ORIGINAL ARTICLE

Smoking Habits in a General Practice Sample

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Summary

Five hundred and sixty-two (562) consecutive attendees at an urban general practice were studied using a Health questionnaire incorporating questions on smoking, drinking and motor vehicle accidents. Information on smoking was available for 501 subjects. Overall 22% of the subjects have smoked or are currently smoking. Forty per cent (40%) of Malays, 12% of Chinese and 12% of Indians have smoked or are currently smoking, most of whom are men (92% of smokers). The race difference was highly statistically significant. Among smokers 68% were Malays, 25% were Chinese and 7% of Indians and others. The average number of cigarettes smoked per day was highest for Malays (13.9) compared to 10.6 for Indians and 8.9 for Chinese. Those who drank alcohol smoked more heavily than teetotalers. Malays who drank smoked significantly more heavily than Chinese who drank (17.0 sticks per day versus 8.8 sticks for Chinese). In most cases the age of beginning smoking was earlier than the age at starting to drink (mean age at starting smoking = 18.5 years for Malays, 19 for Indians and 22 for Chinese). There was a modest positive correlation between the ages at starting smoking and starting drinking (correlation coefficient $r = 0.54$, $t = 5.538$, $p < 0.001$). Among Malay smokers, number of cigarettes smoked correlated with the units of alcohol consumed (Kendall's tau, $\tau = 0.55$, S Error = 3.048, $p < 0.003$). However, correlation does not necessarily indicate causation, but it may be possible that the use of one substance of abuse (nicotine) may make it easier to abuse another. The characteristics of the sample and the limitations of the methodology may account for these findings.

Key Words: Smoking, Alcohol, General practice

Introduction

Smoking, first introduced into Europe about 400 years ago, became widespread after mass production began in the early 1900s. Smoking increased greatly in popularity in the Western world until the 1950s after which, with increasing evidence for the harmful effects of tobacco, there has been a steady decline in smoking in industrialised countries by about 0.5% per year in the last few decades[1]. There is, unfortunately, an increasing trend in cigarette smoking in Asia[2]. Whereas 30% of American males smoke today[3], the corresponding figure in China is 60%[1].

There are no comprehensive data on the prevalence of smoking in the Malaysian community. A rural community study by Pathmanathan[4] indicated that more Malays smoked but the Chinese smoked more heavily. A study of Malaysian urban male executives showed about 38% of Malays, 36% of Chinese and 35% of Indians smoked 1 or more cigarettes per week, there being no statistically significant difference between the races[5].

The aims of this study are to describe the smoking habits of Malaysians in a general practice, and to describe its relationship, if any, to drinking. It has been recognised that heavy smoking is associated with alcoholism[6]. The study hypotheses are, firstly, that Malays would have the highest rate of smoking compared to the other races, and secondly, that subjects (of all races) who drink would also be heavier smokers.

Methods

Consecutive attendees at an urban general practice were given questions from the Health System Questionnaire[7] looking at the drinking habits - amount, frequency and types of alcohol consumed. This questionnaire was chosen because it has been validated and successfully used in the Malaysian population. For the convenience of responders and to increase the response rate, questions on smoking and motor vehicle accidents were included, rather than issuing them a separate questionnaire on smoking. Questions on smoking asked for age at starting smoking, and number of cigarettes smoked daily. The results of the findings relating to drinking have been reported earlier[8]. The questionnaire was prepared both in English and Malay and patients were given the choice which language they chose to use. Anonymity was guaranteed, patients were instructed not to write their names. The general practice is situated in the business district of Kuala Lumpur and caters largely to office workers. The questionnaire was handed to the patients by the clinic nurses (occasionally by the GP) and if the patients consented to participate, they were to fill in the required data while waiting to be examined by the doctor or while waiting to collect their medication. The two general practitioners (GPs) who worked in this clinic were asked to check the accuracy of the answers given. This self-reporting method was chosen because of the peculiar difficulties of doing research in a busy general practice where any study design that takes up the GP's time or prolongs the time the patient has to spend in the clinic was not acceptable to both parties. A two-week period was chosen for the study. Those patients who did not read and write either Malay or English were rejected from the study. In the event only 5 were so excluded.

Statistical tests done were chi-squared test with Yates' correction where appropriate, Student's t test, Standard Error (SE) of difference between means, SE of difference between percentages, correlation coefficient (r), and rank correlation (Kendall's tau, τ).

Results

At the end of the 2-week study period, 568 respondents had returned their questionnaires. Of these, 6 were rejected because of incomplete answers (e.g. sex or race not mentioned). Of the remaining 562, responses to questions on smoking were available for 501 (89%) of the subjects, the race distribution being 36% Malays, 49% Chinese, and 14% Indians and Others. This race distribution was statistically similar to the original sample of 562 subjects. This was the usual distribution of patients seen in this practice. Because of their small numbers, Indians were classified together with Others. This and other salient demographic features are given in Table I.

Current and past smoking habits

As shown in Table II, 40% of Malays have smoked and 33% are currently smoking. These figures are much higher than those for the Chinese (12% ever smoked, 8% currently smoking) and for Indians & Others (12% and 8% respectively). This race difference is statistically highly significant ($p < 0.001$, chi-squared value = 52.8, d.f. = 2), i.e. significantly more Malays smoke. Overall 17% of the total sample of 501 were currently smoking.

