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Social and Cultural Influences on Tobacco-Related Health Disparities among South Asians in the United States

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Abstract

OBJECTIVE—To explore and understand key cultural contexts of tobacco use among South Asian communities in the United States.

DESIGN—Focus groups, with homogenous compositions of gender, generational status, and length of time in the United States, were conducted in two distinct South Asian ethnic enclaves. Focus group findings were triangulated with observational data regarding availability of culturally-specific tobacco from commercial ethnic outlets and cultural events.

SUBJECTS—Respondents included 88 men and women of South Asian descent, aged 18 to 65 years, immigrant and native born, representing diversity of religion, socioeconomic status, and region of origin, with use of at least one culturally-specific tobacco product in previous 24 months.

RESULTS—A large number of culturally-specific products are commonly used by community members. Knowledge of product-specific health risks was lacking or inaccurate. Many culturally-specific tobacco products were considered to have beneficial properties. South Asian tobacco items were used to preserve cultural traditions and express ethnic identity in a new dominant culture. The social and cultural value ascribed to use helped distinguish community members from mainstream society and from other minority populations.

CONCLUSIONS—Many cultural factors govern tobacco use among diverse global populations. Especially for migrants with a common regional origin, the role of ethnic identity may strongly influence culturally-specific tobacco patterns. Qualitative inquiry helps elucidate such culturally-framed behaviors in culturally-diverse populations. These cultural contexts should be integrated into research and practice. Understanding multidimensional factors influencing non-traditional tobacco use is key to ensuring that comprehensive tobacco control strategies address tobacco-related disparities.

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All authors have completed the Unified Competing Interest form at www.icmje.org/coi_disclosure.pdf (available on request from the corresponding author) and declare: no support from any organization for the submitted work; no financial relationships with any organizations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.

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This study was conducted with the approval of the Committee for the Protection of Human Subjects (Institutional Review Board) of the University of California, Berkeley.

Keywords

Qualitative study; smokeless tobacco products; tobacco products

INTRODUCTION

The health and economic burdens of global tobacco consumption are well-documented. Among other diseases, tobacco use increases risk for cardiovascular disease, lung and oral cavity cancers.[1, 2] Disparities in tobacco prevalence and disease among diverse populations are increasing, disproportionately affecting low- and middle-income nations, and racial/ethnic minorities in developed countries.[3, 4]

In South Asia—comprised of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka—tobacco use is a serious health concern, perhaps more so than in other developing nations.[5, 6] A diverse array of tobacco products—coupled with a general socio-cultural acceptance of use—make comprehensive tobacco control a formidable challenge in this region of over one billion people.[7] Largely attributable to use of indigenous tobacco products, the subcontinent has one of the highest oral cancer rates and large burdens of cardiovascular and pulmonary diseases.[1, 2] In contrast to cigarettes, popular forms of tobacco use include smoking *bidis* and *hookahs*. [8] More frequent is use of a wide spectrum of smokeless products combining tobacco, areca nut, and other ingredients in numerous forms and applications.[9] The scientific literature discusses at least six smoked products and 22 items commonly used in South Asia.[1, 6, 8-11] Areca nut—a popular additive—is a major carcinogen, independently and through its synergistic interaction with tobacco.[12]

South Asians are the second largest and fastest growing Asian subgroup in the United States, and are the largest minority population in the United Kingdom and Canada.[13-15] Numbering 20 million globally, South Asians comprise significant numbers in Africa, Australia, Singapore, Malaysia, and New Zealand and make up over 35% of the population in Fiji, Guyana, Mauritius, Suriname, and Trinidad & Tobago.[16]

Disparities in tobacco use and disease persist among South Asian migrants. For instance, the highest rates of smokeless tobacco use in England are by South Asian populations.[17] Among this minority group in the United States, coronary heart disease is the leading cause of death while certain oral and pharyngeal cancers are overrepresented.[18, 19] Surveillance systems generally neglect culturally-specific tobacco products and subsequently lack the ability to assess potential contributions to tobacco-related disparities.[20-22] When available, local data indicate high rates of use for certain products among South Asian migrants, although survey measures tend not to be standardized for comparability with other tobacco measures.[20-22]

