T-tests and multivariate linear regression models were conducted to compare cotinine levels between comparison groups. Result: Males and females were equally represented, with a mean age of 45.8 yrs (SD=12.6 years). Cigarette smokers had significantly higher cotinine levels (1477.6 ± 1602 ng/ml) than non-smokers (57.6 ± 155.2 ng/ml; p<0.02), and passive smokers (spouses of smokers) levels were intermediate (940.6 ± 1719 ng/ml). Tobacco chewers had the highest cotinine levels of all groups (2779.9 ± 2591 ng/ml) and the significant difference persisted after adjustment for age, sex, body mass index, and physical activity (p Conclusion: This is one of the first studies evaluating cotinine levels for smokeless tobacco use in 24-hour urine samples in India. These findings require replication and suggest that combusting nicotine dependency in chewers may be more difficult than in other tobacco users.

OP032

ARE INDIANS SHIFTING FROM SMOKELESS TO SMOKELESS TOBACCO? G.K. Mini 1, N.B. Sureshkumar 2. 1See Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, India; 2State Resource Centre, Trivandrum, India

Background: Smoking is the dominant form of tobacco globally. However, in Asian countries like China, India and Indonesia which share the maximum burden of tobacco use, the use of smokeless forms of tobacco is common. The adverse health and economic effect of smokeless tobacco is as harmful as that of smoking. In India, 75% of the tobacco users were smokeless tobacco users (SLT). Limited information is available at the population level on smokeless tobacco as a smoking cessation aid in India.

Objective: The present study examines the tobacco transition with specific emphasis on switching over to smokeless tobacco as a smoking cessation method among adults in India.

Method: We used raw data on the nationally representative household survey Global Adult Tobacco Survey (GATS) 2009-2010 India for the present study. We studied the smoking cessation method for those who quit smoking within 1 year.

Result: Prevalence of smokeless tobacco was nearly two times higher than that of smoking in India. The exclusive smokeless tobacco use was three times higher than that of smoking prevalence. Quit ratio was low among smokeless tobacco users (5%) compared to smokers (13%). SLT use was more prevalent in rural area (29%) compared to their urban counterparts (18%). Among former smokers (ever-smokers who stopped smoking within one year) 20% switched to smokeless tobacco as a smoking cessation method, for switching to SLT than women (OR 4.81, 95% CI 4.76 – 10.66) CI 1.57 – 4.87). Youth (15–24 years) (OR 1.59, CI 1.57–1.60) educated (OR 4.14, CI 4.11–4.17) and employed (OR 10.8, CI 10.66–10.94) adults were more likely to switching to smokeless tobacco as a smoking cessation aid.

Conclusion: The recent transition from smoking to smokeless tobacco use in India is remarkable and relevant to the global discussion for further studies and has implications for tobacco control policies in India. The low quit rate among smokeless tobacco users and a high proportion of smokers switching to smokeless tobacco predicts the future burden of SLT in India.

OP033

A SYSTEMATIC REVIEW AND META-ANALYSIS ON THE HEALTH EFFECTS OF NON-SNUSS SMOKELESS TOBACCO PRODUCTS Sudhir Venkatesan1, Jo Leonardi-Bee1, Puja Myles1, Ann McNell1, 1University of Nottingham, United Kingdom; 2King’s College London, United Kingdom

Background: Previous reviews on the health effects of smokeless tobacco have included Swedish snus, which is known to be less harmful than conventional products, and preparations containing betel nut which is independently carcinogenic.

Objective: This systematic review seeks to determine risk of oral squamous cell carcinoma (OSCC), leukoplakia, periodontal disease, pancreatic cancer and adverse foetal outcomes in users of non-snuess smokeless tobacco products (NSST).

Method: Systematic review and meta-analysis was conducted in accordance with the Preferred-Analysis of Observational Studies in Epidemiology (MOOSE) guidelines. Pooled odds ratios and 95% confidence intervals were estimated by using random-effect models. We searched Medline, Embase and PsycInfo; no language restrictions were imposed. The primary outcomes were OSCC, leukoplakia, periodontal disease, pancreatic cancer and adverse foetal outcomes. All forms of smokeless tobacco from different countries, except snus and the ones containing betel nut, were considered as exposures.

