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“Every disease...man can get can start in this cab”: Focus groups to identify South Asian taxi drivers’ knowledge, attitudes and beliefs about cardiovascular disease and its risks

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Abstract

Background—South Asian (SA) taxi drivers potentially possess a double epidemiologic risk for cardiovascular disease (CVD) due to their ethnicity and occupation. This study investigates SA taxi drivers’ knowledge, attitudes, beliefs about general health, CVD and approaches to reduce CVD risk.

Method—Five focus groups were conducted with 31 SA taxi drivers in the participants’ primary language (Bengali, Hindi, Urdu or Punjabi). Audio-recordings of the sessions were transcribed, translated and entered into ATLAS.ti 6.2 for coding and analysis.

Results—SA drivers in an urban setting perceive themselves to be at high risk for CVD because of high work-related stress, physical inactivity, poor diet and poor health care access. Participants attributed their occupation to increasing risk for heart disease; none believed that being SA increased their risk.

Discussion—Interventions to lower CVD risk among SA taxi drivers should be multi-level and involve the individual drivers and the taxi industry.

Keywords

cardiovascular disease; taxi driver; South Asian; immigrant; perceived barriers

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Prior presentations

None

CONFLICTS OF INTEREST

None of the authors have a conflict of interest.

INTRODUCTION

There were 232,000 taxi and limousine drivers in the U.S. in 2008 [1]. By 2018, this figure is expected to have increased by 16% [1]. The growing taxi driver workforce is at risk for poor health status, including increased risk for cardiovascular disease (CVD). In a study of Japanese taxi drivers, blood pressure was significantly higher during work-days than during non-work days, especially among hypertensive drivers [2]. The prevalence of myocardial infarction (MI), multi-vessel disease, and CVD risk factors were significantly higher among drivers than among age-adjusted non-drivers [3]. A taxi driver study in Beijing found an association between high particulate matter exposure and low heart rate variability, strongly predictive for CVD [4]. Los Angeles and New York City (NYC) taxi driver data highlight poor working conditions, high stress, safety fears and unstable income [5,6], all of which may exacerbate CVD risk. Further, studies demonstrate that more sedentary time is directly associated with increased CVD mortality risk [7] and with higher levels of triglycerides, increased insulin resistance and lower high-density lipoprotein (HDL) levels [8].

The U.S. taxi workforce is largely immigrant [9]. NYC has the largest number of taxi drivers in the country, and the highest percentage, 84%, of immigrant drivers [1, 9]. 40% of NYC drivers hail from South Asia, including India, Pakistan, Bangladesh, Sri Lanka and Nepal [9], reflecting the large, growing South Asian (SA) population [10].

SA taxi drivers potentially possess an epidemiologic “double risk” for CVD, stemming from their occupation and the increased CVD risk associated with SA ethnicity. Studies report a higher prevalence and younger age of onset of CVD, diabetes and metabolic syndrome in SAs, compared with Caucasians [11, 12]. The CVD rates in overseas Asian Indians worldwide are 50% to 400% higher than in other ethnic groups [13]. Indian immigrants to the U.S. have a high prevalence of CVD, diabetes, and low HDL cholesterol [14]. Asian Indians also have a 33% higher risk of coronary heart disease (5.2% vs. 3.9%; age-and-sex adjusted) [15] and at normal weight, an almost 300% higher risk of metabolic syndrome, a CVD risk factor [16]. In a study of 1,688 U.S. immigrant Indian physicians and their families, the age-adjusted prevalence of MI or angina among Asian Indian men was 7.2%, compared with 2.5% in the Framingham Offspring Study [14]. In addition to traditional risks, cultural (ie. the SA diet) and socio-economic factors contribute to increased CVD risk among SA immigrants [17–18].

