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Availability, accessibility and promotion of smokeless tobacco in a low-income area of Mumbai

Jean J Schensul¹, Saritha Nair², Sameena Bilgi², Ellen Cromley³, Vaishali Kadam², Sunitha D Mello², and Balaiah Donta²

¹Institute for Community Research, Hartford, Connecticut, USA

²National Institute for Research in Reproductive Health (ICMR), Mumbai, India

³Consultant

Abstract

Objective—To examine the role of accessibility, product availability, promotions and social norms promotion, factors contributing to the use of smokeless tobacco (ST) products in a typical low-income community of Mumbai community using Geographic Information System (GIS), observational and interview methodologies and to assess implementation of Cigarettes and other Tobacco Products Act (COTPA) legislation.

Rationale—In India, the third largest producer of tobacco in the world, smokeless tobacco products are used by men, women and children. New forms of highly addictive packaged smokeless tobacco products such as gutkha are inexpensive and rates of use are higher in low-income urban communities. These products are known to increase rates of oral cancer and to affect reproductive health and fetal development.

Methods—The study used a mixed methods approach combining ethnographic and GIS mapping, observation and key informant interviews. Accessibility was defined as density, clustering and distance of residents and schools to tobacco outlets. Observation and interview data with shop owners and community residents produced an archive of products, information on shop histories and income and normative statements.

Results—Spatial analysis showed high density of outlets with variations across subcommunities. All residents can reach tobacco outlets within 30–100 feet of their homes. Normative statements from 55 respondents indicate acceptance of men's, women's and children's use, and selling smokeless tobacco is reported to be an important form of income generation for some households. Multilevel tobacco control and prevention strategies including tobacco education, community norms change, licensing and surveillance and alternative income generation strategies are needed to reduce accessibility and availability of smokeless tobacco use.

CORRESPONDING AUTHOR: Jean J Schensul, Institute for Community Research, Hartford, Connecticut 06106, USA.
jean.schensul@icrweb.org.

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INTRODUCTION

Smokeless tobacco (SLT) products are widely used by South Asians and in transmigrated South Asian communities elsewhere.¹² India is the world's third largest producer of tobacco, the second largest consumer and the fifth largest exporter of tobacco products including SLT.^{3–6} Smokeless tobacco products include betel quid or *paan* (betel leaf prepared with areca nut, lime paste and other flavourings) with loose tobacco,^{7–10} *gutkha* (packaged chew tobacco with slaked lime, powdered tobacco, flavourings and other additives),¹¹ *mishri* (roasted powdered tobacco used on teeth and gums),^{12,13} chewed loose tobacco mixed with other ingredients including betel quid and lime (*mawa*), *zarda* and *khaini* and tobacco in tubed paste form.⁴ Smokeless tobacco includes carcinogens and other toxic chemicals and contributes to oral/oesophageal and other cancers.^{8,9,14–24} and reproductive health problems, including placental development, premature birth, low birth weight and maternal anaemia.^{12,13,25–29} In some populations in India, the use of smokeless tobacco products exceeds 60% and use is common among both men and women, especially those living in low-income communities and rural areas.^{30,31}

In addition to traditional smokeless tobacco products,⁴ new forms of prepared, packaged, inexpensive and highly addictive smokeless tobacco products, such as *gutkha*, are aggressively promoted by tobacco manufacturers and are widely available. There are now hundreds of varieties of smokeless tobacco in raw, roasted and packaged forms mixed with other substances. With rural-urban migration from high tobacco-using states of Maharashtra, Bihar and Uttar Pradesh, a large potential market for packaged smokeless tobacco products exists in densely populated low-income slum areas of large cities where migrants settle.^{30–32} Sixty-two percent of Mumbai, for example, is designated slum areas, and nearly 50% of the population of slum communities is between the ages of 15 and 39.²⁴ Several possible drivers of higher rates of SLT use in slum areas³⁰ include increased access through points of service (POS), availability of diverse products at low cost, promotional activities aimed at both sellers and purchasers and community social norms endorsing use, all factors known separately to affect tobacco use patterns either in India or elsewhere.^{33–36} This paper provides data on these domains collected from one typical urban slum community in Mumbai, offers methodology for replication in other similar environments in Mumbai and elsewhere in India's larger cities and suggests implications for tobacco control efforts.

