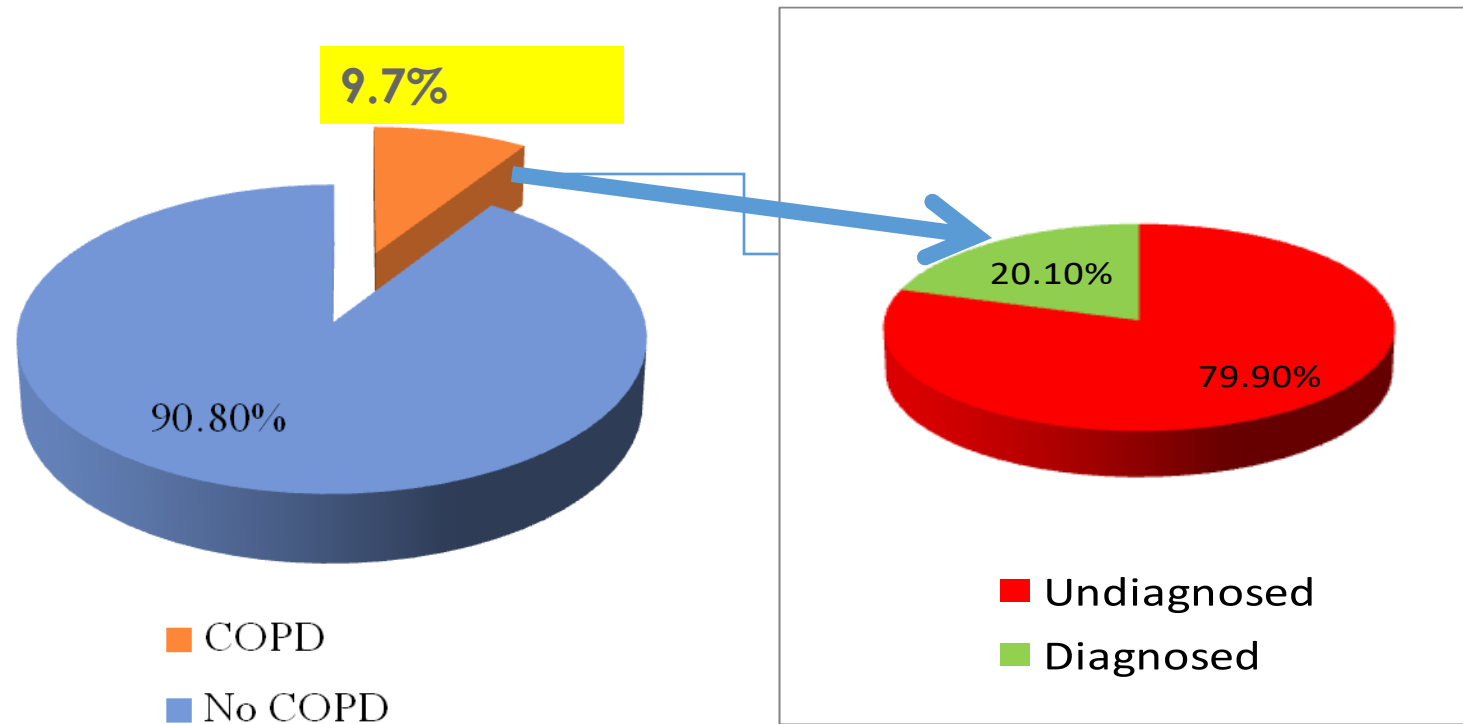


Smoking status

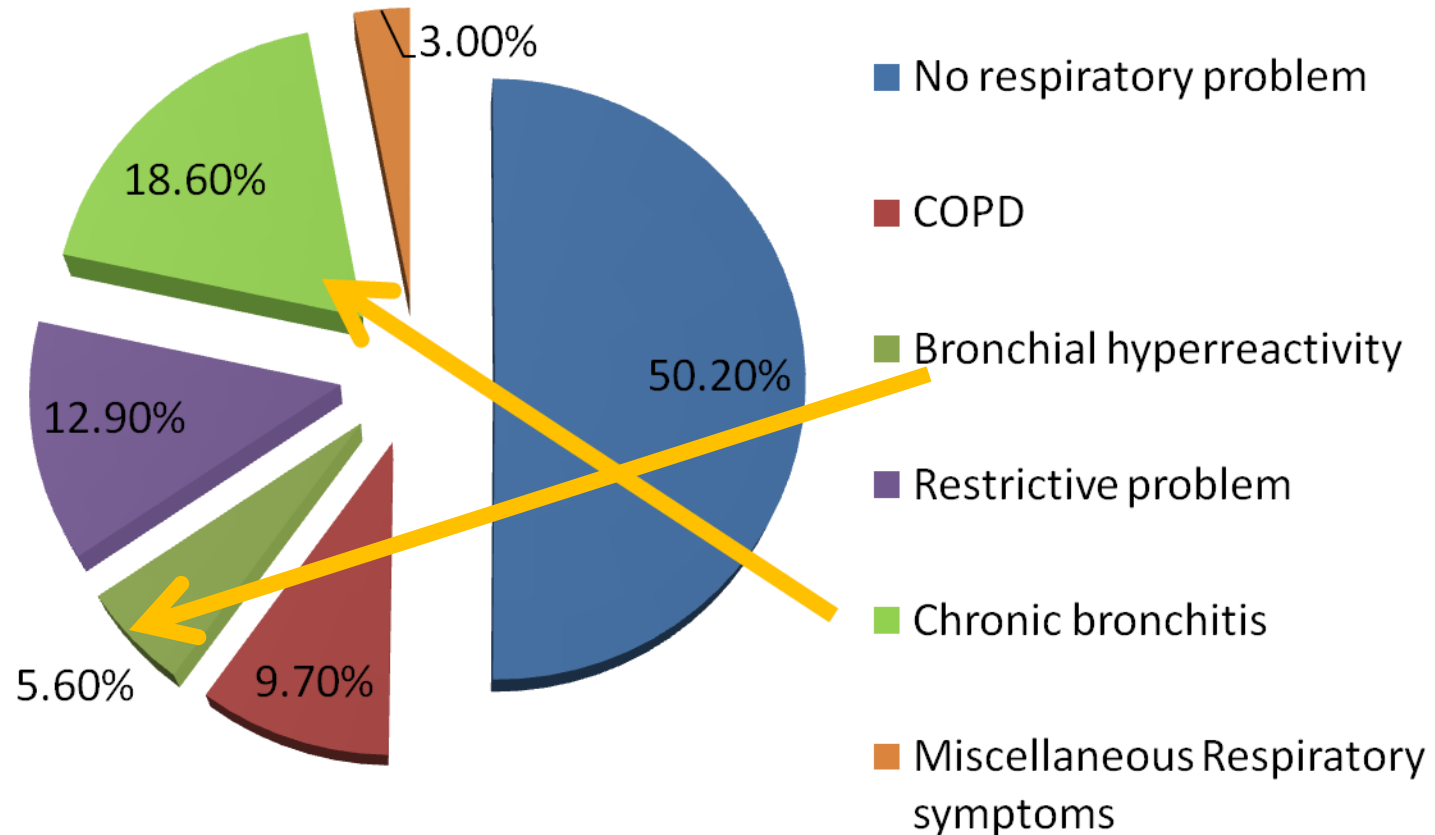


COPD prevalence

- **2201** : The prevalence of COPD – as defined by a post-bronchodilator FEV1/FVC <0.7 - was 9.7%; 95% CI [7.8%-10.6%]; out of these, only 20.1% were already diagnosed and treated by a physician.