Despite the significant CVD risk, no studies have explored knowledge, attitudes, and beliefs related to CVD and its risks, and barriers to reducing this risk, among this population. The concept of perceived barriers has long been an area of focus in many health behavior theories. Russell E. Glasgow, an expert in behavior change interventions, defines perceived barriers in his Logic Model of Role of Perceived Barriers as a person’s estimation of the level of challenge of social, personal, environmental, and economic obstacles to a specified behavior [19]. This focus group study investigates the knowledge, attitudes and beliefs held by SA taxi drivers’ about general health and CVD risk. The authors sought to answer the questions: How do SA drivers perceive CVD and its risks? What do drivers think increases or decreases their risk for CVD? What do drivers think about the role of lifestyle factors, including physical activity and diet, on modifying CVD risk? What are drivers’ perceived

barriers and facilitators to exercise and a healthy diet? Findings will contribute to the development of more informed CVD risk-reduction interventions for this vulnerable population.

METHODS

Focus groups were held with yellow cab and car service taxi drivers of SA origin. Five groups were conducted for a total sample of 31 male taxi drivers. Sampling was done until redundancy in data was reached. The drivers originated from India, Pakistan and Bangladesh and spoke Bengali, Hindi, Punjabi and/or Urdu.

To obtain a broad representation of SA taxi drivers, research staff approached drivers while they were awaiting passengers in NYC neighborhoods with the largest SA populations, Jackson Heights, Richmond Hill, and Brighton Beach [20]. These neighborhoods have many taxi stands, garages, religious centers, restaurants and community centers frequented by SAs. Drivers were given study information, including the purpose and what their involvement would entail. To encourage participation, drivers received an honorarium to replace income lost while attending the group. Inclusion criteria included: being male, over 18 years old, South Asian and a full-time NYC taxi driver. Contact information, including name and phone number, was obtained from drivers interested in participating. Participants who refused mentioned lack of time and needing to work as reasons. Research staff contacted community based organizations (CBOs) to identify potential sites to conduct the groups, and included a restaurant, the offices of three SA CBOs and a gurdwara (Sikh place of worship).

The study was approved by the Institutional Review Board of NYU (authors' affiliation at the time of the study). Informed consent was obtained from participants in their primary language. Each group was held in the language participants preferred, but was mixed with respect to country of origin. Focus group facilitators were fluent in English and the language preferred by the group. A focus group guide was used to elicit drivers' descriptions and perspectives on their work, overall health, knowledge, attitudes, and beliefs about CVD risks and prevention, in general and related to their occupation and ethnicity. Participants were also asked to share their perceptions of barriers and facilitators to exercise, healthy diet, and health care access and utilization. The research was framed to encourage open participation and honest opinions. Focus group facilitators communicated to participants that the purpose of the groups was to learn from their experiences to develop programs to reduce risk for heart disease in their communities. Focus group facilitators assured participants that their responses to the questions would not be judged in any way, there were no right or wrong answers, that the discussion was completely confidential, and that individuals would not be identified.

All groups were audio-recorded, transcribed and then translated into English by multilingual research staff. The translations were proofread by a second staff member to ensure accuracy. The data were analyzed using ATLAS.ti version 6.2 [21]. Each research team member generated a list of initial themes using inductive analysis. These themes were compared for similarities and differences. Differences were resolved by group consensus. These themes

were used as codes for ATLAS.ti. The transcripts and notes were coded by all of the authors. Once the coding was assigned, the transcripts were re-read and disagreements in coding were resolved by group consensus. All authors reviewed the final themes and results to ensure that they adequately represented the data.

RESULTS

Participant Characteristics

Demographic data based on eligibility requirements are described in Table 1. 42% of participants were yellow cab drivers and the remaining participants were car service drivers. Participants originated from India (42%), Pakistan (32%), and Bangladesh (19%). Participants spoke Bengali (16%), Hindi (26%), Urdu (26%) and Punjabi (42%) as their primary languages.