METHODS

Data collection took place during the first phase of a multiphase mixed methods formative study (February 2010 to 30 December 2010) to understand factors contributing to SLT use among low-income women of reproductive age in Mumbai. The study site was an officially designated slum community of approximately 60–70000 residents and approximately 233 116 m² (23.3ha) located in western Mumbai.¹ The study area is demographically similar to other slum communities in greater Mumbai with household income averaging approximately \$75.00 per month.^{37,38} The majority of residents are migrants from Maharashtra state, Uttar

¹Communities designated as 'slum' by the municipal authority are situated on municipal or private land which is subject to redevelopment at any time.

Pradesh, Bihar, Kerala and Andhra Pradesh or born in Mumbai. Residential proximity results in the sharing of many aspects of lifestyles including tobacco use practices.

A field team with experience working in slum communities was trained to conduct observational, interview and spatial field research. Following a protocol similar to that of Longman and colleagues,² who identified smokeless tobacco outlets and products in high-density South Asian wards in UK, the team walked all lanes, hand mapping the study community and its named subcommunities. To produce estimates of geographic area and population for the study area and the subcommunities, researchers obtained data from developers and census enumerators. These data were triangulated to define community and subcommunity boundaries and to estimate overall and subcommunity population size. Small unnamed areas were assigned to named subcommunities based on demographic and cultural affinities of the population.

Points of sale were defined as locations that sold smokeless tobacco products of any kind. *Paan* shops sell betel quid with and without tobacco and, at times, other tobacco products - bidi, individual cigarettes or cigarette boxes, loose or packaged tobacco, *mishri* and snuff.³⁹ General stores sell *gutkha* and *mishri* packets on display outside and both as well as *gul* inside along with snacks, soft drinks, household goods and groceries.³¹ Wholesale shops specialise in bulk and wholesale tobacco and sell other food and smokeless tobacco products. Teashops are small one-room family shops that vend tea and tobacco including *paan*, *mishri* packets, *gutkha* and loose tobacco. Milk outlets ('milk dairies') sell packets of milk and packet tobacco and *gutkha* products. Finally, two households were identified that sold packaged tobacco products directly from their homes. All points of sale were enumerated, classified and year of initiation recorded. They were located as accurately as possible on the hand-drawn maps as were all temples and schools (*anganwadis* or early childhood centres, madrasses associated with mosques and Public elementary schools). The spatial analysis included only POS in the baseline assessment carried out from February to June 2010.

Availability was defined as type and brand of smokeless tobacco purchasable in the study area and cost of each brand. At 20 widely distributed POS of different types, all SLT products were identified, photographed front and back, priced per unit, and recorded in an Excel matrix with information on manufacturers and contents. Shop owners/managers were interviewed about the history of their establishment, product purchasing practices, income and expenses, promotional activities, customer base and development of other POS.

Marketing and promotional activities were defined as: (1) customer-oriented visual promotions at point of sale (strips, stickers and posters); (2) customer-oriented promotions on billboards (hoardings) and vehicles in or near the study area and (3) seller-oriented distributors' promotions (incentives, reduced prices for bulk orders and giveaways). Data were collected through observation while enumerating outlets, photographing advertisements on vehicles and billboards and interviews with shop owners.