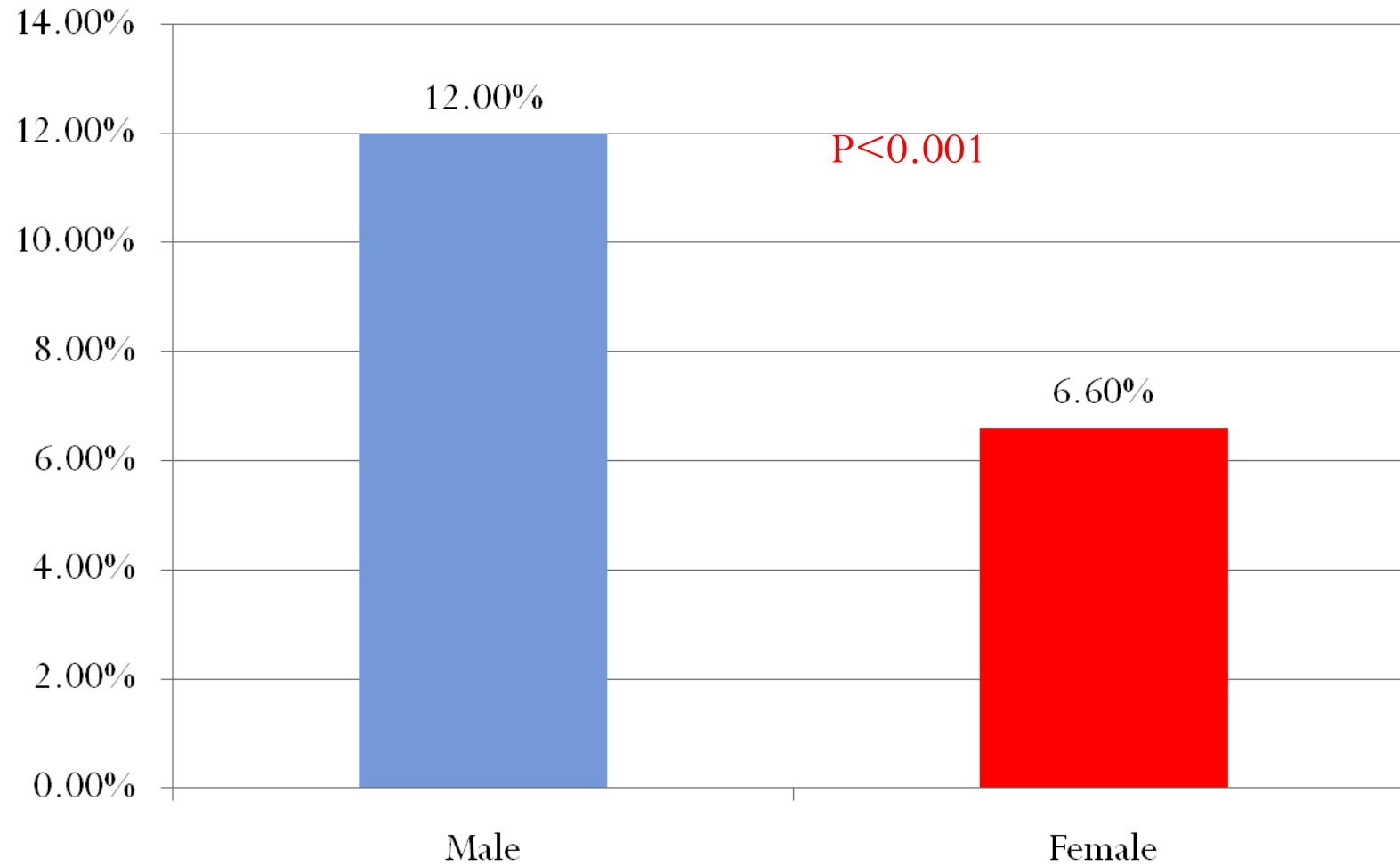


OTHER RESPIRATORY DISEASES



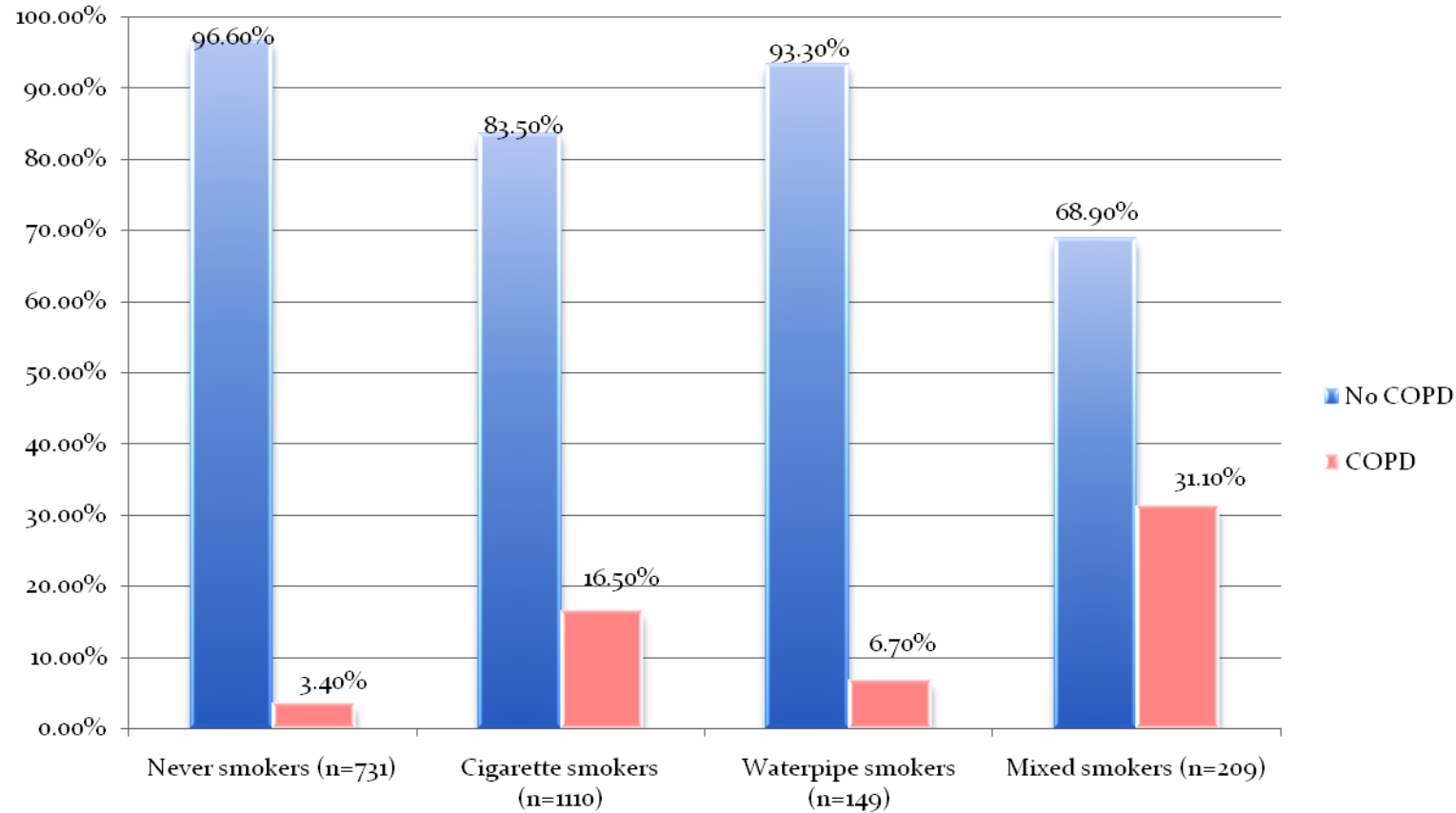
- While 50.2% of the sample had no chronic respiratory problem or symptom with a normal spirometry, 40.6% had miscellaneous respiratory problems:

COPD by gender

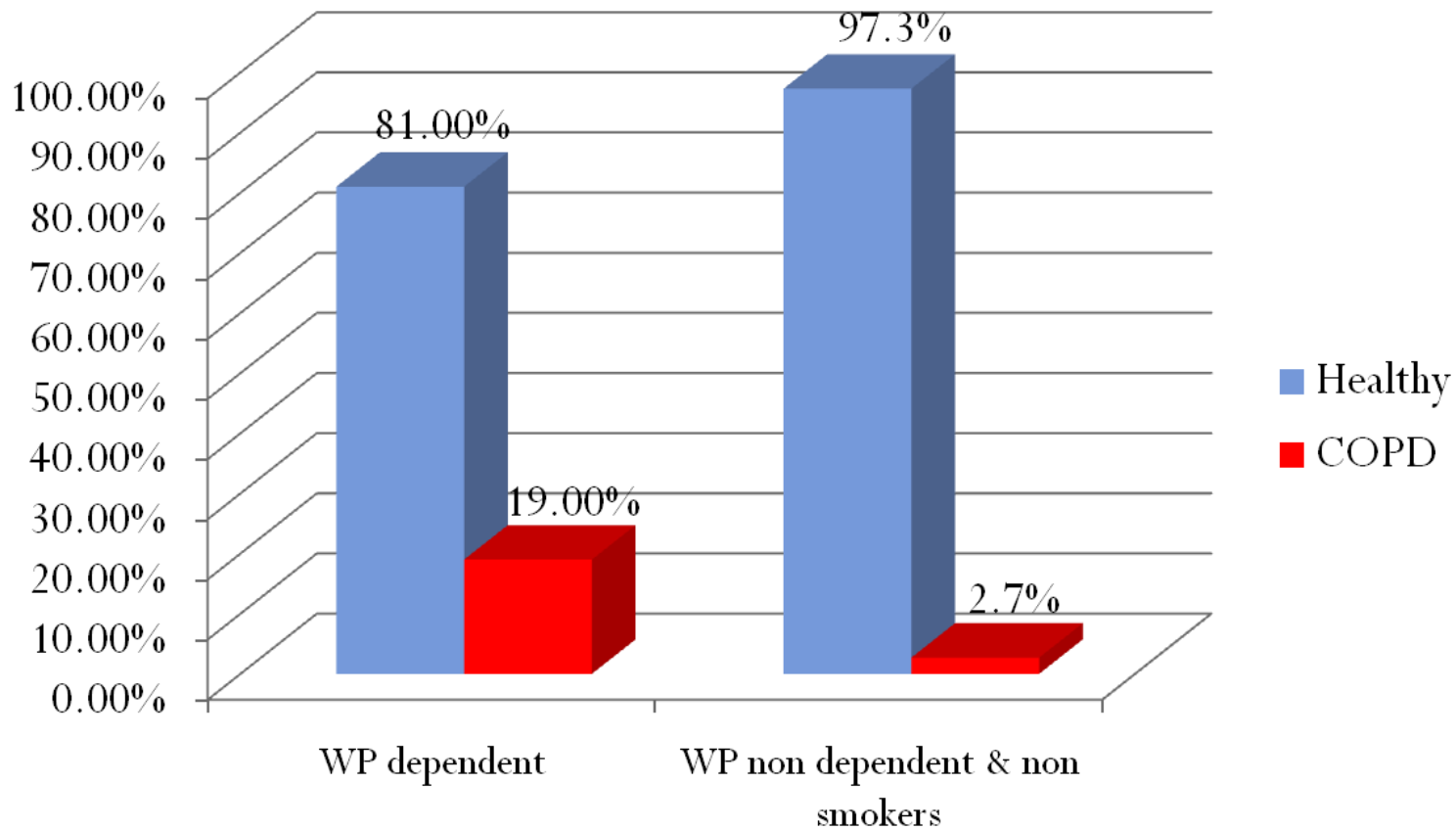


Waked M, Khayat G, Salameh P. Clinical Epidemiology 2011;3
315–323

COPD by Ever smoking



However...When taking into account waterpipe dependence

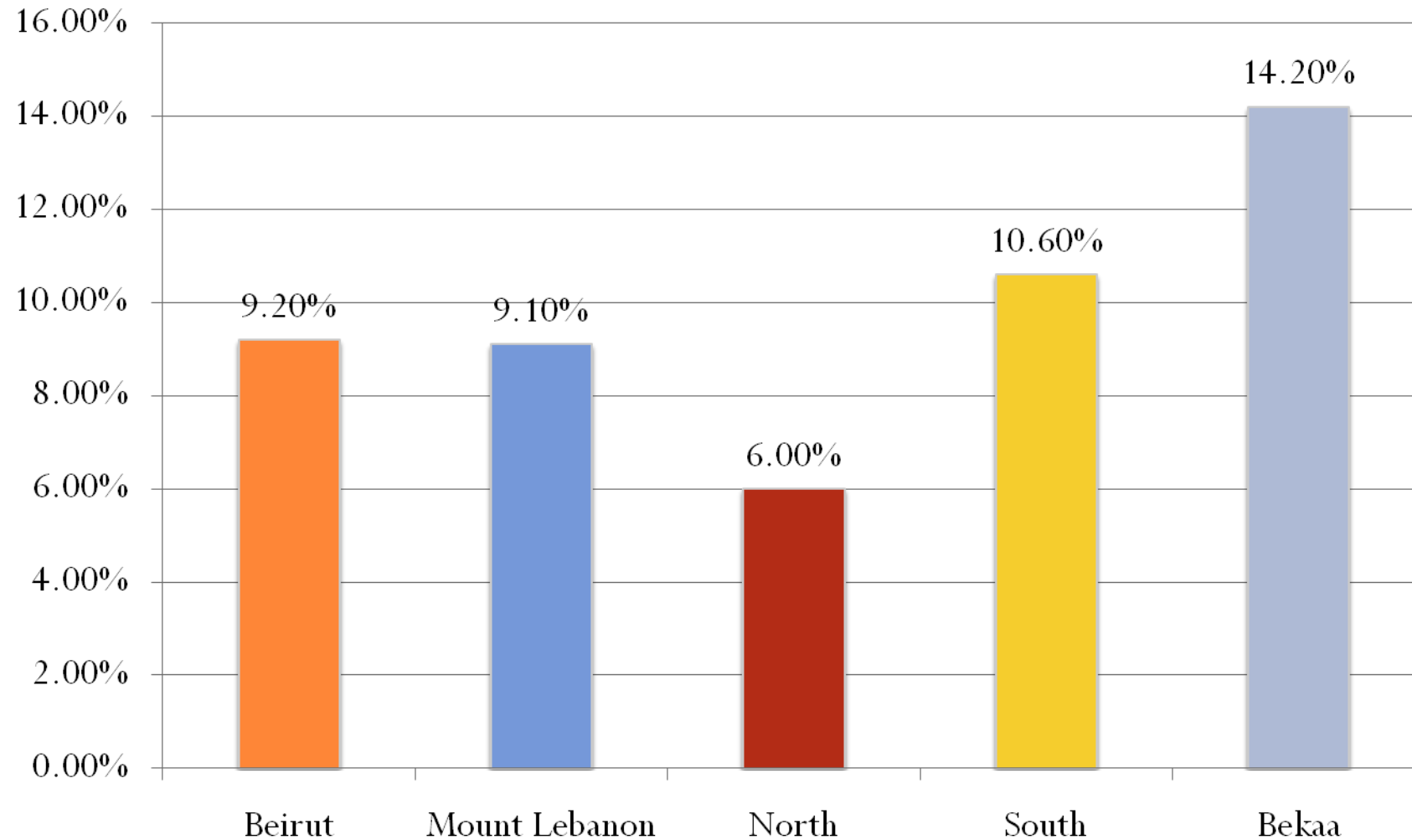


OR=8.44; 95% CI: [3.58-19.90] ; p<0.001

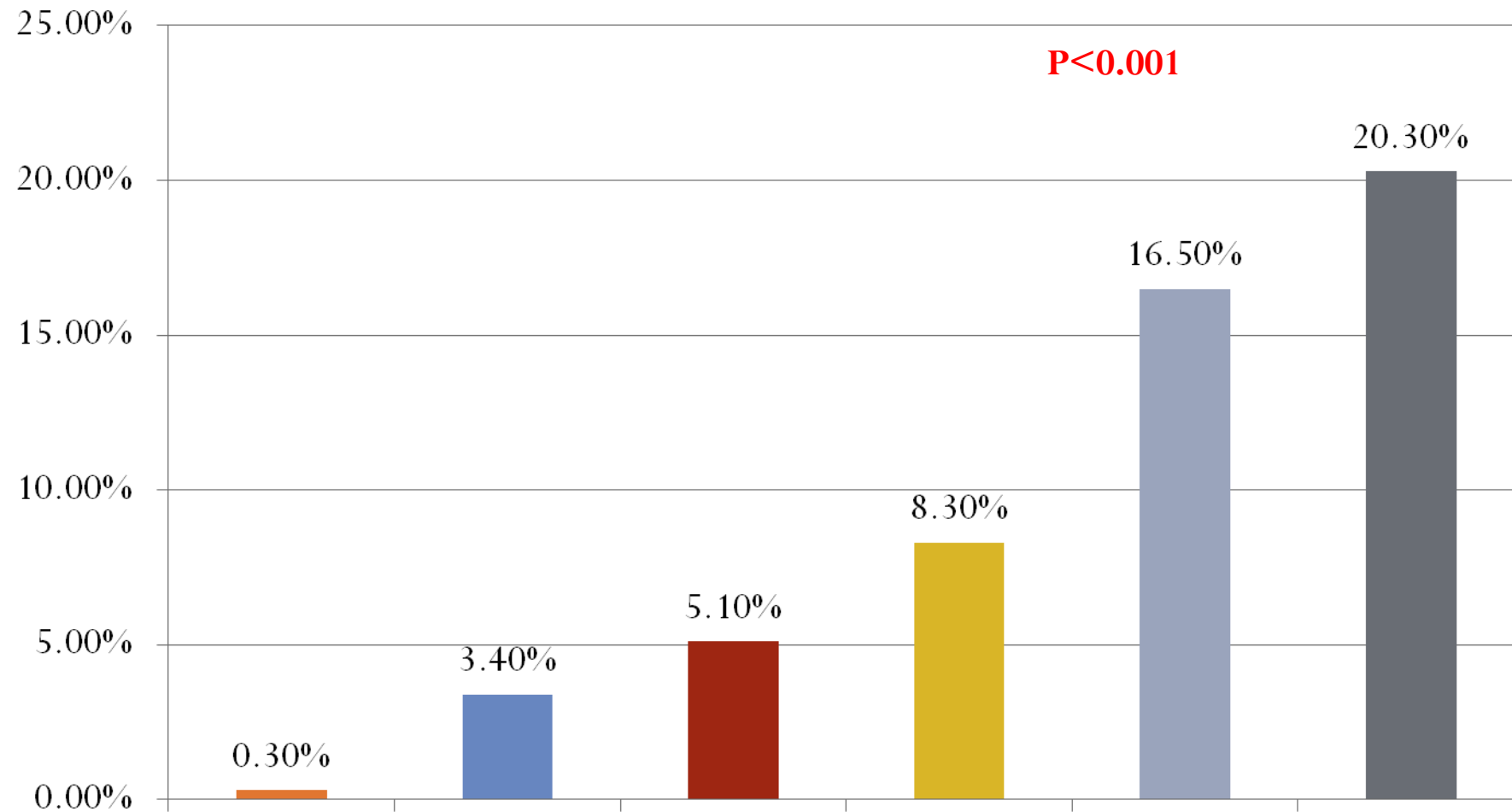
COPD BY STAGES

- Distribution of COPD stages was as follows: 17.6% mild GOLD stage I; 58.3% moderate stage II; 20.3% severe stage III and 3.8% very severe stage IV
- According to the 5% Lower limit of Normal (LLN) definition of COPD, the prevalence turned out to be **12.5%**; 95% CI [11.2%-13.9%].