Result: A total of 25 studies from 7 different countries were included, of which 19 studies were reports of cohort or case-control studies. Subjects were associated with an increased risk of leukoplakia (OR=13.46; 95% CI: 4.29 to 42.25; I2=98%) and nearly doubled the risk of OSCC (OR=1.84; 95% CI: 0.83 to 4.07; I2=95%). However, NSST use had no significant effect on the risk of pancreatic cancer (OR=1.04; 95% CI: 0.47 to 2.32; I2=59%). Adverse foetal outcomes were only consistently found in one study which found that NSST use during pregnancy decreased mean birth weight of the infant by 17.1g (95% CI: 103 to 69). It was not possible to calculate pooled estimates for studies considering periodontal disease due to insufficient data.

Conclusion: NSST users are at significantly increased risk of OSCC and leukoplakia however no association was detected with pancreatic cancer. Few studies have been performed on other systemic diseases, in particular relating to pregnancy outcomes. The findings of this meta-analysis reaffirm the vastly heterogeneous nature of smokeless tobacco products around the world. Despite the exclusion of potential confounding factors (South Asian products containing betel nut) and products with markedly different manufacturing processes (snus from Sweden), extreme levels of heterogeneity were observed which makes it critical for future global research on smokeless tobacco to identify a firm means of classifying and assimilating evidence on smokeless tobacco.

OP039


Background: The WHO South-East Asia and Western Pacific Regions have a combined 680 million tobacco smokers, and within the South-East Asia Region alone there are an additional 250 million smokeless tobacco users. Many countries have started to implement effective tobacco demand reduction measures. However, as countries enforce smoke-free legislation and raise tobacco taxes (focussing in most cases on manufactured cigarettes) tobacco companies have started to shift to manufactured tobacco products and or other forms of tobacco not affected by the increase of prices.

Objectives: To describe prevalence of use, market-size, and cost of “other tobacco products” relative to manufactured cigarettes in eight countries that have conducted the Global Adult Tobacco Survey.

Methodology: This study examines findings from Global Adult Tobacco Surveys conducted in eight countries (Bangladesh, China, India, Indonesia, Malaysia, Philippines, Thailand, and Vietnam) to determine the prevalence of a variety of other tobacco product use (defined and non-manufactured cigarettes). Recent trends in market growth of other tobacco products, along with price and taxation data, were also analysed where this information was available.

Result: While the types of other tobacco product use varies between countries, prevalence of use of these products represents a significant proportion of overall tobacco use in several of the countries studied. Analyses of available tax data has shown that several of the products looked at were taxed at significantly lower rates than manufactured cigarettes.

Conclusions: While these products may represent a significant portion of the tobacco-related health burden in several countries in South-East Asia, The findings of this study point to a need for improved surveillance to better identify trends in the use of other tobacco products, and for policies to reduce demand for these products.

The political landscape for the tobacco endgame

OP001

REGULATING INDUSTRY INTERFERENCE & WHO FCTC IMPLEMENTATION: ARTICLE 5.3 & THE FUTURE OF GLOBAL HEALTH Jeff Colin, Sarah Johnston, Evgeniya Plotnikova, Sarah Hill. University of Edinburgh, United Kingdom

Background: Unlike other producers of unhealthy commodities, tobacco companies are now widely viewed as vectors of disease, with whom partnership approaches are recognised as unacceptable in policy and in science and from whom voluntary initiatives are seen as inadequate. The fundamental conflict of interest between the tobacco industry and health receives unique recognition in Article 5.3 of the WHO Framework Convention on Tobacco Control (FCTC), under which states must protect the development of public health policies from tobacco industry interference. Yet the extent to which parties are committed to implementing Article 5.3 can appear questionable.

Method: We examined FCTC implementation reports from 161 countries to assess country perceptions of the extent of implementation of Article 5.3 and of tobacco industry interference as a barrier to FCTC implementation. Results: Overall, 54% of FCTC parties report having adopted and implemented programmes to protect tobacco control policies from the vested interests of the tobacco industry. This figure masks substantial variation when countries are organized by World Bank income categories; only one third of low income countries and under half of high income countries report implementing such programmes. Variation is more pronounced across WHO regions; whereas almost three quarters of countries from the Eastern Mediterranean Region claim to have implemented such measures, almost two thirds of the African Region parties claim to have implemented measures to ensure public access to information on industry activities; three quarters of both low- and high-income countries report no such measures. Comments provided within the implementation reports suggest low compliance with specific recommendations made in the implementation guidelines for Art. 5.3. Only one country identified Art. 5.3 as a priority for further FCTC implementation, while one fifth of parties identified tobacco industry interference and tactics as barriers to implementation more broadly.

Conclusion: The successful implementation of Art. 5.3 is widely recognised...