Prevalence of Smoking in Cambodia

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Objective To evaluate the prevalence of cigarette smoking in Cambodia and identify prevailing knowledge, attitudes and practices (KAP).

Design Information on tobacco smoking and KAP was collected using the 30-cluster survey design wherein 10 - 15 males (age over 15 years) were interviewed from each of 30 randomly-selected population clusters in Phnom Penh (herein referred to as 'urban') and Siem Reap (herein referred to as 'rural') for a total of 601 interviews.

Results and Discussion Findings show that 65% of urban respondents and 86% of rural respondents smoke. Rural men start smoking at an earlier age, but the average urban smoker spends more. 17% of an urban smoker's personal cash income is spent on tobacco, whereas his rural counterpart spends 8%. This discrepancy is partly due to extensive tobacco brand-name promotion in urban areas which has resulted in the average price of a pack of cigarettes being four times higher than that of rural. Other findings show an inverse correlation between incidence of smoking and levels of education/income. Concerning smoking cessation, 66% of urban smokers and 86% of rural smokers interviewed indicated they would attend a program in their area to stop smoking if such a program were available.

Conclusion The high prevalence of smoking in Cambodia, and the health impact it has and will increasingly have on its people is significant. The high cash expenditure for tobacco, especially in urban, is an important factor contributing to Cambodia's impoverished economy. Education, regulatory policies, and smoking cessation are important measures to be considered for effective tobacco control planning and implementation. J Epidemiol, 1998 ; 8 : 85-89

cambodia, smoking prevalence, tobacco control, cigarette

The World Health Organization estimates that tobacco use kills 3 million people worldwide each year, and is the leading cause of preventable death and disease in the developed world¹,²,³. Many reports suggest that tobacco is a major cause of ill health and death. According to the Journal of the National Cancer Institute, if current smoking patterns continue, nearly one-tenth of the world's population will die prematurely from tobacco-related diseases - including about 200 million of today's children and teenagers⁴.

Until recently, tobacco control action has focused mainly on developed countries where, in general, smoking rates are declining. However, smoking is becoming increasingly prevalent in developing countries. The World Health Organization has targeted the prevention and treatment of tobacco in developing countries as a high priority. But without prevalence data or information about the knowledge, attitudes and practices of a given country's population towards smoking, it is difficult to tailor appropriate health education, policy efforts, and prevention and cessation interventions.

Smoking is deeply integrated into the social practices of Khmer society. Cigarettes were given out freely to assist with mosquito control during the Pol Pot era. Today, cigarettes are

Received October 4, 1997 ; accepted January 7, 1998.
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given to Buddhist monks to make merit, and continue to be an important favor at wedding ceremonies. Many multinationals hire beautiful young girls to distribute cigarettes in tobacco promotions. In addition, as seen in Figure 1, almost 50% of street advertising in Phnom Penh promotes tobacco products.

**OBJECTIVE**

The objective of this study was to gain a better understanding of the extent of the tobacco epidemic in Cambodia and of the awareness, attitudes and practices of people regarding tobacco-related health and economic issues.

**METHOD**

In October 1994, Cambodian public health professionals conducted the first formal study, in at least 20 years, into tobacco issues in Cambodia. Pre-testing during this research indicated that cigarette smoking was most prevalent in males over 15 years of age. Consequently, a 30-cluster survey design was employed wherein 10-15 males (age over 15) were interviewed from each of 30 randomly-selected population clusters in Phnom Penh for a total of 360 interviews. In view of the fact that Cambodia's urban population comprises less than 20% of the total population of 10.3 million, this research was later extended by conducting another 30-cluster survey among the rural population of Siem Reap Province for a total of 241 interviews. Altogether 601 in-person interviews were conducted.

**RESULTS AND DISCUSSION**

The two 30-cluster surveys indicated that 65% of urban males and 86% of rural males smoke, as shown in Figure 2. These rates are much higher than the 50% average the World Health Organization shows for its Western Pacific region which includes Cambodia. The higher prevalence for rural males, as opposed to urban, may be due in part to a lower average education level, in addition to a much lower average expenditure for cigarettes. The survey findings revealed that the weighted average price per pack of 20 cigarettes for rural males was 16 cents (US); whereas for urban males it was 64 cents (US). This wide discrepancy has developed as a result of the price differential between locally grown, hand-rolled cigarettes and those processed or imported into urban. In addition, extensive tobacco brand-name advertising and other forms of promotion have been concentrated in urban. Further study needs to be conducted to determine the relationship between the high prevalence - especially among rural males - and morbidity and mortality rates in Cambodia.

In comparison, relatively few females smoke. Pre-testing showed a figure close to 15%, which is higher than the WHO average for its Western Pacific region of 2-10%, but much less than the figures for males. Consequently, the study focused on males. However, the tobacco companies in Cambodia - as in other places - are targeting women more and that smoking among younger women has been on the rise as a result.

Figure 3 shows that more rural males start smoking at an earlier age compared to urban males. Almost 60% of rural respondents between 15 and 21 years of age were smokers,
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while 85% of every category of respondents above 21 years of age smoked. In contrast, for urban men, incidence of smoking was less than 20% of respondents between 15 and 21 years and generally increased with age - the exception being 26 to 30 year olds. Further research will be needed to determine the factors which contribute to these contrasting trends and may highlight important target areas for subsequent awareness programs.

