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THE SOCIAL PHENOMENON OF HOOKAH SMOKING IN ISRAEL: A CALL FOR INCREASING AWARENESS TO ITS HEALTH CONSEQUENCES AMONG YOUNG ADULTS

Noit KAROLINSKY^{1,2}

Abstract

Smoking tobacco is the second most common cause of death worldwide and is among the leading serious risk factors for disease. Among the forms of tobacco smoking, the two most common can be specified: cigarette smoking and smoking through a hookah. Cigarette use is related to approximately 450,000 premature death cases in the US each year. Compared to the extensive knowledge regarding the damages caused by smoking cigarettes, scientific data on the damages of hookah smoking has accumulated only in recent years. The sources for finding articles were “Pubmed” and “Google scholar”, using the search terms ‘Water pipe tobacco’, ‘Hookah’ and ‘Nargileh’, including results in English only. Hookah smoking has been linked to various types of cancer, respiratory diseases, coronary heart diseases, lung diseases, infertility problems, dental problems, etc. Nevertheless, Hookah smoking is on the rise, and is now the second most popular form of smoking in the United States. Due to this growing popularity, it seems that the health implications are pushed aside, in light of the following reasons – exposure to flavored hookah, social nature of hookah smoking, the internet and the mass media, the unarmful perception of smoking hookah. There is an urgent need for developing policies targeted towards hookah smoking on multiple levels, including - raising public awareness through health education guidance and educational programs; legislation regarding public smoking prohibitions, warning labels, taxing regulations and production standards; effective and uncompromising enforcement.

Keywords: Hookah smoking, health implications, policy, legislation, enforcement.

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Introduction

Tobacco plant was first mentioned in the medical literature of the Western world in 1561. Tobacco smoking among natives in the American continent was a common custom for centuries for medicinal purposes, and only later became common among European countries from the assumption that the plant has medicinal properties. The plant was actually used primarily for the treatment of skin diseases, gastrointestinal diseases and respiratory diseases (Centers for Disease Control, 1995). Tobacco smoking gained popularity in the 16th century in England, especially among the elite society who could afford it. One of the famous first opponents of tobacco smoking was actually King James I who described the harms of tobacco, very similar to later medical findings (Musk & Klerk, 2003).

The first documentation of an increase in lung cancer cases was taken only in the 1920's by medical personnel (White, 1990). However, a direct link between lung cancer and smoking was established only later, such as in four major studies published in 1950 that provided strong medical evidence on the link between smoking and lung cancer. The first prominent public statement on cigarette smoking as a cause for lung cancer was made in 1957 by the US Public Health Service, followed in 1962 by the Royal College of Physicians of London that declared on a causal relationship between smoking and lung cancer. During the same era the US Surgeon General published its own statement that linked lung cancer as well as many other serious illnesses to smoking, broadened in further research in 1971 (Musk & Klerk, 2003).

Over time, the practice to consume tobacco has spread beyond the medicinal purposes, for personal pleasure in different ways: smoking, chewing, or snuff, and tobacco use became common and accepted in the society (CDC, 1995). Currently, tobacco consumption is considered as one of the most dangerous among health behavior patterns. The World Health Organization has determined that smoking tobacco is the second most common cause of death worldwide and is among the leading serious risk factors for disease worldwide (WHO, 2009). Today, with the greater awareness among the public regarding the consequences of tobacco smoking, many smokers wish to quit smoking, but they have difficulty during the weaning process in light of nicotine addiction and the force of habit (CDC, 2011). However, an addicted person has to meet more than half of the nine diagnostic criteria proposed by APA in DSM-5 (Tudorel *et al.*, 2018).

Health implications related with cigarette smoking

Cigarette use is related to approximately 450,000 premature death cases in the US each year (CDC, 2009; California Environmental Protection Agency, 2007; Mack, Brady, Miller, & Frances, 2016) and led to 20.8 million deaths in the years 1965 to 2014. Death from cigarette smoking was mainly related to direct smoking, but also quite substantially to secondhand smoking. Among direct smokers, the leading causes of premature death were cardiovascular and metabolic diseases, various cancers, and pulmonary diseases, while for secondhand smoking – Lung

cancer and coronary heart disease (Onor *et al.*, 2017). Cigarette smoking is related to 30% of all cancer-related deaths, making it the most prominent preventable cause of death from cancer (Benowitz & Brunetta, 2010). Cigarette smoking is not only dangerous to the smoker itself but to his/her surroundings as well (USDHHS, 1986). The effects and damages of cigarette smoking on the human body are numerous and are mainly dependent on the duration of the period of exposure to smoking (USDHHS, 2014).