Table I
Demographic features of respondents

	n	male	female
Chinese	250	73	177
Malay	183	107	76
Indian	68	31	37
N	501	211	290

Table II
Race distribution of smokers

	Ever smoked	Currently smoking
Chinese	30	20
Malay	73	61
Others	8	5
N	111	86

Number of cigarettes smoked

Of the 94 people who gave the number of cigarettes they smoked daily, Malays smoked the most, a mean daily number of 13.9 sticks, whereas Indians smoked 10.6 per day and Chinese 8.9. Table III shows the number of cigarettes smoked by those who ever smoked. There was an excess of Malays among those who smoked 10 or more cigarettes per day. This difference was statistically significant, chi-squared value = 14.9, d.f. = 4, $p < 0.005$.

Those who drank alcohol smoked more heavily than those who did not. Malays who consumed alcohol smoked significantly more heavily than the corresponding Chinese group (17.0 sticks per day versus 8.8 for Chinese). Among Malay smokers, number of cigarettes smoked correlated significantly with number of units of alcohol consumed (Kendall's tau, $\tau = 0.55$, S Error = 3.048; $p < 0.003$).

Thus the study hypotheses that Malays smoke more than the others and that those who drink alcohol smoke more than those who do not, were confirmed.

Smoking and occupational status

Occupational class categories used were similar to those of other studies[7,8]. In social class I, 16% smoked, in class II, 15%, in class III, 14%, in class IV, 40%, in class V, 18%. There were small numbers in classes 4 and 5 (semi-skilled and unskilled) to permit meaningful analysis.

Sex distribution

Forty-eight per cent (48%) of males have smoked cigarettes before, but only 39% currently smoke. Among females only 3% have ever smoked of whom only 1.4% are currently smoking. Men tend to smoke more cigarettes. There were no females among those smoking more than 10 sticks per day. Indian women in this sample did not smoke at all.

Age distribution

The mean age of the whole sample was 30 years. The mean age of beginning to smoke was 20.5 years. As shown in Table IV, the Malays had an earlier age of beginning to smoke compared to the other races. For Malay and Indian males smoking began earlier than

Table III
Number of cigarettes (sticks) smoked daily

	Chinese	Malay	Others	Total
<10	16	20	4	40
10-19	1	29	2	32
>19	5	15	2	22

Table IV
Race and sex distribution of miscellaneous factors

	Chinese		Malay		Others	
	M	F	M	F	M	F
Mean age of starting alcohol	21	22	21	21	20	23
Mean age of starting smoking	22.1	23.7	18.5	21	19	-
Mean daily no. of cigarettes	7.8	1.7	16.2	3	10.6	-

drinking, and for the former about 3.5 years earlier than the Chinese mean age of beginning to smoke.

Discussion

Some interesting findings in this study are that :-

(i) A relatively higher proportion of Malays in this sample smoke compared to the other groups, especially Malay men.
(ii) Among smokers Malays smoke larger number of cigarettes.
(iii) The age of beginning smoking and the amount of cigarettes smoked correlate with corresponding measures for alcohol.

It is interesting that few women in this sample smoke, unlike Western samples[2] where about a quarter of women smoke. Concern, however, has been expressed that smoking among women is expected to increase in view of the targeting of this group in cigarette advertisements in Asia[8]. This then is an area for preventive steps such as health education and legislative strategies. Cigarette advertisement is known to play a major part in gender shift in smoking prevalence[9,10].

It is remarkable that the higher the number of cigarettes smoked the heavier the consumption of alcohol. This relationship was statistically highly significant ($p < 0.003$). Furthermore the mean age of starting smoking was earlier than the mean age of starting to drink. This raises the possibility that smoking predisposes one to drinking as well. The finding that there appears to be a moderate correlation between smoking and drinking is not surprising, and has been alluded to in other studies[6,11]. This is merely an association and therefore does not imply causation. It may be that the use of one substance reduces the resistance to the use of another. Two confounding factors may explain this association.

Firstly, this is a general practice sample, and not a community study. It is possible that the relationship between smoking and drinking may be quite different in the community. Secondly, both smoking and drinking may be caused by a third factor such as stress. Wheaton[11] has shown that in the presence of chronic stressors there is a significant increase both in the number of cigarettes smoked as well as the amount of alcohol consumed.

Methodological limitations inherent in this study may have contributed to these findings. Though the overall sample size (501 respondents) appears adequate, the number of Indians were much smaller compared to the other races. There was also no adequate representation from the lower social classes. Only about 6% of the total sample were in the lowest occupational classes. This may have prevented any significant associations from emerging. Another limitation could be the nature of the study design where the self-completed questionnaire were handed to the GPs who were panel doctors. Failure to recollect accurately, or a desire to give more socially acceptable answers may account for some of the differences noted in this study.

Some comments about the difficulties of conducting research of this nature in general practice are reiterated. During preparation for this study it was apparent that any study design that took up the time of the GP to any appreciable degree would not be feasible. Also if patients had to spend extra time participating in this study their cooperation would not be satisfactory since most of them were office workers who were waiting to get back to their offices. Hence in consultation with the GPs concerned the self-reporting questionnaire method was chosen, with the GP checking the responses.

Conclusion

The findings of this study are not generalisable to the general community. Nevertheless it is a pointer to the kind of situation that might exist in an urban population. Smoking is prevalent especially among Malay men. Malay smokers tend to smoke more than the others. Those who drink more tend to be heavier smokers. Only a community survey will reveal the actual prevalence and pattern of smoking in the general population.

Further studies in general practice should perhaps look at the reasons why more Malays use tobacco, as well as the pattern among lower socio-economic groups. Since stress has been suggested as a possible contributory factor, this needs to be studied as well

as taken into account in any preventive strategy with respect to smoking-related problems.

Given the well-recognised ill-effects of cigarette-smoking, it is incumbent on doctors to engage their patients on this aspect of health promotion.

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