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Secondhand Smoking in Jordan: Clearing the Air for One of the Highest Tobacco Prevalence Countries in the Middle East

Linda G. Haddad¹, Sukaina Al-Zyoud², Nesrin Abu Baker³, Huda Gharaibeh³, Omar El Shahawy^{4,5} and Raed Alramadhani¹

¹Virginia Commonwealth University School of Nursing, VA, USA. ²Hashemite University, Zarqa, Jordan. ³Jordan University of Science and Technology, Irbid, Jordan. ⁴Institute for Drugs and Alcohol Studies, Virginia Commonwealth University, VA, USA.

⁵General Medical Management, Ain Shams University, Cairo, Egypt. Corresponding author email: lhaddad2@vcu.edu

Abstract: As the rate of tobacco consumption in Jordan increases, Jordanian policy makers are urged to develop guidelines on smoking exposures. This paper is concerned with the magnitude of exposure and harm caused by secondhand smoke (SHS) on childbearing women and young children. Despite a strict policy that limits tobacco advertising and efforts by the Ministry of Health, which include cessation programs and education on the adverse effect of smoking, the country sustains its high smoking rate, especially among men. According to the data gathered in this paper, special concern should be directed toward children's SHS exposure. Only four recent studies on SHS exposure among Jordanian women and children were encountered. Moreover, Jordan has legislation that bans smoking in public institutions; however, the enforcement of the law is extremely poor in most locations. Recommendations are presented to aid policy makers and law enforcement agencies in addressing this issue.

Keywords: Jordan, secondhand smoke exposure, policy, women, children

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Introduction

Tobacco use is one of the leading causes of preventable deaths worldwide and is estimated to kill more than 5 million people each year. Most of these deaths are in low- and middle-income countries.¹ Additionally, the developing world's share of total tobacco smokers increased from just over 40% in 1970 to 70% by 2005.¹ It has been estimated that if this current trend of increasing prevalence of tobacco use persists then the number of tobacco deaths will reach more than 8 million people worldwide per year by the year 2030, with 80% of these premature deaths occurring in low- and middle-income countries. Jordan, as a developing middle income country where the prevalence of tobacco use has increased over the years, is no exception to that. In a national survey conducted by the Jordanian Ministry of Health, the prevalence of cigarette use among adult males (25 years or older) was estimated to be 43% in 2004. This figure increased to 62.7% in 2007.¹⁻³ The Jordanian government has emphasized and started enforcing intervention initiatives to curb the high rate of tobacco use in the country.

Unless firm tobacco control measures are put in place, this rate will sustain its current value and will not decline for years to come. The initiatives of the government and NGOs are growing to enforce public bans, particularly in restaurants. This is known to have a valuable and profound effect.⁴⁻⁶ Therefore, this paper intends to review and assess the magnitude of exposure and the harmful effects of secondhand smoke (SHS) on childbearing women and young children. This may provide an impetus for Jordanian Tobacco Control Society and policy makers to improve the national guidelines in place that tackle tobacco smoke exposures, particularly among these groups. Furthermore, accurate information about the impact of SHS exposure on human health in developing countries is needed to help policy makers and other stakeholders make informed decisions.

Jordan is a mostly landlocked country, the surrounding countries are Saudi Arabia, Iraq, Israel and Syria. It has direct connections to these countries' cultures and their societal trends and concerns.⁷ The current population is 5,723,000 million, with 78% residing in cities. About 50% of the population is below the age of 25, while only 3.2% of the total population is older than 65 years of age.^{7,8} The population

growth rate is 2.3% per year, this translates to a projected growth of 8.5 million in 2025.