The smoke being generated from the burning of the tobacco in cigarettes is composed of a mixture of more than 7,000 chemicals and chemical compounds (USDHHS, 2014), of which 69 have been clinically proven and identified as carcinogens (USDHHS, 2004). Another major group of severe health implications that are related to cigarette smoking are cardiovascular diseases, with a causal link to smoking found in nearly all prominent types of these diseases (USDHHS, 2004; USDHHS, 2006), and to various other heart diseases and conditions, including coronary heart disease, stroke, peripheral arterial disease and aortic aneurysm (McGill, McMahan, & Gidding, 2008; Papathanasiou, Mamali, Papafloratos, & Zerva, 2014). Respiratory diseases were also found to be strongly linked to cigarette smoking, with a causal relationship found in COPD, tuberculosis, and aggravating asthma condition in adults. Suggestive evidence was found on smoking as cause for asthma incidence in adults and its incidence and aggravation in teenagers, and the relation of smoking to Idiopathic Pulmonary Fibrosis (USDHHS, 2014).

Among the forms of tobacco smoking, the two most common can be specified: cigarette smoking and smoking through a hookah. The hookah is a traditional smoking device consisted of the following elements: head, body, smoking hose with a mouthpiece and a bowl. Hookah is also known as: Goza, Borry, Hubble-Bubble, Shisha, Nargileh, etc. (Knishkowsky & Amitai, 2005). Compared to the extensive knowledge among the scientific community and the public about the damages caused by smoking cigarettes, scientific data on the damages of hookah smoking has accumulated only in recent years, however still limited and less available to the public (Ward *et al.*, 2007; Smith-Simone *et al.*, 2008)

Methods

The hookah is also known by other names, such as Nargileh, Water Pipe Tobacco, Goza, Borry, Hubble-Bubble, Shisha.

Search strategy and selection criteria

The purpose of this study was to review the existing literature worldwide and in Israel, on the subject of the health implications of smoking, specifically on hookah smoking, alongside the absence of legislation and enforcement and the need for adapted policies. The sources for finding articles were “Pubmed” and “Google scholar”, using the search terms ‘Water pipe tobacco’, ‘Hookah’ and ‘Nargileh’, including results in English only. Results were then filtered by the subjects of health

implications, smoking motivation and legislation regarding hookah, excluding for articles on subjects not specified above.

Results and discussion

Health Implications Related with Hookah Smoking

It is customary to believe that hookah smoking is less harmful than smoking cigarettes and sometimes it is even perceived as a “healthier” alternative (Martínasek, McDermott, & Martini, 2011). A possible explanation to this could lie in the fact that hookah tobacco is mixed with honey which crystallizes it, and various added fruit scents that refine its taste and reduce its sharpness. All these together with the moisture that is added to the smoke by the water during the smoking process, create a more eased effect on the palate of the smoker versus smoking of tobacco products such as cigarettes, and enable more calm, sustained and pleasant smoking (Varsano, Ganz, Eldor, & Garenkin, 2003). Contrary to the misconception mentioned above, numerous studies that have been conducted worldwide point towards hookah smoking as a health danger that is similar to that of a cigarette, and even some researchers believe this is a serious health danger that is more severe considering the duration of time that is dedicated to smoking and the increased absorbing of the smoke (Ward *et al.*, 2007; Smith-Simone *et al.*, 2008).

Many studies mention that the main cause of diseases related to hookah smoking is the smoke that is produced by the hookah, which contains toxins that are associated with various diseases. The smoke that is produced by smoking a hookah is a product of both the burning of the coal in the hookah, and the burning of the hookah tobacco itself, compared with cigarette smoke that is generated only by the burning of tobacco (WHO, 2005). The content of nicotine in hookah tobacco is 2-3 times larger than that of the cigarette tobacco and other tobacco products, which accordingly reveals the smoker to a higher potential danger of addiction. Also, duration of hookah smoking is longer and can last up to 45 minutes, in a properly compacted tobacco (amount of about 20 grams of tobacco). During this time, the hookah smoker is exposed to a greater quantity of smoke that contains both carcinogenic substances that are inherently found in the hookah tobacco, and in products of combustion of its ingredients, such as of tar - that consists of different particles, including substances that are known as carcinogenic (Shihade, 2003; WHO, 2009).

