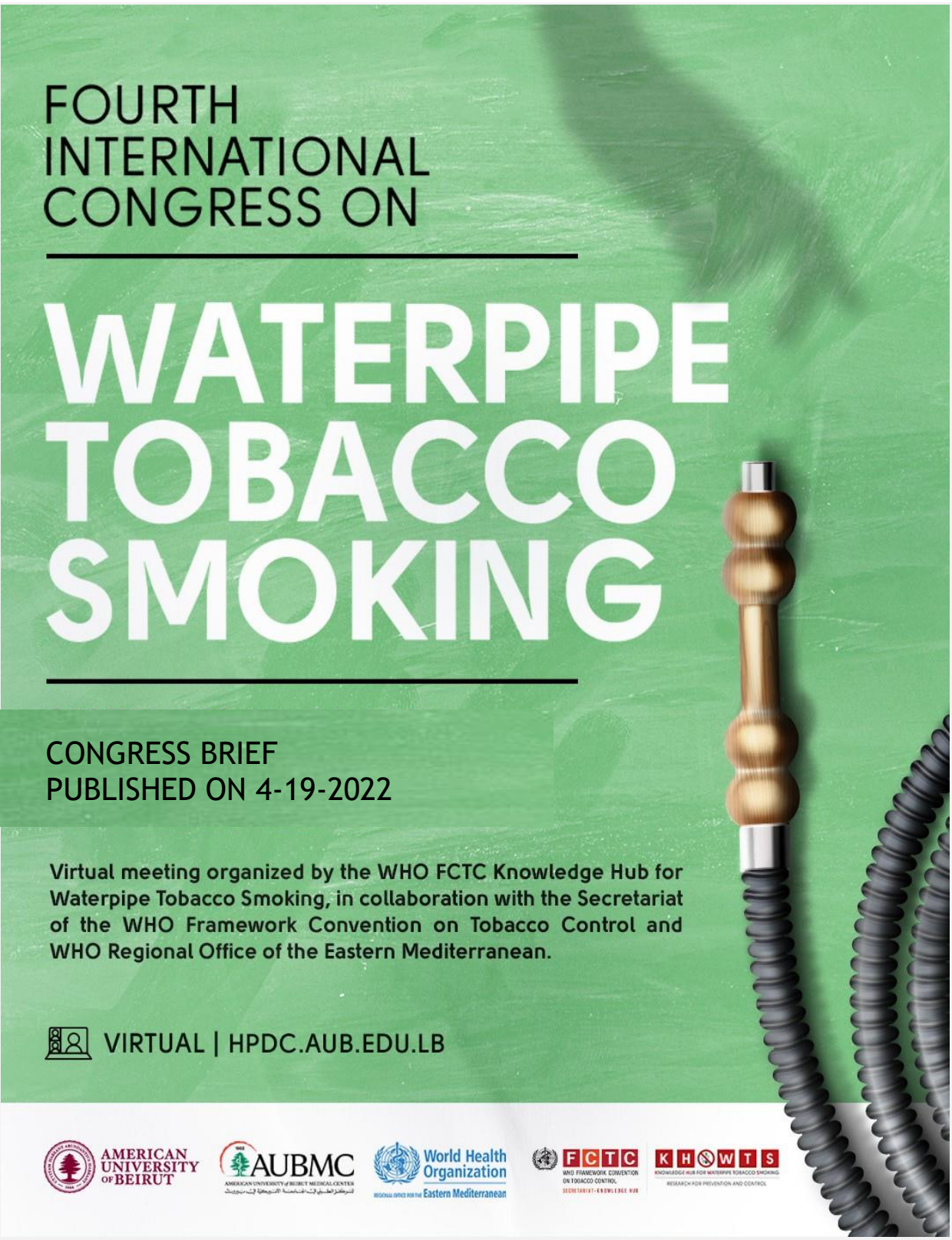
FOURTH
INTERNATIONAL
CONGRESS ON
WATERPIPE
TOBACCO
SMOKING
CONGRESS BRIEF
PUBLISHED ON 4-19-2022
Virtual meeting organized by the WHO FCTC Knowledge Hub for Waterpipe Tobacco Smoking, in collaboration with the Secretariat of the WHO Framework Convention on Tobacco Control and WHO Regional Office of the Eastern Mediterranean.
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Overview

Tobacco use remains the leading preventable cause of death throughout much of the world. Waterpipe (WP) tobacco use - formerly a traditional habit among men in the Eastern Mediterranean Region (EMR) - has also spread across the globe among women and youth. Waterpipe tobacco smoking (WTS) can be exclusive but often part of poly-tobacco use.

The last two decades have witnessed more research on the use prevalence, determinants of use, contents and emissions, and health effects of WTS. Interventions to prevent and control use have recently been implemented and evaluated, informing our ability to tackle this epidemic.

Policy and regulatory approaches to WTS have been suggested by WHO and FCTC in a number of frameworks (e.g. Conference of Parties decisions, WHO Technical Reports and Advisories) but their implementation remains lagging behind national regulations targeting mostly cigarettes. The regulatory landscape for tobacco control is changing in the US and internationally.

The Fourth International Conference on Waterpipe Tobacco Smoking Research built on the momentum established in the first, second and third conferences to share recent scientific evidence on WTS with intent to inform practice, policy and regulation and enhance public health and population wellbeing.

In addition to keynote presentations by scientists and leaders in tobacco control and/or knowledge translation, the conference was open to abstracts submission on emerging research. The full list of speakers is in appendix 1.

The conference was organized by WHO-FCTC Knowledge Hub on Waterpipe Smoking (KH-WTS) at the American University of Beirut in collaboration with the Secretariat of the WHO Framework Convention on Tobacco Control and WHO Regional Office of the Eastern Mediterranean.

The virtual conference was held over 3 days between September 27 and 29, 2022 and was attended fully by 77 participants. The program of the conference can be found in appendix 2.

Objectives

At the end of the conference, participants were able to:

1. Learn about recent evidence on interventions to prevent/control WTS
2. Update evidence based knowledge on practice, policy, and regulation to enhance public health and population wellbeing.
3. Build capacity in knowledge translation for WTS and enhance linkages and collaborative partnerships globally.

Prevalence of Smoking among Adults and Youth

Adult Patterns

In EMR, unlike other regions, the number of tobacco users is projected to increase by 2025. Most smokers in the region smoke cigarettes; however, recent studies show that WTS is increasing at an alarming rate, especially among females.