Glasgow's definition of perceived barriers suggests that factors in addition to 'objective' barriers affect an individual's perception of barriers, including perceived threats, perception of available social support, and the physical environment [19]. Participants were asked questions related to CVD risk, including: "What do you think puts you at greater risk for getting heart disease?"; "As a taxi driver, what do you think of your risk/chances of getting heart disease?"; "How do you think being a taxi driver, *and* being SA affects your risk/chances of getting heart disease?". Many participants reported that their occupation was the root cause of increased stress, lack of exercise and poor diet, which increased their risk for CVD. Across all groups, the most frequently occurring themes (in decreasing order) were stress, job dissatisfaction, job-related health problems, lack of exercise, facilitators to exercise, unhealthy diet, knowledge of heart disease and prevention, and lack of healthcare access. Participants in all groups shared similar perspectives on the key themes that emerged, although there were some differences. For example, yellow cab and car service drivers described work differences that contributed to slightly higher stress among yellow cab drivers.

Stress

Although the topic of stress was not specifically included in any of the focus group questions, participants in all groups spontaneously highlighted high levels of occupational stress as their greatest barrier to overall and heart health. Customer harassment, personal safety and robbery fears were most frequently reported. A driver from the Urdu-speaking group noted, "Black or yellow [both car service and yellow cab drivers], when I switch on the radio, then every second or third day I hear the news that cabbie was killed, cabbie was assaulted, cabbie was robbed". Twelve-hour workdays, six days a week, also contributed significantly, as did high taxi lease costs coupled with low, unreliable income. Many were not earning enough and "need to work long hours to break even or even make profits". Drivers in all groups took few breaks during their shifts, to maximize income. Participants across groups also mentioned that the lack of public bathrooms contributed to stressful working conditions. A dearth of parking spaces near bathrooms led to fears of getting costly parking tickets. Bengali and Punjabi-speaking participants amplified the stress associated with getting tickets, "one parking ticket means day's income is gone".

Yellow cab drivers indicated higher levels of stress than car service drivers, who described greater flexibility in hours and scheduling, longer breaks, and more free time to socialize. The belief that stress plays a role in CVD risk emerged when participants were asked the questions described above related to risk for heart disease as well as the question, “What prevents you from doing more exercise?”. Participants believed that stress increased their CVD and stroke risk and lowered their exercise motivation. “When you have tension [stress], sorry but you do not like anything. You do not like exercise nor do you like your body at that time”. Both the Urdu and Hindi-speaking groups believed stress was the main hypertension precipitant. This belief surfaced when participants were asked, “There are a number of conditions/behaviors (‘risk factors’) that may increase your chances of getting heart disease – such as physical inactivity, obesity and overweight, hypertension, diabetes, high cholesterol, and smoking – what do you think of these conditions and how they affect your chances of getting heart disease?”. Previous studies have also described the belief in the role of stress in both CVD risk [22–23] and hypertension [24] among SAs.

Bengali-speakers did not mention work-related stress until asked about heart disease risk, at which point all stated that work-related stress levels increased their risk. Nearly all participants agreed that exercise helped lower stress. One participant, however, felt that exercise “does not lower stress and instead tension (stress) lowers the most when a person has free time, meets with others, socializes”.

Job dissatisfaction

All participants expressed job dissatisfaction. They felt stuck in the occupation, without opportunity to change. There was a nearly unanimous opinion that they would take another job if possible. In the context of the discussion focusing on diet, exercise, and CVD risk, one participant described, “Cab driver is driving for seven days. Unable to share time with family. Unable to take out time for his exercise. Unable to take out time for healthy food”.

Participants within all groups wanted legislative changes and government-mandated improvements. Urdu and Hindi-speaking drivers were most vocal about reducing lease fees to enable more humane work hours, without income loss. One driver proposed mandatory driver health insurance. Drivers initiated this topic of discussion themselves, there were no specific questions posed related to policy change.