Although water absorb some of the nicotine, the average level of nicotine and other carcinogenic substances increases in the blood of the hookah smoker by up to 50 times after fully smoking a hookah, compared to the average level after smoking one cigarette to its end. (Shafagoj, Mohammed, & Hadidi, 2002; Rashidi, Shihadeh, & Saliba, 2008). On top of that, hookah tobacco is imported from uncontrolled and unregulated sources in Middle Eastern countries such as Egypt and Bahrain, therefore it is unknown whether any foreign substances were

added to it. Many studies show that hookah smoking is associated with a variety of short-term and long-term health problems, such as various types of cancer, respiratory diseases, coronary heart diseases, lung diseases, infertility problems, dental problems, and more (Botell - Harbaum, Haynie, Murray, & Jannotti, 2011). For example, a study that was conducted in India found that among hookah smokers there is a 2 times higher risk of esophagus carcinoma ESCC, as well as a higher risk of developing other types of cancer among hookah smokers due to prolonged and high exposure (Dar *et al.*, 2012). Another study that engaged with the relation between hookah smoking and the incidence of intestinal cancer, found a 3 times higher risk of morbidity, compared to the population (Sadjadi *et al.*, 2014). Additional findings indicated a relation between hookah smoking and an increase in morbidity of lung cancer. Studies that were conducted in Lebanon, India, China, among other countries, found that hookah smokers are at 2-6 times increased risk for lung cancer than non-smoking population. However, it should be noted that studies in this field are still limited and there is room to conduct further studies in order to strengthen the findings (Akl *et al.*, 2013; Aoun *et al.*, 2013).

Other studies have examined the relation between lung and heart diseases and hookah smoking. For example, the research of Hakim *et al.* (2011) which was conducted among 45 participants aged 18 and older, examined the effects of hookah smoking on the functionings of the heart and the lungs by measuring the level of carboxyhemoglobin (COHb) that is created from the attachment of carbon monoxide (CO), to the hemoglobin which is responsible to carry oxygen in the blood, thereby impinging the transporting oxygen in the blood. Carboxyhemoglobin levels ranged from 0.5% to 1% among healthy people, and 2% among cigarette smokers. The study found that hookah smoking for half an hour increased the level of carboxyhemoglobin in the blood to 9.5%, and among five participants an even sharper increase was measured to a level of more than 20%, which is considered a life threatening concentration (Hakim *et al.*, 2011). Hookah smoking has been associated also with various complications during pregnancy and during birth. Babies of women who smoked hookah during their pregnancy, were born smaller in comparison to the population average, were more likely to suffer from complications in the respiratory system, had a lower apgar score and a higher risk of mortality, compared with women who did not smoke hookah during pregnancy. Some of these disorders may adversely affect the baby's development and his/her future health conditions (Rachidi *et al.*, 2013; Tamim *et al.*, 2008). Another health aspect that was also examined in some studies in the context of hookah smoking is the transferring of the nozzle between smokers, as a transmission source of infectious diseases that spread through contact of saliva with the mouth or saliva inhaling, including influenza, tuberculosis, herpes, mononucleosis, and more (Maziak, Ward, Afifi, & Eissenberg, 2004).

The Motives of the Increased Usage of Hookah

While cigarette smoking has been declining steadily in recent decades in Western countries (Salloum *et al.*, 2017; Rezk-Hanna & Benowitz, 2018), many studies show that the use of hookah is on a trend of increase worldwide (Mo-

hammed *et al.*, 2016; Maziak *et al.*, 2015; Salloum *et al.*, 2017; Rezk-Hanna & Benowitz, 2018), both in developed countries (Krenik-Matejcek *et al.*, 2017) and in developing countries (Saffar Soflaei *et al.*, 2018). Hookah has also become the second most common tobacco use among young adults in the United States, after cigarettes which still rank first in the use of tobacco (Rezk-Hanna & Benowitz, 2018). The growing popularity of hookah smoking can be attributed to several reasons, which generally include causes associated with the hookah itself, and reasons which are related to social and environmental motives. Due to this growing popularity, it seems that the health implications are pushed aside, in light of the following reasons.