Smokeless tobacco-related community social norms were defined as descriptive (descriptions of what people do), injunctive (perceptions of appropriate or inappropriate

behaviour) or prescriptive (stated or unstated rules for behaviour that are sanctioned when violated).^{40–43} Opinions about smokeless tobacco social norms were collected through 30min open-ended interviews with 55 key informants (community leaders, *anganwadi* workers and owners/managers of tobacco POS). All interview data were transcribed, translated from Hindi and Marathi into English and entered into Atlas Ti for coding and analysis (Atlas Ti, 5.6, Scientific Software). The overall study was approved by the Institutional Review Boards (IECs) of collaborating research institutions.

Boundaries of the study community and subcommunities were screen digitised based on superimposing hand-drawn maps and a Google map of the area. All POS classified by type and all temples and schools classified by type (*anganwadis*, *madrassas* and public schools) were located on the screen-digitised map. The area in square metres of each subcommunity was calculated in ArcGIS. All population totals were estimated by triangulating data from multiple in-community sources.

Density of points of sale was calculated in two ways, as ratio of enumerated points of sale to square metres and to population size, both overall and in each of the subcommunities. In addition to measuring outlet density, we also calculated location quotients (LQs). The LQ is a measure (a ratio of ratios) that compares the number of outlets in a subcommunity based on geographic area and population to the number of outlets we would expect in the subcommunity based on the entire study community as the norm.^{44–46} POS are said to be concentrated in some subcommunities in comparison to others if there are more in these locations than expected or if they have an $LQ > 1$.

Clustering or dispersion of outlets can serve as an indicator of differentiation in resident access to desired products. To measure clustering of tobacco outlets within each subcommunity, nearest neighbour analysis was performed.⁴⁷ This compares the observed distance from each tobacco outlet with its nearest neighbour (nearest neighbour distance) to the nearest neighbor distance *that would be expected* if the same number of outlets were distributed randomly within an area of the same size. Observed nearest neighbour distances smaller than the expected indicate that outlets are clustered; observed nearest neighbor distances greater than expected indicate that outlets are spaced uniformly. All analyses were repeated for *paan* shops and general stores.

To measure distance to tobacco outlets within each neighbourhood, ArcGIS 9.2 was used to create a 5 m grid representing locations within each neighbourhood. The near command was used to measure the Euclidean distance from every grid point in each neighbourhood to the tobacco outlets to identify the nearest tobacco outlet to each grid point. Because the nearest outlet could be in another neighbourhood, distances from the grid points in each neighbourhood were measured to the entire set of tobacco outlets. In addition, distance analysis was carried out by measuring for each school the distance to the nearest POS.

Tobacco products were classified into main types: *paan* with tobacco, *gutkha*, loose or packaged chewed tobacco, *mishri* (black raw tobacco or packaged) and tube paste tobacco. Within each type, brands were counted; costs were averaged by type. The manufacturers of

each product were identified, and presence/absence of warning symbols and product ingredients were recorded.

Interview data obtained from POS owners/managers were analysed thematically for establishment initiation, product purchasing, income and expenses, promotional activities, customer base and development of POS in their subcommunity.⁴⁸⁴⁹ Key informant interviews were searched for descriptive, injunctive and prescriptive norms.⁴⁰

RESULTS

Table 2 summarises the distribution of different types of tobacco POS within the overall community and across the five subcommunities. Most shops were between 4 and 15 years old, and almost all were owned. Of the 12% that opened in the past 3 years, half rented their space.

Shop owners reported that start-up costs were less than Rs 500, and paan shops could generate between Rs 200 and Rs 1000 per day or between approximately \$4.00 and \$20.00 based on an estimate of Rs 48 per US\$, a significant addition to the average household income of approximately \$75.00 per month. General stores and bulk distributors reported earning up to Rs 4000 per day.

Density, clustering and distance

In table 1, density ratios >1 indicate a higher concentration of tobacco outlets per population in the area than in the study community as a whole, while those under 1 indicate a low relative concentration of tobacco outlets. Measures of outlet density varied across subcommunities both in terms of geographic area and population and in the LQ as a measure of concentration.