Job-related health problems

Participants described health problems they and others faced: musculoskeletal pain, diabetes, hypertension, vision problems, kidney problems, stress, bladder dysfunction, prostate disease, digestive problems, obesity, appetite loss, constipation and ulcers. All believed that being a taxi driver was the source, “every disease that a man can get, can start in this cab”. Not using the bathroom enough was the most frequently reported contributor to health problems. Several participants across groups described the onset of kidney problems associated with infrequent urination, “Because you don’t have facilities at most places where you can stand and urinate. And because of that, ...a lot of taxi drivers I mean get kidney problems”. Two diabetic participants in the Punjabi-speaking group felt the problem is more severe for diabetic drivers who need to urinate more frequently. Working long hours, sitting

for extensive periods of time, repetitive use of one arm and one leg, poor diet, and lack of exercise were cited as instigators of health problems. Punjabi-speaking participants felt that as first-generation immigrants and breadwinners, their priority was to financially support their families, not their health, “sometimes we start thinking so much about money that we forget about our health”.

Lack of exercise

To further explore lowering CVD risk, participants were asked about physical activity. Almost all described little to no physical activity. Barriers to exercise (in decreasing frequency) included lack of time, exhaustion, not seeing exercise’s value, no facilities or opportunity to exercise at work, and low motivation. A Punjabi-speaking driver also mentioned safety fears, “there are many neighborhoods where you cannot go for a walk at night. Someone like me, with a turban and beard, people do not like it when I go outside”. The other participants nodded in consensus when the driver made this comment. A participant in the Hindi-speaking group described the challenges of walking in the airport holding lot while awaiting customers, “a few people try to walk on the footpath but we can’t leave our taxi. If the dispatcher is around, he tells us to sit in the taxi”. Another described an additional challenge to exercising during a break, “They say/think “why this fool is doing it? Now he will sweat and then he will smell and then customer will fight with him”.

Among participants who reported some physical activity, walking was most popular, followed by yoga. Exercise patterns changed upon migration to the US. All participants exercised in their native countries; after immigrating they became more sedentary.

Facilitators to Exercise

Participants offered that the SA media, including newspapers and television, could effectively disseminate exercise information. Hindi-speaking participants felt that restaurants were the best place to disseminate information. Other ideas included placing an exercise reminder sticker in the cab, and lowering lease fees so drivers could work fewer hours. Some said they would be interested in joining a walking club if they had more time. Key exercise intervention sites included airport holding lots, taxi stands, restaurants and religious centers. Education was identified as an important motivator by the Punjabi-speaking group. These drivers also believed that “if a community leader says something, it will make a bigger impact. Most of the gurdwara leaders are drivers”.

Unhealthy diet at work

Nearly all drivers regularly ate unhealthy food at work, including fast food, “\$6 food platters from carts”, “soda”, “heavy, greasy food from restaurants”, “We are eating junk food, 99%”. The participants mentioned meal irregularity in their typical workday, often eating late at night. There was a general consensus that their dietary habits were resulting in weight gain and increased CVD risk. Healthy food was perceived as inaccessible, expensive, and bland.

Knowledge of heart disease and prevention

Participants were asked about their understanding of heart disease (the term ‘heart disease’, not ‘CVD’ or ‘cardiovascular disease’ was used). Participants described heart disease as “a

pain on the left side, arm, chest”, “blockage in the heart”, “heartbeat is irregular”, “high blood pressure”, “is a heart attack”, “problem with the heart valve, when the valves close up” “too much headache from thinking”, “happen when we don't exercise”, “biggest cause is mental stress”.

Drivers were probed about whether or not driving a taxi increases CVD risk by the questions, “What do you think puts you at greater risk for getting heart disease?”; “As a taxi driver, what do you think of your risk/chances of getting heart disease?”; “How do you think being a taxi driver, *and* being SA affects your risk/chances of getting heart disease?”. All participants voiced that driving a taxi increased CVD risk. One participant stated that it “means 80% chance of getting heart disease”. None felt that being SA increased their CVD risk.