COPD by geography



COPD by age class



Waked M, Khayat G, Salameh P. Clinical Epidemiology 2011;3:315-323

65 years +
27

Inhalation Toxicology, 19:771–777, 2007
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ISSN: 0895-8378 print / 1091-7691 online
DOI: 10.1080/08958370701401699

Saliva Cotinine and Exhaled Carbon Monoxide Levels in Natural Environment Waterpipe Smokers

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²Pharmacist and Epidemiologist, Lebanese University, Beirut

³Chest Physician, St. George Hospital, Beirut, Lebanon

- The first natural environment study on waterpipe smokers in Lebanon
- It indicates that nicotine is not filtered by water in the bottle where smoke passes
- Waterpipe smokers could be exposed to harmful substances such as CO, which was found to be quite high
- The levels of expired CO and salivary cotinine could be good tools to detect exposure to waterpipe smoking

Waterpipe smoking: Construction and validation of the Lebanon Waterpipe Dependence Scale (LWDS-11)

Pascale Salameh, Mirna Waked, Zeina Aoun

Received 24 July 2006; accepted 9 April 2007

Nicotine & Tobacco Research Volume 10, Number 1 (Month 2008) 1–10

INTORMA
healthcare

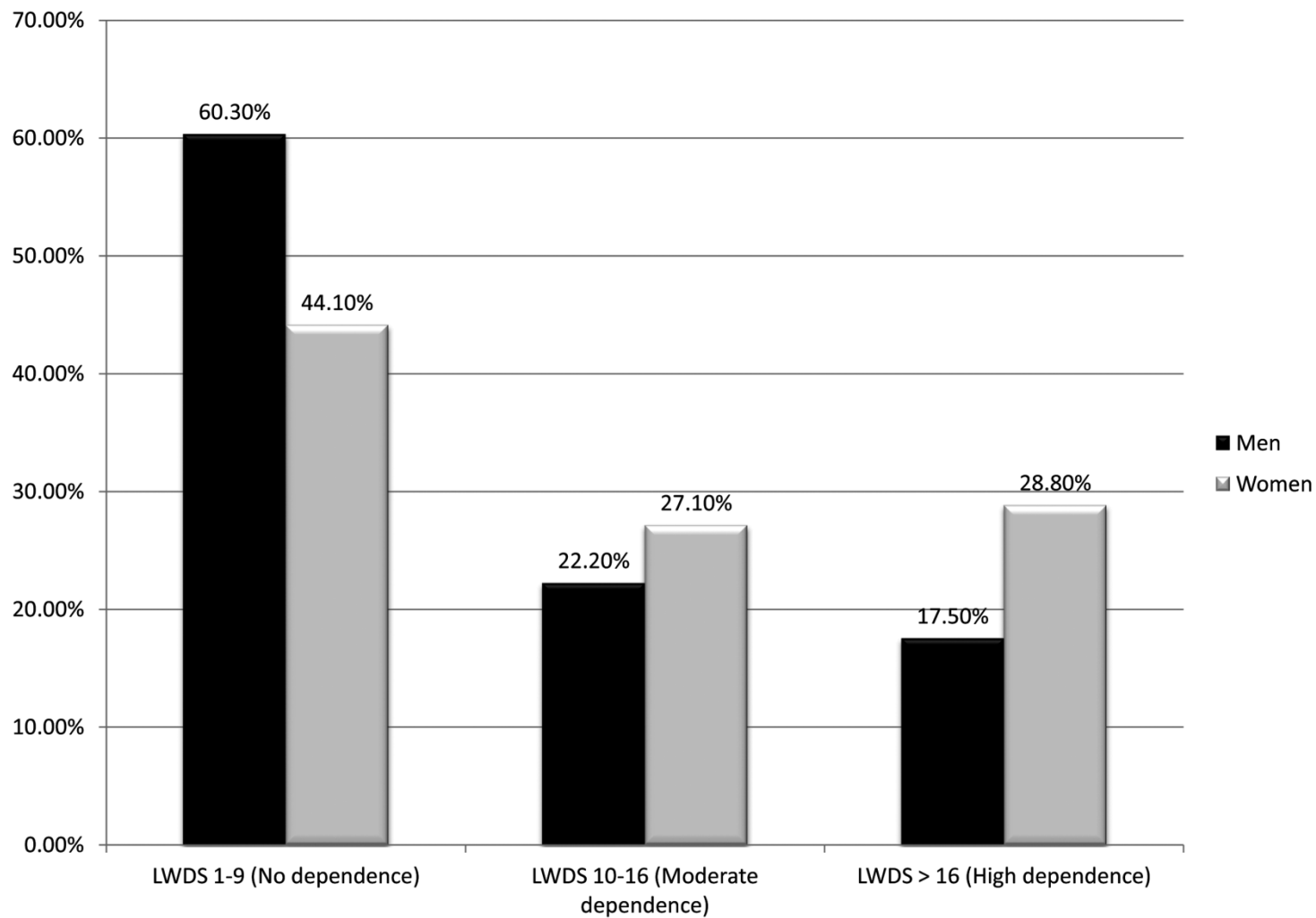
In this study, we could differentiate between four smoking patterns in waterpipe smokers: those who are dependent on nicotine (encompassing smoking frequency as a reflection of physiological dependence), those who smoke because of the negative reinforcement because of waterpipe smoking (termination of dysphoric states, relaxation and improved morale), those who feel cravings for waterpipe and cannot control their impulses even when they should (when seriously ill or when alone, or ready to give up eating for waterpipe), and those who smoke for pleasure and to please others (positive reinforcement).