Subcommunity ABC, the most developed community, on the main road, has the highest density of outlets and the highest concentration of outlets based on area. Subcommunities ABC, GHI and JKL had the highest densities based on population. Each has about 45% more tobacco outlets than expected, given their population sizes and the number of outlets in the study community as a whole. MNO has only 1/3 of the outlets expected, given its share of the study community's population. MNO is the newest and least developed subarea, with low POS density by area and by population. Here, tobacco is sold primarily in general stores where people purchase daily supplies of other goods. A secondary analysis by type of shop (paan shop and general store) showed only slight significant differences either in density or population, across subcommunities.

There is a pattern to the clustering of shops as shown in table 3. Community DEF shows the highest degree of clustering. Customers in this area are Maharashtrians who typically prefer the use of *mishri* to other SLT products. Shops selling tobacco for *mishri* preparation are located on the main community access road, easily accessible to shoppers who travel to and from the main highway to purchase other goods. DEF, the subcommunity with the highest degree of clustering of outlets, also has the greatest mean, medium (38 m) and maximum travel distances to nearest tobacco outlet from points within the subcommunity (see table 4).

Other areas where clustering is high are located along the main highway and along the main commercial lanes into the subareas (table 4). A secondary analysis, comparing paan shops and general stores, shows some differences across communities. Overall, however, the distances from home to nearest outlet are small as illustrated in table 4.

A secondary GIS analysis showed that for all schools in relation to all outlets, minimum, maximum and mean distance to any POS were 3, 73 and 16 yards, respectively - within the 100 yard radius limit. The minimum, maximum and mean distance from any school to a general store were 3, 73 and 18 yards, respectively, and to a paan shop, 7, 214, and 36 yards, respectively. Overall, paan shops are farther away from schools than the much larger number of general stores, which, like schools, are located on larger roads and lanes. Figure 1 shows the outlet and school locations.

Product availability

In 2010, there were 68 smokeless tobacco products available in the community (see table 5). All packet tobacco products showed warnings for risk of cancer but loose or bulk tobacco was not associated with warnings, and about half of the packets did not list the contents either in English or in Hindi.

Pan shop owners/managers and other key informants noted that women preferred eight of 29 gutkha brands, two of 15 brands of loose/packet tobacco and five of six brands of *mishri/gul*. Information on gender difference in tobacco brand preferences is very limited, but for women, lower price and greater 'kick', rather than brand, appear to drive choices. Using the Atlas TI word count function with 55 key informant interviews, a listing of words for tobacco produced 429 mentions of *paan* with and without tobacco, 428 mentions of *gutkha* primarily three specific brands, 398 mentions of chewed tobacco, 227 mentions of *mishri* including one of black tobacco for *mishri* preparation, 18 mentions of *bidi* and fewer than three mentions each of hookah, *quiwam* and cigarettes. The listing reflects the popularity of traditional forms of tobacco chewing (*mishri* and *paan*) and the widespread presence of packet tobacco (*gutkha*, branded chewed tobacco, *gul* and *mishri*). Interviewers did not enquire about smoked tobacco.

Tobacco promotions and surrogate advertising to promote use

Tobacco control policies and laws in India permit marketing of tobacco products only at point of sale.⁴⁵⁰⁵¹ Creative ways distributors, marketers and dealers display and promote the use of tobacco products include strips of tobacco packets hung in shop entrances and stickers advertising smokeless tobacco brands strategically located within stores. Main promotional schemes appealing to shop owners and bulk purchasers include (1) receiving extra packets free with bulk purchases which can be sold to increase profit margin; (2) *Dhamaka* (spot offers) or coupons accompanying bulk purchases that are returned for reimbursement and (3) silver coins in sacks of tobacco or *gutkha*, or given as a reward for bulk purchases.