Exposure to Flavored Hookah

In the past, most of the smokers produced hookahs from raw tobacco (through gridnding and crushing it), and this preparation process was considered difficult and cumbersome. In addition, the smoke that was generated by smoking these hookahs was strong and suffocating. In the 1990s a new production process has begun, of flavored hookahs that are called “Maassel”, which is based on a mixture in which the tobacco is fermented with sugar syrup, glycerin and condensed fruit (Martinasek, McDermott, & Martini, 2011). The smoke that is produced from this hookah smoking creates a pleasant fragrance. This method facilitates modern production processes and was a milestone in the industrialization and trade of hookah. It contributed to increasing the accessibility of hookah in the market in a variety of flavors, something that has also stimulated interest among younger consumers (Maziak, 2008). Worldwide surveys show that this type of hookah is considered as the most preferred by the majority of hookah smokers, particularly among young population groups. For example, a survey that was conducted in 2010 among 3,450 students from eight colleges, found that 90% of them ever tried to smoke a hookah of this type (Jukema, Bagnasco, & Jukema, 2014; Sutfin, Song, Reboussin, & Wolfson, 2014).

Integration between the Social Nature of the Hookah Smoking and Coffee Shops Culture

Many research evidences show the social dimension that is inherent in smoking hookah (Martinasek *et al.*, 2011; Maziak *et al.*, 2014; Maziak, 2008; Sutfin *et al.*, 2014). Many hookah smokers tend to smoke together with family members and friends. Hookah smoking has a central role in family and social gatherings, among other things, because while being together it is customary to commonly share this hookah smoking, especially among young people (Afifi *et al.*, 2013; American Lung Association [ALA], 2007; Carroll *et al.*, 2014; Martinasek *et al.*, 2011). Hookah smoking in groups requires time (may take an hour) and thus makes the hookah an ideal item for social gathering, especially in areas of coffee shops. Consequently, prosperity of coffee shops in recent years at the same time contributed to the increasing use of hookah (Jukema *et al.*, 2014).

The Internet and the Mass Social Media

Modern technology is presented in many areas of our life, marking the beginning of the Fourth Industrial Revolution (Tudorel *et al.*, 2018). For example, the smartphone has become an important device in our lives that can replace computers or even television (Vintila *et al.*, 2018). Modern media can influence perceptions and behaviors. Through advertising, modern media can promote certain standards of lifestyle or beauty, and thus people can initiate behaviors, for example, the drive for muscularity, the desire to be muscular as a component of the image body (Swami *et al.*, 2018). However, traditionally, local fashions are expected to remain in their own regions or to spread very slowly to other places, that is without a global communication system or the mass media. Revolution Concurrently with the increase in popularity of hookah smoking among young people, business entities have begun to be assisted by Internet media for the needs of hookah marketing to the general public and to designated populations. This has contributed to the spread of the phenomenon especially in western countries in which plenty of coffee shops can be found in the cities. An examination of trends of internet search terms in major Western countries (Australia, Canada, England and the United States) shows that since 2004 there has been a stable increase in searches of terms that are related to hookah. Most of the searches were focused on the acquisition of hookah products for use at home and finding coffee shops close-by in which hookah smoking is permitted (Salloum, Osman, Maziak, & Thrasher, 2014).

In the absence of ordered regulations on the Internet arena, it is possible to overtake most of the restrictions that are applied on publications regarding smoking and to upload marketing contents that encourage hookah smoking and are directed to a variety of population groups, including young people. An analysis of 144 websites which presented advertisements of hookah smoking showed that only 4% of them included also warnings regarding smoking tobacco (Primack *et al.*, 2012). Another study that examined videos which were uploaded to YouTube (YouTube) and focused on smoking of cigarettes and hookah, has found that the creators of the videos that engage with hookah smoking are less likely to mention the health damages that are attributed to tobacco, compared with creators of the videos that engage with cigarette smoking; 92% of video creators on the issue of hookah smoking described smoking in a positive light, compared to 24% of the creators of videos on the subject of cigarette smoking (Carroll, Shensa, & Primack, 2013). Most of the contents that promote hookah smoking on the Internet and in social media are conducted by marketers and salespersons in the different social groups (e.g. groups on Facebook), including those that are intended for young audiences (Brockman, Pumper, Christakis, & Moreno, 2012; Carroll *et al.*, 2013; Primack *et al.*, 2012).

