Health Warning Labeling Practices
on Waterpipe Tobacco Products and Accessories

A research study supported by Health Canada and administered by Physicians for a
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I. Background

A. Prevalence

Prevalence of waterpipe tobacco smoking is increasing worldwide with 100 million people reported to use waterpipe daily; with the majority living in developing countries.\(^1\) Where once this mode of smoking was confined mostly to the Eastern Mediterranean Region (EMR), now it is becoming common practice across various populations worldwide. Among U.S. young adults: daily waterpipe tobacco use was reported by 19\% of a sample of waterpipe smokers and weekly use by 41\%.\(^2\) In Kuwait, Egypt, Syria and Lebanon, 20-70\% of the population have smoked waterpipe at least once, while 22-43\% are current users.\(^3\) In rural Egypt, one third of waterpipe users developed a smoking habit between the ages of 10 and 19.\(^4\)

Moreover, waterpipe smoking is particularly increasing among women and youth. In Kuwait, a survey including 4000 government employees showed that 69\% of women had ever used a waterpipe, as compared to 57\% of men.\(^5\) In a study conducted among pregnant women in Lebanon, 18\% have smoked waterpipe at least once, and 6\% were reported to smoke waterpipe during their pregnancy.\(^6\)

With regards to youth, results of a study conducted in an Eastern Mediterranean area showed that, over a time period of one month, waterpipe smoking was reported by 15.6\% of males and 9.9\% of females.\(^7\) On a U.S. college campus, waterpipe tobacco smoking during the past month was reported by 20\% of the students.\(^8\) A cross-sectional survey conducted on a random sample of 1964 students from public and private universities in Beirut, Lebanon showed that around 21\% of students were waterpipe smokers while 11\% were both cigarette and waterpipe smokers.\(^9\) In the United Kingdom, a study on 937 students of Birmingham University revealed that around 38\% of them have ever tried waterpipe smoking while 8.0\% were regular waterpipe smokers, as compared to 9.4\% being cigarette smokers.\(^10\)

One of the possible reasons for the spread of this mode of smoking is that waterpipe tobacco smoking is associated with social gatherings, and due to its long tradition in many countries in Asia, it is considered more socially acceptable. Moreover, it is perceived to be safer than cigarette smoking, while it is proven that waterpipe smoke delivers in a single session as much tar as an entire pack of cigarettes.\(^11\) As for its dependence, it is directly linked to the effects of nicotine contained in waterpipe tobacco.\(^11,12,13\)
B. Health Effects

Tobacco used in the waterpipe has been reported to be addictive with preliminary studies showing that urinary cotinine levels following smoking of two waterpipes is equivalent to smoking thirty cigarettes.\(^{15}\) Waterpipe smoke contains toxic compounds such as carbon monoxide, formaldehyde, polyaromatic hydrocarbons, nitrogen, nitric oxide, arsenic, heavy metals and other cancer-inducing chemicals.\(^{11,16}\) Even after it filters through the water bowl, the smoke produced by a waterpipe still contains high levels of toxic compounds.\(^{12}\)

In relation to its health effects, waterpipe smokers are subject to the same health risks incurred by cigarette smoking, including cancer, heart disease, and respiratory disease.\(^{3}\) In a study analyzing the acute effect of waterpipe smoking on heart rate, blood pressure and the baroreflex control of heart rate, it was shown that waterpipe caused impaired baroreflex sensitivity as well as a significant increase in other risk factors of cardiovascular diseases, such as heart rate, systolic blood pressure, diastolic blood pressure and mean blood pressure.\(^{17}\) One case-control study of 100 Egyptian infertile women reported that the waterpipe smoking behavior of the husband was associated with infertility of the couple.\(^{18}\) On the other hand, pregnant women and the foetus are particularly vulnerable when exposed to the toxic materials found in waterpipe smoke. Low birth weight was shown to be almost twice as common among the newborns of women who smoked waterpipe and approximately 3 times as common among those who began smoking waterpipe during the first trimester than among non-waterpipe smokers.\(^{19}\) Finally, waterpipe second-hand smoke poses a serious risk for non-smokers.
The re-emergence of traditional methods of tobacco use, such as waterpipe, particularly by women and youth, manifests as a double health burden given the growing research on the health hazards of waterpipe smoking.

II. Rationale

The Framework Convention on Tobacco Control (FCTC) was negotiated by the World Health Organization (WHO) member states and went into force in February 2005 with 168 countries ratifying it globally. Countries that have ratified the FCTC are obligated to translate the convention into action through revising or adopting national legislation. The FCTC covers a range of tobacco control effective policies, including price and tax measures, protection from exposure to second-hand smoke, regulation and disclosure of product content, packaging and labeling, education, communication, training and public awareness, advertising, promotion and sponsorship, tobacco dependence and cessation measures, illicit trade, and sales to minors. The FCTC is managed by a Conference of Parties (COP), which calls for representatives from each of the states who have ratified the FCTC to meet every two years. COP is the body responsible for ensuring implementation and considering further development of the Treaty: decisions will be taken regarding the technical, procedural and financial issues related to the Treaty, financial support, monitoring and reporting on implementation progress, as well as the elaboration of protocols.

Article 11 of the FCTC addresses packaging and labeling of tobacco products. It obligates member states to prescribe a revolving series of health warnings that should cover at least 50% (or must cover at least 30%) on average of the front and back of the package. The treaty makes optional the use of graphical rather than textual warnings. Although the FCTC includes all tobacco products, its articles are better tuned to cigarettes in comparison to other tobacco products, such as the waterpipe.

One way to amend Article 11 to also become relevant to waterpipe tobacco products is to inform the FCTC process through recommending the necessary guidelines within that article during the third session of COP, that took place between 17 and 22 of November, in Durban, South Africa.

Guidelines that more specifically describe Article 11 were still needed following COP II, and, thus, state delegates recommended that elaborate guidelines be developed for consideration during COP III.