In terms of achieving global targets in tobacco use, one-third of the global population aged 15 years and above, in 2000, were current users of tobacco. There has been a decline over the years where, in 2020, less than one-fourth of the global population were current users. This rate is projected to decline further to around one-sixth by 2025. In terms of regional trends in current tobacco use among adults (15 years and older), all regions are moving towards a declining target, with the American region leading in achieving this target by 2025. On the other hand, the EMR region is among the slowest achievers to the target(1).

Tobacco is one of the major contributors to non-communicable disease (NCD) premature mortality. By achieving a 30% reduction in prevalence of smoking by 2025, there will be a major contribution to reducing premature mortality. However, there is a need to agree on a higher target of reduction to achieve, and as discussed recently by the World Health Assembly, there is a need to discuss with countries the need to replace the current 30% target by a more ambitious one of 50%(1, 2). When comparing trends among males and females, the latter group will be able to achieve the target of 30% and in some regions, they will achieve a target of 41%. For males, the only region that may achieve the 30% target is the American region(1) (Presentation by Heba Fouad).

Youth Patterns

Males, aged between 13 and 15 years old, have the highest prevalence of tobacco use among adolescents in EMR, which is above the global average. The rates among their female counterparts are also increasing. Tobacco smoking rates are increasing among youth, exceeding the levels of 40%, as seen in recent data coming from Jordan and Palestine(1).

Data from the GYTS gathered between 2014 and 2019 shows higher rates of use among males aged between 13 and 15 when compared to adults. In several countries such as Jordan, Lebanon, and Bahrain, the rate reaches 27% (Presentation by Heba Fouad).

Smoking and the COVID-19 Pandemic

A comprehensive systematic review was conducted on the association between cigarette smoking and the risk of COVID-19 hospitalization among cohorts of COVID-19 positive subjects, and severity and mortality, among cohorts of COVID-19 patients(3). It was shown that there is evidence of 30-50% increased risk of disease progression, in terms of severity or mortality, among both current and former smokers compared to never smokers. Furthermore, preliminary result from the COSMO-IT study(4), indicated no association between secondhand smoke exposure and COVID-19 severity, but it showed a 67% increased risk of COVID-19 mortality for patients daily exposed to secondhand smoke compared to non-exposed ones. In a

systematic review studying the relationship between e-cigarettes and COVID-19 infections, all the studies found that there might be a higher risk of infection for e-cigarette users.

Studies on the association between WP and COVID-19 are limited, the few available suggest no direct association between WP use and COVID-19 severity but more research is needed to study this subject. As for mortality, two studies showed more frequent deaths among WP users, but the results were not significant (Presentation by Dr. Sylvano Gallus).

In Lebanon, a study was conducted to evaluate the prevalence of smoking and the COVID-19 infection severity in a sample of adult patients diagnosed with COVID-19 and to explore the relationship between smoking status and SARS-CoV-2 infection severity in the overall sample and stratified by gender. Results showed that male patients have presented with a severe infection in comparison to females. WP smoking is associated with higher infection severity ~~with severe infections~~. WP smoking must be considered as a factor for worse prognosis among COVID-19 infected males(5) (Presentation by Dr. Rana Haidari)

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There is a wide misperception about smoking and COVID-19 during the epicenter of the pandemic in Iran. In a recent study conducted to determine the beliefs and perceptions surrounding the use of tobacco products and COVID-19 among adults(6), it was found that cigarette smokers, compared to never smokers, were less likely to believe that smoking cigarettes can lead to COVID-19 spread. Moreover, WP smokers, compared to never smokers, were more likely to believe that smoking WP at home is a safe practice to protect against COVID-19 and may lead to a more rapid recovery from it. This shows that there is a vital need to educate smokers about the side effects of smoking, especially when there is established literature and evidence that shows that smoking either WP or cigarettes can massively affect the respiratory system and reduce the function of the lungs.

It was pointed that there is no more funding is available for LMICs to study the association between WP smoking and COVID-19 infections (Presentation by Dr. Mohamed Ebrahimi Kalan).

Advertisement and Marketing Appeal to Youth and Young Adults

Combustible and Electronic Waterpipes

Over the years, the tobacco industry has expanded its marketing strategies to include a wider range of customers by introducing a variety of new tobacco and nicotine products. Starting with combustible products to dissolvable, smokeless, heated tobacco products and electronic nicotine devices.

Conventional WP is well known and has been marketed as a healthier and safer option to cigarette smoking. In 2014, electronic WP was introduced as healthier, non-combustible alternative to conventional WP. A flavored, e-liquid is vaporized via an e-WP head. Little is known about e-WP use and its potential toxicity and health effects, given that it is still novel and most studies on electronic nicotine delivery systems have focused exclusively on e-cigarettes with little reference to e-WP(7).

In 2019 Philip Morris patented e-WPs; this patent may not necessarily result in generating a popular product, but it was the first time that a well-known transnational tobacco company promoted WP smoking products. That was likely because of the growing prevalence of WP among youth. Compared to other nicotine delivery systems, most of the youth and young adults in the US are smoking WP or vaping products at social settings(8).

A recent study, that analyzed representative national US data from the Population Assessment of Tobacco and Health (PATH), assessed self-reported reasons for WP smoking among US youth and young adults. The findings showed that the main reasons, among both youth (aged 12 to 17) and young adults (aged 18 to 24), include enjoyment of socialization, the variety of flavors, and the notion that it is less harmful than cigarettes. Other reasons included affordability, ability to smoke in places where cigarette smoking is not allowed, appealing advertisements, it may help people quit smoking, and being part of some cultural traditions. Most of these reasons are directly or indirectly influenced by the tobacco marketing and advertisement(9).

In 2019, the tobacco industry in the US spent $8.2 billion on marketing and advertisement while, in all states combined, less than $750 million was spent on youth antitobacco and cessation programs. The WP tobacco industry uses various strategies to create demand for their products by targeting adolescents and young adults to try their new products and encourage current smokers to continue using the products of their choice(10, 11).

With regards to advertisement about the ease of accessibility to WTS, WP can be directly delivered to consumers doorsteps by simply placing an order through phone applications or social media websites(12). The industry uses the leading social media platforms as well as some unregulated digital ones for their marketing strategies. This is a global emerging issue as it allows underage youth, who can't smoke at cafes or lounges, to smoke at home. Thus, increasing their exposure to combustible tobacco products, secondhand smoke and thirdhand smoke at home(13). Additionally, studies show that WP lounges cluster near colleges and university campuses, primarily again targeting the youth and young adult population(14) (Presentation by Mary Rezk-Hanna).