Many researchers argue that understanding socio-cultural contexts of tobacco use is paramount to understand prevalence rates and the unique cultural milieu governing motivations and predictors of use among diverse populations.[23-25] Few surveys assess variables such as perceived health benefits of tobacco use, a common belief among this community.[17] For example, oral and digestive health benefits are ascribed to areca nut, an ingredient often added to smokeless tobacco preparations; these beliefs health originate from many South Asian religions.[26, 27]

Researchers have posited multidimensional frameworks elucidating the key role cultural and social contexts play in defining tobacco behavior, especially as they relate to minorities in vastly different social structures.[23-25] Despite these considerations, a paucity of research

exists regarding the influence of ethnic identity on culturally-specific tobacco use. Preservation of cultural attributes has been shown to be a key influence on other health-related behaviors, suggesting that similar processes might occur for tobacco use.[28, 29]

This study aims to understand the scope of culturally-specific tobacco products used by South Asian migrant communities, to examine knowledge, attitudes, and beliefs surrounding use, and to explore the contextual dimensions of culture and identity as they pertain to influencing tobacco use behavior. In this paper, the term “migrant” refers to individuals of South Asian descent who reside outside of the native region.

METHODS

Twenty-one focus groups were conducted among South Asians living in the United States. Study sites included ethnic enclaves in Chicago, IL and San Francisco, CA. Notwithstanding concentrated populations of South Asians, these vicinities were selected based on unique professional, economic and educational demographic profiles as well as distinct social and historical contexts of migration into the United States.[30, 31]

Potential respondents were recruited using a variety of strategies, including posted flyers in concentrated South Asian venues, solicitation through community-based organizations, invitations on electronic listservs with large South Asian membership, and announcements on ethnic media. Inclusion criteria included ethnic identification as South Asian, being 18 to 65 years old, English language proficiency, and use of any culturally-specific tobacco product within the previous 24 months. These criteria ensured that qualitative data reflected a practical knowledge of the cultural context of tobacco use. To obtain the maximum level of exploratory data through full involvement of respondents, the recruitment protocol aimed for a small group design, anticipating four to eight members per group.[32]

Focus groups were organized by gender, generational status, and for immigrants, length of time in the United States. Separating groups by these categories facilitated sensitivity to the hierarchical structure of South Asian communities—acknowledging reverence based on gender, age, and immersion in American society—and served to maximize candor and mitigate any potential stigma due to admission of tobacco-related behavior among community members outside of these social groups. However, *within* each group, efforts were made to vary religious backgrounds and region of ethnic origin to stimulate discussion of similarities and contrasts related to religious or regional variation. Given this purposeful oversampling of underrepresented South Asian subgroups, it was expected that the final demographic profile of respondents would not be reflective of the general South Asian population in the United States. All respondents gave informed consent, and the study was approved by Committee for Protection of Human Subjects at the University of California, Berkeley.

Given the focus on tobacco use, semi-structured and open-ended interviews were utilized to explore the spectrum and description of products used by South Asians, reasons for and connotations attached to differential use of specific products mentioned, and socio-cultural environments or contexts facilitating or impeding use. In addition, demographically-distinct questions were posed, such as acceptability of use in public view of culturally-revered individuals. Findings from earlier groups were iteratively used as probes in subsequent ones to evaluate saturation or disconfirmation of emergent themes.

Despite screening for English proficiency, translators were present for many groups to ensure that idioms and perspectives more accurately expressed in-language were captured. Audio-recordings were transcribed by individuals proficient in multiple South Asian languages. Data were analyzed using qualitative software (Atlas.TI).

As an exploratory study with an understudied population, the analytic protocol employed a peer debriefing process, which emphasizes a conscious and collaborative approach to data coding and theme extraction and the value of the data itself to guide the credibility and confirmatory value of the findings.[33] Content analyses were performed on a subset of transcripts by three researchers to generate initial thematic categories describing the breadth of South Asian tobacco products available in the United States, methods of ingestion and “dosage units”, knowledge, beliefs and attitudes ascribed to use of specific products, and socio-cultural contexts of use. Five transcripts were reviewed independently by all three researchers to confirm the overarching themes and develop a coding scheme for subsequent transcript review. Remaining transcripts were coded by the primary author after extensive review with the other researchers. If specific perspectives or representations arose in multiple regions, with at least two groups in each research site having similar portrayals, these findings were considered an overarching theme if not disconfirmed by any of the other focus groups. Following this initial coding, the complete qualitative dataset consisting of text units, interpretive notes, and classification into higher-order themes were reviewed by all three researchers. The final review confirmed coding consistency, evidence of saturation and disconfirming accounts, and credibility of data with research questions.

