

Use of betel quid and cigarettes among Bangladeshi patients in an inner-city practice: prevalence and knowledge of health effects

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SUMMARY

Background. Betel quid chewing, often combined with tobacco chewing, is a common habit in the Indian subcontinent. It is associated with the development of malignancy of the oral mucosa and foregut. Among Asian communities in the United Kingdom (UK), Bangladeshis are particularly likely to retain this habit.

Aim. To investigate the prevalence of betel quid chewing, smoking, and knowledge of health hazards associated with these habits among the Bangladeshi population in an east London general practice.

Method. A bilingual postal questionnaire to all 306 adults (25 years and over) identified as being of Bangladeshi origin within one practice in east London.

Results. The questionnaire response rate was 46%. The prevalence of betel quid chewing was over 80% with no sex difference. Men were more likely to smoke tobacco than women (men = 57%, women = 11%, $\chi^2 = 33.3$, $P < 0.001$), but over half the women added tobacco to their quid for chewing. Whereas over 80% of both male and female respondents identified the health risks of smoking, only one third identified oral cancer as a risk. In all, 25% of respondents started chewing in the UK.

Conclusions. The low response rate is discussed. The findings indicate that the majority of Bangladeshi respondents are unaware of the health risks of a common social habit, although well informed about smoking risks. A government health warning should be introduced for betel quid sold in the UK.

Keywords: Betel quid; inner city general practice; health promotion; Bangladesh.

Introduction

CHEWING betel quid is a common social habit in the Indian subcontinent. The quid is prepared by wrapping chopped areca nuts (betel nuts) in a leaf of the vine, *Piper betel*. Tobacco and lime may be added to improve the taste. The quid is known colloquially as 'pan'. Areca nut causes submucosal fibrosis, which has a known malignant potential.¹ It may also be associated with asthma² and has been shown to have a diabetogenic effect in mice.³

Betel quid chewing is associated with an increased risk of

malignant lesions of the foregut, particularly the cheek mucosa.^{4,5} The risk increases the longer the quid is held in the cheek, and if tobacco is included.^{6,7} In one study, Asian women who chewed betel nut had a 44-fold increase in risk of developing oral cancer compared with non-users.⁵ In the UK, oral cancer occurs at a significantly higher frequency among Asians than among non-Asians.⁸ Of the Asian communities, Bangladeshis are among those most likely to retain a chewing habit (G Dutt, personal communication, 1995).

Approximately 35 000 people of Bangladeshi origin live in the London borough of Tower Hamlets.⁹ There is little information on the prevalence of betel nut chewing in this group, although unpublished data suggest that it may be as high as 76% among antenatal patients (B. Boucher, personal communication, 1995). The relationship between tobacco smoking and betel nut chewing habits is unclear.

The aim of this study was to investigate the prevalence of betel quid chewing and cigarette smoking among the Bangladeshi population registered with a general practice in east London, and to estimate the awareness of the adverse health effects of these habits.

Method

Study population

The study population included all Bangladeshi patients aged 25 years and over registered at Jubilee Street Practice in Tower Hamlets. The registered practice population at the time of the study was 8500 and a previous survey estimated that 8% of adults (over 16 years) were of Bangladeshi origin.¹⁰ Bangladeshi adults were identified by searching the practice computer database for 85 Bangladeshi surnames. In other studies, these surnames were found to identify those of south Asian ethnic origin.¹¹ The practice routinely records self-reported ethnic origin at the new patient registration check, and this was used to validate the name search method. In a sample of 15 patients with the study surnames, Bangladeshi ethnic origin was confirmed in each case.

Design and administration of questionnaire

The questionnaire was written in Bengali and English, and piloted on 10 consecutive Bangladeshi surgery attenders. The Bengali translation was checked for translation errors and lay acceptability by two Bengali-speaking health workers. The questionnaire was sent to each member of the study population. Non-respondents were sent a second copy within three months of the first. Respondents were asked to return completed questionnaires either in an enclosed freepost envelope or to a marked box at the surgery.

