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BMJ Open

Familial and socio-cultural barriers in maintaining tobacco-free homes in Bangladesh: a comparative cross-sectional study

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ABSTRACT

Objectives Children, pregnant women and the elderly at a global level are all being dangerously exposed to tobacco use in the household (HH). However, there is no understanding of the familial and socio-cultural factors that provide barriers to ensuring tobacco-free homes in Bangladesh either in urban or rural areas (U&RAs). This study therefore investigates those barriers to help enable a move towards tobacco-free homes in Bangladesh.

Design Comparative cross-sectional study.

Settings Data were collected from both urban and rural settings in Bangladesh.

Participants A probability proportional sampling procedure was used to select 808 participants in U&RAs out of a total of 3715 tobacco users. Semi-structured interviews through the use of a questionnaire were conducted with the participants followed by a multivariate logistic regression analysis of the data in order to explore the familial and socio-cultural factors associated with tobacco use at home.

Results The prevalence of tobacco use at home was 25.7% in urban areas and 47.6% in rural areas. In urban areas: marital status (adjusted OR (AOR)=3.23, 95% CI 1.37 to 6.61), education (AOR=2.14, 95% CI 1.15 to 3.99), the smoking habits of elderly family members (AOR=1.81, 95% CI 0.91 to 2.89), offering tobacco as a traditional form of leisure activity at home (AOR=1.85, 95% CI 0.94 to 2.95) and lack of religious practices (AOR=2.39, 95% CI 1.27 to 4.54) were identified as significant socio-cultural predictors associated with tobacco use at home. In rural areas: age (AOR=5.11, 95% CI 2.03 to 12.83), extended family (AOR=3.08, 95% CI 1.28 to 7.38), lack of religious practices (AOR=4.23, 95% CI 2.32 to 7.72), using children to buy or carry tobacco (AOR=3.33, 95% CI 1.11 to 9.99), lack of family guidance (AOR=4.27, 95% CI 2.45 to 7.42) and offering tobacco as a traditional form of leisure activity at home (AOR=3.81, 95% CI 2.23 to 6.47) were identified as significant determinants for tobacco use at home.

Conclusion This study concludes that socio-cultural traditions and familial norms in Bangladesh provide significant barriers for enabling tobacco-free homes. The identification of these barriers can aid policymakers and programme planners in Bangladesh in devising appropriate measures to mitigate the deadly consequences of tobacco use in the home. The consequences also include the

Strengths and limitations of this study

► This study is the first to comparatively explore the barriers present in rural and urban areas of Bangladesh for encouraging tobacco-free homes.
► It provides crucial evidence for policymakers in developing appropriate policies and laws to declare homes as tobacco-free zones and to initiate anti-tobacco measures to ensure compliance.
► A multistage randomised sampling from both urban or rural areas was used in this study that means the findings could be applicable to other parts of Bangladesh.
► A limitation of this study occurred during data collection when up to one-third of the participants were unavailable due to being out at work, for example, in which case the next participant in the sampling frame was chosen. This could potentially cause selection bias. Also, due to the cross-sectional design, this study identified adjusted associations rather than causality.

dangers involved in family members being exposed to secondhand smoke.

INTRODUCTION

Tobacco use and its effects kills more than 8.2 million people worldwide each year. Within this total, 7 million deaths are caused by direct tobacco use, while 1.2 million are due to non-smokers being exposed to second-hand smoke (SHS).[1] Despite various global and national efforts aimed at reducing the extent of tobacco use, the prevalence rates are still high in many parts of the developing world.[2] Historically, there is a significant relationship between familial and socio-cultural traditions around tobacco use particularly in Asian and African countries where tobacco is an entrenched part of leisure and hospitality activities.[3] Nevertheless, socio-cultural

practices around the use of tobacco differ in relation to gender, religion, ethnicity and local beliefs across those countries and there are in-country variations between rural and urban areas.[3] These socio-cultural practices provide significant barriers for enabling tobacco-free homes.