To confirm accuracy of participant reports, outlets described by respondents in each research site were visited to examine access to tobacco products highlighted in focus groups. Observational data were collected through purchase of culturally-specific tobacco samples and notations regarding type of outlet, location of products, and visibility. Similar methods were utilized for participant observation in selected social and physical settings, such as ethnic movie theatres and cultural fairs, to assess the use of South Asian tobacco products in environments with large concentrations of community members.

RESULTS

Characteristics of Respondents

Table 1 provides selected demographic characteristics about the 88 respondents meeting the inclusion criteria, separated by research site. Respondents ranged between 20 – 65 years of age with diverse language capability and educational attainment. Approximately half of immigrants lived in the United States less than ten years.

Content Analyses

Respondents confirmed a large number of South Asian tobacco products are used by members of this ethnic group in the United States. These items include *bidis*, *hookah*, *paan*, *paan masala*, *guthka*, *zarda*, and *niswar* (Table 2). Acceptability of use often mirrored the hierarchical structure of South Asian communities, which emphasizes reverence to men, elders, and immigrants. As a result, tobacco consumption was a “hidden” behavior and limited to non-public settings by those assuming lower positions on the socio-cultural hierarchy.

Knowledge-based and socio-cultural influences formed the foundation for culturally-specific tobacco use. These factors included: (1) knowledge of product-specific health risks was lacking or inaccurate; (2) perceived health benefits were ascribed to different products; (3) use of culturally-specific tobacco were symbolic behaviors to maintain tradition and celebrate culture; and (4) South Asian tobacco products enabled preservation and expression of ethnic identity in a different social milieu. The social and cultural functions governing use of these tobacco products often superseded fear of adverse health effects.

Knowledge of Health Risks—Respondents had diverse opinions about consequences of culturally-specific tobacco use. Health risks were more commonly associated with products which clearly contained tobacco, and were less clear for products where tobacco content was unclear or unknown. For example, respondents identified health hazards of using products, such as *zarda* and *bidis*, which were clearly defined as containing tobacco:

I think hygiene-wise, like in the ways [*mukhwas*, or South Asian breath fresheners, with tobacco] messes up your teeth, and how it's bad for you, I think a more educated person would take that into consideration when using it, or use it less frequently than someone who isn't as educated, grew up with it, and just kind of smokes it and has it around. (Second generation female in Chicago)

[The tobacco products are] addictive. Cancer. Liver problems, digestive problems, ironically. Problems the mouth, I'm sure the mouth will become less sensitive..." (Male immigrant in San Francisco)

For items not overtly considered to be tobacco products (despite its inclusion)—*paan*, and to a lesser degree, *paan masala*—the knowledge of adverse health consequences were more varied:

Participant: "Now you're talking about this *paan masala*, I have it in a bottle near my chair, even when I'm watching TV, I take. It's just like a snack, maybe, like a candy... It's a harmless snack." **Another participant responds:** "Not that harmless..." (Female immigrant in San Francisco)

Paan is a good thing. Even now, if you bring *paan*, I'll eat. (Female immigrant in San Francisco)

Similarly, the harms of using *hookahs* were underestimated or unknown by South Asians, especially among second-generation respondents, who reported more use in the focus groups than their immigrant counterparts.

If I were to talk a little bit younger, like college grads, or nearing grads, or undergrads, or maybe just early grads, they're more into *hookah*, if they have to like go into [South Asian] social outings with their own friends, they'd probably pick *hookah* rather than *paan*, ... *hookah* is the alternative smoke, because it's supposed to be less harmful. (Male immigrant in San Francisco)

Hookah would be different cause every time I see people doing *hookah* they go out of their way to tell you it's not like smoking cigarettes, there's nothing wrong with it... Every time in every *hookah* lounge, even dorms in college they always say there's no health risk to it, there's no tobacco in it apparently so they don't think it's as bad as cigarette or *bidi*... (Second generation male in Chicago)

Many respondents also indicated that these culturally-specific products, despite the inclusion of tobacco, were not deemed to be as harmful or contain the same stigma as mainstream cigarettes or chewed tobacco found in the United States. An entrenched ascription of social value often masked an evaluation of health risks by community members who used and offered these products for cultural purposes.