In consequence, among the modifications made to the guidelines of Article 11 was the inclusion of waterpipe in the clauses related to “developing of effective packaging and labeling requirements and the “process for developing effective packaging and labeling requirements”. Nevertheless, several other factors, specific to waterpipe smoking, need to be considered when developing health warning labels for waterpipe products.
DEVELOPING EFFECTIVE PACKAGING AND LABELLING REQUIREMENTS

Design elements

Location

11. Parties should consider introducing other innovative measures regarding location, including, but not limited to, requiring health warnings and messages to be printed on the filter overwrap portion of cigarettes and/or on other related materials, such as packages of cigarette tubes, filters and papers as well as other instruments, such as those used for water pipe smoking.

PROCESS FOR DEVELOPING EFFECTIVE PACKAGING AND LABELLING REQUIREMENTS

Product category considerations

36. Article 11.1(b) of the WHO Framework Convention requires each Party to adopt and implement effective measures to ensure that each unit packet or package of tobacco products and any outside packaging and labelling of such products carry health warnings and messages. There should be no exemptions for small-volume companies or brands or for different types of tobacco products. Parties should consider requiring different health warnings and messages for different tobacco products, such as cigarettes, cigars, smokeless tobacco, pipe tobacco, bidis and water pipe tobacco, to better focus on the specific health effects related to each product.


There is evidence that health warning labels on cigarette packages increase awareness of health risks and decreases consumption. Our initial observations point to a lack of appropriate labels on waterpipe tobacco products. On the other hand, waterpipe tobacco products come in different sizes and shapes unlike the consistent cigarette package found globally. Moreover, usage practices of waterpipe tobacco are different than of cigarettes. Consumption of waterpipe is a static activity that takes place at home or in public places such as cafés and restaurants. In the case where consumption is taking place in a restaurant, the consumer does not see the tobacco package from which the waterpipe is prepared. These factors suggest that waterpipe-specific guidelines regarding placement and size of health warnings, as well as the content of the message, need to be considered.

III. Objectives

The main objectives of this research were to:
- Acquire and catalog waterpipe tobacco products and accessories by visiting a representative sample of retail outlets in Beirut, Lebanon. In addition, a
convenience sample of products sold in other countries will be acquired by collaborators

- Evaluate the current labeling practices in terms of content (health risk message, if any), nature (graphical versus textual), and size of warning (as percentage of surface area of package), location on package (front, back, bottom), among others
- Propose a health warning label appropriate for waterpipe tobacco products and accessories based on recent and current research on waterpipe tobacco products
- Evaluate applicability to waterpipe products of labeling guidelines proposed in COP III for cigarettes
- Develop and test proposed labels with waterpipe and non-waterpipe tobacco smokers
- Develop and test pamphlets for COP III for comprehension, effectiveness and design

IV. Methodology

A. Data Collection

Our starting point for data collection was a list of all waterpipe tobacco brands registered at the Lebanese Régie for Tobacco. We made multiple visits to the Régie in order to obtain the list of products. We proceeded by visiting major supermarkets and specialized waterpipe stores in Greater Beirut Area to purchase all the items in the list. A checklist was developed to record all purchased products to avoid duplicates and keep track of the work progress. An official letter signed by the principal investigator explaining the purpose of the study was provided to the researcher during the field visits to be presented upon entering the stores.

Following the snowballing technique, we stopped purchasing additional products after going to twelve stores as no new waterpipe tobacco brands were located. Because of the different shapes, sizes and packages of the waterpipe tobacco, as well the wide range of flavors, we bought a variety of products from the same brand to have a comprehensive database of waterpipe tobacco products.

In addition to Lebanon, we collected samples from different countries in EMR: United Arab Emirates (UAE), Palestine, Syria, Jordan and Bahrain. Moreover, we received samples from Canada, Germany and South Africa.

As for the waterpipe accessories, following exploratory field visits, we decided that the products of interest include filters, tips, aluminum foils and charcoal, made especially for waterpipe. These products are custom-made for waterpipe; thus, must be evaluated in the same manner as waterpipe tobacco.

The data collection mainly took place in Lebanon alongside the collection of waterpipe tobacco brands. Once no new accessories were located, field visits were discontinued.

B. Analysis: Cataloguing and Categorizing Collected Products

All collected products were photographed and filed with their respective names, flavor, pack size, and the country where they were purchased. Following the compilation of photos, the packs were emptied, flattened and scanned, making all the collected waterpipe-related products available as soft copies in one database.
The information derived from the different packs of waterpipe tobacco and accessories were organized in a matrix (see Appendix A), by plotting the purchased products in rows versus the below themes in columns:
- Name of the product
- Pack size (in terms of grams)
- Description if this is the outer pack, the inside container or the inside bag
- Country where the product was bought
- Country where the product was produced
- The text of the health warning label in Arabic
- The text of the health warning label in other languages
- Description of the layout and design of the label
- Number of appearance of the health warning label on the pack
- Location on pack (front, back, sides…)
- Ingredients: nicotine, tar, natural flavors…
- Misinformation (healthy filter, extra fine tobacco, for adults only, ultra light…)
- Percentage of the health warning label (as percentage of surface area of the front and back areas)
- Percentage of the misinformation
- Any certification, official recognition, source (made in Italy, ISO, EU standards, innovation patent)
- Others (Expiry date…)

V. Results

A. Waterpipe Tobacco Products

In total, 15 out of 23 different brands of waterpipe tobacco (both ‘Ajami and Ma’assel) were collected. The eight missing brands were said to be removed from the market, yet still registered in the Régie records. Overall, we collected 37 waterpipe tobacco packs from Lebanon, 7 from the UAE (Dubai), 3 from Palestine, 4 from Syria, 6 from Jordan, 9 from Bahrain, 2 from South Africa (Durban) and one from each of Canada and Germany.

1. General Attributes

The most common packages of the waterpipe tobacco were 50g and 250g packs. There were also the packages including 10 unit packs, each of 50g. The most common mode of packaging was cardboard boxes but other waterpipe tobacco products were contained in jars and cans.

The common flavors of the waterpipe tobacco were: two apples, grapes, lemon, cherries, melon, mint, strawberries, mango, peach, banana, pineapple, mixed fruits, mint and two apples, lemon and mint, bubble gum, chocolate, licorice and Red Bull (energy drink).