A common form of surrogate advertising involves packaging *paan masala*, a non-tobacco product, as if it were *gutkha*. *Paan masala* in packets resembling *gutkha* has been promoted

by well-known Bollywood stars in public places, including on the radio,⁵² as well as observed and photographed by the study team on banners and posters on buses, trains and in hoardings on cricket grounds. *Paan masala* products are also printed on cloth bags, umbrellas and children's kites during *Makarsankranti*, an annual kite festival.⁵³

Social norms

More than 80% of the more than 200 comments made by 55 key informants about any form of SLT use were descriptive (observational), including observations about the types of smokeless tobacco used by both men and women. Smokeless tobacco practices were observed to be common (used by 20 to 40% of adults) and shared across groups - 'It (the community) is a mixed population like Maharashtrians, Muslims, people from UP. Out of 100 males and females, only 10 people don't eat anything. Not many people drink alcohol but everybody eats gutkha'. (FN/08/06/10-GS_SD_8-6-10 (2)).

Eight quotes reflected negative prescriptive norms, mainly focused on health and frivolous expenditures:

Yes most of the parents are using gutkha, *mishri*, and tobacco. They have money to buy gutkha, mishri, tobacco, but they don't have money to send their children to school. (KI_MM_SD_12-4-10)

Yes even in pregnancy also they have. They will not stop having gutkha, tobacco, *mishri*, even they know it is harmful to their child. (KI_MM_SD_23-4-10)

Most of the positive prescriptive norms provided a rationale for the use of smokeless tobacco products among both men and women mainly because of working conditions or life stress, for example, 'See people know that tobacco is not good for health. But still they eat that. Because without this they will not work'. (GSM, SD 8-06-10) Shop owners described the importance of tobacco-generated income to achieve their economic goals.

It is my business. For my family I have to do something. My children are studying now. For that reason I will work hard... when they (people) do hard work they need something to give them more freshness. (Ps KP 24-10)

Overall, the 55 respondents interviewed across the study community recognised and endorsed smokeless tobacco as a feature of community life and believed that use would continue regardless of health consequences or tobacco control policies.

DISCUSSION

Research on spatial analysis of tobacco outlets shows that accessibility, indicated by density and proximity to point of sale of tobacco, is associated with product use, exposure to positive product norms and difficulties in quitting or reducing tobacco consumption.^{54,55} Furthermore, generally tobacco outlets are found in greater numbers in low-income communities⁵⁶ where immigrant populations are a vulnerable market for product purchase.^{57,58}

Our spatial analysis was designed to show to what extent smokeless tobacco products are accessible to residents in a typical slum community in Mumbai, India's largest city, and

second to provide methodology for measuring spatial dimensions of accessibility for comparative use in other communities in India since no such baseline has been established to date. GIS analysis in this study of spatial dimensions of accessibility showed that overall, and across all subcommunities, the density of POS and the proximity of residents to the nearest POS (approximately 150–300 feet or 54–102 m) enables any resident to reach a POS almost instantly and to pass multiple POS daily. India's Cigarettes and Other Tobacco Products Bill passed in 2003⁴⁵ prohibits 'sale of cigarettes or other tobacco products to a person... within a radius of 100 yards of any educational or religious institution'.⁵ Our analysis shows that paan shops and general stores, constituting 90% of the SLT outlets in the study community, were well within 100 yards of schools, in clear violation of the law.

Selling smokeless tobacco offers small businesses many advantages. Licensing is not required for selling smokeless tobacco products. Initial expenses are small, and shops can generate a substantial daily profit, making it a good business investment and offering an effective way to generate income needed to purchase goods and services, such as children's education, that lead to upward social and economic mobility. Thus, efforts to control sellers through licensing are likely to be unpopular⁵⁹ without economic alternatives. Despite discussion of economic alternatives acceptable,³⁶⁰ no such consideration has been given to small-scale sellers.