Perceived Benefits of Tobacco Products—Remarkably, many respondents purported that certain products had health benefits, including antiseptic, astringent, local anesthetic, and nutritional properties, as well as aiding digestion or sleep, or effectiveness as a breath freshener and oral cleanser:

Can I tell you one thing? In *paan* itself is not dangerous to health, if you use *paan*, lime a little bit... And a little bit *supari*, it is good for digestion. (Male immigrant in San Francisco)

[*Paan* with] tobacco has been used for pyorrhea... Pyorrhea is infection of the gums. And Ayurvedic medicines also use them. *Paan* and *supari*. (Female immigrant in Chicago)

In addition, others asserted that products containing areca nut (or *supari*) had cognitive benefits, such as increased alertness and improved memory. The perception of health benefits associated with use of certain products seemed to be a motivation for use among South Asians, including facilitating consumption among certain subgroups that might otherwise not be inclined to use tobacco products, such as women and youth:

Yeah she says the *paan* is a source of calcium. For the mother. Even after age of thirty, everybody has to take calcium in this country. But there, they don't take. So most of the ladies are getting knee problem. That is being avoided, it was avoided before because we were very, continuously without any break, we were eating this [*paan*]. It help us without our knowledge. Betel leaf contains calcium, the leaves. It's supposed to be nutritious too. It has some kind of nutrition. (Female immigrant in San Francisco)

Purported health benefits ascribed to culturally-specific tobacco products were preserved through the process of migration and transmitted to subsequent generations.

Social and cultural value of tobacco use—Within the South Asian community, most respondents agreed that culturally-specific tobacco behavior provided a mechanism to keep cultural features intact, such as maintenance of traditional and customary aspects of ethnicity; this function was important to both immigrants and subsequent generations:

Like in our India, tea is a strong custom, in Gujarat. Wherever you go, tea is a must, tea and coffee are a must. Whether it's time for it or not, if you go to someone's house in the evening then you'll have to drink tea, if you get there at night, you'll have to drink tea. In Asia, mostly in all three countries, India, Pakistan, Bangladesh. It's the same thing with *paan*. Drink tea, then eat *paan*. (Female immigrant in Chicago)

Hookah is among us now, our first generation [of South Asians in the United States]... I don't know who originated it, but I know I've seen even old Indian movies with hookah in the background... It was actually very common, from what I hear, like not from my grandparents but from my great-grandparents, it was very common. And it skipped three generations, I guess... I know. It got popular again. (Second generation male in San Francisco)

Respondents also described a number of symbolic functions served by culturally-specific tobacco use, such as to celebrate wedding rituals and religious ceremonies. These products served as a reminder of a common—and potentially distant—heritage. By illuminating experiences reminiscent of the place of origin, the use of certain items facilitated socialization among individuals sharing a common ethnic background:

For us, like my family I would say, whenever my parents have it, when somebody went to Devon, or somebody brought it, or there was a wedding or something, so it's like more of a delicacy. I mean I know it's not something that's expensive or fancy, but you don't eat it all the time, so when you do eat it, it's nice to, when you do eat it, they sit down, and talk, and get *chai*, and eat it. (Second generation female in Chicago)

Even though, you know, a lot of other people also smoke it [*hookah*], I think a lot more of the South Asian community do it because they're like, oh, well, this is our culture, so... And that's how they bond, actually, a lot of them bond through *hookah*.” (Second generation female in San Francisco)

Often these products were used while viewing South Asian movies or sports, or gathering with community members to engage in culturally-specific entertainment (e.g., playing cards, dance clubs, board games).

For many, use of culturally-specific products was emblematic of expressing South Asian cultural identity. Interestingly, this outward representation of ethnicity, as manifested in use of specific tobacco items, was independent of whether the individual was born in or has solely visited the native subcontinent.

I mean, it has become our identity, *paan*. So wherever we go, *chai*, *chaat*, *paan*, this has become identity... Yes, it's become our identity; definitely it's become our identity. (Male immigrant in Chicago)

Yeah, that's like certain things are fading away, and then like *hookah*, I don't think my parents were ever big *hookah* people, or the family friends that I know, but for our generation, like *hookah* and things, our generation, they do more things that are culture associated. (Second generation female in Chicago)

Culturally-specific tobacco products also served as a means to distinguish South Asians from both mainstream society and other minority populations. Many respondents articulated the use of these products was a normative and organic behavior, especially in environments where South Asians might congregate.