The questionnaire covered five sides of A4 paper. It began with an explanation of the study and demographic details, then continued with questions relating to the use of betel quid and cigarettes. Respondents were then asked whether they agreed or disagreed with statements on the health effects of smoking and betel quid. For the closed questions, the possible responses were 'yes', 'no' or 'don't know'. Finally, the respondents were asked for open responses on the beneficial or harmful effects of betel quid

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and cigarette smoking.

The questionnaire results were entered into an *Excel* spreadsheet for analysis.

Results

Demographic characteristics

An initial study population of 340 patients was identified. Five identified themselves as non-Bangladeshi (three Somali and two Caucasians married to Bangladeshis) and 29 had left the practice during the study period. Of the remaining 306 patients, 140 completed the questionnaire, giving a response rate of 46%. Of these, 62 (44%) responded in Bengali. The demographic characteristics of respondents and non-respondents are shown in Table 1. No statistically significant differences were found in the age and sex distribution of these two groups.

Betel quid chewing and ingredients added

Over 80% of both men and women chewed pan; only one respondent reported giving up (see Table 2). Betel nut was the commonest added ingredient, 67% of both men and women adding this to the quid. Women were more likely than men to add tobacco (Table 2).

Smoking habits

Men were more likely than women to be current smokers ($\chi^2 = 33.3$, $df = 1$, $P < 0.001$; Table 2). Although 89% of women denied smoking, nearly half are exposed to tobacco through chewing betel quid. In both sexes, current smokers were also

likely to use betel quid. A total of 87% (32/37) of men and 88% (7/8) of women who smoke cigarettes also chew betel quid.

Place where subjects started chewing betel quid

Altogether, 109 people answered the question 'Where did you begin to chew pan?' Overall, 25% of both sexes started chewing pan in London, the others in Bangladesh. Those who started in London were younger (average age 34 years) than those who started in Bangladesh (average age 44 years).

Knowledge of adverse health effects of betel quid and smoking

Table 3 shows the responses of the respondents to four statements concerning the health risks of these habits. Over 80% of both men and women agreed that smoking can cause lung and heart disease. Knowledge of the effects of chewing betel quid was significantly less widespread, with only 24% of men and 36% of women linking betel quid and mouth cancer ($\chi^2 = 82.4$, $df = 1$, $P < 0.001$). About half the respondents of both sexes agreed that betel quid could cause dental problems.

Discussion

Low response rate

Only 46% of the study population replied to the questionnaire. Although this is low, it is higher than in many similar studies. There are several possible reasons for this low response rate. First, there is a high degree of illiteracy in this population. The MORI East London Health Survey (1993) found that only 28% of Bangladeshis read English. The response rate in our study was considerably higher than 28%, and 44% of respondents wrote their replies in Bengali, therefore using a bilingual questionnaire was worthwhile. However, some of the study population may have been unable to read Bengali. MacCarthy and Craissati¹² sent a Bengali questionnaire to 150 Bangladeshi subjects in inner London, non-respondents receiving a second copy hand-delivered by a Bangladeshi health worker. Despite this, the response rate was only 17%. The authors suggest that illiteracy was a major factor.

An alternative approach is to conduct interviews by telephone or in person. Bedi and Gilthorpe¹³ used this method in Birmingham. Their results show similarities to those reported here. They found that over 90% of men and women chewed betel quid daily and few interviewees reported giving up the habit. While 79% recognized the health risks associated with smoking,

Table 1. Comparison of selected demographic characteristics of questionnaire respondents and non-respondents.

	Respondents (n = 140) No. (%)	Non-respondents (n = 166) No. (%)
Age		
< 45 years	92 (43)	121 (57)
> 45 years	48 (52)	45 (48)
Male	65 (43)	86 (57)
Female	75 (48)	80 (52)

No statistically significant differences were found in the age-sex distribution of respondents and non-respondents using chi-squared tests.

Table 2. Betel quid use and smoking habits.