CVD risk factors were believed to be, in decreasing order of frequency, stress, not exercising, hypertension, driving a cab, high blood sugar (diabetes), unhealthy diet, obesity, high cholesterol, smoking, depression, overwork, alcohol, eating late and constipation. Exercise, ‘eating lettuce’, socializing and praying were described as lowering CVD risk. A few participants also felt that additional public bathrooms, parking spaces and lowering the cost of the taxi lease would help prevent CVD.

Lack of healthcare access

Over half the participants had health insurance. Most cited lack of insurance as an important barrier to healthcare. “Nobody goes to a doctor if they do not have insurance. They only go to the doctor when they have an emergency and the ambulance needs to take them. Nobody pays out of their pocket to get a checkup.” They described not being able to afford primary care visits yet being ineligible for Medicaid.

All participants, except for one, described a positive experience with their doctor. Many stated that their doctors encouraged them to exercise, lose weight and eat better. In general, participants felt that although lack of health insurance deterred them from seeing a doctor, they would still go to the doctor if they were at risk for heart disease.

DISCUSSION

This study demonstrates that SA immigrant taxi drivers perceive themselves to be at greater risk for CVD and other health problems due to inter-related barriers that include high work-related stress, lack of physical activity, poor diet, infrequent urination (due to lack of bathroom facilities), and poor healthcare access. While all drivers believed that driving a taxi increased their risk for CVD, drivers also reported becoming more sedentary after immigrating to the U.S., in addition to the demands of their new occupation. Some participants, as immigrants and breadwinners, described their priorities being to support their families, not their health. For some, SA cultural priorities emphasize the importance of men spending most of their time providing for the family, leaving insufficient time for ‘leisure’ activities such as exercise [25]. While not uniquely SA (and none of the participants believed that being SA in and of itself increased CVD risk), this is a barrier that many SA men relate to [25–27]. Patel et al. describe that pride is taken in a strong work ethic, and

there is almost an expectation to forego health and exercise for work and family; especially among migrant SAs who have made significant sacrifices to secure better lives for their families, exercise for men is often viewed as taking time for oneself and seen as culturally inappropriate [25, 26].

As Glasgow suggests, it is important to address perceived barriers to encourage meaningful changes in behavior. To deliver health care to diverse populations, the perceived knowledge, attitudes, and beliefs about health and sickness shared by the targeted community need to be incorporated in health interventions. Our participants described both physiological and psychosocial CVD risk factors. Although there is limited research on this topic, previous studies among the general SA population have identified similar findings: SA immigrants reported stress and spiritual issues in addition to biomedical factors as CVD risks [22–23]. The current study supports these findings, but also provides greater data on a subpopulation within the SA community with high job-related stress.

Study limitations, including a small sample size and the possibility of participant self-selection, could have encouraged common responses by similar groups and inflated the frequency of themes. Non-participants could have been healthier than participants and chose not to participate because they saw little benefit. Alternatively, non-participants could have been less healthy and felt embarrassed to participate, leading to an underestimation of CVD risk. Also, the majority of participants in the current study were forty years or older; responses among younger drivers may have been different. Each language-specific group was not saturated individually until redundancy in response within each group was reached. Rather the groups were saturated collectively until redundancy in response across groups was achieved. Differences in occupational demands reported by yellow cab and car service drivers suggests that focus groups specific to each group could have demonstrated different views. Future qualitative studies with SA taxi drivers should explore saturation within cab-specific, language-specific, ethnicity-specific, or even religion-specific or acculturation-level specific groups.

This study also has several strengths and important conclusions. The focus groups were facilitated by SAs in the participants' primary languages, which encouraged participation, and captured greater response detail and richness. Furthermore, participants originated from different SA countries and spoke multiple languages, reflecting the heterogeneity within the SA community.