The waterpipe tobacco brands were mainly produced in Jordan. Others were made in Egypt and UAE. Very few were made in Lebanon, Saudi Arabia, Syria, Iran, Bahrain, and Italy.
2. Text of Labels

Of the 70 waterpipe tobacco products collected, three products did not have any warning labels; those were produced in Jordan and Bahrain yet purchased from Lebanon, Jordan and Bahrain. It is important to note that there were no warning labels available on the unit packs, i.e. the bags that are found inside the tobacco carton packs and jars. The labels were only found on the outer pack of the tobacco products.

Below are the texts of the health warning labels present on the 67 products collected:

<table>
<thead>
<tr>
<th>ال здоров و السك</th>
<th>Ministry of Health Warning: Smoking is a main cause for dangerous and deadly diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>健康胆固醇</td>
<td>Health Warning: Smoking is Major Cause of Dangerous Diseases and Kills</td>
</tr>
</tbody>
</table>

The above labels were mainly found on products purchased from Lebanon.

The below label was written on one waterpipe tobacco pack purchased in Lebanon and produced in Saudi Arabia:

|SURGEON GENERAL’S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, and may complicate pregnancy.|

In Syria, we mainly found this label:

<table>
<thead>
<tr>
<th>التدخين يضر بصحتك</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking may cause serious problems to your health</td>
</tr>
</tbody>
</table>

As for the other countries, one common health warning label was written on the waterpipe tobacco packs:

<table>
<thead>
<tr>
<th>تحذير صحي: التدخين سبب رئيسي لسرطان وأمراض الرئة وأمراض القلب والشرايين</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Warning: Smoking is a main cause of lung cancer, lung disease and of heart and arteries diseases</td>
</tr>
</tbody>
</table>

Only on products purchased from Palestine, Germany and South Africa, there seems to be series of rotating health warning labels on the waterpipe tobacco packs:
Only on products collected from Lebanon, the warning labels were mainly found in one language, Arabic. As for the other countries, the labels were generally written in the local language as well as English.

3. Layout and Design of Labels

The layout and the design of the health warning labels depicted text in small font, mainly written on the sides of the pack with no special demarcation from other information.

In few cases, the labels were printed inside a white box with red or black frame, or written with no other items on that side of the pack. In others, the marker or attribution word “Ministry of Health Warning” was written in bold or larger font.

Some of the waterpipe tobacco products would have their own health warning labels; however, in order to comply with the regulations of the country where they are sold, they would include the proper warning labels as inserts or stickers on the packs.

Only on products collected from Palestine, Germany and South Africa, the warnings were written in a larger font, inside a rectangular framed box, and on the back and front sides of the packages, covering on average 30% of each side.

4. Ingredients and Emissions

Below is a detailed list of misleading information about emissions, constituents and other ingredients mentioned on the packs of waterpipe tobacco, along with the frequency:

<table>
<thead>
<tr>
<th>Ingredients / Emissions and Constituents</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>جل سرين طبني (medical glycerine)</td>
<td>38</td>
</tr>
<tr>
<td>Tar: 0.0%</td>
<td>31</td>
</tr>
<tr>
<td>Nicotine: 0.5%</td>
<td>29</td>
</tr>
<tr>
<td>Natural flavors</td>
<td>25</td>
</tr>
<tr>
<td>Nicotine: 0.05%</td>
<td>24</td>
</tr>
<tr>
<td>Tar: 0%</td>
<td>21</td>
</tr>
<tr>
<td>Fruits flavors</td>
<td>5</td>
</tr>
<tr>
<td>-------------------</td>
<td>---</td>
</tr>
<tr>
<td>Extra fine tobacco</td>
<td>5</td>
</tr>
<tr>
<td>Light Virginia Tobacco</td>
<td>4</td>
</tr>
<tr>
<td>Tar: NIL / zero</td>
<td>3</td>
</tr>
<tr>
<td>Nicotine: 0.06 mg</td>
<td>2</td>
</tr>
<tr>
<td>Nicotine: 0.06%</td>
<td>2</td>
</tr>
<tr>
<td>Tar: 0.00%</td>
<td>2</td>
</tr>
<tr>
<td>Pure glycerine</td>
<td>2</td>
</tr>
<tr>
<td>Nicotine: 0.6%</td>
<td>1</td>
</tr>
<tr>
<td>Tar: 0 mg</td>
<td>1</td>
</tr>
</tbody>
</table>

The tobacco pack purchased from Germany did not include any information on emissions and constituents; however, we cannot generalize if this is because of a certain regulation imposed on waterpipe tobacco packs in Germany or because the pack is an imitation of the original brand.

5. **Misinformation**

In addition to the faulty emission and constituent information, there are many misleading information on the waterpipe tobacco packaging. We cite:

<table>
<thead>
<tr>
<th>Premium taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>For adults only</td>
</tr>
<tr>
<td>Ultra lights</td>
</tr>
<tr>
<td>Light Virginia Tobacco</td>
</tr>
<tr>
<td>Extra fine waterpipe tobacco</td>
</tr>
</tbody>
</table>

First tobacco molasses automatically packaged in individual portions.
Always fresh, practical and clean

0 mg tar - 0.5% nicotine as per government agreed method

In parallel, official recognitions and certifications had a premium location on the packs, with some brands referring to ministerial regulations:

<table>
<thead>
<tr>
<th>Finest French Tobacco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac Baren Levant Tobacco Company</td>
</tr>
<tr>
<td>International Gold Medal Quality</td>
</tr>
</tbody>
</table>

Produced according to EU health and food standards - Made in Italy - Italian Blends -
www.italianblends.com

A golden seal (mentioning that is the authentic waterpipe tobacco)
Most of the waterpipe tobacco packs mention that the product is valid for 2 years from the production date, with the production and expiry dates printed.

In addition to the expiry information, some of the waterpipe tobacco products warn the consumers about imitated brands; some provide the consumers with instructions of use, storage (well ventilated, cool and dry place) and how to enhance the flavor of the tobacco; and others recommend the wide range of flavors available for the same brand.

B. Waterpipe-related Accessories

In total, we collected 8 different types of filters, 6 types of tips, 6 types of aluminum foils, and 16 types of charcoal, mainly from Lebanon, except for one charcoal brand from UAE.