One strategy used to increase consumption among Indian customers with less disposable income is to package different varieties of consumer items in small low-cost packets. Tobacco manufacturers in India have used this strategy to package, market and distribute inexpensive smokeless tobacco products.⁶¹⁶² Longman and colleagues' count of tobacco products and outlets in England found almost 100 inexpensive tobacco products across four communities with many immigrants from Bangladesh, India, Nepal and Pakistan.² The Mumbai study shows a similar pattern of high packaged-product variability in flavouring, strength and low cost, designed to appeal to resource-limited consumers.

Where media-based tobacco advertising is prohibited, tobacco industry's advertising resources are spent on marketing strategies at POS/purchase.³⁴⁶³ Storefront tobacco marketing constitutes cheap advertising for tobacco companies,³³ and research has shown that displays appealing to the public result in increased initiation and continuation of use of tobacco products.⁶⁴ The India Cigarettes and other Tobacco Products Act of 2003 prohibits all direct and indirect advertising of tobacco products *except at* point of sale. Encouraging shops to initiate the sale of tobacco products and promote new products expands customer base and provides new locations for onsite promotional activities. High density of smokeless tobacco outlets may be an indicator that manufacturers have targeted these areas for promotion which in turn may raise levels of use of packaged and other forms of SLT products.

Finally, our data suggest that social norms rationalising or endorsing smokeless tobacco use are widespread and that positive prescriptive norms outweigh negative norms that might prevent use. Thus, there are few constraints on the use of any smokeless tobacco product.

LIMITATIONS

Limitations of this study include its single site focus, inability to conduct follow-up surveillance to assess rates of change in POS and lack of information on actual use patterns in this phase of the research and lack of generalisability of POS owner/manager POS.

CONCLUSIONS

India has endorsed comprehensive legislation through COTPA (Cigarettes and other Tobacco Products, Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution Act, 2003)^{3–5171865} and has supported many other national and state efforts to reduce the use of all forms of tobacco. Despite these efforts, research in a typical densely settled and geographically mixed low-income area of Mumbai has shown widespread accessibility and availability of smokeless tobacco products of all kinds, promotional activities that encourage shops to sell more and varied products, and the use of smokeless tobacco as a community norm justified in terms of stresses of daily life. Selling ST constitutes an increasingly important element in residents' economic survival strategies. The study shows violations of COTPA legislation including locating points of sale within the 100 m/yards limit for schools and religious institutions.

Controlling access to SLT by decreasing density of outlets through licensing and taxation¹⁸ is unlikely to be effective in Mumbai and other locations where surveillance capacity is low and density of POS is high or increasing. Reducing smokeless tobacco use in low-income communities requires a multilevel approach that includes community education, graphic pictures on packaging, restrictions on sales, regulation and surveillance of POS in relation to educational and religious institutions (including community-based monitoring by local advocates) and harm reduction/tobacco cessation strategies.⁵ To discourage more merchants from earning income by selling SLT products, alternative forms of income generation should be part of any smokeless tobacco control policy directed to low-income areas of India's urban, township and suburban areas. Finally, more research is called for to determine whether and how accessibility, availability, promotional activities and pro-STL norms vary across communities, whether they drive changes in tobacco use practices and to what extent current and new national and state legislative mandates are being implemented locally.

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What this Paper Adds

- This paper is the first in India or elsewhere that documents presence and availability of a large variety of smokeless tobacco products in a low-income urban community.
- It contributes to methodology standardising measures of density, distance, clustering of tobacco or alcohol outlets so that comparisons can be made with same units of measurement with other communities in India and elsewhere cross-sectional and over time.
- It documents clearly that location of points of service in study community is out of compliance with Indian tobacco control legislation.
- The paper suggests the important role of tobacco selling in income generation in poor communities and describes challenges in tobacco control policy implementation with respect to regulating the sale or purchase of smokeless tobacco products.
- Finally, it argues for a multilevel approach to ST control including policies and programmes governing packaging, promotion, prevention, cessation and alternative income generating programmes.

