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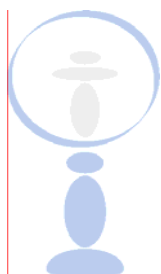
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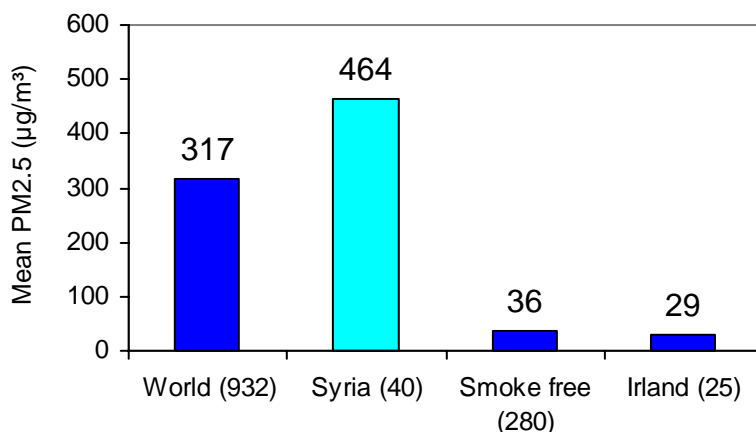
What's New:

- SCTS has been awarded a five-year renewal grant. The funding comes from Fogarty International Center (FIC) and the National Institute on Drug Abuse (NIDA) of the National Institutes of Health (NIH). The new project is planned for "**Responding to the changing tobacco epidemic in the Eastern Mediterranean Region**".
- SCTS has launched a multi-site primary health care (PHC) based cessation intervention trial in Aleppo, Syria. This study aims to test the efficacy of combined behavioral/pharmacological smoking cessation intervention in PHC system. A clinic-wide non-smoking policy for both staff and patients was established in the participating clinics to facilitate and support the implementation of the smoking cessation program. Identification of smokers becomes a routine part of all patient visits and all smokers receive a brief intervention to assess their readiness to quit. Smokers who are interested in quitting are referred to the specialized smoking cessation clinic. The final goal of this study will be the development of system-wide smoking cessation services for Syria’s PHC system.
- SCTS has launched a pilot study to test a clinic-based smoking cessation intervention for waterpipe users. The main objective of this study is to compare two levels of intensity of a behavioral waterpipe smoking cessation intervention. This is the first attempt to build an evidence base on the efficacy of smoking cessation interventions for waterpipe smokers.



Average fine particle air pollution, results from all countries and Syria

Source: A 24– Country comparison of levels of indoor air pollution in different workplace (Roswell Park Cancer Institute), 2006



Published Studies/Reports:

Cardiovascular Health among Adults in Syria: A Model from Developing Countries.

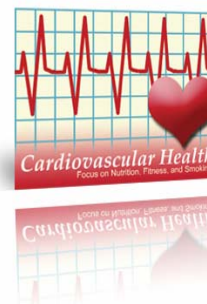
Purpose: Despite the considerable mortality and morbidity associated with cardiovascular disease (CVD), many developing countries lack reliable surveillance of these ailments and their risk factors to guide intervention. This study aims to provide the first population-based estimates of CVD morbidity and mortality among adults in Aleppo, Syria and the distribution of their risk factors.

Method: A cross-sectional survey of adults 18 to 65 years old residing in Aleppo, Syria was carried out in 2004, involving 2038 household representatives (45.2% men; mean age, 35.3 years; response rate, 86%). Main outcomes of interest were physician-diagnosed CVD (infarction, angina, failure, stroke) among survey participants, and past 5-year mortality due to CVD among their household members older than 20 years of age (N = 6252, 49.5% men). Measurement of blood pressure (BP), height and weight, and smoking history were obtained as well.