Tobacco in Jordan: Facts

Jordan still has a surprisingly high smoking rate, despite its compliance with most of the recommended tobacco use prevention initiatives. The prevalence of cigarette smoking among men is estimated to be 62.7% and it reaches 9.8% for women. There is a strict ban on tobacco advertising and a higher cigarette prices than anywhere else in the region where the price of a pack of 20 cigarettes is \$4.16 with taxation rate of 39%.⁹ Health warnings are present on labels and there are few cessation services provided.⁹ There is also a ban on smoking in public places that was recently imposed. Nevertheless, there is a growing concern over increased incidence of smoking among children, starting as young as nine years of age.¹⁰ The national prevalence of tobacco use was reported to be 33.7% for males and 26.1% for females 13–15 years of age in Jordan.^{11,12} Worldwide, tobacco surveys facilitated by the WHO show great disparities in smoking patterns. The smoking prevalence in men has been reported to be 40%–60% in the Middle East and most parts of Asia.¹³⁻¹⁵

Tobacco use and its related health problems are growing in Jordan and other countries in the Middle East. Each year, cardiovascular diseases are responsible for about 42% of all deaths in Jordan while cancer is responsible for 13% of deaths. Breast cancer is the most prevalent type of cancer in Jordan with a 18.2% incidence rate, lung cancer follows in the list with a 7.4% incidence rate.¹⁶⁻¹⁸

Women and Children Exposure

The home is the first place where children experience being exposed to smoking. The parents or smokers in a family provide a venue and a dangerous environment for their children or other members of the family to experience smoking. In fact, a study has revealed that children's health is placed at risk if they are exposed to family smokers.¹⁹ Moreover, the Social Development Theory suggests that parental smoking and bonding affects smoking initiation in adolescence.²⁰ This prompted similar studies to make parents aware of the danger of smoking and provide guidelines and healthy habits to protect their children



from such exposure.²¹ Without the guidance of parents, the children are prey to the effects that adult smokers introduce.²²

As the smoking prevalence is very high as a national average with more than half the men smoking, there is no reason to believe that the SHS exposure is low. Therefore, for women and children, SHS exposure is a potentially important public health problem that imposes a risk to infants' health that, in turn, may increase the risk of infant morbidity and mortality. This is widely acknowledged in the developed world and it even has specific measures targeted to children's exposure to SHS. For example in Canada, many provinces banned smoking in cars that have children on board due to the ample evidence of the dangerous SHS levels in cars.²³

Childhood mortality should merit special attention as it is low in Jordan and has even decreased slightly since 2002. Currently, one in every 50 children in Jordan dies before his/her fifth birthday. The infant mortality rate (per 1000 live births) is 19.0, and the under-five mortality rate is 21 deaths (per 1000 live births). These rates are slightly higher in rural than urban areas.^{9,18,19,24} Jordan and other Middle Eastern countries lack systematic knowledge and surveillance data about the harmful consequences and economic effects of smoking and SHS exposure.

Knowledge, Attitudes, and Behaviors in Avoiding SHS Exposure

Knowledge and attitude regarding SHS exposure among these high risk groups are important contributing factors in understanding the holistic picture of women's and children's exposure. Risk factors include populations of lower socioeconomic status, who usually exhibit higher smoking rates than the general population.²⁵ Also, developing countries exhibit higher smoking rates than developed countries.²⁵

In Jordan, smoking in public places and workplaces is prohibited. However, the enforcement of the law is extremely poor in most locations.¹ Several reasons can be attributed to this: 62.7% of Jordanian men smoke cigarettes and the general populace knows little about the dangers of SHS exposure.^{26,27} Major efforts have been initiated in developing countries to create cessation programs and education drives on the adverse effects of smoking. According to

the World Health Organization, 154 million people, mostly in low- and middle-income countries, became newly covered by comprehensive smoke-free laws in 2008.¹

In Jordan, legislation was scripted to clarify and strengthen the wording of Jordan's tobacco control laws, additional resources to tobacco control were dedicated, and training of tobacco control program staff increased.^{1,28,29} Although several efforts were made towards a more efficient tobacco control profile, fewer education efforts were conducted regarding the adverse effects of SHS exposure in Jordan. Unfortunately, there are no data that could show what kind of knowledge, attitudes, and avoidance behaviors women in Jordan practice in regard to SHS exposure.