Rather than just the tobacco effect, I think it's just more of a connection to back home, or a cultural tie almost, 'cause I think like a lot of Indian people in the U.S. still want to hold onto the tie to back home. Or, you know, through their parents. And they're with other Indian friends, so it's like watching a Bollywood movie, kind of. That's what I think about that. (Second generation male in Chicago)

There might be a kind of positive association with *paan*. If you think about, like, Amitabh Bachchan [famous South Asian actor], and the song about *paan*, with a certain generation of South Asian men, it might be seen as something that... (is) cool... people who are being nostalgic. (Female immigrant in San Francisco)

A large proportion of respondents emphasized that use of culturally-specific products served as a mechanism to differentiate themselves from other racial/ethnic groups, especially those considered to be more disadvantaged. For instance, the perception of tobacco products often used by African Americans, such as cigarillos, was highly negative and associated with disease and lack of cleanliness. Culturally-specific tobacco use was less stigmatized and more “proper”.

Qualitative findings related to product use and availability were triangulated by visiting featured outlets—ethnic grocery markets, cultural video/music establishments, emporiums of indigenous products—in each research site. Highlighted products were found, usually in clear view of community members familiar with them, often packaged in a manner resembling candy and potentially attractive to children. Of the ten items purchased, only two carried mandatory warning labels or U.S. tobacco tax stamps. Over half listed their purchase price in native South Asian currencies. These observations suggest that many of these items may have been brought in through illicit means. In addition, selected cultural events and social environments were visited to verify use patterns described in the focus groups; many of these products were abundantly available in these settings.

DISCUSSION

To the best of our knowledge, this is the first study to qualitatively examine contextual factors influencing culturally-specific tobacco use among South Asians in ethnic enclaves in the United States. Our findings confirm local survey data from other common destinations of South Asian migration in the U.S., demonstrating a high use rate of a considerable number of culturally-specific products among this population.[20-22] Not only is this information pivotal for addressing high rates of tobacco-related disease in the Indian subcontinent, it informs the design of interventions that may be applicable to migrant South Asian populations. Similar to research conducted in other ethnic enclaves, we found use was common even among individuals born outside of South Asia.[34] Our results parallel prior studies outside of the United States finding incomplete or inaccurate knowledge of health risks and perception of benefits attributable to product use.[17, 27, 35] For instance, South Asians in England, who have high rates of culturally-specific tobacco use, generally have low levels of knowledge regarding the health risks imparted by these products.[34] Our study also identified unique perceived benefits, such as nutritional value and aiding sleep. Despite scientific evidence to the contrary, these findings suggest that these beliefs are strong influences on culturally-specific tobacco use among South Asian migrants.

Perhaps more important are the social and cultural influences on South Asian tobacco behavior. In contrast to tobacco use in South Asia, using culturally-specific items to maintain traditions, engage in celebration, and socialize with members of similar ethnic backgrounds—in a new dominant society—were frequently cited by respondents as reasons for use. In terms of religion, our results mirror research in the United Kingdom showing smoking, especially *hookah*, is more acceptable among South Asian Muslims, while elucidating the value of smokeless *paan* within Hinduism.[36] Especially among children of immigrants, adopting patterns of “native” behavior symbolizes a surrogate and powerful connection to cultural roots.

Our most significant new finding was the role of culturally-specific tobacco use in the *expression* of South Asian ethnic identity, *differentiating* this community from mainstream society and other minority groups. South Asians are commonly conferred a privileged ascription of high education and economic success. Respondents repeatedly reported that use of South Asian products, especially among groups, was a mechanism to outwardly display ethnic pride.

The combination of intragroup (maintenance and preservation of traditions and celebrations) and intergroup (expression and distinction of ethnic identity) influences on tobacco use among South Asians in the United States has important implications for tobacco control. Most epidemiological studies do not survey ethnic-specific products, and thus the true prevalence of tobacco use is underestimated for certain groups. Tobacco products hold considerable social and cultural value for specific communities, often creating different motivations for use. Tobacco control efforts addressing culturally-specific tobacco use must take into account their socio-cultural function, especially to establish a unique identity relative to other minority groups and mainstream society.