Results: Prevalence of CVD was 4.8% for heart disease and 1.0% for stroke. CVD was responsible for 45.0% of overall mortality reported in the past 5 years, whereby 49% of CVD deaths occurred before the age of 65 years. Mean age of death was 62.6 years (63.6 years for heart disease and 61.4 years for stroke). Annual crude death rate due to CVD was 314 per 100,000 (95% confidence interval [95% CI]: 215-414); of these, 179 were due to heart disease, and 135 due to stroke. More men than women died from heart disease, whereas the opposite was true for stroke. Hypertension was detected in 40.6% (47.7% men, 34.9% women), obesity in 38.2% (28.8% men, 46.4% women), and smoking (cigarettes or water-pipe) in 38.7% (63.6% men, 19.2% women) of participants. Of those surveyed, 39.3% had one CVD risk factor, 27.4% had two risk factors, and 8.3% had 3 risk factors. Main predictors of clustering of risk factors were older age, male gender, and low education.

Conclusion: Syria is currently undergoing a stage in which morbidity and mortality from CVD are high but likely to increase based on the population's risk profile. CVD risk distribution in Syrian society highlights the non-generalizability of CVD models from developed societies, and calls for local studies to inform effective interventions and policies.

Maziak W, Rastam S, Mzayek F, Ward KD, Eissenberg T, Keil U. *Ann Epidemiol.* 2007, 17(9):713-720



Self-rated health and its determinants among adults in Syria: A model from the Middle East.

Self-rated health (SRH) has been widely used to research health inequalities in developed western societies, but few such studies are available in developing countries. Similar to many Arab societies, little research has been conducted in Syria on the health status of its citizens, particularly in regards to SRH. This study aims to investigate and compare determinants of SRH in adult men and women in Aleppo, Syria.

Methods: A cross-sectional survey of adults 18 to 65 years old residing in Aleppo (2,500,000 inhabitants), Syria was carried out in 2004, involving 2038 household representatives (45.2% men, age range 18-65 years, response rate 86%). SRH was categorized as excellent, normal, and poor. Odds ratios for poor and normal SRH, compared to excellent, were calculated separately for men and women using logistic regression.

Results: Women were more likely than men to describe their health as poor. Men and women were more likely to report poor SRH if they were older, reported two or more chronic health problems, or had high self perceived functional disability. Important gender-specific determinants of poor SRH included being married, low socioeconomic status, and not having social support for women, and smoking, low physical activity for men.

Conclusion: Women were more likely than men to describe their health as poor. The link with age and pre-existing chronic conditions seems universal and likely reflects natural aging process. Determinants of SRH differed between men and women, possibly highlighting underlying cultural norms and gender roles in the society. Understanding the local context of SRH and its determinants within the prevailing culture will be important to tailor intervention programs aimed at improving health of the Syrian and similar Arab societies.

Asfar T, Ahmad B, Rastam S, Mulloli TP, Ward KD, Maziak W. *BMC Public Health.* 2007, 25;7(1):177



Outcomes and adherence in Syria's first smoking cessation trial

In Syria, smoking rates are very high, but quit rates are low. Pharmacological cessation aids and cessation services are unavailable in Syria. To determine the feasibility of implementing cessation interventions in Syria, we piloted a behavioral cessation intervention, comparing two levels of intensity.

Methods: Fifty smokers were randomized to either a brief (single face-to-face counseling session) or intensive (4 face-to-face counseling sessions plus 6 brief phone calls). Rates and predictors of adherence were assessed, and biochemically-verified 7-day point prevalent abstinence rates were calculated at 3 months post-cessation.

Results: Despite retention efforts, treatment adherence in the intensive arm was low, with only 40% receiving the full "dose" of treatment. Poorer adherence was correlated with having smoked for a greater number of years and low self-efficacy for abstinence in habitual/craving situations. Cessation rates in the brief and intensive intervention groups were 16% and 4%, respectively.