Bangladesh is among the top 10 tobacco producing and consuming countries in the world, and is facing deadly health and economic consequences.[4] Around 35.3% of Bangladeshi adults use tobacco whether for smoking or in smokeless form and 39.0% are exposed to tobacco smoke in their homes.[5] The prevalence of smoking is higher in urban areas and with increased urbanisation, this could become a rising trend.[6] The evidence shows that urban dwellers are more aware than those in rural areas about the health consequences of tobacco use but often do not take the threats seriously and continue using it at home.[6] Social custom and perception can often influence the smoking behaviour of urban people. For example, when gathering together, they can often over-estimate the extent of smoking within their own age group and adopt the fallacy that smoking will make them look smarter.[7 8] However, when taking smokeless tobacco (SLT) into account, the overall prevalence of tobacco use is greater among rural residents than it is among their urban counterparts. Although the use of SLT is common among adults in rural areas, there is a general lack of awareness about its harmful effects.[9] Previous studies have highlighted the differences in knowledge and attitudes between people in urbanor rural areas (U&RAs) towards the harmful effects of tobacco use.[10] In spite of the detrimental effects of SLT,[11] people in rural areas do not generally believe that the commonly used Zarda, Gul, SadaPata and other forms of smokeless products are actually made from tobacco. The use of SLT at the household level is perceived as a socio-cultural tradition that is widely accepted and will be served to guests as part of cultural celebrations.[12] The use of tobacco (both smoking and SLT) is common in Bangladesh after having food, tea and snacks both in small and large social gatherings.[13–15] It has been established, however, that such traditions are harmful and detrimental to health and well-being.[13–16]

Exposure to SHS is another hidden problem and studies suggest that it is associated with serious health issues among children and adults. Life-time risks of exposure to SHS among non-smokers, for example, are 20% to 30% more in the case of coronary heart disease and lung cancer and more than 600 000 deaths worldwide have been attributed to SHS exposure.[1] The WHO's Framework Convention on Tobacco Control (WHO-FCTC) concluded that having 100% smoke-free environments is the only way to adequately protect people from the harmful effects of SHS because there is no acceptable level of exposure.[17] In this regard, smoke-free laws have been positively associated with people quitting the habit and in preventing young people from being tempted to start smoking in the first place.[18 19] A recent study of four European countries (Germany, Netherlands, Ireland and France) that have smoke-free legislation, revealed that banning it did not encourage more smoking at home but rather prompted total smoking bans to be followed at home compared with the impact in the UK that was used as the control country.[20] In Bangladesh, smoking in healthcare settings and educational institutions are prohibited by law and this has been well-enforced so far, and there is also a partial smoking ban in public places.[21] However, the existing tobacco control policies in the country are yet to make secondhand smoking at the household level a priority.[21]

As far as can be discerned from the literature, the majority of studies conducted in Bangladesh focussed solely on the prevalence, burden and other general issues around tobacco use and concentrated either on urban areas or rural areas but, to-date, there has been no comparative study between the two areas. Previous studies have rarely explored the socio-cultural traditions around tobacco use and how they operate as barriers for establishing tobacco-free households.[6 7 11 12 14 15] This study fills a gap in knowledge by focusing on the prevailing familial and socio-cultural barriers for creating tobacco-free homes in Bangladesh.

METHODS
Study design and settings
A comparative cross-sectional survey was conducted in both the U&RAs of Bangladesh using multistage random sampling. This approach provided comparative information on familial and socio-cultural barriers and helped in triangulating and observing real scenarios about obstacles between the urban and rural contexts. Dhaka is a mega-crowded city and was selected as the urban area for this study as it could provide useful scenarios for understanding all urban areas in Bangladesh. There are two city corporations in Dhaka namely, the North City Corporation and the South City Corporation. Two areas from each of the administrative parts were randomly selected and included Mohammadpur and Uttara Sector-6 from the North City Corporation, with Dhanmondi, and Motijheel selected from the South City Corporation. In rural areas, four districts namely, Narayanganj, Comilla, Natore and Narshingdi were randomly selected from the 64 districts of Bangladesh and a village was then randomly selected from each of these four districts (figure 1) for data collection.