Exposure of Young Women and Children to SHS in Jordan

Only four recent studies of SHS exposure among Jordanian women and children were listed.^{30–33} In the first study, Madanat et al³⁰ conducted a random household survey to examine the knowledge about symptoms of indoor air quality relating to respiratory illness and home environments among Jordanian women. The study used a self-report questionnaire with two questions regarding SHS exposure. The results showed that even when having knowledge of indoor environment on respiratory symptoms as a moderator, a very high rate of homes (71%) had family members who smoked indoors. However, the severity and quantity of SHS exposure was not measured in this study and neither was the attitude and avoidance behavior toward SHS exposure. In the second study, Badran et al³¹ conducted a cross sectional study in the capital city Amman with a convenient sample of 220 infants attending an outpatient pediatric clinic with their mothers. They identified SHS exposure using two measures: the mother's self report of household exposure and urine cotinine for both mother and infant. The mothers' self report revealed that 60% of the infants were exposed to SHS. Correspondingly, 36.4% of the infants had detectable levels of urine cotinine (7.1 ng/mg). The study also detected the mother's level of saliva cotinine, which revealed that detectable saliva cotinine levels were found in 8 out of 20 mothers of neonates (1–2 days old), implying an in-utero SHS exposure.



In the third study, Hong et al³² used the 2002 Jordan population and family health survey data to examine the relationship between childhood anemia and SHS exposure in homes for children age 0–35 months. The results indicated that after controlling for confounding variables, anemia was strongly associated with exposure to SHS from both parents (Odd ratio = 2.99, $P < 0.01$). The fourth study, Abu Baker et al,³³ interviewed 300 women after labor and reviewed their neonates' records for the purpose of measuring SHS exposure during pregnancy. They found that the mean SHS exposure hours occurred in the home environment, and these were equally high across all three trimesters. Among women who reported SHS exposure at home, 52.7% reported SHS exposure from their husbands. And the reported average number of SHS exposure hours per week (from home, work, and outdoors) in the second trimester explained the 22% of the neonatal birth weight variance that was found in this study.

Water Pipes in Jordan

Water pipes in Jordan are seen as a traditional and trendy habit.^{34,35} They have gained popularity in the past two decades and are thought to be the reason for the rising in tobacco consumption among teens. All the water pipe variants; nargile, hookah, or shisha, can be more dangerous than cigarettes,³⁴ yet there is a common belief that they are less harmful than other kinds of tobacco. In addition to the false concept of being less harmful than cigarettes, some cigarette smokers use them when attempting to quit smoking, as they believe it will help them stop.³⁶ The only retrievable, recent survey of water pipe usage among young college students in Jordan revealed that 61.1% of college students had, at some point in time, smoked tobacco from a water pipe, and monthly usage was reported by 42.7% of respondents. Water pipe smoking was highly associated with a lack of knowledge about the dangerous health effects.³⁵ Some parents in the local communities encouraged their children to smoke water pipes, and the practice is very popular and trendy with young women. They usually smoke in cafés and restaurants, and it is not uncommon to walk down any local or main street in Jordanian cities and see water pipe cafés every 200 to 300 yards. Because the practice of smoking water pipes is so integrated

into the culture, this makes it exceedingly difficult to control.

Public Bans

Jordan began to implement tobacco control measures more than 30 years ago, but it did not substantially strengthen its restrictions on tobacco advertising, promotion, and sponsorship until 2008.¹ Accordingly, all tobacco advertising and marketing activities, in theory, had been banned since 1977, but enforcement of these and other tobacco control provisions were generally weak. Recently, however, some actions have been taken to control, limit, and ban tobacco use.^{7,32,37,38} For example, Jordan has legislation that purposely calls for prohibiting smoking in public places and institutions; it has only been fully enforced since 2009.^{7,39} According to the current law, smoking is strictly prohibited in public areas and places, including healthcare centers, hospitals, schools, vicinities, cinemas or theaters, cultural centers and museums, government and non-governmental buildings, public or school libraries, public transport systems, closed recreational areas, airports, restaurants, and other particular locations predetermined by the office of the Minister of Health.^{1,2,4,22} The law also states that any individual caught smoking in a place where smoking is banned is subject to imprisonment of one week to one month or a fine of \$20–\$40. The same set of penalties will also be applied to those who are selling cigarettes to minors. In reality, laws on their own do not constitute by itself a solution to the tobacco epidemic. Coordinated efforts and abundant funds should be directed to bring about social change and the general population's acceptance. For example in the United States, attempting to apply college campuses tobacco free policies was very successful in Iowa when compared to the same legislature in Pennsylvania. This was because of the careful planning and implementation of advocacy efforts almost a year in advance in the Iowa University model versus an abrupt implementation in the Pennsylvania model. Upon receipt of complaints, Pennsylvania had to allow exceptions in their previously attempted 100% college free campuses policy.⁴⁰