This study's results suggest that culturally and linguistically tailored multi-level interventions targeting taxi drivers, the taxi industry, and health systems would be most effective in lowering CVD risk. Given the time and physical constraints of the taxi driver occupation, and the work ethic and cultural priorities common among immigrant SA men, creative strategies to provide greater access to health care, wellness resources, and peer support are needed. In response, the authors of the current study have developed health fairs held at airport holding lots, to facilitate driver access to screening for CVD risks, risk reduction counseling, insurance assistance, primary care, and community resources. Additionally, pedometer interventions are used to increase physical activity. This concept of occupationally-based health fairs has the advantage of addressing health risk in a setting that

is tied to drivers' beliefs about causation, and overcoming many of the logistical barriers to accessing care. It also has the potential for further expansion into health promotion programs, such as walking groups at the holding lots. The inclusion of the taxi industry is essential for the success of this type of intervention. Also, an expansion of health systems' hours of operation would enable better access by community members with extended work hours.

Further in-depth qualitative and quantitative studies on the mental health and stress levels of SA taxi drivers should be conducted to help refine services targeting this large at-risk population. Strategies that are tailored to the unique circumstances of the growing population of SA taxi drivers could improve their health and potentially that of their families, and could be a model for CVD risk reduction among other hard-to-reach occupational groups.

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References

1. Bureau of Labor Statistics. USDOL Taxi Drivers and Chauffeurs. Bureau of Labor Statistics, U.S. Department of Labor; Available at: <http://www.bls.gov/oco/ocos245.html>. Accessed March 3, 2011.
2. Kobayashi F, Watanabe T, Watanabe M, et al. Blood pressure and heart rate variability in taxi drivers on long duty schedules. *Journal of Occupational Health*. 2002; 44:214–220.
3. Kurosaka K, Daida H, Muto T, et al. Characteristics of coronary heart disease in Japanese taxi drivers as determined by coronary angiographic analyses. *Ind Health*. 2000; 38:15–23. [PubMed: 10680306]
4. Wu S, Deng F, Niu J, et al. Association of heart rate variability in taxi drivers with marked changes in particulate air pollution in Beijing in 2008. *Environ Health Perspect*. 2010; 118:87–91. [PubMed: 20056565]
5. Blasi, G., Leavitt, J. *Driving Poor: Taxi Drivers and the Regulation of the Taxi Industry in Los Angeles*. Los Angeles, U.S: UCLA, Institute of Industrial Relations; 2006.
6. Project, CD. *UNFARE Taxi Drivers and the Cost of Moving the City*. New York, NY: Urban Justice Center; 2003.
7. Katzmarzyk PT, Church TS, Craig CL, Bouchard C. Sitting time and mortality from all causes, cardiovascular disease, and cancer. *Medicine and science in sports and exercise*. 2009; 41(5):998–1005. [PubMed: 19346988]
8. Healy GN, Matthews CE, Dunstan DW, Winkler EA, Owen N. Sedentary time and cardio-metabolic biomarkers in US adults: NHANES 2003–06. *European heart journal*. 2011; 32(5):590–7. [PubMed: 21224291]
9. Consulting S. *The changing face of taxi and limousine drivers, US, large states and metro areas and New York City*. Schaller Consult Brooklyn; Available at: <http://www.schallerconsult.com/taxi/taxidriver.pdf>. Accessed December 2010
10. Center AAFoNYCI Census Profile. *New York City's Asian American Population*. Available at: www.aafny.org/cic/briefs/newyorkbrief.pdf. Accessed December 8, 2010.
11. Anand SS, Yusuf S, Vuksan V, et al. Differences in risk factors, atherosclerosis, and cardiovascular disease between ethnic groups in Canada: the Study of Health Assessment and Risk in Ethnic groups (SHARE). *Lancet*. 2000; 356:279–284. [PubMed: 11071182]