1. General Attributes

The tips, filters and aluminum foil were mostly made in Syria, UAE, Lebanon and Egypt. As for the charcoal, there were of different countries, including Holland, Belgium, China, Japan, Indonesia, Lebanon and Syria.

The aluminum foils, tips and charcoal did not include any label although their only use was clearly for waterpipe.

2. Text of Labels

Out of eight filters, three filters produced in Lebanon had a health warning label, on the side or back of the pack:

وزارة الصحة تحذر: التدخين يؤدي إلى أمراض خطيرة ومميتة
(Ministry of Health Warning: Smoking is a main cause for dangerous and deadly diseases)

However, as on waterpipe tobacco products, none of the accessories had a health warning label on the unit packs, i.e. the individual tips and filters, the charcoal bars… Many of the products have their ingredients emphasized to be made of safe plastic substances and packaged with hygienic methods (in a vacuum, sterilized, without any hand contact).
3. Misleading Information

The misleading information occupied much of the space on the waterpipe accessories packages, as part of the instructions for use or as a description of the product. On the aluminum foil packs, for instance, it is stated that these foils are healthy, do not emit odors when used, give a smoother smoke, and, if well perforated, generate fresh unheated air to combine with the waterpipe smoke resulting in a less thick smoke.

Tips are marketed for their efficiency in reducing the risk of transmission of contagious diseases, if used by one person once. One of the latest models of waterpipe tips is one that has a flattened end (instead of the common round end), with a slogan saying “the tips that preserve the lips”. It is claimed to be ergonomic, defined as “ergonomic means any product that goes in total harmony with the physiological functions of your body”; thus, it comforts the lips and prevents the wrinkles by eliminating lip contractions required while using the old tips.

The charcoal used specifically for waterpipe has its own set of misinformation. It is mainly promoted as being odorless and smokeless, that it does not affect the taste of the waterpipe, it ignites quickly and for longer time, and free of chemicals, rather made of 100% natural ingredients. Another feature that is emphasized is that it is clean to use as it does not produce much ash and fumes. Interestingly enough, most of the charcoal brands affirmed that their products are environmentally-friendly because they are made of coconut shells and not needing a single tree to be cut to make the products. Inside the pack of one common charcoal brand, there was a pamphlet stating all the advantages of the products:

- is a charcoal made from coconut shell and vegetables
- is 100% natural
- burns 3 times longer than any other charcoal
- leaves less than 4% ashes
- is more economic to use
- is easy to light
- is an environment friendly product
- not a single tree was cut to make this product
- is odorless and tasteless
- is easier to handle and cleaner to use
- is a tropical product adapted for the Lebanese market

Finally, the filters have misleading information that covers up to 30% of the pack. Below are examples of the most common claims found on the different filter brands collected:
Moreover, most of the filters indicate the number of waterpipe to be smoked using one filter and underline that once it turns brown, it should be discarded. In response to the escalating advancement in waterpipe devices, almost all filters have patents of innovation: one brand, which is produced in Lebanon, states that it is approved by the Ministry of Public Health following laboratory tests.

VI. Discussion

Findings reveal that waterpipe tobacco products and related accessories are not appropriately labeled and not in line with FCTC recommendations. Moreover, current labeling practices contain misleading information.

Although health warning labels are present on the outer pack of almost all collected waterpipe tobacco products, a label was hardly found on the individual unit packs, such as the tobacco bags inside the packs.

Concerning the text of the existing labels, it is about smoking in general and not specifically about waterpipe smoking and only one message is found on most of the products rather than a series of rotating messages. The latter are only shown in Palestine, Germany and South Africa. Moreover, the current statements are too broad and non-informative, mentioning ‘deadly and dangerous diseases’.

When it comes to the layout and design of the labels, they are mainly printed in small font on the sides of the packs rather than covering 50% of the back and front areas. However, there is clear evidence that the waterpipe tobacco brands change the layout and design of the label depending on the regulations of a specific country and they are capable of producing different packs with different labeling. For instance, on five different packs of Nakhla Tobacco Two Apples collected from Lebanon, Syria, Bahrain, Palestine and Germany, you can find five different label layouts and designs. Furthermore, the labels are all textual messages and there are no graphical warnings on any collected waterpipe tobacco pack.

Alternatively, misleading information about emissions, constituents and other ingredients are overtly mentioned on the waterpipe tobacco packs. Among the most common ingredients stated on the tobacco packs is the emission information of 0% tar and 0.5% or 0.05% nicotine, making the waterpipe tobacco seem less dangerous.
Additionally, natural flavors and medical glycerine adds to the misleading claim that these ingredients make waterpipe tobacco harmless.

Similar to cigarette packs, there are misleading information shown on the waterpipe tobacco packs such as “Ultra lights”, “Light Virginia Tobacco”, and “Extra fine waterpipe tobacco”, insinuating that there is a healthier version of waterpipe tobacco. In light of the above mentioned issue, it is to be noted that the FCTC Article 11 bans any labeling and packaging that:

“promote a tobacco product by any means that are false, misleading, deceptive or likely to create an erroneous impression about its characteristics, health effects, hazards or emissions, including any term, descriptor, trademark, figurative or any other sign that directly or indirectly creates the false impression that a particular tobacco products is less harmful than other tobacco products. These may include terms such as “low tar”, “light”, “ultra-light”, or “mild” (WHO, 2003)”.

Moreover, the notion of sanitation is highly emphasized on the waterpipe tobacco by assuring that it is ‘fresh, clean and untouched by human hand’. Furthermore, an attribution to a prominent institution is very common to enhance the credibility of the products. Finally, the expiry date stated on almost all the tobacco products make the waterpipe tobacco products seem misleadingly safe to be consumed prior to expiration.

Waterpipe accessories are not properly labeled either. In contrast to waterpipe tobacco products, most of the accessory packages do not have health warning labels; and if they do, it is a textual label, written in small font with no specific health warning. Lack of labeling on the unit packs is more problematic when it comes to the waterpipe accessories as most of it is sold or given out in cafés in unit packs; thus, this calls for an urgency to include proper warning labels on the waterpipe accessories and their unit packs, be it the filters, tips, or the charcoal.