The unharmful perception of smoking hookah

Numerous studies from different countries around the world show general ignorance of the population regarding health risks which are associated with both

active hookah smoking, and passive hookah smoking (i.e., prolonged sitting near a person who smokes a hookah). This is true of both hookah smokers and non-smokers (Krenik-Matejcek *et al.*, 2017; Fevrier *et al.*, 2018; Awan *et al.*, 2017). The hookah “enjoys” a less harmful image compared to cigarettes, partly because of the ambiguity regarding its components and what the smoker actually inhales to his/her lungs. One of these substances is nicotine, known as being addictive (Rezk-Hanna & Benowitz, 2018).

In a survey conducted by Mohammed and his colleagues (2016) among the general population, the respondents’ awareness to the phenomenon of hookah smoking was examined, as well as their perception of the harmfulness of hookah smoking compared to cigarette smoking. This survey showed that while the awareness to hookah smoking and its health damages varies from one demographic group to another, a significant percentage of all demographics - men/women of different educations with different incomes, different origins, etc. - still perceive hookah smoking as less harmful compared to smoking cigarettes (Mohammed *et al.*, 2016). In a more specific knowledge survey conducted by Krenik-Matejcek and her colleagues among students about the risks of hookah smoking, most of the interviewees responded correctly to less than half of the questions (an average score of 4.4 out of 10), which indicates on very limited and inaccurate information regarding the effects of smoking hookah on the health of its users (Krenik-Matejcek *et al.*, 2017).

The fact that hookah tobacco comes in flavors, and that molasses or honey are one of the main ingredients in its sweet taste, attracts users and even enables advertisers to label hookah as a healthier tobacco alternative than cigarettes. In contrast to the prevailing perceptions regarding the unarmful nature of hookah smoking, A meta-analysis of usage patterns of hookah in four countries in Asia (Kuwait, Jordan, Lebanon, and India) among participants aged 20-68, showed that hookah smoking on a daily basis results in a concentration of nicotine in urine which is equivalent to that of smoking 10 cigarettes per day (Rezk-Hanna & Benowitz, 2018). Alongside the motivating factors stated above, when looking at the legislation and enforcement employed on this matter, a striking incompetence is evident primarily in hookah smoking prevention, especially in comparison to the extensive efforts against cigarette smoking in all fields.

Rulling, Legislation and Enforcement of Smoking Worldwide

The main significant change in public views and governmental attitude in the west towards smoking damages and understanding the damages from smoking, which can certainly be defined as a paradigm shift, occurred in 1964 with the publication of the United States Surgeon General’s report. This fundamental report pointed out the relation between smoking and lung diseases such as COPD and lung cancer, as well as coronary heart diseases (Surgeon General’s report, 1964). Following this report, negative attitudes towards smoking have begun to take shape among the public in the west, and over the years, according to provisions of rulings that were issued in US courts, the tobacco industry published internal documents which for the first time revealed the scope, sophistication and forceful

methods the industry has used to encourage sales of various tobacco products. Accordingly, among the general public the willingness for regulatory intervention to limit smoking has gradually increased (Proctor, 2011). Worldwide, regulations have gradually developed that range from limiting of smoking only in closed or open public places, to the complete prohibition in some cities of smoking in all public areas as well as various restrictions concerning advertising and sales of cigarettes (Broder, 2006).

One of the prominent changes in the world towards smoking, and particularly towards the smoking industry, was establishing of the Framework Convention on Tobacco Control (FCTC). The FCTC engaged with means to reduce the demand for tobacco products and its consumption, limiting their supply, and protecting the public from the health, social, environmental and economic consequences of tobacco consumption and exposure to smoking, in any location to which the general public has access or which is intended for public use. The convention has come into force in 2005, and is currently signed by 168 countries, including Israel. This convention is the first to be conducted under the auspices of the World Health Organization of the United Nations (WHO,nd), and created an extensive mechanism of control of tobacco through: taxation and pricing; protection against exposure to smoking in public places; regulations on the components of tobacco products and the delivery of clear information from the tobacco companies about these components and ingredients; determining the forms of packaging and labeling of tobacco products; education and increasing the awareness to the damages that are caused by smoking; restrictions on advertising tobacco products, and encouraging smokers to quit. All these measures have been employed to achieve a considerable and constant reduction in the frequency of tobacco use and exposure to smoking (WHO, 2009).