Study participants and sampling
The sample size was calculated using the following formula:

$$n = \frac{z^2 p(1-p)}{d^2} \left[\times (\text{design effect}) \right]$$

Where n=desired sample size; z=1.96 at 95% CI; p=prevalence of overall current tobacco use=35.3%;[5] d=precision level (5%), and design effect is considered as 2. The calculated sample size is n=349.33×2=699. A 15% non-response of 699 was anticipated, and therefore
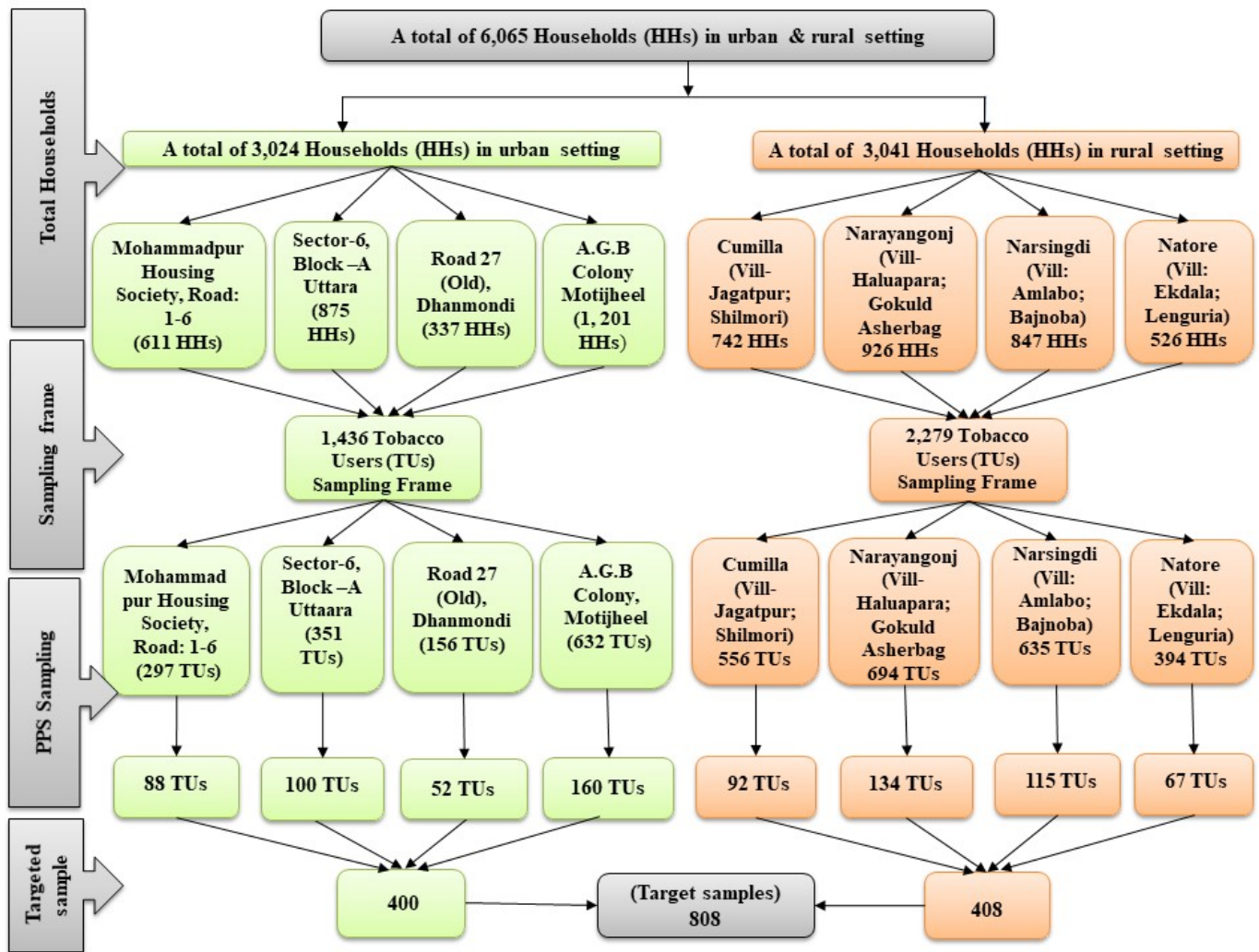
Figure 1 Multi-staged probability proportional sampling strategy.