Claims of safety on waterpipe accessories needs particular attention as they go as far as saying that filters “remove up to 80% of the nicotine and tar found in the waterpipe tobacco, while it reduces coughing and mouth problems without affecting the taste” (Carbofilter, produced in and purchased from Lebanon). Also on waterpipe accessories, sanitation is a major attribute to add to the claimed safety of these devices.

VII. Conclusion

In conclusion, work to develop proper health warning labels on waterpipe tobacco products and accessories is needed. There are no waterpipe-specific health warning labels on waterpipe products and related accessories. The existing labels are not FCTC compliant. And finally, many waterpipe products state misleading information, which makes waterpipe tobacco smoking seem harmless and gives out a false impression of safety.
VIII. Suggestion of Appropriate Health Warning Labels

A. Developing and Designing Health Warning Labels

Following the analysis and evaluation of the current labeling practices on waterpipe tobacco products and accessories, and acting on the conclusion that these practices are not FCTC compliant, we embarked on developing health warning labels that go in line with the guidelines of Article 11 of the FCTC and are tailored to this specific mode of smoking.

As a first step, a graphic designer was recruited at the early stages of the research study so that she will be involved in all the discussion process and build a better understanding of the issue at hand, leading to a better conceptualization and materialization of the warning labels.

With the guidelines of Article 11 in mind, we decided to develop health warning labels that would:

- Cover 50% of the back and front sides of the pack
- Include pictorials alongside the tagline with:
  - The picture being on the left and the text on the right or
  - The picture placed above the text and
  - The picture should appear on the front and back sides of the packages and occupy at least half of the space devoted to the warnings
- Include a marker word in larger font and written in a different color than the text of the warnings
- Include an attribution
- Not display the numbers that refer to the amount of chemicals (such as tar, nicotine, and carbon monoxide emissions) on packages
- Be written in two different languages (Arabic along with English or French)
- Consist of eight different health warning labels serving as a first series of rotating messages

We started up with the revision of existing warning labels for cigarettes as many themes do also apply to waterpipe smoking. Additionally, new themes that are specific to waterpipe smoking, and not smoking in general, were drafted. The latter were based on previous research on waterpipe smoking in the region that helped identifying priority issues to address in the warnings. Dr. Alan Shihadeh, the co-investigator on this project and Associate Professor in the Faculty of Engineering, is leading major research projects on the toxicants in the waterpipe smoke and has built a digitally-controlled tobacco smoking machine that can imitate the behavior of a real waterpipe smoker.

The list of themes primarily set included the following:

- Waterpipe-specific labels
  - Toxic constituents of waterpipe smoke
o Health consequences
  ■ Heart disease
  ■ Impotence
  ■ Teeth
  ■ Aging of the skin
  ■ Lung cancer
  ■ Waterpipe kills

o Second-hand smoking
  ■ Children
  ■ Pregnant women

o Sensory characteristics of waterpipe
  ■ Relevance of dense smoke
  ■ The fruity smell and taste

o Dependence

o Social aspect of waterpipe smoking
  ■ Stress-relief, increased concentration, break of boredom
  ■ Social setting, group identity, gathering
  ■ Children and parents’ waterpipe smoking: more acceptable to smoke waterpipe than cigarette

o Waterpipe accessories
  ■ Charcoal
  ■ Filters and tips
  ■ Aluminum foils

- Labels comparing waterpipe to cigarettes

- Labels addressing the myths related to waterpipe
  ■ Toxic components filtered by the water

The eight warning labels (see Appendix B) were conceptualized across several of the generated themes and were tailored to sub-groups of smokers of both gender and different age groups, as well as smokers with children in the household:

- Waterpipe-specific labels
  o Toxic constituents of waterpipe smoke ➔ #1
  o Health consequences
    ■ Heart disease ➔ #2
    ■ Impotence ➔ #3
    ■ Teeth ➔ #4
  o Second hand smoking
    ■ Children ➔ #5
    ■ Pregnant women ➔ #6
  o Sensory characteristics of waterpipe
- The fruity smell and taste ➔ #7
- Labels addressing the myths related to waterpipe ➔ #8
- Toxic components filtered by the water

As for the selection of images for the health warning labels, emotionally arousing pictures, such as those depicting diseases or the consequences of waterpipe smoking on significant others, were opted for. We also used the skull as the universal symbol for toxic substances since it is familiar to the layperson. Furthermore, the health warning label for impotence depicting a cigarette used on cigarette packs was reproduced with the waterpipe apparatus.

It was important that the pictures are self-explanatory as people might not read the text if they did not understand the graphics in the first place. Clear graphics are important in order to be able to reach the illiterate population. For high resolution images, pictorial databases available online were adopted, and purchased pictures were modified to suit the theme at hand.

Not only pictorial health warning labels are needed but also misinformation, emissions and constituents listing should be removed from the packaging, mainly tar and nicotine listing as well as claims of safety.

B. Adopting the Health Warning Labels to Waterpipe Accessories

The challenge of health warning labels for waterpipe resides in the fact that it is not only the waterpipe tobacco packages per se that a user is exposed to, but also the wide range of accessories.

Labeling on waterpipe tobacco packs is not straightforward as packaging is not consistent across products and across countries; thus, they come in different sizes (50g, 250g, packs of 10 packs of 50g each) and different shapes (rectangular carton boxes, round glass jars, round cans, square plastic boxes…).

As for the waterpipe accessories, labels need to be developed for the boxes of filters and tips, as well as for charcoal and aluminum foil packs. Here too, the problem of labeling on the unit packs arose: the charcoal is sometimes sold in units (as cylindrical packs) and the filters and tips are packed individually in cellophane and might be purchased in pieces. This calls for the need of having labels on the unit packs of waterpipe accessories.

Another challenging feature of waterpipe is that it is smoked in restaurants and cafés, as well as at home. Therefore, waterpipe smokers, when in cafés, do not see the actual tobacco package, but are rather exposed to the waterpipe apparatus, to the tip offered for each smoker and to the menus displaying the full range of tobacco flavors.