The European Union also joined the FCTC Convention and supported its provisions. In 2007 the European Commission published a “Green Paper” which was entitled “Free of Tobacco Smoke Europe”, which examined the advantages and disadvantages of a complete smoking prohibition in all public places compared to providing of an exemption to the Food and Beverage sector, such as restaurants, pubs and bars. This document supported imposing a smoking prohibition in these places as well. Accordingly, the European Parliament applied a complete prohibition on smoking in all closed workplaces, including catering businesses, public buildings and public transport in order to protect the health of the general population (European Union: European Commission, 2007). In general, nowadays a global trend can be seen regarding the prohibition of smoking in all public places, including places of entertainment, and in public opinion surveys it is apparent that this position is popular and has gained broad public support. The levels of compliance of prohibition of smoking in public transport and in workplaces are high in about half of the countries where such prohibition exists: health facilities - approximately 42% of the countries, educational facilities except universities - approximately 38% of the countries, restaurants - about 32% of the countries, and bars - about 30% of the countries (WHO, 2008).

The United States has chosen not to join the FCTC convention, due to different disagreements. The primary legislation in this field in the United States engages in the expansion of the smoking prohibition and applying it to all public places. How-

ever, there are jurisdictions across the United States that do not prohibit smoking in places (Cummings & Proctor, 2014). In the United States there is no legislation at the federal level on the prohibition of smoking in public places, except for legislation to regulate smoking in places such as prisons, airports and in flights. The prohibition of smoking in public places in the United States is regulated by state legislation (and even local legislation), and by 2012 legislation prohibiting smoking in public places have been enacted in 30 US states (American Nonsmokers' Rights Foundation, 2013). The scope of legislation is different in every state, ranging from prohibition of smoking in certain places, such as government offices (e.g., in Arizona, Hawaii, Ohio, Wyoming), complete prohibition of smoking in public places and workplaces (e.g. in California, New York, Utah, Washington), while three states (Louisiana, Tennessee and Texas) have no state legislation that prohibits smoking, in any place whatsoever (Lotan, 2006).

In Ireland, for example, the law imposes liability for smoking in public places both on smokers and on venue owners and those responsible of public places, and states that the latter must make reasonable efforts to ensure that local employees and customers are aware of the prohibition and indeed comply with it (Currie, Blackman, Clancy, & Levy, 2013). In Scotland, a law that prohibits smoking in public places and workplaces came into force in 2006, and the prohibition includes smoking in bars, restaurants and shopping centers. It seems that in this case too, the law imposes liability on both smokers and those responsible for non-smoking prevention (Ashley, 2011).

Ruling, Legislation and Enforcement of Smoking in Israel

In Israel there is legislation in the field of tobacco control since 1983, which was amended and evolved over the years, especially after Israel has joined the FCTC convention. When the law was enacted in 1983 it prohibited smoking in public places and involved 32 restrictions on smoking in public places. In most places prohibited for smoking it was permitted to designate limited areas for smoking by marking signs. Amongst public places where smoking has been prohibited were: close halls for performances or public gatherings; hospitals, clinics and pharmacies; libraries and institutions of higher education, except for places used for residential purposes; elevators; public transportation (Lotan, 2006).

In 2007 the law was amended, following the joining of Israel to the FCTC convention and in the spirit of the provisions of Section 8 of the convention, and was renamed "Prevention of Smoking in Public Places and Exposure to Smoking". The amendment to the law added a section that commits the owner of a public place "to control and to do everything that is possible to prevent violations of the law", including to demand from smokers to stop smoking in the vicinity, to take reasonable steps to prevent smoking and to complain to the local authority supervisor on the issue for violation of the law in case of ongoing violations (Rosen & Peled-Raz, 2015; Israel Cancer Association, nd). Among the notable changes in the amendment of the law were significant raises of the fines to a smoker - 1,000 NIS – and also imposing part of the responsibility on the owner of the venue. For the first time, it determined that in the case of a violation the owners would also be fined - 5,000 NIS. However, the legal judgments that have been determined

since the law was applied indicate that judges do not attribute automatic liability on the venue owners, and find them liable in cases where it has been proven beyond doubt that the owner has not done enough to prevent smoking in his/her territory. That is, in civil lawsuits there may be cases where a person smokes in a particular business and the owner of the business will not be found guilty if he/she took action to prevent it (Rosen & Peled-Raz, 2015; Gorelik, 2011). The law has also been amended several more times since it was enacted, and now it also includes trains; shops; restaurants and coffee shops, pubs, clubs; sport rooms; kinder gardens; banks and post offices; workplaces; malls; event venues and event halls. The law currently allows smoking in public places only in completely separate rooms that were assigned for this purpose, with properly working ventilation facilities, and in which smoking does not cause nuisance in other parts of the place (Rosen & Peled-Raz, 2015; Berman *et al.*, 2018).