Women & Health

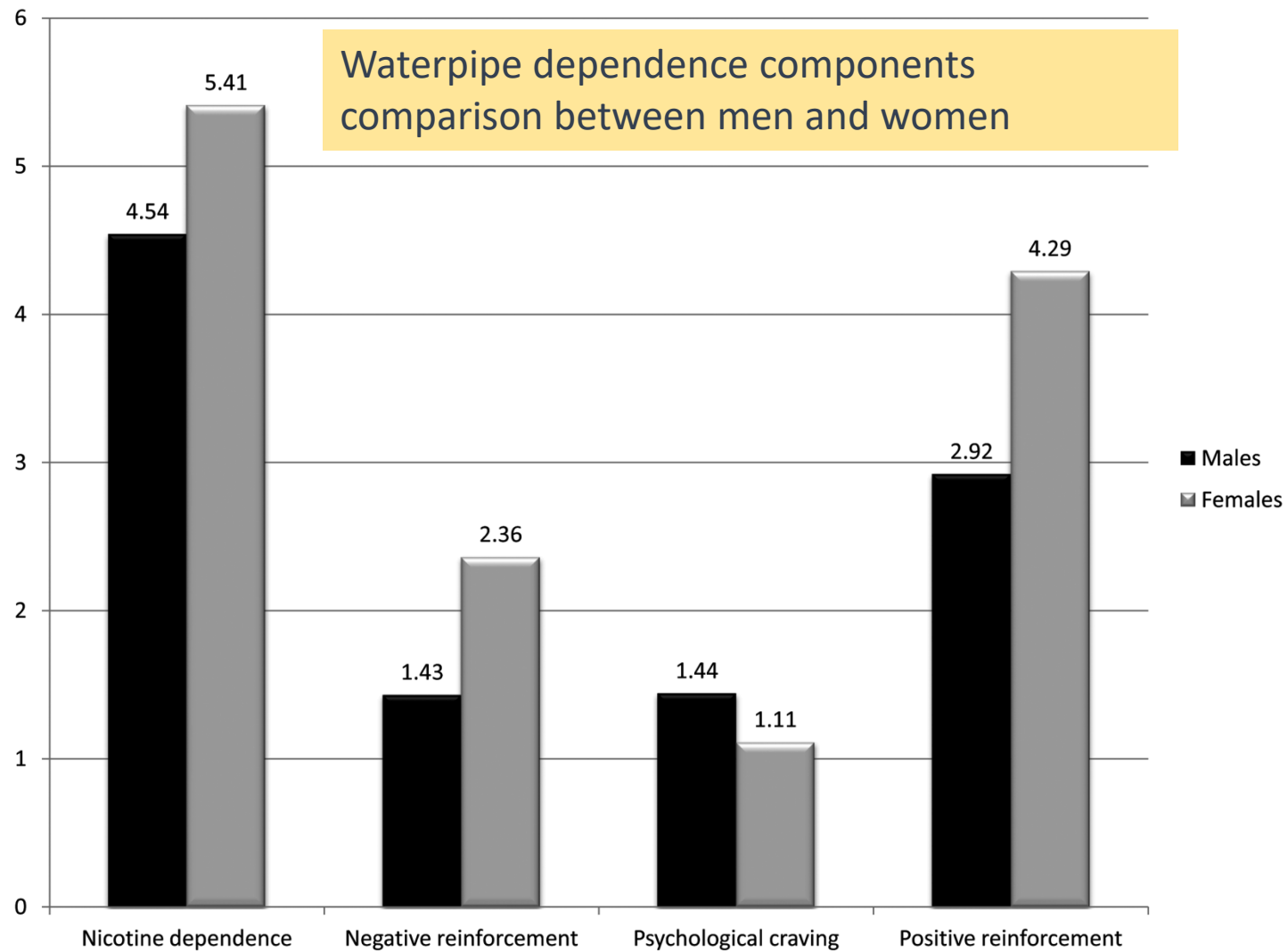
Lower Prevalence of Cigarette and Waterpipe Smoking, But a Higher Risk of Waterpipe Dependence in Lebanese Adult Women Than in Men



Salameh P, Khayat G, **WAKED M.** Women Health.
2012 Mar 30;52(2):135-50.



Waterpipe dependence dose-effect relationship in waterpipe exclusive current smokers



Salameh P, Khayat G, WAKED M. Women Health. 2012 Mar 30;52(2):135-50.

Waterpipe smoking and dependence are associated with chronic bronchitis: a case–control study in Lebanon

P. Salameh, M. Waked, F. Khoury, Z. Akiki, Z. Nasser, L. Abou Abbass, M. Dramaix for the Chronic Bronchitis Study Group

EMHJ • Vol. 18 No. 10 • 2012 Eastern Mediterranean Health Journal
La Revue de Santé de la Méditerranée Orientale

Waterpipe Smoking and Dependence are Associated with Chronic Obstructive Pulmonary Disease: A Case-Control Study

- P. Salameh*, M. Waked, G. Khayat and M. Dramaix.
The Open Epidemiology Journal, 2012, 5, 36-44



ELSEVIER



[http:// www.elsevier.com/locate/jegh](http://www.elsevier.com/locate/jegh)

Lung cancer correlates in Lebanese adults: A pilot case–control study

Joseph Aoun ^a, Nadine Saleh ^a, Mirna Waked ^b, Joseph Salamé ^c,
Pascale Salameh ^{a,*}

LUNG CANCER SCREENING IN LEBANON : JOINT STATEMENT OF THE LPS AND THE LESMO

- Zeina Aoun and col. World Academy of Sciences Journal . 5:9, 2023
- Close de 60% of lung cancer cases in Lebanon are stage IV and only 12% stage IA
- Lung cancer represents 8% of all cancer cases (11.4% in males; 5.1% in females) and ranks second after breast cancer, with smoking again being the essential risk factor

Addiction and Psychological Distress among University Students in Lebanon: The Moderating Effect of Gender. *J Addict Med Ther* 2(2): 1010.