Flavoring in Waterpipe Tobacco

Adolescents and youth report flavors as a key reason why they started using a tobacco product. The first flavored tobacco products used by youth aged 12 to 17, was in WP tobacco(15). Research showed that flavors mask the harshness of nicotine, increase the appeal of products, renormalize smoking, attract youth to use these products and increase tobacco initiation and consumption(15). A major ongoing issue in the US is that characterizing flavors in tobacco have been banned in cigarettes but not in WP products(15). This is a critical loophole in current WP control policies that the WP industry is using to hook adolescents and retain youth to use such products (Presentation by Mary Rezk-Hanna). The industry spends millions of dollars yearly to heavily market new "fruity" flavors to adolescents and youth by using bright pictures of fresh fruits thus perpetuating the misleading promotion about safety and health appeal of WP use when compared to conventional cigarettes. For that, some jurisdictions regulate the flavors in select tobacco and nicotine products. For example, in the European Union, characterizing flavors are forbidden in cigarettes, as in the United States, and some member states also regulate flavors and e-liquids. It is essential to extend those policies and procedures to include WP tobacco as well(16).

Apart from WP tobacco, there are also other related products that do not contain tobacco but can be used in WP. For example, steam stones are small porous mineral rocks soaked in a liquid containing flavorings; they're available with or without nicotine and they are often marketed as less harmful than WP tobacco. Another example is herbal molasses which is a flavored plant-based product without tobacco, which is also marketed as a less harmful than WP tobacco. Additionally, there are flavor accessories that can be used to impart a flavor on tobacco. Such products are usually sold separately so they cannot be covered by the usual tobacco product regulations(16) (Presentation by Dr. Reinskje Talhout).

Economics of Waterpipe Tobacco Smoking

Worldwide, the total economic cost of smoking in 2012 was $1.4 trillion and the direct healthcare costs were $422 billion. Tobacco consumption has imposed direct and indirect costs on society and the economy. There are substantial direct healthcare costs associated with tobacco use, and there are non-health care costs that patients face because of tobacco use, whether they are victims of using tobacco themselves or by being exposed to tobacco use as secondhand smokers.

The direct non-healthcare costs on the economy include the lost productivity from a patient who smokes and currently suffer from a tobacco related disease; it can also include transportation to the clinic and time that family members take off from work to provide care for their sick relatives. Also, premature mortality from tobacco use affects the societal economic productivity. The indirect non-healthcare costs of tobacco use are in the form of a reduction in potential resources. There are also societal costs to tobacco use that go beyond the consumer. For example, secondhand smoke, medical costs of treating tobacco use, and the consequences of tobacco use are things that society must share the cost of. Additionally, there are direct healthcare costs paid by tobacco users and their families such as the out-of-pocket costs for healthcare to treat disease caused by smoking.

Taxing tobacco is an efficient revenue generator given that tobacco products have inelastic demand; there are few producers and have few close substitutes. Taxing tobacco is an important motive for higher tobacco taxes in high income countries and an increasingly important revenue in LMICs. Based on growing global evidence, taxing and raising tobacco prices have positive effects particularly among the youth, less educated, and low-income populations. Taxing tobacco can also cover the societal costs of tobacco.

A substantial body of research, accumulated over many decades and in many countries, shows that significantly increasing the excise tax and the price of tobacco products is the single most consistently effective tool for reducing tobacco use(17).

There are different types of tobacco taxes: sales taxes (value added taxes), custom duties on tobacco leaf/products imports/exports, implicit taxes that can be imposed when government monopolizes production or distribution of tobacco products and through customs duties (tariffs) which are taxes levied on imports and sometimes exports. These types of taxation are not specific to tobacco control; axes that can serve as specific to tobacco are excise taxes. Excise taxes can be specified per unit, volume, and weight, and ad valorem based on price. It is important to note that excise taxes can be purely specific, purely ad valorem or mixed. The advantages of specific excise taxes are reducing price gaps, deterring tax avoidance, ease of administering them and stabilizing tax revenues for the government. However, the disadvantage

is inflation erosion. As for ad valorem excise tax, the advantages are adjustability with inflation and ability to impose higher taxes on higher priced products. The downside of ad valorem taxes is that it leads to greater price gap, incentivizes tax avoidance, may be eroded by discounts and the government tax revenue may drop with dropping prices (Presentation by Dr. Ramzi Salloum).The WHO FCTC recommends implementing specific or mixed excise taxes with a minimum specific tax floor because specific taxes are easy to administer and produce more stable and predictable revenues than ad valorem taxes, as they are not as subject to industry price manipulation. Tax systems that have a large specific component tend to be associated with higher prices (Presentation by Vanessa Darsamo).

The price elasticity of demand can offer a very useful estimate when conducting studies that predict or project the total government revenue arising from excise taxes. When the excise tax of a product changes, the total revenue changes. The price elasticity of demand measures how price change would affect the quantity demanded. Revenue therefore depends on the change in the excise tax itself and the change in quantity demanded. The main influencers of demand are the prices of the good or its related products, expected future prices, income, expected future income and credit, number of buyers and preferences. To determine the price elasticity of demand, the percentage change in the quantity demanded is compared with the percentage change in price; this is always expressed in the negative.

For example, an elastic demand is when the price elasticity of demand is >-1, which means the quantity is more responsive to price, so when the price of the product increases by 10%, the demand for the product falls by more than 10%. Unit elastic demand is when the elasticity of demand is equal to -1, meaning that the quantity responds one to one to price, so when the price of the product increases by 10%, the demand for it drops by 10%. Inelastic demand is when the elasticity demand is <-1, which means that the quantity is less responsive to price change so when the price of the product increases by 10%, the demand for it drops by less than 10% (Presentation by Vanessa Darsamo).

This principle can be applied to WP tobacco products. An example of price elasticities of demand on WP products comes from research conducted by the consortium on the economics of WP smoking (ECONWTS) in the EMR. Results showed that in Lebanon, in terms of home consumed premium WP tobacco (250g), the elasticities generated were very high (-1.9), meaning that a 10% increase in price would be met by a 19% drop in demand from premium tobacco. Similarly, for home consumed premium WP tobacco (250g), a 10% increase in price would be met by a 17% drop in demand. WP tobacco home delivery (-1.8) and café consumed premium WP (-2.3) show very high price sensitivity. The findings also showed that cross price elasticities between WP and cigarettes is 0, which means that the demand for the two products is distinct(18) (Presentation by Dr. Ali Chalak). Another paper from the same study examined gender differences in price elasticity of demand between WP and cigarettes in Jordan, Lebanon and Palestine and the results showed that the degree of responsiveness for changes in price was higher for WP products as compared to cigarettes in all three countries and that generally, women are more responsive to changes in tobacco products. Additionally, in the three countries cross price elasticities indicated some substitution between cigarettes and WP products and within each product variety (19) (Presentation by Dr. Niveen Abu Rmeileh).