Conclusion: Nicotine dependence, assessed by the Fagerström Test for Nicotine Dependence (FTND), predicted abstinence at 3 months. Based on follow-up interviews, important barriers to cessation included perceived dependence, lack of access to pharmacotherapy, poor social support, and switching to waterpipe smoking.



Asfar T, Vander Weg M, Maziak W, Hammal F, Eissenberg T, Ward KD. Am J Health Behav. 2008;32(2):146-156

Exposure to secondhand smoke at home and in public places in Syria: a developing country's perspective.

This study employs sensitive methods to address the issue of exposure to secondhand smoke among children and women in an understudied developing country setting (Syria).

Methods: This study combines data collected by the Syrian Center for Tobacco Studies as part of two international studies conducted in 2006; the Secondhand Smoke Exposure among Women and Children study (Johns Hopkins) and the Global Air Monitoring Study (Roswell Park Cancer Institute). We employed objective measures (hair nicotine, and ambient household nicotine assessed by passive monitors) to assess children and mothers exposure to secondhand smoke at home, and used the TSI SidePak Personal Aerosol Monitor to sample respirable suspended particles less than 2.5 μm diameter ($\text{PM}_{2.5}$) in the air in public places (40 restaurants/café in Aleppo).

Results: In homes, mean ambient nicotine level (\pm standard deviation, SD) was $2.24 \pm 2.77 \mu\text{g}/\text{m}^3$. Mean level of hair nicotine was 11.8 ng/mg among children ($n=54$), and was higher if the mother was a smoker ($19.4 \pm 23.6 \text{ ng}/\text{mg}$) than non-smoker ($5.2 \pm 6.9 \text{ ng}/\text{mg}$) ($p < 0.05$). Mean hair nicotine among non-smoking mothers ($n=23$) was $1.17 \pm 1.56 \text{ ng}/\text{mg}$. Children's hair nicotine level was strongly correlated with ambient household nicotine and number of cigarettes smoked daily in the house ($r=0.54$ and $r=0.50$, respectively, $p < 0.001$), as well as was related to having a father who smoked in the children's presence. In public places, average $\text{PM}_{2.5}$ in the monitored 40 hospitality venues was $464 \mu\text{g}/\text{m}^3$ and correlated with smoker density measured as cigarettes-waterpipes/100 m^3 ($r=0.33$, $p=0.04$).

Conclusions: Children in Syria are exposed to high levels of SHS at home, of which mother's smoking plays a major role. Also, levels of respirable hazardous particles is high in public hospitality venues putting customers and workers at serious health risks. Efforts to limit exposure of children and women at home and to adopt clean air policies should become a public health priority in Syria and the Arab region.



Maziak W, Al Ali R, Fouad MF, Rastam S, Wipfli H, Travers MJ, Ward KD, Eissenberg T. Inhalation Toxicology 2007: (in press).

Waterpipe Associated Particulate Matter Emissions.

