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EDİTÖRE MEKTUP  
LETTER TO EDITOR

## Waterpipe tobacco smoking

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Tobacco smoking is currently accepted as the most important risk factor for many diseases, which are the leading causes of death worldwide. Although the smoking rates have been declining in developed countries in the last 30 years, it still has a rising trend in underdeveloped or developing countries. Anti-smoking campaigns and legislations against smoking in public areas and closed places have helped a lot in the last 10 years to decrease smoking rates in many countries.

Waterpipe tobacco smoking is a way of tobacco smoking in which the tobacco smoke passes through water before being inhaled. It was first invented in India in the 16<sup>th</sup> century and embedded in traditional cultures in the Ottoman Empire, Iran and Afghanistan (1). Over time it was accepted as being a part of the oriental culture with many ceremonial activities (preparing, lighting, smoking and chatting). Similar to the devil having many faces, waterpipe tobacco smoking also has many names like shisha smoking,

narghila, nargile, hookah, hubblebubble, goza, ghalyun, arguileh, bouri, boubri, gidou, and many other local names. In the beginning of 1990s, with the introduction of "Maassel" (meaning honey sweet) in Egypt, which is a smooth and flavored (apple, honey, cappuccino, mint, strawberry, banana, etc) tobacco, waterpipe tobacco smoking became popular again. It rapidly spread to the Middle East countries first, then to Africa and Asia and lastly to Europe and the North America. Its rapid spread to the whole world, especially among young population, created a new challenge for tobacco control. Currently, it is estimated that there are more than 100 million

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waterpipe tobacco smokers versus 1.1 billion cigarette smokers worldwide (2).

Aggressive and misleading marketing strategies, like unrestricted advertisements on the visual and the printed media and internet and radio, and misleading labels like “low nicotine” or “zero tar” on the waterpipe tobacco products, have helped the sellers to broaden their potential customer spectrum. In addition to these, dramatic increase in the numbers of waterpipe cafes and restaurants, and pitfalls in the anti-smoking legislations and misperceptions about its alleged safety and social acceptance (even by parents) are the other important reasons of its widespread popularity in all age groups, especially the teenagers and young adults (3-5). Unfortunately, regulations against waterpipe tobacco smoking are variable in many countries. While many countries are lacking any specific legislations, the existing ones are usually very weak and far from being prohibitive or restrictive. It is still freely marketed in many countries -including some European countries and the USA- without any age limitation (3-5). As a positive exception, it is totally prohibited in big city centers in Saudi Arabia.

Although there is limited number of studies on waterpipe tobacco smoking, existing data suggest that its prevalence among teenagers vary between 6-34% among Middle Eastern adolescents and 5-17% among American adolescents (6). Traditionally,

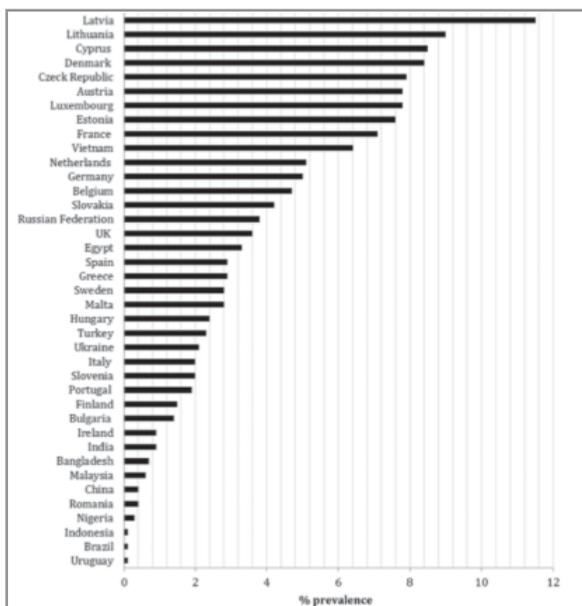


Figure 1. Global waterpipe tobacco smoking prevalence in populations aged ≥ 15 years

cigarette-smoking rates are much lower among females compared to males in Middle East region. However, because of its social acceptance, misperception about its safety and approval even by families, waterpipe tobacco smoking prevalences are almost equal in both sexes. The same is true for the USA also. A study in Michigan revealed that 27 percent of teenagers (n= 1671, mostly Arab-American, ages 14 to 18) had smoked waterpipe at least once. This percentage increased from 23% at 14 to 40% at 18 year-olds (7). Another US study (152 universities, n= 105012, ages 18 to 30) yielded that the percentage of college students that smoked waterpipe at least once is approximately 30% (8). Young population is more susceptible to the use of waterpipe because of their tendency to try new things. No doubt that this condition will be directly translated into much higher cigarette smoking rates in later years. Studies have shown that experiencing waterpipe tobacco smoking at least doubles the risk of becoming a cigarette smoker (7). On the other hand, waterpipe tobacco smoking rates are rising among adult population in all countries all over the world, too. Figure 1 shows the global waterpipe smoking rates (9).

Harmful effects of waterpipe tobacco smoking have been underestimated by general population, and more importantly by users and their family members (3-9). There is a misperception that the water part of waterpipe equipment filters the tobacco tar completely, thus presumably making this kind of smoking harmless. This is totally wrong and the scientific data show that it is at least as harmful as cigarette smoking (10). One session of waterpipe smoking lasts around one hour, and the users take very deep breaths compared to cigarette smoking while inhaling it. Although there is a big variation between their results, the studies reveal that a single session of waterpipe tobacco smoking may be equal to smoking 20-200 cigarettes (5,11,12). Waterpipe smoke and cigarette smoke contain the same toxic substances and carcinogens (10-13). Shisha smoke contains large quantities of flavored nicotine, fine and ultrafine PM, carbon monoxide, polycyclic aromatic hydrocarbons, volatile aldehydes, phenolic compounds and carcinogenic PAH, and heavy metals, including arsenic and lead (10-13). Harmful effects of waterpipe tobacco smoking on lung functions are similar to those of cigarette smoking (10,13). It has already been shown that the risks to develop COPD, cardiovascular problems, lung cancer and many other types of cancers are not less than cigarette smoking. In one study, the BTEX

concentrations (benzene, toluene, ethylbenzene and xylenes) in indoor air of water pipe cafés were noticeably high, and therefore may pose important risks for human health on both short and long term exposures (14). Neither the mouthpiece nor the water of the waterpipe equipment is replaced for every new user by the provider, or the users deliberately share the same mouth piece in a single session, therefore this type of practice also leads to spread of tuberculosis, hepatitis and herpes infections (3,4).

Data on the epidemiology and the long-term harmful effects of waterpipe tobacco smoking are still lacking. We need high quality studies to understand the supporting environment and its real impact on clinical outcomes. Since waterpipe tobacco smoking is an important global public health threat, particularly among young people, policies should be developed and implemented urgently to prevent its further global spread. The experts who contributed to this meeting conclude that the same high tax rates and marketing restrictions on the cigarette products and outdoor and indoor prohibitions on cigarette smoking should be applicable to waterpipe tobacco smoking, without any exception.

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