Tax simulation modeling can illustrate the benefits of improving excise taxes on tobacco products. The tobacco excise taxation model (TETSiM) was developed by the Research Unit on the Economics of Excisable Products (REEP), led by Prof. Corne Van Walbeek, Director of FCTC Secretariat Knowledge Hub on Tobacco Taxation in South Africa. The goal of this model is to quantify specifically the change in excise tax structure and/or the level of the excise tax on

several variables, including cigarette consumption and excise revenue collected by the government. The model is offered in a user friendly, flexible Excel format which can be adapted to any market or tax structure without requiring excessive amount of data. The model illustrates that improving excise tax structure is a win-win policy: decreased consumption and increased revenue (Presentation by Kristen Van Der Zee). The TETSiM model can be applied to WTS and was tested by the ECONWTS team to examine the impact of WP tobacco specific excise taxes on consumption, government revenue and premature deaths averted in Egypt, Jordan, Lebanon, and Palestine (19) (Presentation by Dr. Mohammed Jawad).

Waterpipe Tobacco Control

The WHO FCTC went into force in February 2005. Within the past 17 years, parties have made significant progress in implementing the articles of the convention, but this progress is uneven across them.

The WP has unique design features and accessories which makes it harder to regulate. Comprehensive regulation lags behind that of cigarettes even though WTS is subject to all WHO FCTC regulations requirements. There are many drivers and regulatory challenges to WTS; these control, according to the "control and prevention of WP tobacco products report"(20). include, among others: the false perception that WTS as safe; the sociocultural acceptance, aggressive use of advertisements and social media, and the appeal of flavored products which encourages initiation. It is important to note than one size of WTS regulation does not fit all and thus policies should be tailored to each country needs(20).

Below are the FCTC articles related to WP tobacco smoking(21):

Article 6: Tax and price measures	Tobreg's 2nd report on recommendations on tax of WP tobacco smoking include focusing on individual servings, focus on the pipes parts and accessories and banning duty- and tax-free sales.
Article 8: Protection from exposure to smoke	WP tobacco smoking has an additional element to second-hand smoke in comparison cigarettes, which is the charcoal. This shows that there is no health or legal justifications for exempting WP tobacco smoking from government regulations.
Articles 9 &10: product contents and disclosures	Those articles have an additional focus for WP tobacco smoking because of the flavorings that are used to induce young people to use hookah and keep people using it. There is a real motive to ban flavoring and ensure that it is carefully captured in regulations to avoid loopholes.
Article 11: packaging	Take away any misleading info and make sure that the health warnings are specific to WP tobacco smoking and that there are specific requirements for constituents and emissions of WP tobacco smoking.
Article 12: education	The important aspect is to ensure that the sociocultural myths and the dangers about WP tobacco smoking are considered.
Article 13: advertising, promotion, and sponsorship	Complete TAPS should be applied to all tobacco products including WP tobacco smoking and accessories. It is important to include an indicative and non-exhaustive list of where the products may not be advertised and sold. There also should be a launch of counter advertising on social media to reach a lot of people.

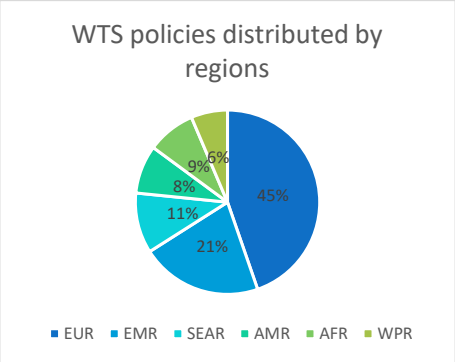
Article 16: regulation of sales	All the sections apply to WTS especially because of the appeal to youth. Countries are encouraged to use article 2.1 and use innovative ways for protecting young people by increasing the age of use to 21, banning vending machines and regulating the distances between the schools and the points of sale.

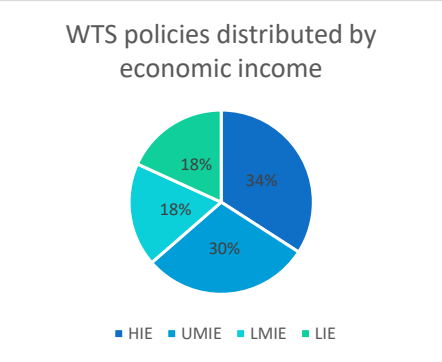
Governments need to keep article 5.3 in mind: “protecting the public health policy from the industry” whenever they are designing WP tobacco smoking related policies. Additionally, there are other articles of the FCTC that are crucial to WP tobacco smoking control, i.e. articles 14, 15, 17, 18, 19, 20, 21, 22 (Presentation by Patricia Lambert).

Previous global analysis of country tobacco control policies in 2015 showed that very few countries addressed policies on WTS(22). Tobacco control advocates have begun to discuss the tobacco endgame, a vision of less than 5% population prevalence of tobacco smoking. Among the suggested strategies include a focus on supply-oriented endgame models, such as state-owned tobacco companies (SOTC). Hence it is critical to start exploring the scope of WTS policies and the extent to which social and environmental consequence in countries with SOTC (Presentation by Hala Alaouie)

Waterpipe Policy Distribution (23)

(Presentation by Hala Alaouie)





European region (EUR), East Mediterranean Region (EMR), Southeast Asia Region (SEAR), Americas Region (AMR), African region (AFR), Western Pacific Region (WPR).

High Income Economies (HIE), Upper Middle-Income Economies (UMIE), Low Middle-Income Economies (LMIE), Low Income Economies (LIE).

Waterpipe Control Challenges in Brazil

WTS was brought to Brazil by Middle Eastern and European immigrants and was spread by Lebanese, Turkish and Jewish colonies. WTS was also depicted on a soap opera in 2000, which is considered to have had great influence on Brazilians. Three years after the soap opera was aired, WTS became the new sensation in Sao Paolo. In a study in Brazil among adolescents aged 13 to 15, it was shown that WP is the most used non-cigarette tobacco product. In early 2018, the mayor of Sao Paolo declared it illegal to sell WP to minors and

Facebook and Instagram restricted posts referring to alcohol and smoking in 2019 (Presentation by Dr. Paulo Cesar Rodrigues).