Waterpipe tobacco smoking is increasingly common worldwide and evidence about its harmful effects to smokers is emerging, though no studies have investigated the potential waterpipe smoke exposure of non-smokers. We measured particulate matter emission ($PM_{2.5}$, PM_{10}) before and during laboratory sessions in which 20 individuals used a waterpipe to smoke tobacco and 20 individuals smoked a cigarette (10 for each particle-size/smoking method), as well as 10 waterpipe and 10 cigarette smoldering sessions (i.e., without a smoker). A TSI-SidePak aerosol monitor obtained $PM_{2.5}$, PM_{10} background, smoking, and maximum levels. Mean $PM_{2.5}$ rose 447% for waterpipe (from $48 \mu\text{g}/\text{m}^3$ background to $264 \mu\text{g}/\text{m}^3$ smoking), and by 501% for cigarettes (from $44 \mu\text{g}/\text{m}^3$ to $267 \mu\text{g}/\text{m}^3$), while mean PM_{10} rose 563% for waterpipe (55 to $365 \mu\text{g}/\text{m}^3$), and by 447% for cigarettes (52 to $287 \mu\text{g}/\text{m}^3$) ($p < 0.05$ for all). The increase in PM during cigarette smoking was due primarily to $PM_{2.5}$, as the proportion of $PM_{2.5}$ from total PM_{10} increase was 95% compared to 70% for waterpipe ($p < 0.05$). Maximum $PM_{2.5}$ was $908 \mu\text{g}/\text{m}^3$ for waterpipe and $575 \mu\text{g}/\text{m}^3$ for cigarettes, while maximum PM_{10} was $1052 \mu\text{g}/\text{m}^3$ for waterpipe and $653 \mu\text{g}/\text{m}^3$ for cigarettes. Mean $PM_{2.5}$ and PM_{10} smoldering levels did not differ from background for waterpipe, but were significantly higher for cigarettes ($PM_{2.5}$ $33 - 190 \mu\text{g}/\text{m}^3$; PM_{10} $42 - 220 \mu\text{g}/\text{m}^3$). Policymakers considering clean air regulation should include waterpipe tobacco smoking and the public should be warned about this source of smoke exposure.



Maziak W, Rastam S, Ibrahim I, Ward KD, Eissenberg T. Nicotine & Tobacco Research 2007; (in press).

Interventions for waterpipe smoking cessation.

Waterpipe smoking is a traditional method of tobacco use, especially in the Eastern Mediterranean Region, but its use is now spreading throughout Europe and North America. It is smoked socially, often being shared between friends or family at home, or in dedicated bars and cafes that provide waterpipes to patrons. Because the smoke passes through a reservoir of water, waterpipe tobacco smoking is perceived as being less lethal than other methods of tobacco use. At least in some cultures, women and girls are more likely to use a waterpipe than to use other forms of tobacco, and it is popular among younger smokers. Accumulating evidence suggests that waterpipe smoking may be as addictive as other forms of tobacco use, and may carry similar or greater risks to health.

Objectives To evaluate the effectiveness of tobacco cessation interventions for waterpipe users

Search strategy We searched the Cochrane Tobacco Addiction Review Group specialized register, in June 2007. We also searched MEDLINE, EMBASE, CINAHL and PsycINFO, using variant terms and spellings ('waterpipe' or 'narghile' or 'arghile' or 'shisha' or 'goza' or 'narkeela' or 'hookah' or 'hubble bubble'). We searched for trials, published or unpublished, in any language, and especially in regions where waterpipe use is widespread. We have also used our own existing bibliography, compiled from conducting an earlier exhaustive review of the literature on waterpipe smoking.

Selection criteria We sought randomized, quasi-randomized or cluster-randomized controlled trials of smoking cessation interventions for waterpipe smokers of any age or gender. The primary outcome of interest was abstinence from tobacco use, preferably sustained and biochemically verified, for at least six months from the start of the intervention.

Data collection & analysis Each author intended to extract data and assess trial quality independently by standard Cochrane Collaboration methodologies, but no eligible trials were identified.

Main results We found no completed intervention trials targeting waterpipe smokers. A pilot randomized controlled trial by the authors of this review is underway, and will be reported in future updates.

Reviewers' conclusions Epidemiological and observational evidence suggests that waterpipe use is growing in popularity worldwide. It is widely and erroneously perceived to be less lethal than other forms of tobacco use. Women, girls, and young people are more likely to take up waterpipe smoking, especially in the Eastern Mediterranean Region. More research is needed on its addictive properties, and on the associated health risks, both for users and exposed non-smokers. Evidence-based information about waterpipe's addictive and harmful properties should be developed and disseminated in order to deglamourise and de-normalise its use. High quality randomized trials are needed to guide treatment of waterpipe smoking.

Maziak W, Ward KD, Eissenberg T. The Cochrane Database of Systematic Reviews 2007; Issue 4 (in press).