Additionally, the national advertising bans would have been more effective or successful if the co-ordination with regional authorities was strong.^{1,37–39}



Television advertisements are forbidden in Jordan, but Lebanon, its neighboring country, has no ban or restrictions regarding this issue. Children in Jordan can still see ads depicting cigarette smoking via satellite television. This calls for more coordinated efforts on the international level.

According to Bahjat Tabara of Amman (Bahjat Tabara, 2010, personal communication), a smoke free activist, “There are wider problems. Many of the laws that ban tobacco are not implemented. One example is in the public transport sector where child-labour is visible. Children often have cigarettes in hand, and passengers frequently violate the rules. Private firms tend to be more diligent in enforcing the no-smoking policy because they fear fines. ... The other issue is instituting effective mechanisms. Many smokers defy the bans; therefore a zero-tolerance policy is required. A zero-tolerance policy allied to a public campaign (including television and journalism) should be initiated. Such an initiative would require the efforts of citizens, non-smokers and law-abiding smokers alike, to assist those implementing the law as well as sponsor community awareness activities”. This statement was given in response to a question on why the Jordanian government struggles to implement legislation that bans tobacco use.

Policy Recommendations

These policy recommendations are prepared to aid law enforcement and policymakers in making decisions to create and administer public policy and programs regarding smoking cessation. The embedded public health approach seeks to promote a supportive environment and change the social climate. They are as follows:

1. The Jordanian government should initiate a health systems approach that promotes and integrates clinical practices, including behavioural and pharmacological methods, with strong partnerships with the local communities that can help tobacco-dependent consumers increase their chances of quitting successfully.
2. The health systems approach should promote the information and knowledge exchange between health officers and the public to increase awareness among the general population.
3. Ensure enough funding and proper budget allocation to pave the way for successful cessation programs and effective tobacco dependence treatment. This is not only a problem in Jordan but also in the United States.⁴¹
4. Establish strong public and private sector linkages and partnerships for sharing and distributing information, writing up guidelines, and reviewing best practices. This public-private partnership is expected to be successful in tobacco control.⁴²
5. Employ health care professionals that can share excellent teaching and communication skills and exhibit organizational and leadership ability.
6. Enforce stronger policies regarding the regulation of the tobacco and cigarette trade through anticipating or interpreting the needs for improvement. This should be accompanied by firm actions on smuggling as this is the counter mechanism that ensures the effectiveness of raising prices of tobacco, which is the most effective tobacco control strategy.^{43,44}
7. Conduct public health campaigns in collaboration with different types of media to affect the attitudes to knowledge and avoidance practices of SHS exposure. This has been advocated for by major tobacco control advocates like the Union Against Tuberculosis and Lung Disease in 2010.⁴⁵

Conclusion

Although Jordan is considered one of the pioneer tobacco control countries in the region due to its initial participation in tobacco control initiatives, it has the highest prevalence of tobacco use in the region, which raises the magnitude of SHS exposure and harmful effects on childbearing women and young children. Cleaning the air of tobacco smoke is a big challenge for the Jordanian government; collaborative efforts should take place among policy makers and administrators to face this challenge. Media can be used effectively to affect the knowledge and attitudes of younger generations about smoking. Health care professionals should be active in research, education, and practice to assess, intervene, and evaluate the situation at regular intervals. Partnering with the community is essential to promote strict and effective strategies for prohibiting smoking in public places and institutions.



Disclosure

This manuscript has been read and approved by all authors. This paper is unique and is not under consideration by any other publication and has not been published elsewhere. The authors and peer reviewers of this paper report no conflicts of interest. The authors confirm that they have permission to reproduce any copyrighted material.

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