Health Warning Labels and Waterpipe Tobacco Use

Health warning labels (HWLs) represent a very important strategy for tobacco control because they can serve as a portable source health information as they will be displayed each time the product is used. There is strong evidence that shows that HWLs are effective in encouraging cessation among smokers and are effective in discouraging initiation among nonsmokers. Evidence also shows that pictorial HWLs (Text + image) are more effective than text-only labels and increasing their size increases their effects.

Countries are still lagging in terms of implementing article 11 of FCTC, especially when it comes to WTS specific HWLs and pictorial health labels. Most countries that ratified the FCTC are still using textual warnings on WP products that are related to smoking in general or intended to cigarettes (e.g. Lebanon, Jordan and Palestine) or are using pictorial HWLs on WP products that are related to smoking in general (e.g. Egypt). The US FDA has issued a WP-specific textual warning: “WARNING: this product contains nicotine. Nicotine is an addictive chemical” However, the Gulf Operating Council Countries (GCC) have been implementing WP specific pictorial warnings. Additionally,

There are three main factors that need to be considered when adapting HWLS to WP: First, WP’s unique multi-component context; second, WP is a multi-component tobacco use method that involves the tobacco package, the device, and accessories; and third, the charcoal. Unlike cigarettes, HWLs should be applied to all components of the WP as well as to the menus at cafes/restaurants. Additionally, the HWLs should be adapted to users' context and culture. Finally, understanding the local tobacco control policy situation in the country where the policy is being applied.

A laboratory study was conducted in the US on 60 WP smokers who completed two, 45-minute ad libitum smoking sessions, one with HWLs and one without(24). Several subjective and objective measures were assessed such as the satisfaction with the session and CO exposure. Results showed that implementing the HWLs made a difference for WP smokers, as smokers were less satisfied when they smoked while looking at the HWL and CO exposure was also less.

In a study about HWLs in Lebanon and Tunisia, an initial literature review was conducted to design HWLS(25). Priority themes for the negative effects of WTS were identified as follows: (1) health risks associated with WTS and addiction, (2) harm to others, (3) WP-specific harm, (4) WP harm compared with cigarettes. HWLs related to COVID -19, and smoking cessation were also added later. HWL considerations include having one-third of the space for the text and two-thirds of the space for the picture since it is more effective in grabbing the smoker’s attention. The pictures were relevant to the identified themes. To measure the effectiveness of the label, the following should be considered: *Did it grab the attention of the reader? What kind of emotions did it create to the reader (fear, disgust, etc.)? Did it impact harm perception? And did it have any effects on the intention to use/quit?* (Presentation by Dr. Taghrid El Asfar)

This study also identified barriers to the adoption of pictorial health warning labels (PHWLS). It reiterated that WP is a complex product and for effective WTS control, several elements require regulation (charcoal box, tobacco box, and the WP apparatus)(26). WP can be used at multiple

locations (home, restaurants, delivery) and the tobacco comes from multiple sources (supermarkets, tobacco shop, etc.)(26). Moreover, there was resistance from restaurant/café owners and from the state-owned tobacco monopoly (Regie Libanaise) to implement regulations, and their ability to evade them by bribing law reinforcing officers(26). To implement effective regulations and overcome these barriers, interviewees mentioned the need for a collaboration and support between various stakeholders mainly between ministry of finance, ministry of health, ministry of tourism and the Regie Libanaise(26). Some of the suggested ideas included getting the PHWLS implemented across all tobacco products, conducting market surveys, placing warning labels on the imported or manufactured glass bowls of the WP, providing restaurant owners with stickers to be placed on the WP device since it was perceived that printing it on device was not easy. Finally, financial, and human resources should be invested in to create awareness campaigns(26) (Presentation by Dr. Rima Nakkash).

Plain Packaging in Turkey

WHO describes plain packaging as a significant demand reduction measure as it reduces the attractiveness of tobacco products, restricts the use of tobacco packaging as tobacco advertising and promotion, restricts misleading packaging and labeling and increases effectiveness of health warnings.

Article 11 of the FCTC on packaging and labeling measures was implemented by the Turkish Tobacco and Alcohol Department of the Ministry of Agriculture. The plain packaging plan was implemented in 2018 and went in full force for all products at the manufacturer level and retail level.

The new standardized features on the packages stipulated that the package should be in one color, a combined (textual and pictorial) health warning is applied starting from the top edge of the package, the brand and variety name spelling are in a standard font, instead of emission information on the package, general information and information message texts are placed. The combined health warnings include pictorial (a photograph, picture, or drawing), written text, cessation information, in a special frame (surrounded by a black border line 1 mm wide inside the surface area, indicating the harmful effects of tobacco products. All warnings should be in Turkish and should occupy each of the front and back surfaces of the packet and packages (10 packets). The same combined health warning is used on both sides, and it is ensured that each of the combined warnings appears in each type of product, changed periodically. These warning were obtained from the WHO resource library (Canada, EU and Thailand) and regulation, form and design are compliant with EU Tobacco directive 2014/40. In addition to the combined health warning, each pack must display a general warning message on 50% of one lateral side and an information message on 50% of the other lateral side. The warning on the packages "cannot be sold to those who are under the age of 18" has been changed to "The penalty for selling to those who are not 18 years old is imprisonment". Additionally, listing emission measurement values on cigarette packs was banned.

The measures are not limited to the packages but extend to the sticks of cigarettes; the tipping paper used in cigarettes should be plain with white matte finish and/or patterned cork, and the cigarette paper should have white matte finish. The cigarette unit pack should contain 20 cigarettes. Standardization was also applied to: (1) the master cases that are used for transport and storage, (2) packages containing 10 packs (3) aluminum foils on the packs (4) colors, shapes, contents, and features of cigarette, roll your own tobacco, cigar and cigarillo, and pipe.

As for WP products, standardization was also applied to flavored WP tobacco products, where the inner packaging color should be transparent, silver -colored or Pantone 448 C Matte finish. The inner packaging of the non-flavored WP tobacco product should be made of white or kraft brown colored paper material. Additionally, placing combined health warnings on WP bottles became mandatory in 2013; when serving a WP at restaurants or coffee shops, it is obligatory for the WP to carry HWLs including on the bowl that is filled with water.