Figure 1.
Overall Density and Clustering

Table 1

Density and concentration of tobacco outlets by subcommunity area and population

Subcommunity	Outlets	%	Area, km ²	%	Outlets per 1000 km ²	Location quotient overall (LQ)	LQ for paan shops	LQ for general stores
ABC	102	29.4	47116.8	20.2	2.2	1.45	1.55	1.36
DEF	17	4.9	37597.4	16.1	0.5	0.30	0.00	0.45
GHI	115	33.1	73527.8	31.6	1.6	1.05	1.27	0.99
JKL	70	20.2	39448.4	16.9	1.8	1.19	1.33	1.09
MNO	43	12.4	35428.2	15.2	1.2	0.82	0.32	1.04
Study Community	347	100.0	233118.6	100.0	1.5	—		

Subcommunity	Outlets	%	Population	%	Outlets per 1000 population	LQ	LQ for paan shops	LQ for general stores
ABC	102	29.4	12 438	20.2	8.2	1.45	1.55	1.36
DEF	17	4.9	4000	6.5	4.3	0.75	0.15	1.11
GHI	115	33.1	13 884	22.6	8.3	1.47	1.78	1.38
JKL	70	20.2	8 505	13.8	8.2	1.46	1.63	1.34
MNO	43	12.4	22 701	36.9	1.9	0.34	0.13	0.43
Study community	347	100.0	61 528	100.0	5.6	—		

Table 2
Types of tobacco outlets overall and by subcommunity and by recency of initiation

Subcommunity	Paan shop	General store	Teashop	Wholesale shop	Dairy shop	Other home-based POS	Total	Shops initiated past 3 years
ABC	32	61	2	6	1	0	102	11
DEF	1	16	0	0	0	0	17	6
GHI	41	69	0	3	1	1	115	12
JKL	23	41	1	4	1	0	70	5
MNO	5	35	3	0	0	0	43	6
Total	102	222	6	13	3	1	347	40

POS, points of service.

Table 3

Clustering of tobacco outlets based on nearest neighbour analysis

Subcommunity	Ratio of shared mean nearest neighbour distance (m) to expected mean nearest neighbour distance (m)	Overall Z score	Paan shops Z score	General stores Z score
ABC	9.7/10.7=0.90 Significantly clustered 0.05 level	-1.97	-1.97	0.40
DEF	15.0/23.5=0.64 Significantly clustered 0.01 level	-2.85	-2.85	-2.85
GHI	12.5/12.6=0.99 Outlets are random	-0.24	-0.24	-0.24
JKL	10.5/11.9=0.88 Significantly clustered 0.10 level	-1.86	-1.86	-1.30
MNO	10.5/11.2=0.93 Outlets slightly clustered likely by chance	-1.08	-1.08	-1.08
Study community total	11.2/13.0=0.86 Significantly clustered 0.01 level	-4.89	-4.89	0.64

Table 4

Mean, median and maximum distance to tobacco outlet by subcommunity

Subcommunity	Mean distance, m	Median distance, m	Maximum distance, m
ABC	14.8	11.3	54.7
DEF	41.5	38.3	104.2
GHI	16.9	13.3	78.9
JKL	15.5	13.4	53.8
MNO	18.5	15.8	57.3

Table 5

Types of smokeless tobacco products available in the community

Types of tobacco	Brands	Manufacturers	Average price
Gutkha	29	16	Rs1–2 a packet
Raw tobacco packets including zarda (3), khaini (3) and mawa (1)	15	8	Rs1–5 a packet
Tobacco products added to pan including zarda (2) and quimam (1)	13	Not available except through internet search	Rs30–45 a tin
Mishri packets, gul (4; other 1) and mishri black tobacco (1)	6	6	Rs1–2 per packet
Snuff	3	2	Rs5 per sniff
Toothpaste with tobacco	2	2	Rs30–65 per tube