In response to the above discussed points, waterpipe menus, separated from the food menus and displaying a health warning label, were developed. Special wrapping for tips with an insert of the health warning label were also developed. Stickers were put on the cylindrical unit packs of the charcoal and the round shaped tobacco cans and jars. Finally, the size of the health warning labels was adjusted according to the different sizes of waterpipe tobacco packs as to cover 50% of the back and front sides. As for the waterpipe apparatus, much thought was given on how to apply those warning labels. Because this device is washable, a sticker cannot be put on the water vase or the neck and hose of the waterpipe. Moreover, there are thousands of manufacturers around the world
that produce the different parts of waterpipe; thus, an engraved health warning label is hardly applicable. Consequently, we suggested laminated tags, similar to the ones put on luggage, were attached to the waterpipe hose and neck. One can argue that such tags can be easily removed by the sellers or the purchasers unlike the health warning label printed on the waterpipe products. However, a comprehensive health warning system, comprising strict policy enforcing measures such as fixed fines on incompliant cafés and restaurants, would ensure that this regulation is imposed and respected.

C. Evaluating the Health Warning Labels

1. Designing and Conducting the Evaluation

The main purpose of this evaluation was to assess the effectiveness of the proposed health warning labels.

For the purpose of the evaluation, one tobacco pack of 50g was customized to fit the suggested labels: two black spaces, covering 50% of the back and front sides, were created and cut on the edges; the eight labels, in Arabic and English, were printed so as to fit the designed spaces; the labels were inserted respectively in both languages during one evaluation and rotated from one participant to another.

Moreover, one tip with a label was prepared for evaluation.

Among the selected pictures for the proposed labels, one image, already proven to be effective as cigarette warning, was included among the suggested waterpipe warning labels, so as to have a comparative standard for the new developed labels.

A questionnaire (Appendix C) was developed, evaluating the below outcomes using a five point Likert scale:

- Overall effectiveness of the warning
- Strong initial impact / strength of first impression
- Understanding of the message and meaning
- Quality and effectiveness of design
- Cohesiveness of picture and text
- Credibility
  - Credibility of information
  - Effectiveness of the inclusion of a government attribution
- Ability to inform and educate
  - Perceived susceptibility
  - Personal relevance
  - Emotional impact

Moreover, a face sheet (Appendix D) collecting socio-demographic data and smoking habits was prepared to be filled along with the evaluation survey.

2. Results of the Evaluation

People from different age groups, men and women, waterpipe smokers and non-smokers, were mainly recruited in cafés and restaurants (22 participants), as well at their work place and residence. The evaluation of the health warning labels was conducted between October 4 and 9, 2008. The eight labels were evaluated by an average of five persons. Sometimes, the same person evaluated one or two labels, depending on the time available to them. A total of 41 evaluation questionnaires were filled.

<table>
<thead>
<tr>
<th>Socio-demographic variables (N = 41)</th>
<th>% (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age groups</strong></td>
<td></td>
</tr>
<tr>
<td>17-25</td>
<td>19.5 (8)</td>
</tr>
<tr>
<td>26-35</td>
<td>51.2 (21)</td>
</tr>
<tr>
<td>35+</td>
<td>29.3 (12)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>63.4 (26)</td>
</tr>
<tr>
<td>Female</td>
<td>36.6 (15)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>53.7 (22)</td>
</tr>
<tr>
<td>Ever married</td>
<td>46.3 (19)</td>
</tr>
<tr>
<td><strong>Last year of Education</strong></td>
<td></td>
</tr>
<tr>
<td>High School*</td>
<td>41.5 (17)</td>
</tr>
<tr>
<td>University</td>
<td>58.5 (24)</td>
</tr>
<tr>
<td>*Did not attain higher than high school education</td>
<td></td>
</tr>
<tr>
<td><strong>Occupational Status</strong></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>78 (32)</td>
</tr>
<tr>
<td>Housewife</td>
<td>12.2 (5)</td>
</tr>
<tr>
<td>Student</td>
<td>9.8 (4)</td>
</tr>
</tbody>
</table>
For the overall effectiveness of the warning labels, the labels about “rat poison” and “water filtration myth” scored the highest, followed by the ones about “second hand smoking during pregnancy”, “impotence”, and “heart disease”. The labels about “fruity taste” and “second hand smoking in presence of children” scored the lowest.

Once more the label about “rat poison” had the strongest initial impact, followed by the labels about “second hand smoking during pregnancy”, “impotence”, and “water filtration myth”. As for the labels about “fruity taste” and “second hand smoking in presence of children”, they also scored the lowest for the initial impact.

The labels about “impotence” and “rat poison” had the most understandable tagline, seconded by the labels about “damaged teeth”, “second hand smoking during pregnancy” and “water filtration myth”. The tagline of the labels about “fruity taste” was not much approved by the participants.

As for the graphics of the labels, the image of the “damaged teeth” scored the highest on quality and effectiveness. The images of the labels about “water filtration myth”, “second hand smoking during pregnancy” and “fruity taste” were also appreciated by the participants. However, the images of the labels about “second hand smoking in presence of children”, “heart disease”, “impotence”, and “rat poison” were much criticized and evaluated as being not cohesive with the tagline.

The labels about “rat poison”, “second hand smoking during pregnancy”, “water filtration myth” and “heart disease” scored high on the credibility of information, in contrast to the label about “fruity taste”. For some participants, this high credibility was mediated by the inclusion of the governmental attribution, the Ministry of Health. While for others, this attribution was useless as they did not perceived the Ministry of Health to be a trustworthy body that can actually make a change in the current health conditions of the people. Further research is needed on this matter in order to identify what would be a credible attribution to include on waterpipe warning labels.

Finally, concerning the ability of these suggested labels to educate and inform the public, the labels about “second hand smoking in presence of children”, “rat poison” and
“impotence” highly affected the participants. Indeed, “rat poison” and “impotence” labels made waterpipe smoking seem less attractive.

When analyzing the responses of waterpipe smokers versus waterpipe non-smokers, 68% of the waterpipe smokers were affected by all the labels; while 56% were more likely to quit.

At the end of the evaluation survey, the participants were asked to suggest any improvements to the labels that would make them easier to understand and more eye-catching.