As for the textual health warnings, it consists of a general warning that states the phrase "Smoking kills - quit immediately" and the Information Message it consists of the phrase “Tobacco smoke contains more than 70 substances known to cause cancer". The standardization varies depending on the shape of the package/products (Presentation by Ayse Gokalp Kirca Celik)

Waterpipe Cessation Protocols

There are unique features of WP smoking. First, WP smokers consider it a stress reliever and it induces an initial sense of calm especially in anxious patients. It is deeply embedded in the life of smokers, especially in social gatherings. Usually, the sessions last for one hour, and it involves sharing it with friends and family members. WP smokers often perceive themselves as not smokers, so they don't seek smoking cessation services. Hence, WP dependance is physiological, emotional, behavioral, and social.

WTS cessation protocols and practices are limited; however, there are many benefits to the cessation of WTS that include reversing the increase of airway resistance, reducing the increase in the levels of tumor necrosis factors, attenuating oxidative stress markers, and decreasing DNA damage(27). In a study conducted on 510 adults(28), predictors for WTS cessation were being male, dual smoker (WP and cigarettes), less nicotine dependency, having a history of quit attempts, smoking restriction in the house, and not sharing WP with others.

At present, there are no studies on the role of nicotine replacement therapy in WTS cessation. Additionally, varenicline for WTS was not more effective than placebo in aiding tobacco use cessation among daily WP smokers(29, 30). Bupropion and behavioral counseling are found better than placebo in helping WTS cessation(31).

Studies have shown that behavioral counseling in WTS cessation is effective in decreasing WP smoking habits, in person and telephone counseling and self-help materials work. Sessions of behavioral counseling should be less than 30 minutes/session and patients should receive more than four counseling sessions to be effective. Behavioral interventions can be delivered by physicians, nurses, psychologists, social workers, and cessation counselors either individually or in groups(32). It is important to note that behavioral counseling is effective in decreasing WTS habits among youth(33) (Presentation by Dr. Maya Romani)

WHO TobLabNet Experience with Testing of the Contents of Waterpipe Tobacco Products and Status of WHO-sponsored SOPs

The WHO Tobacco Laboratory Network (TobLabNet) is a global tobacco testing laboratory network established by the WHO Tobacco Free initiative (TFI) in 2005. The main objective of this industry independent network is to build and strengthen tobacco product testing and

research capacity in pursuance of Articles 9 and 10 of the WHO FCTC. The use of scientific data to support nicotine and tobacco product regulation is important and they can be useful tools to build intelligence and recommend effective regulatory measures. Besides knowing how harmful the product is, scientific data enables the authorities to monitor level of nicotine in tobacco and nicotine products and its addictiveness potential. As for additives, such as flavors, it is a useful indicator to find out user demographics and the correlation with initiation and continuation of use. Moreover, such scientific data on testing can be used for the purposes of public education and increasing awareness through conventional and social media platforms. It is noteworthy that without testing, toxic products will remain or get dumped into the market.

To date, TobLabNet has published 14 SOPs for testing the contents and emissions of nicotine, short listed toxicants in tobacco products and electronic nicotine delivery systems (ENDS). The WHO Study Group on Tobacco Product Regulation (TobReg) Sixth report(34) recommended that standard TobLablet operating procedures should be adapted for the measurement of nicotine, tobacco specific nitrosamines (TSNAs) and humectants in the contents of WP tobacco products. It was also recommended that analytical methods should be adapted to determine the pH and the heavy metal content of WP tobacco (and tobacco-free) products and to measure metals and polycyclic aromatic hydrocarbons (PAHs) in emissions from waterpipe heated with charcoal products. In 2014, COP requested TobLabNet to assess the applicability of these methods to WP tobacco. The assessment was completed in 2016 and was updated at COP7 and the report was also published in the WHO Study Group on Tobacco Product Regulation Sixth Report(34). At COP7, WHO was further requested to finalize the standard operating procedures for measuring TSNAs in WP tobacco. TobLabNet embarked on the WTS method development project and it encountered some challenges such as resource limitations especially in testing TSNAs where the centers and equipment used are relatively costly, difficulty in recruiting adequate number of participating laboratories especially on WP tobacco testing, and the cross-border transportation of tobacco products that are subjected to special customs procedures. Despite the challenges in laboratory recruitment, TobLabNet continued to pursue the work and the Ministry of Public Health in the Netherlands offered to take the lead for measuring TSNAs in WP tobacco. The network is also working on developing methods on flavors in tobacco products due to the high interest of member states in regulating them (Presentation by Nuan Ping Cheah).

Conclusions

1- Global trends in smoking are decreasing, except for the EMR region where it is projected to increase by 2025
2- WP use is a common trend in the EMR, among both youth and adult males and females.
3- WP use among youth is one of the main challenges in tobacco control and it is increasing in all regions where there are Arab and Middle Eastern students/immigrants
4- Underreporting of smoking is a major issue among females
5- Monitoring of use and collecting pertinent data on WTS should be conducted frequently and periodically.
6- There has been a gap in data about tobacco smoking since 2019 due to the COVID pandemic.
7- Attention needs to be devoted to WP as a potential vector for the spread of COVID-19 and other infectious agents.
8- Flavorings in WP products continue to be a major factor in their attractiveness and in initiating WTS, particularly amongst youth.
9- Decreasing affordability is the most effective measure to reduce the uptake of smoking among young people
10- Raising tobacco taxes, according to established principles price elasticity of demand and/ or tobacco excise taxation model can significantly reduce tobacco use including WTS. This can increase government revenue and should not deter governments from implementing taxation increase.
11- There is an urgent need to implement WP specific control measures that consider the unique features of WP use and cover the WP device and its accessories including the charcoal.
12- Introducing pictorial health warning labels on WP smoking devices and products is effective in curbing waterpipe smoking
13- Social media and digital media platform are being used to promote WTS and countering measures are indicated for stronger control.
14- Standard operating procedures for testing nicotine and select toxicants in tobacco products are now available through the work of WHO Tobacco Laboratory Network (TobLabNet) which will undergo validation in the near future.