This study also has implications for global tobacco control. South Asians are the second largest global population with over 20 million individuals living outside of the Indian subcontinent.[16] Agencies such as the World Health Organization have rigorously developed instruments to assess prevalence of a variety of tobacco products indigenous to specific regions. These surveys serve as an important resource for measuring (and comparing) tobacco use among immigrant communities by enabling identification of culturally-specific tobacco and relevant covariates. However, these country-specific

instruments are unable to assess the social function of tobacco use for preserving and expressing ethnic identity in a new host society. As the United States and other destination countries experience a large influx of immigrants—bringing with them their native behaviors and beliefs—culturally-framed tobacco behaviors must be understood by tobacco control researchers to create appropriate survey constructs which empirically assess prevalence and contribution of socio-cultural factors and inform targeted intervention strategies.

These issues are not limited to South Asians in the United States; the sacred nature of tobacco has been described among indigenous populations in North America.[37] Among Southeast Asian and Pacific Islander populations, chewable concoctions of combined betel-nut and tobacco are popular, whereas for groups of Middle Eastern origin, the use of the hookah for smoking tobacco is a popular practice.[27, 38] While social *function* related to tradition has been explored, less is known about use related to *expression* of ethnic identity. This role for tobacco may also hold true for other small and understudied migrant populations, especially for those with positive ascriptions among the dominant society.

With regard to tobacco control interventions, there is a need to increase awareness among health care providers serving large South Asian populations about the common use of these products and associated risks. Health care providers and systems should provide accurate information, early screening and treatment, and recommend appropriate behavioral modifications for individual South Asians at heightened risk.

At the community level, a multi-level, comprehensive education campaign—with high visibility at cultural events or venues—might be effective in dispelling many of the myths associated with culturally-specific tobacco use. In addition to educational materials, culturally-appropriate resources for cessation as well as provision of alternative mechanisms to facilitate the preservation of traditional and celebratory practices and expression of cultural identity should be incorporated in such an effort.

Culturally-specific tobacco products should be included in regulations governing the import and sale of tobacco, ensuring they adhere to taxation statutes and warning label guidelines. Enforcement of tobacco licensing regulations on retailers selling culturally-specific products may also curtail access and availability to youth, which is currently both common and socially acceptable in these settings. As more population-level data becomes available, additional targets for intervention may become apparent to reduce consumption and ultimately, tobacco-related disparities among this large migrant community.

As with most qualitative research, findings are not generalizable to communities beyond the study population. The small group design involving lesser number of respondents per group may have precluded generation of larger themes through dialogue between more respondents. While the use of only one reviewer for much of the data analysis might also have been a limiting factor, the extensive collaborative approach employed at the onset of data analysis, coupled with a rigorous quality assurance protocol upon its completion, resulted in a high level of agreement pertaining to theme extraction, identification and classification of qualitative data, and credible relationships to the research question. In addition, eventual saturation of themes, with corroborating data, suggest that the small group design was effective in generating information which help elucidate the cultural contexts sought after in this research. Triangulation of focus group data with observational data also lends credence to the study findings.

The use of non-traditional tobacco items is a pressing public health concern globally and among migrant cultural groups. Despite the demonstrable health risks, little is known about the patterns and predictors of tobacco use among diverse minority populations outside of

cigarettes and Western forms of smokeless tobacco. This study elucidates the unique spectrum of South Asian tobacco products used in the United States and, the social influences and cultural motivations for use. It also provides an essential starting point to develop relevant quantitative measures to evaluate prevalence and correlates of culturally-specific tobacco use among South Asians in the United States and other migration destinations. Understanding the contextual determinants of tobacco use among this community—and other understudied minority groups—will facilitate development of relevant quantitative measures for culturally-specific tobacco use and population-based estimates and correlates of *all* tobacco use, ultimately enabling the creation of appropriately targeted interventions. In order to reduce tobacco-related disparities among ethnically diverse populations, future studies need to ensure that socio-cultural contexts of tobacco use are critically examined and applied to program and policy creation.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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APPENDIX

As *Tobacco Control* readers may not necessarily be familiar with the tobacco items described in this manuscript, we have included a short slideshow with visual depictions of the culturally-specific tobacco products as an appendix. This presentation might be made available online to the electronic readership to supplement the written descriptions included in this paper.