For the “second hand smoking in presence of children”, the participants could not conclude that the image referred to waterpipe smoking; therefore, the label could not be understood by looking at the graphic per se. The suggestion was to add the photo of a father smoking waterpipe, with the smoke reaching the child.

For the “fruity taste”, the sentence ‘Fruits in narghile tobacco are only added flavor, neither healthy nor nutritious’ was highly disapproved by almost all participants. It was considered to be pointless as people know for sure that they are not getting any nutrients from the fruits in the waterpipe tobacco. It was suggested to add the side effects of smoking waterpipe along with the effective image of the rotten fruits.

For the label about “heart diseases”, the image of the clogged artery was not recognized by most of the participants, regardless of their level of education.

The only suggested change for the label about “rat poison” was to have more contrast in colors between the head of the waterpipe and the rat on top of it to make it more visible.

Finally, for the label about “impotence”, the text was judged to be much more effective than the graphic. In fact, people understood the image only after reading the text. It was suggested to change the picture by removing the nodes of the hose.

3. Revisions of the Labels following Evaluation

The suggested modifications on the proposed labels were taken into consideration and taglines and pictorials were amended accordingly.

For the label about “second hand smoking in presence of children”, the photo of a father smoking waterpipe was added.

Previous Label

![Previous Label](image1.png)

Revised Label

![Revised Label](image2.png)
For the label about “fruity taste”, the picture was slightly modified to include grapes, as this flavor is highly appreciated by women. Moreover, the tagline was changed altogether to include the major consequence of waterpipe smoking: death.

### Previous Label
![Previous Label](image1.png)

### Revised Label
![Revised Label](image2.png)

For the label about “heart disease”, the image of the clogged artery was replaced by an open heart surgery.

### Previous Label
![Previous Label](image3.png)

### Revised Label
![Revised Label](image4.png)

The colors of the label about “rat poison” were contrasted to make the rat on the top of the waterpipe head more visible.

### Previous Label
![Previous Label](image5.png)

### Revised Label
![Revised Label](image6.png)
For the label about “impotence”, the nodes were removed from the hose.

<table>
<thead>
<tr>
<th>Previous Label</th>
<th>Revised Label</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Previous Label" /></td>
<td><img src="image2.png" alt="Revised Label" /></td>
</tr>
</tbody>
</table>

The final version of the suggested labels is found in Appendix B.

**XIV. COP III meeting**

**A. Preparation Phase**

In preparation for the COP III meeting, the conclusions drawn from the collection of waterpipe tobacco products and accessories, as well as the work on the suggested labels, were all put together in a format of a display table and a poster presentation.
The display table was divided into two sections: waterpipe products with FCTC non-compliant labels and waterpipe products with FCTC complaint labels. Different waterpipe products were reproduced to include the proposed health warning labels: two tobacco packs of different sizes, one tobacco jar, a pack of waterpipe tips, a pack of waterpipe charcoal and a pack of waterpipe aluminum foils. Moreover, a single tip and a charcoal cylinder with their own labels were also prepared. Three menus of waterpipe flavors including the proposed labels were printed. On the other side of the table, the same products without the labels were displayed to compare and contrast the waterpipe tobacco products and accessories and their respective labeling practices. Additionally, novel waterpipe flavors and accessories were exhibited to show the scope of innovation in the practice of waterpipe smoking. Also, waterpipe products purchased from different countries, in addition to Lebanon, were displayed. To put all the presented products into context, two waterpipe apparatuses were mounted; one of them included the suggested labels on the hose, neck and water bowl. And finally, to complete the waterpipe smoking experience, a charcoal holder and a pin were displayed.

Alongside all waterpipe products, pins, booklets and stickers were developed for this meeting. The pins were an illustration of a “no waterpipe” sign similar to the “no smoking” sign with a crossed red circle. The stickers were a reproduction of the eight suggested health warning labels, in Arabic, in English, and two designs in French. As for the booklets, it entailed a long preparation process that led to an advocacy brief presenting evidence that waterpipe is in fact a new alarming public health concern and emphasizing the importance of including waterpipe-specific labels to the tobacco and other related accessories. This booklet is addressed to policy makers to raise their awareness about waterpipe tobacco issues and the need to promote for regulations that impose proper FCTC compliant health warnings. The booklet consisted of eight main parts:
- Growing concern regarding the emergence of waterpipe smoking
- Description of waterpipe
- Waterpipe accessories
- Prevalence of waterpipe smoking among different population groups
- Health consequences of waterpipe smoking
- Promotions and innovations advertising waterpipe
- Current labeling practices on waterpipe products
- Policy implications

The booklet was developed in three languages (Arabic, English and French). Before printing, the booklet was send to a group of tobacco experts for revision and comments and was then modified accordingly. Finally, a scientific poster was prepared to present the scientific research behind these results and suggestions.
B. Feedback during the Conference

All the previous research work lead to a successful participation in the third session of the World Health Organization Framework Convention on Tobacco Control Conference of the Parties, that took place in Durban, South Africa, between November 17 and 22, 2008.

The display table was highly attractive for the participants; approximately 1000 “no waterpipe” pins, 1500 stickers of the health warnings and 1000 booklets were distributed. Several delegates took ‘goody bags’ with the materials for dissemination in their own organizations, and many showed great interest in the proposal of health warning labels on waterpipe tobacco products and accessories. A number of Eastern Mediterranean Regional Office (EMRO) delegates enquired about using the same images to develop their own health warning labels and wondered about copyright issues. Moreover, delegates from Oman, Saudi and Djibouti all said they plan to push getting the issue on the agenda at the next EMRO Ministers of Health Regional meeting. Also, Oman and Bahrain queried about the copyright of the booklet as they were keen to use the Arabic text in their countries. An Oman delegate filmed the explanation of the research and its policy implications to take the video back to his delegation during the regional COP III sessions and to Oman.

Not only EMRO delegates were interested in the suggested health warning labels, delegates from all over the world showed much enthusiasm and similar concern about waterpipe smoking. A Malaysian delegate was keen to see if they could implement the warnings in his own country; while German delegates took samples of the labels that they hope to introduce in Germany. Furthermore, a Turkish delegate from the Alcohol and Tobacco Regulatory Body (a government body) was extremely interested in the work and mentioned that there is ongoing research on the smoke constituents in the institution.