Recommendations

1- Develop standards, indicators, and instruments to guide regulators and researchers to compare the use of WP, among both adults and youth, across countries globally.
2- Conduct periodic surveillance of WP tobacco use to assess prevalence and inform policy measures to control it.
3- Prohibit or ban the sale of flavored tobacco to reduce initiation and attractiveness to youth and novice smokers
4- Regulate all components of WP- the device and all its accessories including charcoal.
5- Increase taxes on WP tobacco products and subject them to schemes similar to those of other tobacco products. Apply uniform specific excise tax as opposed to a tiered structure. Consider applying taxing on WP accessories too. Gain political buy-in to adopt key tax reforms.
6- Apply pictorial and textual health warning labels on WP tobacco products, the WP device and its accessories. Consider applying plain packaging to WP tobacco products if the country has adopted this policy for the sale of tobacco products
7- Ensure that Tobacco Advertising Promotion and Sponsorship [TAPS] laws are comprehensive and include textual and pictorial health warning labels specific to WP use and encompass online digital media platforms and social media.
8- Prohibit or ban WP lounges/cafes close to schools and university/college campuses.
9- Prioritize educational efforts and advertisement campaigns on the health effects of WTS
10- Develop databases to have importers and producers of tobacco products register their products and disclose contents so that regulators and researchers can have access to what is in the market
11- Incorporate WTS cessation into national public health campaigns. WP specific behavioral counseling can be helpful in this regard.
12- Convene expert groups to develop consensus around indicators of relevance, strength, and specificity in relation to WP tobacco smoking specific policies to advance the field.
13- Protect tobacco control activities from all commercial and other vested interests related to WP use including interests of the tobacco industry and its interference.
14- Conduct further investigations to understand the association between WTS, COVID-19, and other respiratory infections.
15- Encourage more research on the effectiveness of pharmacotherapies for WP tobacco smoking cessation.

Appendices

Appendix 1

List of Speakers

Niveen **ABU RMEILEH,** Professor of Epidemiology and Public Health at Birzeit University.

Hala **ALAOUIE,** PhD candidate in the department of Social and Policy Sciences and part of the Tobacco Control Research Group at the University of Bath.

Taghrid **ASFAR,** Associate Professor at the Department of Public Health Sciences at the University of Miami, Miller School of Medicine, and a full member at the Sylvester Comprehensive Cancer Center.

Adriana **BLANCO,** Head of the Secretariat of the WHO Framework Convention on Tobacco Control

Ali **CHALAK, PhD,** Associate Professor of Applied Economics at the Faculty of Agricultural and Food Sciences at the American University of Beirut

Nuan **PING CHEAH,** Director for Pharmaceutical, Cosmetics and Cigarette Testing Laboratories at Singapore's Health Sciences Authority and Chair of World Health Organization Tobacco Laboratory Network (TobLabNet).

Paulo Cesar Rodrigues **PINTO CORREA**, Professor of Internal Medicine and Pulmonology in the Department of Pediatric and Adult Clinics (DECPA) at Federal University of Ouro Preto, UFOP (Ouro Preto, Minas Gerais, Brazil) and the Chair of the Tobacco Control Committee of the Brazilian Thoracic Society (Sociedade Brasileira de Pneumologia e Tisiologia, SBPT).

Vanessa **DARSAMO,** PhD candidate at the University of Capetown

Fatimah **EL AWA,** Regional Advisor for the Tobacco Free Initiative

Rana **EL HAIDARI,** PhD candidate in Biostatistics in the School of Environment and Health at Universite Bourgogne Franche Comte, Besancon, France.

Heba **FOUAD,** WHO regional focal point for the NCD Surveillance (NCS) and the head of the technical unit of NCS in the Eastern Mediterranean Region Office, under the Noncommunicable Diseases and Mental Health Department.

Silvano **GALLUS,** (ScD in Computer Sciences, PhD in Public Health) leads the Laboratory of Lifestyle Epidemiology of Mario Negri Institute, Milan, Italy.

Asmus **HAMMERICH,** Director for NCD and Mental Health in the EMRO Regional Office in Cairo, Egypt.

Farrukh **IQBAL,** Deputy Director at the Ministry of National Health Services Regulations and Coordination in charge of the Tobacco Control Program and the focal point for all environmental health concerns.

Mohamad **EBRAHIMI KALAN,** Assistant Professor of Epidemiology at Eastern Virginia Medical School, Norfolk, Virginia, USA.

Ayse Gokalp **KIRCA CELIK,** expert on tobacco control regulations at the Ministry of Agriculture and Forestry of Türkiye, Department of Tobacco and Alcohol.

Patricia Anne **LAMBERT,** Vice President at the Campaign for Tobacco-Free Kids in Washington, DC.

Rima **NAKKASH, DrPH,** Professor at the Global and Community Health Department.

Vinayak **PRASAD,** Program Manager, WHO Tobacco Free Initiative

Mary Rezk **HANNA,** Assistant Professor in the School of Nursing at the University of California, Los Angeles.

Maya **ROMANI,** Director of the American University of Beirut's (AUB) Health and Wellness Center and Healthcare Professional Development Center.

Ramzi **SALLOUM,** Associate Professor in the Department of Health Outcomes and Biomedical Informatics at the University of Florida College of Medicine, and the Director of the Dissemination and Implementation Science Core at the UF Clinical and Translational Science Institute.

Tibor **SZILAGYI, MD,** coordinator of the Reporting and Knowledge Management team of the Convention Secretariat.

Reinskje **TALHOUT,** Senior scientific advisor involved in tobacco product regulatory science, with a focus on FCTC article 9 and 10, and head of the WHO Collaborating Centre for Tobacco Product Regulation and Control at the RIVM.

Kristen **VAN DER ZEE,** Research Officer for the Research Unit on the Economics of Excisable Products (REEP), based at the University of Cape Town.

Ghazi **ZAATARI, MD,** Professor and Chair of the Department of Pathology and Laboratory Medicine at the Faculty of Medicine at the American University of Beirut (AUB). Chair of WHO's Study Group on Tobacco Product Regulation (TobReg), Member of the Executive Committee of the Tobacco Laboratory Network (TobLabNet), and Director of WHO FCTC Knowledge Hub on WP Tobacco Smoking.