Salameh P, Salamé J, Waked M, Barbour B, Zeidan N, et al. (2014)

University students of both sexes with psychological distress should be considered a high risk group for addiction and dependence; public health efforts should be particularly directed towards this subgroup to decrease their health risk behaviors and prevent further deleterious consequences.

Is Waterpipe Smoking a Gateway to Cigarette Smoking among Youth?

Pascale S, Rony Z, Edwina A, Joseph S, Mirna W, et al. (2015) Is Waterpipe Smoking a Gateway to Cigarette Smoking among Youth?. J Addict Behav Ther Rehabil 4:2.

- **These findings show that waterpipe may be a potential gateway to cigarette smoking, and vice versa. Although these results need to be further confirmed, there is an urgency of health education interventions among youth to promote healthy behaviors.**

Dovepress

Original Research 2016

Motivation to quit smoking and acceptability of shocking warnings on cigarette packages in Lebanon

Nelly Layoun, Pascal Salameh, Mirna Waked, Aoun Bacha, Rony M Zeenny, Eric El Hitti, Isabelle Godin, Michele Dramais

Low-dependent smokers and highly motivated to quit smokers appeared to be more hypothetically susceptible to shocking pictorial warnings.

Motivation to quit was associated with sensitivity to warnings, but not with the presence of all chronic respiratory symptoms

• Perceived Effectiveness of Pictorial versus Textual Health Warning Labels on Waterpipe Tobacco Packages

Layoun N, Salameh, Waked, AounBacha, El Hitti E, Leveque A & Dramaix. **Imperial Journal of Interdisciplinary Research (IJIR) Vol-2, Issue-12, 2016 ISSN: 2454-1362,**

Evaluates the effectiveness of textual and pictorial warnings on waterpipe tobacco packages.

It is consistent with other research on cigarettes indicating that pictorial graphic warnings are more influencing on the behavior of waterpipe smokers than textual warning.

This study indicates that females and more motivated smokers are more hypothetically influenced by shocking pictures

Predictors of past quit attempts and duration of abstinence among cigarette smokers

N. Layoun, S. Hallit, M. Waked, Z. Aoun Bacha, I. Godin, A. Leveque, M. Dramaix , P. Salameh . Journal of Epidemiology and Global Health [Volume 7, Issue 3](#), September 2017, Pages 199 – 206

Longer quit attempts duration (more than 1 month) were significantly associated with low-nicotine dependent smokers (ORa = 0.56, p = 0.02), higher-motivated smokers (ORa = 1.85, p = 0.01), people with chronic allergies (ORa = 2.07, p = 0.02), smokers who have ever stopped smoking for at least one month due to the warnings (ORa = 3.72, p < 0.0001) and those with an intention to quit in 2 months (ORa = 1.98, p = 0.05).

Waterpipe effects on pulmonary function and cardiovascular indices: a comparison to cigarette smoking in real life situation

- Nelly Layoun, Nadine Saleh, Bernadette Barbour, Sanaa Awada, Samar Rachidi, Amal Al-Hajje, Wafaa Bawab, Mirna Waked, and Pascale Salameh. *Inhal Toxicol*, 2014; 26(10): 620–627
- **A questionnaire was completed for each participant, in addition to pulmonary function [forced expiratory volume at 1 s (FEV1), 6 s (FEV6), percentage of FEV1/ FEV6], and cardiovascular [diastolic blood pressure (DBP), systolic blood pressure (SBP) and heart rate (HR)] measures, taken before and after smoking.**
- **Conclusion: WP smoking affected the cardiovascular system more than cigarette smoking, while it had similar effects on pulmonary function.**

The Association of Water-Pipe Smoking and Coronary Artery Calcium in a Community-Based Sample

Hassan Chami et al. [CHEST](#) 2019 Jun;155(6):1217-1225

- **Exclusive water-pipe smoking was associated with the presence and extent of CAC, with twice the risk of having CAC and three times the risk of being in the high CHD risk category while accounting for other risk factors.**
- **The association of water-pipe smoking with arterial stiffness and wave reflection in a community-based sample**

[Hassan A. Chami](#) et al. [BLOOD PRESSURE](#) 2021, 30

Differential Effects of Electronic Hookah Vaping and Traditional Combustible Hookah Smoking on Oxidation, Inflammation, and Arterial Stiffness

CHEST 2022; 161(1):208-218

- **INTERPRETATION:** Although advertised to be “safe,” flavored e-hookah vaping exerts injurious effects on the vasculature that are, at least in part, mediated by inflammation.
- **TRIAL REGISTRY:** [ClinicalTrials.gov](https://clinicaltrials.gov); No.: NCT03690427; URL: www.clinicaltrials.gov

Tobacco Smoking and Risk for Pulmonary Fibrosis

A Prospective Cohort Study From the UK Biobank

CHEST 2021; 160(3):983-993

- **Active and maternal tobacco smoking have an independent detrimental effect on risk of IPF and work synergistically**
- **Also, intensity of smoking presents a dose-response association with IPF, strengthening the hypothesis for a potentially causal association**

Obstacles & Constraints:

- Lack of human resources
- Lack of financial resources
- Lack of comprehensive national plan
- Lack of government commitment

Conclusion: Policy Implications

- Implementation of Framework Convention on Tobacco Control, including legislative initiatives inclusive of ETS
- Higher taxes, especially where price elasticity is higher
- Involvement of professional associations (teachers, doctors, police force), women's groups, athletes, etc to mobilize social elites to challenge and change prevailing social norms and enforce existing laws and ordinances
- More comprehensive public health action

Take some action

- Media have to be engaged
- Educate Policy Makers
- Educate young people: Smoking is a pediatric disease

EUROPEAN
CITIZENS'

UN-BURDEN
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