808 participants were selected from the urban and rural areas.

Prior to collecting the data, a list of 6065 households was gathered from the city corporation offices (urban) and from the Union Parishad (the lowest rural administrative unit) involving a total population of 24 078. After a short enumeration survey, a total of 3715 tobacco users were identified (urban - 1436 and rural - 2279) and used as the sampling frame and by the means of a probability proportional sampling procedure, 808 participants were identified (urban n=400; and rural n=408) for data collection. One participant from every third tobacco user in urban areas and one in every fifth tobacco user in rural areas were identified. Inclusion criteria for participants in the survey included: (1) any kind of tobacco use (smoking or SLT); (2) only one participant from each household; (3) aged 18 years and above; (4) physically capable; (5) males and females and (6) willing to participate in the survey. Participants were diverse in terms of ethnicity, religion, education and economic status. Around one-third of the participants in urban areas and one-fourth of participants in rural areas in the sampling frame were unavailable

during the data collection period, so the next participant in the frame was selected who fulfilled the inclusion criteria (figure 1).

Development of tools, data collection and analysis

A multidisciplinary team contributed to the development of the data collection tools. The Principal Investigator (PI) had a pivotal role in drafting the semi-structured interview questionnaire that was then checked and finalised by the technical expert team. The Bangla version of the questionnaire was pre-tested among 40 eligible people (urban - 20; rural - 20) in non-sample sites and amended according to the feedback. The investigators and interviewers were trained, and the field data were collected under the strict supervision of the PI and technical team. The data collected were quickly checked for completeness and errors before being coded and entered into a database using SPSS software. A χ^2 and bivariate logistic regression were used to explore the factors associated with tobacco use at home. Multivariate logistic regression was used to adjust the effect of confounders on the association of risk factors—a response of 'Yes or No' to the question

of 'tobacco use at home' was a dependent variable, where 'No' was used as reference. Socio-cultural and familial factors were used as independent variables, and the findings were interpreted using OR with 95% CI for each category.

Patient and public involvement

The participants of the study were adult tobacco users selected from the study population. They were not involved in setting the research question or the outcome measures, but they were involved during the data collection of the study. The tobacco users from the selected households were interviewed and were involved in the dissemination of the results.

When first meeting participants, the interviewers explained the background and objectives of the study and obtained written informed consent from each of them. Anonymity and confidentiality were strictly maintained.

RESULTS

Socio-demographic characteristics of the participants

The mean ages (±SD) of participants were 30.4±10.4 and 27.58±6.7 years in U&RAs respectively. Age and sex were found to be significantly associated (p<0.001) with place of tobacco use in urban areas. The majority of female tobacco users did so at home both in urban (84.6 %) and rural (49.1%) settings. In urban areas, there was a highly significant association (p<0.001) between marital status and place of tobacco use, with more married participants (25.4%) found to use tobacco products at home. Additionally, the living status of participants was found to be significantly associated (p<0.001) with place of tobacco use in rural areas and a higher proportion of them (55.9%) living alone/outside of their own family were using tobacco at home. More participants at lower-and-middle socio-economic levels and living in rural areas were using tobacco at home, and this association was found to be significant (p<0.01) (table 1).