Appendix 2

Conference Agenda

Day One **Opening Session** **Moderator:** Dr. Ghazi Zaatari		
15:00 - 15:30	**Opening And Welcome** WHO FCTC Knowledge Hub for Waterpipe Tobacco Smoking Secretariat of the WHO Framework Convention on Tobacco Control WHO Regional Office for the Eastern Mediterranean World Health Organization, HQ/TFI No Tobacco	**Dr. Ghazi Zaatari** Director, WHO FCTC Knowledge Hub for Waterpipe Tobacco Smoking (Moderator) **Dr. Adriana Blanco** Head, Secretariat of the WHO FCTC (A recorded Video) **Dr. Asmus Hammerich** Director, Noncommunicable Diseases and Mental Health WHO EMRO **Dr. Vinayak Prasad** Unit Head, WHO HQ/TFI No Tobacco
Prevalence of Youth and Threats of COVD-19 **Moderator:** Dr. Rima Nakkash		
15:30 – 16:00	**Waterpipe Tobacco Smoking in the Eastern Mediterranean Region (Trends in Adults, Youth, and Waterpipe Use) & Global Trends**	**Heba Fouad** Regional Surveillance Officer, Unit Head, NCD Eastern Mediterranean Region Office (EMRO) Egypt
16:00 – 16:30	**Combustible and Electronic Waterpipes: Advertisement and Marketing Appeal to Youth and Young Adults**	**Dr. Mary Rezk Hanna** Assistant Professor University of California Los Angeles, USA
16:30 – 17:00	**Updated Evidence on the Association Between Tobacco Product Use and COVID-19: A Systematic Review**	**Dr. Silvano Gallus** Head, Laboratory of Lifestyle Epidemiology Department of Environmental Health Sciences Istituto di Ricerche Farmacologiche Mario Negri IRCCS Milan, Italy
17:00 – 17:20	**Waterpipe Tobacco Smoking and the COVID-19 Pandemic**	**Dr. Mohammad (Ebbie) Ebrahimi Kalan** Assistant Professor, Epidemiology School of Health Professions Eastern Virginia Medical School Norfolk, USA

17:20 – 17:50	Flavorings in Waterpipe Tobacco Products and Lessons Learned from the Experience of the European Union in Regulating Tobacco Flavors	Dr. Reinskje Talhout Senior Scientist, RIVM Centre for Health Protection Head, WHO Collaborating Centre for Tobacco Product Regulation and Control Netherlands
17:50 – 18:00	Abstract: Smoking Status and SARS-COV-2 Infection Severity Among Lebanese Adults: A Cross-Sectional Study	Dr. Rana El Haidari University Bourgogne Franche Comte France Head, Department of Research at Islamic Health Society Lebanon
18:00 - 18:15	Day One Wrap Up	Dr. Rima Nakkash

Day Two Waterpipe Tobacco Products: Flavorings, Testing and Demand Reduction Moderator: Dr. Ramzi Salloum		
15:00 - 15:30	WHO Toblabnet Experience With Testing of the Contents of Waterpipe Tobacco Products and Status of WHO-Sponsored SOPs	Dr. Nuan Ping Cheah Laboratory Director, Pharmaceutical Division Health Sciences Authority Chair of WHO Tobacco Laboratory Network (TobLabNet) Singapore
15:30 – 16:00	Health Warnings and Waterpipe Tobacco Use: A Policy Overview and Progress to Date	Dr. Taghrid Asfar Associate Professor, Department of Public Health Sciences University of Miami Miller School of Medicine Miami, USA
16:00 – 16:30	Testing the Effectiveness of Health Warnings Labels on Waterpipe Tobacco Products in Lebanon	Dr. Rima Nakkash Professor, Global and Community Health Department College of Health and Human Services George Mason University Virginia, USA
Moderator: Dr. Maya Romani		
16:30 – 17:00	Elasticities of Demand of Cigarettes and Waterpipe: The Case of Lebanon	Dr. Ali Chalak Associate Professor of Agri-Environmental Economics American University of Beirut Lebanon
17:00 – 17:30	Gender Analysis of the Elasticity of Tobacco Smoking: The Case of 3 Arab Countries	Dr. Niveen Abu Rmeileh Professor of Epidemiology and Public Health Birzeit University Palestine

17:30 – 18:00	**Taxation of Waterpipe Tobacco Products in the Eastern Mediterranean Region**	**Dr. Ramzi Salloum** Associate Professor Department of Health Outcomes and Biomedical Informatics University of Florida College of Medicine Florida, USA
18:00 – 18:15	**Wrap Up Day Two**	**Dr. Maya Romani**

Day Three **Legislation, Regulation, and Policies in Waterpipe Tobacco Use** **Moderator: Dr. Tibor Szilagyi**		
15:30 – 16:00	**The Basic Concepts in the Economics of Tobacco Control, Demand, Price Elasticities, Tax Structures, Tax Pass-Through, Affordability**	**Vanessa Darsamo** Research Officer Research Unit on the Economics of Excisable Products (REEP) South Africa
16:00 – 16:30	**Tobacco Excise Tax Simulation Model (TETSIM)**	**Kirsten van der Zee** Research Officer Research Unit on the Economics of Excisable Products (REEP) South Africa
16:30 – 17:00	**Developing WTS Regulations – Experience from the International Legal Consortium of the Campaign for Tobacco Free Kids**	**Patricia Anne Lambert** Vice President International Legal Consortium Campaign for Tobacco - Free Kids Washington DC, USA
17:00 – 17:15	**WTS Control: A Global Policy Analysis**	**Hala Alaouie** Department of Social Policy and Policy Sciences, Tobacco Control Research Group (TCRG) University of Bath UK
17:15 – 17:30	**Waterpipe-Specific Cessation Protocols and Practices**	**Dr. Maya Romani** Family Doctor & Lifestyle Medicine Specialist Department of Family Medicine Tobacco Treatment Specialist Director Director, Healthcare Professional Development Center (HPDC) American University of Beirut Medical Center Lebanon

Moderator: Dr. Fatimah El-Awai		
17:45 – 18:00	**Overview Challenges in Implementing WTS Policies**	**Dr. Fatimah El-Awa** Regional Advisor Tobacco Control WHO EMRO Egypt
18:00 – 18:15	**The Global Epidemic of Waterpipe Smoking Hits Brazil: Challenges for the Brazilian National Tobacco Control Program**	**Dr. Paulo César Rodrigues Pinto Corrêa** Head, Tobacco Control Committee Professor, Department of Pediatrics and Adults Federal University of Ouro Preto Brazil
18:15 – 18:30	**Pakistan WTS Regulation Experience and the Challenges Faced**	**Dr. Farrukh Iqbal** Deputy Director, Ministry of National Health, Tobacco Control Pakistan
18:30 – 18:45	**Türkiye Experience on Plain Packaging of Tobacco Products, Including Waterpipes and other Tobacco Control Measures Regulated by the Tobacco and Alcohol Market Regulatory Department of the Ministry of Agriculture**	**Ayse Gokalp Kirca Celik** Expert Tobacco and Alcohol Department Ministry of Agriculture and Forestry of Türkiye Turkey
18:45- 19:00	**Closing**	**Dr. Ghazi Zaatari and Dr. Rima Nakkash**

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