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Qalyan, Narghile, Shisha and Pregnant Women's Exposure to Passive Smoking in Iran

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I read Mirahmadizadeh and Nakhaee's paper [1] on the prevalence of smoking qalyân/narghile (the local water pipe) among pregnant women in Southern Iran with great interest. While I share their concern over the prevalence, they should have cited and discussed a relevant study by Mansour Sulaiman from Saudi Arabia [2], noting that although prenatal exposure to shisha smoke in animals lowered the response to novel environments, passive exposure to the smoke of the local pipe (shisha) during pregnancy had no effects on the gestational period, number of pups, birth weight, and body weight growth [2].

In Mirahmadizadeh and Nakhaee's study [1], exposure to passive non-cigarette smoking reached 11.5%. Fortunately, the nature of the smoke was very different in both cases. A few years ago, a US team noted that, unlike cigarettes, there was almost no sidestream smoke with hookah smoking [3]. More recently, Egyptian and Saudi researchers stated in a study on the radiological hazards of this type of smoking: 'the only second-hand smoke that should be taken into account is the one rejected by the smoker, i.e. the one filtered by the hookah at the level of the bowl, inside the water, along the hose and then by the smoker's lungs themselves. In this respect, experts have found that the bulk of studies covering more than one century indicate that, "on average, 60–80% of the mainstream smoke particulate matter is retained in the lungs after inhalation" (Baker and Dixon, 2006)' [4].

I hope these observations will be useful to health care practitioners in Iran.

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Reply: Recent Evidence Is Alerting Us to the Critical Importance of Secondhand Water Pipe Smoke

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We would like to thank Dr. Chaouachi for his interest in our paper on the prevalence of water pipe smoking among rural pregnant women in Southern Iran [1]. We observed that among 2,808 pregnant women passive exposure to water pipe smoking occurred in 24%, which was significantly more prevalent than passive exposure to cigarette smoking (11%). Dr. Chaouachi made two comments on the study. The first was the lack of reference to a study published in 1993 which examined prenatal passive exposure to water pipe smoke in rats that showed no deleterious effect on birth weight [2]. Two main issues should be clarified in this regard: firstly, it is well documented that extrapolating results from animal models to humans should be done with caution [3, 4], and secondly, with respect to a well-defined fact such as carcinogenicity of cigarette smoking most animal studies 'yield no apparent positive results' [4]. Supposing animal toxicity studies as a convenient method to investigate the effects of tobacco smoke [4], a more recent study conducted by an Egyptian team [5] to further document the health hazards of passive water pipe smoking concluded that the concentration of various inflammatory mediators in plasma and pulmonary secretions of rabbits was significantly higher in animals exposed to water pipe smoke compared to controls.

The second comment concerns the amount of water pipe-associated secondhand smoke. Secondhand smoke, also known as environmental tobacco smoke, is a combination of two types of smoke, the smoke exhaled by the smoker and the sidestream smoke. We agree that there is minimal release of sidestream smoke from the water pipe compared to cigarettes. However, this matter is not applicable to exhaled smoke. The reference cited by Dr. Chaouachi which stated that '60 to 80% of the mainstream smoke particulate matter is retained in the lungs after inhalation' referred to cigarette smoking, not water pipe use [6]. It should be noted that respiratory tract retention values for smoke constituents depend largely on the inhaling pattern (i.e., depth and duration of inhalation, hold time in the lungs, among others) [6], so the results may not be generalized to water pipe. Furthermore, according to Monn et al. [7], recent experiments with water pipe 'indicated large amounts of second-hand smoke particles indoors' and based on the experiment of Maziak et al. [8] the water pipe should be considered as an important source of particulate matter (PM_{2.5}) in ambient air equal to cigarette. Finally, it is noteworthy that while debate in science is constructive, overlooking the health implications of water pipe may unwantedly lead to more widespread use.

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