Table 1	Socio-demographic characteristics of the participants					
	Urban n=400			**Rural n=408**		
	Place of tobacco use by participants			**Place of tobacco use by participants**		
Demographic characteristics	**At home n (%)**	**Outside home n (%)**	χ^2	**At home n (%)**	**Outside home n (%)**	χ^2
Age						
≤30 Years	28 (10.7)	234 (89.3)	25.94‡	51 (26.3)	143 (73.7)	4.440
>30 Years	43 (31.2)	95 (68.8)		77 (36.0)	137 (64.0)	
Mean±SD	30.4±10.4			27.58±6.7		
Sex						
Male	60 (15.5)	327 (84.5)	41.14*‡	76 (25.2)	226 (74.8)	20.801*‡
Female	11 (84.6)	2 (15.4)		52 (49.1)	54 (50.9)	
Marital status						
Unmarried	17 (9.1)	170 (90.9)	18.03‡	33 (28.2)	84 (71.8)	0.764
Married	54 (25.4)	159 (74.6)		95 (32.6)	196 (67.4)	
Living place						
With family	54 (18.2)	243 (81.8)	0.15	76 (24.1)	239 (75.9)	33.696‡
Alone/outside of own family	17 (16.5)	86 (8.5)		52 (55.9)	41 (44.1)	
Family type						
Nuclear family	42 (14.3)	251 (85.7)	8.75‡	38 (40.4)	56 (59.6)	4.649
Extended family	29 (27.1)	78 (72.9)		90 (28.7)	224 (71.3)	
Education						
Primary - Secondary	29 (23.8)	93 (76.2)	11.86‡	67 (26.2)	189 (73.8)	8.632
Higher education	42 (15.1)	236 (84.9)		61 (40.1)	91 (59.9)	
Socio-economic condition						
Low and middle income	21 (19.3)	88 (80.7)	0.24	99 (41.4)	140 (58.6)	27.068†
Upper and high income	50 (17.2)	241 (82.8)		128 (31.4)	280 (68.6)	

*Fisher's exact test was used as some of the expected cell value (for sex) found <5.
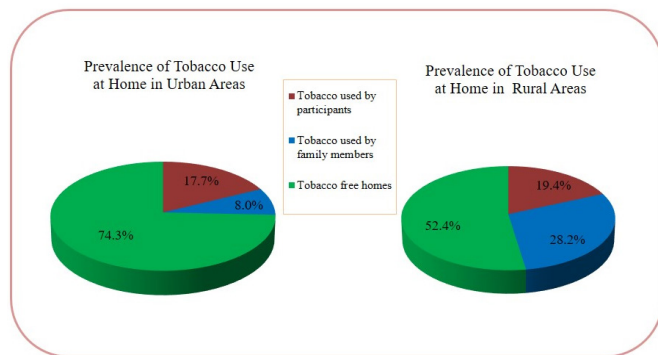†p<0.01.
‡p<0.001.

Figure 2 Prevalence of tobacco use at home by participants and other family members in the urban and rural areas.

Prevalence of tobacco use at household level

The prevalence of tobacco use at home was calculated by dividing the total number of people (either participant or any other family member) that used tobacco products inside their homes within all the sample households. The prevalence of tobacco use overall (smoking or SLT) at home was calculated to be 25.7% in urban areas (participants: 17.7%; other family members: 8.0%) and 47.6% in rural areas (participants: 19.4%; other family members: 28.2%). See figure 2 below.

Risk factors for tobacco use at home

Bivariate analysis showed that age, religious practice, children being used to carry and buy tobacco and offering tobacco as a tradition of leisure and entertainment activities at the household level, were all associated with tobacco use at home both in urban and rural areas. In addition, marital status, lower education levels and the smoking habits of elderly family members were significantly associated with tobacco use at home in urban areas. Living status, family type and lack of family guidance (on the overall consequences of tobacco use) were found to be significant with tobacco use at home in rural areas (table 2).

Multivariable analysis (adjusted) showed that participants aged 30 years and above had increased odds of using tobacco products at home by more than three times in urban areas (adjusted OR (AOR)=3.13, 95% CI 1.45 to 6.78) and more than five times in rural areas (AOR=5.11, 95% CI 2.03 to 12.83). This risk among the lower-educated participants was shown to be double for both urban (AOR=2.14, 95% CI 1.15 to 3.99) and rural areas (AOR=1.99, 95% CI 1.24 to 3.21). In rural areas, participants living alone or outside their own family had approximately an eight times (AOR=7.93, 95% CI 3.01 to 20.89) higher chance of adopting tobacco practices at home, but in urban areas the risk was found to be neutral. Similarly, participants with a lack of religious practice at the family level were more prone to use tobacco at home in both urban (AOR=2.39, 95% CI 1.27 to 4.54) and rural areas (AOR=4.23, 95% CI 2.32 to 7.72). Where tobacco was offered as part of the tradition of leisure and entertainment activities, the likelihood of its use was found

to be higher both in urban (AOR=1.85, 95% CI 0.94 to 2.95) and rural areas (AOR=3.81, 95% CI 2.23 to 6.47). Furthermore, the odds of tobacco use was also found to be significantly higher among both urban (AOR 2.28, 95% CI 1.21 to 4.29) and rural areas (AOR=3.33, 95% CI 1.11 to 9.99) where children were used to buy or carry tobacco and to light cigarettes.