All images embedded in this file were publicly accessible through the internet and are intended to be used for educational purposes.

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What This Paper Adds

The most significant health disparities impacting South Asians are tobacco-related conditions. Most tobacco use among South Asian populations is in smokeless form, involving a diverse array of chewable tobacco combinations, which often include areca nut, calcium carbonate, metal flakes, and other carcinogenic ingredients; smoking *bidis* and *hookahs* is as, if not more, popular than cigarettes. Wide variations exist in product use based on South Asian region, gender, and socioeconomic variables, and these behavioral patterns tend to persist among South Asians even after migration. Tobacco surveillance systems in both the native region and destinations of immigrant do not often assess the role of perceived health benefits or how social and cultural identity influence tobacco consumption.

This is the first study to qualitatively examine these factors among South Asian migrants in the United States. We found that incomplete knowledge and perceptions of health benefits, largely preserved from transmission through prior generations, play a highly influential role in the continued use of culturally-specific products within South Asian communities. This study also found that, for South Asian migrants, maintenance and expression of cultural identity in a new host society were significant factors impacting tobacco use. Global comprehensive tobacco control efforts must take into account cultural dimensions of tobacco use in native regions as well as in common destinations of immigration.

Table 1

Demographic Characteristics of Study Sample

Demographic Characteristics	N = 88 respondents	
	San Francisco Bay Area	Greater Chicago Area
	n = 47	n = 41
	Number (%)	Number (%)
GENDER		
Female	25 (53.2)	25 (60.9)
Male	22 (46.8)	16 (39.0)
ETHNIC ORIGIN		
India	19 (40.4)	15 (36.6)
Bangladesh	15 (31.9)	10 (24.4)
Pakistan	13 (27.6)	15 (36.6)
Sri Lanka	0 (0.0)	1 (2.4)
BIRTHPLACE		
Foreign-born	26 (55.3)	29 (70.7)
United States	21 (44.7)	12 (24.3)
RELIGION		
Hinduism	20 (42.5)	13 (31.7)
Islam	26 (55.3)	25 (60.9)
Sikhism	2 (4.2)	3 (7.3)
Jainism	1 (2.1)	0 (0.0)

Table 2

Culturally-specific South Asian tobacco products found in the United States

Scientific / Common Label (Alternative Terms)	Definition (including constituent ingredients)	Native Region of Use
SMOKED		
Bidi / Beedi (Biri)	Tobacco (usually sundried flakes or dust from dark tobacco leaves) with optional flavoring (vanilla, licorice, stawberry, cinnamon, chocolate, clove or other flavors) hand rolled and tied together in a dry green or brown tendu/temburni leaf and smoked without a filter.[1]	All of South Asia
Hookah / Hukka (Narghile / Arghile / Goza)	Apparatus from which charcoal-burnt tobacco smoke, often with added flavorings, is passed through water and inhaled through a tube.[8]	India, Pakistan, Bangladesh
SMOKELESS		
Guthka / Gutkha / Gutka	Mass-manufactured tobacco product (sundried or roasted) with betel nut, catechu, and added flavoring, finely chopped or ground in powder form and ingested through oral tissues or swallowed.[6, 8-10]	Bangladesh, India, Nepal
Niswar / Naswar / Nass ("Indian Snuff")	Sundried tobacco leaves, slaked lime, ash from tree bark, and flavoring and coloring agents are mixed together with water and rolled into balls; can be chewed or inhaled through nasal cavity.[9]	Pakistan, India
Paan (Bulath)	Slaked lime and catechu are smeared on a betel leaf, to which tobacco, betel nut, and flavoring is added; the funnel is folded over, resulting in a quid, which is placed in the mouth for use.[6, 9]	All of South Asia
Paan Masala	Commercial dehydrated preparation of areca nut, slaked lime, catechu, scented flavoring agents, and powdered tobacco; available in attractive packets for convenient portability; ingested through oral tissues or swallowed.[6, 8-11]	All of South Asia
Zarda (Dokta)	Flaked tobacco leaves boiled in water with lime and spices until evaporation, dried and colored with vegetable dyes, generally chewed mixed with finely cut areca nut and spices.[9, 10]	Bangladesh, India