Another program that came from the Ministry of Health, “Generation without Smoking 2000”, engaged with the prevention and called for prohibiting the sale of tobacco products to those who were born since year 2000. The main meaning of this step was of course an increasing reduction in the number of smokers with natural mortality, as well as by virtue of the obligation to present an identity card at the time of purchase. This program has not been implemented and fully examined (Ministry of Health, 2014).

Despite the advancements in regulation on cigarettes, there has been less reference to other tobacco products, including hookah, that is mostly imported from Egypt and Jordan to Israel, both in ready mixed form, and in separate to be mixed in Israel. Currently in Israel there is no legislation to supervise or control neither hookah tobacco itself, nor it’s mixture components, and the importer or manufacturer of the tobacco mixture is not obligated to specify the mixture components or ingredients on the package. As a result, in May 2011 the Israeli government adopted a program to reduce smoking and its damages as a national program (Ministry of Health, 2012). The program includes two main recommendations relating to tobacco products. The first, concerning to cigarettes as well as to hookah, imposes on the manufacturer / importer of tobacco products a duty of reporting about all substances of the product including their toxicity, which is similar to a safety data sheet (“MSDS”). The second recommendation relates primarily to hookah and prohibits the production and/or import of tobacco products with a taste or smell of fruit, etc. (Almasi, 2012). In addition to the above steps, the ministry of health has begun to engage various actions on this issue: promoting laws and legislation to limit smoking, restrictions on advertising and marketing of tobacco products, increasing taxes on tobacco products, establishing an enforcement unit to concentrate enforcement of smoking acts, cooperation with the ministry of education to promote a national program to reduce smoking (Ministry of Health, 2012).

The Absence of Policy and Regulations regarding Hookah Smoking

Despite the enormous success of public health policy in reducing the phenomenon of cigarette smoking in many countries, smoking hookah continues to flourish and to prosper alongside policy and stringent regulations regarding smoking

because they were directed primarily towards cigarette smoking. Awan and his colleagues point as one of the reasons for the growing use of hookah, to the fact that in many countries - both Western countries and countries where the hookah originated – there are no specific strategies and legislation regarding the use of hookahs. This makes it very easy to access and use hookah at all ages (Awan *et al.*, 2017). In most developed countries, hookah products and hookah smoking websites are exempted from supervision and such other restrictions. Moreover, in developing countries the lack of enforcement capabilities contributed to the prosperity and expansion of hookah smoking websites (Maziak *et al.*, 2014; Salloum, Nakkash, Myers, Wood, & Ribisl, 2013).

Unlike in the hookah industry, due to regulation and enforcement the cigarette industry's products are made according to standardized and clearly defined limitations such as Health warning labels, list of ingredients, etc. This shows the need for policy that is designed specifically towards hookah smoking (Bahelah, 2014). For example, customers who use the facility of hookah smoking in a coffee shop usually are not exposed to the tobacco pack and may miss the medical warnings regarding the tobacco. In addition, while the policy of raising the price of tobacco products has been found effective in reducing the demand for cigarettes, its effectiveness regarding the hookah products is expected to be relatively limited in some regions. For example, in restaurants and coffee shops in Middle Eastern countries, the incomes from tobacco sales are small and marginal relative to the total incomes from the sale of food and drinks. In addition, it is possible to prepare homemade hookah by using of relatively inexpensive components (Chaloupka, Straif, & Leon, 2011; Gilmore, Tavakoly, Taylor, & Reed, 2013).

In summary, there is an urgent need for developing policies targeted towards hookah smoking on multiple levels, including - raising public awareness through health education guidance and educational programs; legislation regarding public smoking prohibitions, warning labels, taxing regulations and production standards; effective and uncompromising enforcement.

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