Other factors such as marital status (married), the smoking habits of older family members (AOR=3.23, 95% CI 1.37 to 6.61; AOR=1.81, 95% CI 0.91 to 2.89, respectively) were significantly associated with tobacco use at home in urban areas, whereas extended family and lack of family guidance (AOR=3.08, 95% CI 1.28 to 7.38; AOR=4.27, 95%CI 2.45 to 7.42, respectively) were significant barriers for tobacco use at home in rural areas only. However, multivariate analysis found that socio-economic conditions, occupations, peer influences, the perception that smoking makes people look smarter, restrictions on tobacco use, the impact of advertising and publicity were insignificant predictors of tobacco use at home in both urban and rural areas (table 2).

DISCUSSION

Research, policies and interventions carried out in Bangladesh to-date have paid very little attention to the impact that tobacco-free homes[5] [21] could have on the health and well-being of its people. This situation is in spite of recent studies showing that SHS inhalation is around four times more toxic, and side-stream condensate is two-to-six times more carcinogenic, than mainstream smoking.[22]

Comparative analysis between the socio-cultural impacts of tobacco use at home in urban and rural contexts is also quite limited. This study compares tobacco use at home in both urban and rural areas in Bangladesh and shows that more than one-fourth (25.7%) of urban dwellers, and nearly half (47.6%) of rural dwellers use tobacco at home (either smoking or SLTs). Aligned with this finding, a rural community-based Bangladeshi study showed that smoking at home was common practice in more than half (55.0%) of households.[23] A similar trend was also observed in the neighbouring country of India where 40.0% of adults reported that they smoked tobacco products at home.[24]

Multivariate analysis found that age was an important factor for using tobacco at home both in urban and rural areas and is in harmony with the findings of other studies conducted in similar settings in Bangladesh and in India.[10] [25] Also, adults aged 30 or above were found to be more likely to use tobacco at home, a practice more prevalent in rural areas than in urban areas.

The likelihood of using tobacco at home in urban areas among the married participants was more than three times higher than for their unmarried counterparts. A possible reason for this could be that unmarried family members in urban areas are often dependent, and so are less likely to be allowed to use tobacco products at home.[6] [12] In contrast, and consistent with the findings in

Table 2 Adjusted risk factors associated with place of tobacco use in U&RAs of Bangladesh