The role of the display table and all the materials was not merely for advocacy, but also served as health education awareness. Many people (including the staff from the conference organizers) approached the stand to ask about what waterpipe is and if it is dangerous. This went a step further when a person from Cancer Association of South
Africa (CANSAN) collected booklets, pins and stickers to develop a similar display table to educate non-governmental organizations working with youth.

On the other hand, the South African Media gave waterpipe smoking coverage. A South African radio station talked about waterpipe and its consequences leading to people from the public coming by for more information (including waterpipe smokers). A local newspaper also reserved a column for this topic. Finally, IOL (a renowned website for news, classifieds and info) wrote an article entitled “Hubbly bubbly health warnings” described the research conducted and its policy implications:

“If researchers from the American University of Beirut (AUB) have their way, the narghile and all its accessories would have highly visible labels detailing the effects of smoking”. (Published on the Web by IOL on 2008-11-18)

XV. Policy Implications and Next Steps

In light of the evidence reported on the current labeling practices on waterpipe tobacco products and accessories, this mode of tobacco smoking should be intensely addressed while developing tobacco control policies. Restaurants and cafés offering waterpipe should be regulated. Misleading claims of harm reduction and safety on waterpipe accessories should be prohibited, and the extensive advertising of devices, such as tips and filters, should be stopped.

However, regulations on waterpipe tobacco smoking is more challenging than cigarette smoking and need specific guidelines regarding placement and size of health warnings, as well as the content of the message because as shown previously:

- Waterpipe tobacco products come in different shapes and sizes
- Waterpipe tobacco packaging is not consistent across products and across countries
- Waterpipe tobacco smoking entails a wide range of specialized accessories along with the tobacco
- Waterpipe tobacco smoking takes place at home as well as in restaurants and cafés, where the consumers do not see the waterpipe tobacco packs, yet are exposed to the waterpipe apparatus, the tips and menus

Moreover, given the diverse production sources of waterpipe tobacco and accessories, there is an added challenge to policy regulations, as well as its enforcement. This is of particular difficulty when it comes to waterpipe accessories as it is suggested to put health warning labels on the individual tips and filters as part of the packaging, in addition to waterpipe apparatuses.

Findings from this research proposed ways in which appropriate health warnings could be applied to waterpipe tobacco products and accessories and the impact following COP III was only a first step in policy advocacy regarding health warning labeling on waterpipe tobacco and accessories.

This preliminary research needs to be expanded to comprise advocacy with EMRO at regional level or further funding of research institutes to take up the results of this research and expand to include:
- Formative comprehensive evaluation across other countries, particularly in the EMRO region to test health warning effectiveness in different settings with different populations, age groups, smoking status, among other variables
- Research to develop policies that support implementation of the various suggested health warnings, testing enforcement mechanisms…
- Piloting feasibility of health warning labels in cafés on menus and apparatuses with owners

XVI. Planned Outcomes

Dissemination of this research study and the ensuing suggestions would reach academicians, policy makers and the lay public.

For academicians:
- A seminar at the Faculty of Health Sciences, at the American University of Beirut (AUB), is planned for January 2009
- A news highlight will be posted on AUB website
- A scientific paper will be submitted to Tobacco Control.

For lay public:
- An appearance on a radio show for parents and children will be broadcasted mid-January 2009, talking about the new trend of waterpipe smoking and its detrimental consequences.
- An article about waterpipe smoking is planned to be published in a men’s magazine.

For policy makers:
- Suggestions will be presented to the expert team working on the Parliamentarian Health Committee Tobacco Control who drafted legislations to insert a health warning labels on all tobacco products and components including waterpipe
- A policy forum in the Public Library of Science Medicine is underway
- This report would serve as a reference for other researchers and policy makers who are interested in working on health warning labels for waterpipe tobacco and accessories
XVII. References


XVIII. Appendices

Appendix A

Matrix Encompassing Collected Waterpipe Tobacco Products and Accessories

(This document is available as a separate PDF file).
Appendix B

Final Version of Suggested Labels

English Version

[Images of warnings about narghile smoking]
Arabic Version
## Appendix C

### Label Evaluation Questionnaire

Date: ____________  
Product: __________  Label: __________________________

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<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>What do you think of this warning label?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Does the warning label catch your attention?</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>Is the message simple and easy to understand?</td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>Is the picture clear (وضحة)?</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5</td>
<td>Does the picture show what the text is saying?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td>Do you believe what this warning label is saying?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>Is the inclusion of a government attribution effective?</td>
<td></td>
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<tr>
<td>8</td>
<td>Does this warning label affect you personally?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9</td>
<td>Are argileh smokers (you) more likely to quit due to this warning label?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Does this warning label make argileh smoking seem less attractive?</td>
<td></td>
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</tr>
</tbody>
</table>

- What changes would you make to this warning label to make it easier to understand?  
- Are there improvements that you would suggest that could make the approach in this warning label more eye catching / noticeable/ more effective?
Label Evaluation - Face Sheet

Identification number: ________________
Date: __/__/____
   Day  Month  Year
Place of interview: ________________

General information

1. Age: ____________

2. Gender:
   a. Male
   b. Female

3. Marital status:
   a. Single
   b. Married
   c. Widowed
   d. Divorced
   e. Separated

4. Education: last year attended: ____________

5. Occupation:
   a. Employed
   b. Unemployed
   c. Retired
   d. Housewife
   e. Student
   f. Other, please specify: ____________

6. How frequently do you smoke cigarettes?
   a. Never / I tried it once
   b. I used to smoke in the past
   c. I smoke occasionally (at least once a month but less than weekly)
   d. I smoke weekly (at least once a month but less than daily)
   e. I smoke daily (at least once a day or on most days of the week)

7. How frequently do you smoke waterpipe?
   a. Never / I tried it once
   b. I used to smoke in the past
   c. I smoke occasionally (at least once a month but less than weekly)
   d. I smoke weekly (at least once a month but less than daily)
   e. I smoke daily (at least once a day or on most days of the week)

8. Where do you usually smoke waterpipe:
   a. Restaurant/cafè
   b. Home
   c. Home Delivery
   d. Others, specify: ____________