A paper presented at the 9th World Conference on Tobacco and Health by Howard Barnum, a senior economist at the World Bank, stated that the net economic impacts of tobacco are profoundly negative - exceeding estimates of the economic benefits by at least US$200 billion annually 7). The costs of tobacco consumption are increasingly borne by developing countries, where cigarette sales are rising by around 3% per year 8). The detrimental economic effect of tobacco on the impoverished economy and health system of Cambodia is very significant.

The survey findings indicate, as shown in Figure 4, that the average urban smoker, consuming largely imported cigarettes as a result of heavy tobacco brand-name advertising, spends 17% of cash income on tobacco 8). For rural, where a high percentage of cigarettes are still hand-rolled, the percentage of income spent on tobacco is lower, but still significant at around 8% of cash income.

Tobacco is clearly diverting a significant amount of money from productive investments in food, education and health, and simultaneously reducing productivity by increasing disease prevalence.

Regarding education, there is an inverse relationship between educational level and smoking prevalence, as shown in Figure 5. In both rural and urban, over 90% of respondents with less than 5 years of education smoked. In contrast, only 55% of respondents with more than 8 years of education were smokers.

There appears to be a high level of awareness of the health impacts of smoking in Cambodia, especially among urban smokers: 82% of respondents in urban areas considered smoking bad for their health. 71% were aware that tobacco contained poisons; and 81% understood that smoking could cause lung cancer.

The main reasons given by both urban and rural nonsmokers for not smoking included the following: bad for one's health, a waste of money, and “hate tobacco”. However, a higher percentage of rural nonsmokers considered the economic cost factor as most important while more urban smokers mentioned that they “hate tobacco” as a reason for not smoking. Table 1 shows the percentage of urban and rural smokers who agreed/disagreed with statements about smoking and health such as 'Smoking is bad for youth', 'I don't mind other peo-
Along with its impact on economics and health, smoking has a very significant impact on the family. The World Health Organization has highlighted a number of important family issues related to tobacco use. It has noted, for example, that 'parental smoking increases the incidence of acute respiratory infections and asthma in children'. Also, 'smoking during pregnancy substantially reduces birth weight, and low birth weight is strongly associated with infant mortality and illness'.

Cambodians are very concerned about the health of their families. A combined average of 60% of all smokers believed that smoking was bad for youth, and only 4% wanted their children to begin smoking.

However, most parents appear to be unaware of the impact of passive smoking on their children. It is important to further investigate smoking habits within the family context so that parents can be provided with accurate information about how their habits are affecting their children.

Direct assistance for smoking cessation programs is needed. Table 2 shows the results of responses to smoking cessation-related interview questions. 65% of urban smokers and 79% of rural smokers responded positively when asked if they wanted to quit smoking. Correspondingly, 32% of urban and 54% of rural smokers said they had tried to quit 'several' times. 66% of urban and 86% of rural smokers indicated they would attend a smoking cessation program if such were available.

**Table 2. Results from questionnaire responses regarding smoking cessation.**

<table>
<thead>
<tr>
<th>Want to quit smoking?</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>65</td>
<td>79</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Not sure</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>No response</td>
<td>11</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Tried to quit several times</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>54</td>
<td></td>
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<tr>
<th>Would attend a smoking cessation program if available.</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>66</td>
<td>86</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Not sure</td>
<td>30</td>
<td>8</td>
</tr>
</tbody>
</table>

**CONCLUSION**

The small scale of this research makes it difficult to generalize conclusions for Cambodia as a whole. However, as one of the first published studies of smoking prevalence in the country, it does provide a baseline for future work, and provides useful insights into tobacco use in Cambodia while, highlighting a number of important issues for further research.

The high prevalence of smoking in Cambodia and its ramifications are significant. The high percentage of income spent on tobacco indicates that tobacco is a significant threat to the economy and health of Cambodia. To effectively combat the increasing pressure from multinational tobacco corporations, tobacco control regulation and policy along with extensive public awareness campaigns are needed in close association with both epidemiological and social research.

Further research into the smoking habits and attitudes of specific influential subgroups such as community leaders, health professionals and Buddhist monks will enable effective targeting of future awareness programs. Other key agents of change,
likewise, need to be identified and measures sought to gain their support.

There is presently support from the Ministry of Health for tobacco control in Cambodia and increasing interest in developing smoking cessation programs. However, there remain many challenges in gaining support from other government departments and in developing and ensuring enforcement of effective tobacco control legislation.

Increased awareness of smoking-related issues among government officials, community leaders, health professionals, international and non-governmental organizations and the Cambodian population will ensure that Cambodians receive the support they desire to help them reduce the negative impacts of tobacco on their country.

ACKNOWLEDGMENTS

This study was made possible through the cooperation of the Cambodian Ministry of Health, the Japan WHO Foundation and the Adventist Development and Relief Agency (ADRA), Cambodia.

REFERENCES

8. Ibid., Barnum H.
9. Ibid., Smith M