Characteristics/risk factors		Urban areas		Rural areas	
		Bivariate analysis OR (95% CI)	Multivariate analysis AOR (95% CI)	Bivariate analysis OR (95% CI)	Multivariate analysis AOR (95% CI)
Age	≤30 years[RC]	1	1	1	1
	>30 years	3.78‡ (2.22 to 6.44)	3.13† (1.45 to 6.78)	4.79‡ (2.76 to 8.31)	5.11‡ (2.03 to 12.83)
Marital status	Unmarried[RC]	1	1	1	1
	Married	3.39‡ (1.89 to 6.10)	3.23‡ (1.37 to 6.61)	0.81 (0.51 to 1.29)	0.76 (0.46 to 1.26)
Socio-economic condition	Low and middle income[RC]	1	1	1	1
	Upper and high income	1.15 (0.65 to 2.02)	0.66 (0.33 to 1.30)	0.51† (0.31 to 0.84)	0.41† (0.23 to 0.72)
Living status	Living with family[RC]	1	1	1	1
	Living alone/others	1.12 (0.62 to 2.04)	0.69 (0.35 to 1.37)	5.07‡ (2.92 to 8.80)	7.93‡ (3.01 to 20.89)
Education	Higher education[RC]	1	1	1	1
	Primary - Secondary	2.46‡ (1.46 to 4.16)	2.14† (1.15 to 3.99)	0.52† (0.34 to 0.81)	1.99 (1.24 to 3.21)
Family type	Nuclear family[RC]	1	1	1	1
	Extended family	0.45‡ (0.26 to 0.77)	0.49* (0.28 to 0.85)	4.39‡ (2.52 to 7.61)	3.08† (1.28 to 7.38)
Occupation	Non-working[RC]	1	1	1	1
	Working	0.40† (0.21 to 0.75)	0.96 (0.44 to 2.12)	0.78 (0.50 to 1.20)	1.48 (0.89 to 2.45)
Practice of religiosity	Practice[RC]	1	1	1	1
	Lack of practice	2.25† (1.20 to 4.21)	2.39† (1.27 to 4.54)	5.17‡ (2.91 to 9.19)	4.23† (2.32 to 7.72)
Smoking habit of any elder family members	No[RC]	1	1	1	1
	Yes	1.97‡ (1.28 to 2.28)	1.81* (0.91 to 2.89)	1.04 (0.64 to 1.68)	1.01 (0.58 to 1.74)
Perception that smoking makes one look smart	No[RC]	1	1	1	1
	Yes	0.79 (0.47 to 1.35)	0.61 (0.34 to 1.07)	0.23‡ (0.15 to 0.37)	0.38‡ (0.23 to 0.63)
Tobacco restriction at home	No[RC]	1	1	1	1
	Yes	0.66 (0.40 to 1.13)	0.70 (0.40 to 1.21)	0.16‡ (0.10 to 0.25)	0.15 (0.09 to 0.24)
Children are used to buy/carry/light tobacco	No[RC]	1	1	1	1
	Yes	2.07† (1.14 to 3.79)	2.28 (1.21 to 4.29)	4.58‡ (2.64 to 7.95)	3.33† (1.11 to 9.99)
Lack of family guidance	No[RC]	1	1	1	1
	Yes	0.89 (0.36 to 2.21)	0.94 (0.35 to 2.46)	3.86 (2.34 to 6.38)	4.27‡ (2.45 to 7.42)
Offering tobacco as a tradition of entertainment	No[RC]	1	1	1	1
	Yes	1.81‡ (0.94 to 3.51)	1.85† (0.94 to 2.95)	3.48‡ (2.14 to 5.65)	3.81‡ (2.23 to 6.47)
Peer influences (smoking)	No[RC]	1	1	1	1
	Yes	0.49 (0.14 to 1.67)	0.41 (0.11 to 1.45)	0.13 (0.8 to 0.22)	0.20 (0.12 to 0.36)

Continued

Table 2 Continued

Characteristics/risk factors	Urban areas		Rural areas	
	Bivariate analysis OR (95% CI)	Multivariate analysis AOR (95% CI)	Bivariate analysis OR (95% CI)	Multivariate analysis AOR (95% CI)
Impact of advertisement and publicity				
No[RC]	1	1	1	1
Yes	1.29 (0.77 to 2.16)	1.31 (0.76 to 2.26)	0.15‡ (0.09 to 0.24)	0.12‡ (0.07 to 0.21)

*p<0.05.
†p<0.01.
‡p<0.001.
AOR, adjusted OR; [RC], reference category.

this study from rural areas, another study concluded that marital status was not associated with tobacco use at the household level in rural areas.[14]

The lower-educational status of people in urban areas appeared to significantly contribute towards the use of tobacco at home. This could happen due to being deprived of a proper education, a lack of good jobs and low economic status. This situation is related to reduced opportunities for smoking outdoors and where homes often come with the territory of socio-economic deprivation. Lower-educated people also often overestimate their tobacco use based on various socio-cultural misconceptions.[6 12 14] The findings in this study are also consistent with other multinational studies conducted in similar setting.[26 27]

Though family type was not associated with tobacco use at home in urban areas, participants living with extended family in rural areas were three times more likely to use tobacco at home. In comparison to a study carried out with Nigerian youths,[28] the findings in this study identified a higher chance of tobacco use at household level where children were being used to buy or carry tobacco, or to light the cigarettes or pipes. However, the risk of initiating tobacco use at home was higher among those families where older family members already had the smoking habit. Other studies conducted in developed and developing countries identified that youngsters usually followed in the footsteps of older family members, including their parents, that made them more likely to take up smoking in order to show themselves as older or grown up.[29–32]