Question (number of respondents)		Men No. (%)	Women No. (%)	Chi-squared
Have you ever chewed pan? (n = 140)	Yes	54 (82%)	62 (83%)	
	No	12 (18%)	12 (17%)	
How many pan do you chew in a day? (n = 114)	None	1 (1.5%)	0	
	1	35 (52%)	7 (15%)	
	2-5	24 (35%)	24 (52%)	
	6-10	7 (10%)	12 (26%)	
	>10	1 (1.5%)	3 (7%)	
What do you put in your pan?	Betel nut	44 (67%)	50 (68%)	
	Lime	27 (41%)	39 (53%)	
	Tobacco	19 (29%)	32 (43%)	2.71*
Do you smoke cigarettes now? (n = 136)	Yes	37 (57%)	8 (11%)	
	No	27 (43%)	64 (89%)	33.3***

*P = 0.09, ***P < 0.001.

Table 3. Respondents knowledge of health effects of cigarettes and betel quid

Statement (number of respondents)	Response	Men	Women	Chi-squared
1. Smoking can cause heart disease (n = 134)	Yes	54 (86%)	60 (85%)	
	No/don't know	9 (14%)	11 (15%)	
2. Smoking can cause lung disease (n = 134)	Yes	55 (87%)	57 (80%)	
	No/don't know	8 (13%)	14 (20%)	
3. Pan chewing is linked to mouth cancer (n = 135)	Yes	15 (24%)	26 (36%)	82.4***
	No/don't know	47 (76%)	47 (64%)	
4. Pan chewing is linked with dental problems (n = 136)	Yes	30 (48%)	43 (59%)	
	No/don't know	33 (52%)	30 (41%)	

Chi-squared test comparing answers to statements 2 and 3. ***P < 0.0001.

only 52% anticipated health problems from chewing betel quid. Summers *et al*¹⁴ interviewed 296 Bangladeshi women in West Yorkshire and found that 95% chewed pan, of whom 62% added tobacco to the quid. However, such interview methods require the availability of Bengali-speaking health workers, and even so the method does not exclude the possibility of responder bias. In almost 30% of the households visited in the Birmingham study, it was not possible to interview all the adult members.

A second possible reason for the low response rate is the highly mobile patient population in Tower Hamlets, which may result in inaccurate and inflated practice registers.¹⁵

Exposure to betel and tobacco

In our study, 57% of Bangladeshi men smoked cigarettes, but only 11% of women did so. In comparison, Taylor *et al*¹⁵ showed that 51% of men and 44% of women in Tower Hamlets are current smokers. Thus, while men in this community are as likely to smoke as those in other ethnic groups, women are much less likely to do so. This difference has been reported by other groups who suggest that it reflects the social unacceptability of smoking among women.^{13,14} However, these women may still be exposed to the carcinogenic effects of tobacco through chewing betel quid. In fact, we found that women were more likely than men to include tobacco in the quid. The majority of men and women who smoke also chew betel quid. These individuals are at particular risk because areca nut and tobacco act as co-carcinogens.⁷

Knowledge of health risks

The results of this study suggest that a majority of Bangladeshi people in this area are exposed to carcinogens in betel quid, but are unaware of the risk. This contrasts with the widespread knowledge of the health risks of smoking. An effective health promotion policy aimed at reducing the use of betel quid may reduce the incidence of oral cancer in this population. In South African Indian women, Van Wyk *et al*⁵ estimated that eliminating pan chewing, with or without added tobacco, could reduce the risk of oral cancer by 90%. In a large cohort study in India, Gupta *et al*^{4,16} showed that the incidence of leucoplakia fell significantly after a concentrated health education programme on the hazards of smoking and chewing tobacco. In the UK, the effectiveness of GP advice in reducing smoking prevalence is well established.¹⁷ In areas such as Tower Hamlets, GPs are well placed to influence betel quid chewing in a similar way, as the majority of Bangladeshi are registered with a practice.¹⁸ In populations with a high prevalence of betel quid chewing, all health workers should be aware of the importance of examining the oral mucosa for precancerous lesions¹⁹ and for signs of the habit,

such as red-stained saliva.

A quarter of British pan-chewing Bangladeshis start while in the UK. To prevent this, both the Bangladeshi community and local health professionals need to understand the cultural significance of pan chewing and the adverse health effects. In India, packets of betel quid ('shupari') must carry a government health warning.²⁰ A similar policy should be introduced in the UK if the prevalence of this hazardous practice is to be reduced.

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