12. Cappuccio FP. Ethnicity and cardiovascular risk: variations in people of African ancestry and South Asian origin. *J Hum Hypertens*. 1997; 11:571–576. [PubMed: 9364274]
13. Enas E. SA Coronary artery disease in Asian Indians: An update and review. *The Internet Journal of Cardiology*. 2002; 1
14. Enas EA, Garg A, Davidson MA, et al. Coronary heart disease and its risk factors in first-generation immigrant Asian Indians to the United States of America. *Indian Heart J*. 1996; 48:343–353. [PubMed: 8908818]
15. Holland AT, Wong EC, Lauderdale DS, et al. Spectrum of cardiovascular diseases in asian-american racial/ethnic subgroups. *Ann Epidemiol*. 2011; 21:608–614. [PubMed: 21737048]
16. Palaniappan LP, Wong EC, Shin JJ, et al. Asian Americans have greater prevalence of metabolic syndrome despite lower body mass index. *Int J Obes (Lond)*. 2011; 35:393–400. [PubMed: 20680014]
17. Rao GH, White JG. Coronary artery disease: an overview of risk factors. *Indian Heart Journal*. 1993; 45(3):143–153. [PubMed: 8314266]
18. Jeemon P, Reddy KS. Social determinants of cardiovascular disease outcomes in Indians. *Indian J Med Res*. 2010; 132(5):617–622. [PubMed: 21150014]
19. Glasgow, R. Perceived Barriers to Self-Management and Preventive Behaviors. *Health Behavior Constructs: Theory, Measurement & Research*. Available at: <http://cancercontrol.cancer.gov/brp/constructs/barriers/barriers.pdf>. Accessed September 4, 2011.
20. Federation, AA. New 2010 Census Data Show Increasing Diversity in New York City's Asian Community. 2011. Available at: <http://www.aafny.org/press/pressrelease.asp?prid=126&y=2011>. Accessed September 20, 2011.
21. Development SS. , editor. GmbH SSD. ATLAS.ti version 6.2. Berlin, Germany: 2011.
22. Farooqi A, Nagra D, Edgar T, et al. Attitudes to lifestyle risk factors for coronary heart disease amongst South Asians in Leicester: a focus group study. *Fam Pract*. 2000; 17:293–297. [PubMed: 10934175]
23. Tirolkar MA, Baker DW, Khurana N, et al. Explanatory models of coronary heart disease among South Asian immigrants. *Patient Educ Couns*. 2010
24. Changrani J, Pandya S, Mukherjee-Ratnam BR, et al. Hypertension beliefs and practices among South Asian immigrants: A focus group study. *J Immigr Refug Stud*. 2011; 9(1):98–103.
25. Patel M, Phillips-Caesar E, Boutin-Foster C. Barriers to Lifestyle Behavioral Change in Migrant South Asian Populations. *Journal of immigrant and minority health / Center for Minority Public Health*. 2011; Epub 2011/12/20. doi: 10.1007/s10903-011-9550-x
26. Lawton J, Ahmad N, Hanna L, et al. 'I can't do any serious exercise': barriers to physical activity amongst people of Pakistani and Indian origin with Type 2 diabetes. *Health Educ Res*. 2006; 21(1): 43–54. [PubMed: 15955792]
27. Darr A, Astin F, Atkin K. Causal attributions, lifestyle change, and coronary heart disease: illness beliefs of patients of South Asian and European origin living in the United Kingdom. *Heart & Lung*. 2008; 37(2):91–104. [PubMed: 18371502]

TABLE 1

Demographic Characteristics of Participants

N = 31	n (%)
Type of Cab	
Yellow	13 (42)
Car Service	18 (58)
Gender	
Male	31 (100)
Age	
18–40 years	8 (26)
41+ years	23 (74)
Country of Birth	
India	13 (42)
Pakistan	10 (32)
Bangladesh	6 (19)
Refused to respond	2 (6)
Primary Language *	
Hindi	10 (26)
Urdu	10 (26)
Bengali	6 (16)
Punjabi	13 (42)

* Some participants indicated more than one primary language