Those households in rural areas that showed a lack of family guidance on the overall negative consequences of tobacco products had a more than four times likelihood of using tobacco. Similar findings were observed in other developing countries. A study conducted in Vietnam, for example, showed that family guidance and interactions related to smoking behaviours had a strong influence on a smoker's intention to quit.[33] However, this was found to be a non-significant predictor in the urban setting for this study. Evidence further suggests that the cultural practice of offering tobacco as part of leisure and entertainment activities at household level was almost two times riskier in urban areas and three times riskier in rural areas for continuing the use of tobacco products (especially SLTs). Another study conducted in the urban areas of Bangladesh reported that SLT use is perceived as a traditional part of hospitality and is practiced widely at social gatherings such as weddings, baby shower ceremonies, religious events and other occasional festivals.[13]

This study found there is a significant association between tobacco use and regular religious practices both in urban and rural areas. The findings indicate that those participants that regularly practiced religious activities (such as praying, fasting, donating to charity and reading religious books) were less likely to use tobacco at home. This finding is consistent with other recently conducted studies that also found those individuals that engaged in

regular religious practices were more restrictive in their use of tobacco or alcohol mainly because such practices are discouraged by almost all conventional religions due to their addictive nature and the explicit physical harms they can cause.[34][35] In many parts of the USA, however, tobacco use is not influenced by religion but rather considered to have an important role in local rituals, and to be an essential part of cultural traditions.[36][37]

This study has conducted a comparative analysis of familial and socio-cultural barriers to enabling tobacco-free homes in urban and rural areas, but it does not put forward any causal associations and suggests that an observational study is likely to be more useful for assessing any causal linkage. However, the samples in this study have been included in a systematic manner for both urban and rural areas and therefore provided a comprehensive overview of the prevailing constraints and barriers that hinder the enablement of tobacco-free homes in Bangladesh. A generalisation of similar scenarios of the socio-familial barriers to creating tobacco-free homes could be applied to other areas of the country.

This study also provides baseline information that can be used by policymakers, researchers and national and international agencies to help the understanding of similar scenarios in a broader context and therefore also help in the development of necessary policies. The findings from this study can be useful in three areas. First, they can be used to help design and deliver appropriate interventions, anti-tobacco campaigns and other promotional activities that may, in turn, be useful for creating a lasting impact on awareness among the whole population about the consequences of tobacco use at home for people in both urban and rural areas. Second, the findings provide insights for local authorities and non-governmental organisations, when they are planning and initiating any home-based measures such as creating a model of 'Tobacco Free Homes,' with a special focus on periodic parental guidance and counselling and building good family ties so that they can share any problems among family members. Third, the findings can influence policies around religious based interventions such as training of Imams (religious leaders in Islam) and clergymen, who could encourage the regularising of religious practices at family level during their Khutba (a large weekly gathering of Muslims) that ultimately could lead to a reduction of tobacco use in the home.

CONCLUSION

This study found that the overall prevalence of tobacco use at home (smoking or SLT) is higher in rural areas (nearly half) than it is in urban areas (one-fourth) and represents an alarming public health issue for Bangladesh. It also reveals that age is an important factor for using tobacco at home—adults aged 30 or above are more likely to do this and it is more prevalent in rural than urban areas. Familial and social factors such as the smoking habits of family members, tobacco being offered

as part of a cultural tradition of leisure and entertainment, children being used to buy or carry tobacco or for lighting cigarettes and the lack of religious practice all contribute to continued tobacco use at home in both urban and rural areas. A number of factors in rural areas such as, living with the extended family and lack of family guidance on the consequences of using tobacco, were shown to be leading predictors of its use at home.

Strengthening the national commitment to controlling the use of tobacco at home, and the emerging threat of secondhand smoke exposure, is essential. It is time to adopt a comprehensive approach for cessation and for appropriate laws to be devised that would ensure homes are made smoke free. A mass media campaign should be geared up to urge change in the idea of smoking at home being socially acceptable as has already been carried out in many other countries of the world.

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