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Immigrating to the US: What Brazilian, Latin American and Haitian Women Have to Say About Changes to Their Lifestyle That May be Associated with Obesity

Alison Tovar,

John Hancock Research Center on Physical Activity, Nutrition, and Obesity Prevention, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, 150 Harrison Avenue, Boston, MA 02111, USA

Aviva Must,

John Hancock Research Center on Physical Activity, Nutrition, and Obesity Prevention, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, 150 Harrison Avenue, Boston, MA 02111, USA; Department of Public Health and Community Medicine, Tufts University, 136 Harrison Avenue, Boston, MA 02111, USA raymond.hyatt@tufts.edu

Nesly Metayer,

John Hancock Research Center on Physical Activity, Nutrition, and Obesity Prevention, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, 150 Harrison Avenue, Boston, MA 02111, USA

David M. Gute,

Civil and Environmental Engineering, School of Engineering, Tufts University, 200 College Avenue, Medford, MA 02155, USA david.gute@tufts.edu

Alex Pirie,

Immigrant Service Providers Group/Health, c/o Somerville Community Corporation, 337 Somerville Avenue, 2nd Floor, Somerville, MA 02143, USA apirie@somervillecdc.org

Raymond R. Hyatt, and

Department of Public Health and Community Medicine, Tufts University, 136 Harrison Avenue, Boston, MA 02111, USA raymond.hyatt@tufts.edu

Christina D. Economos

John Hancock Research Center on Physical Activity, Nutrition, and Obesity Prevention, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, 150 Harrison Avenue, Boston, MA 02111, USA

Abstract

Our goal was to explore the perceived determinants of obesity in Brazilian, Latin American and Haitian women. This is part of an ongoing community-based participatory intervention. Focus groups by immigrant group were conducted and themes extracted. Women expressed differences in beliefs, attitudes, and barriers regarding diet and physical activity in the US versus their home country. Participants thought food in the US is “less natural,” there is less time for preparation, and there is more variety. The weather is a barrier to physical activity in the US and work is more

physically demanding. Job-related efforts were not considered physical activity. They reported higher levels of stress, less control of their time and less social support in the US. Providing immigrants with appropriate support and education early in the acculturation process has the potential to help prevent obesity.

Keywords

Immigrants; Lifestyle changes; Obesity; Diet; Physical activity

Background

Overweight and obesity increases with length of stay among immigrants in the US [1–13]. In 2009, approximately 37.1 million immigrants were accounted for, and it is projected that nearly one in five Americans will be an immigrant by 2050 [14, 15]. Immigrants experience socioeconomic inequalities, differentials in health, life expectancy and mortality [13, 16]. Furthermore, chronic disease risk factors such as obesity, physical inactivity and poor diet have contributed to these disparities [13, 17, 18]. Given these inequalities, observed in the US obesity epidemic, it is crucial to understand the lifestyles of high risk populations in order to address modifiable risk factors, as well as to inform policies and programs that may aid in prevention.

The rise in weight experienced by immigrants with increased length of residence in the US may be caused by a combination of financial, linguistic and societal stressors encountered during the process of acculturating to a new country [19]. Although changes in diet and activity patterns are fueling the obesity epidemic worldwide [20], it has been recognized that exposure to and residence within the US “obesogenic” environment, which is characterized by readily available, energy dense, palatable, inexpensive foods and limited opportunities for physical activity, likely contributes to weight gain [1, 3, 8, 11, 21–30]. Despite the high prevalence of obesity and positive association of weight gain with increased length of residence in the US in immigrant populations [31], little is known about the modifiable risk factors for weight gain in recent immigrant women from Brazil, Spanish speaking Latin American countries (in particular from South and Central America) and Haiti. Each of these ethnic groups has different beliefs and traditions relating to body size and diet, but reviewing this information is beyond the scope of this paper. It is worth noting however, that these women are immigrating from developing countries, where historically, among marginalized and peasant classes, obesity was seen as an indicator of affluence whereby the wealthy were able to afford ample, energy-dense food, although this pattern may be changing [32]. Our goal was to explore the perceived determinants of obesity in these women. In particular, we encouraged discussion about their beliefs and attitudes about diet and physical activity levels in the US versus their home country, as well as identification of barriers to a healthful diet and physical activity.

Methods

Study Setting, Participants, and Recruitment

The work completed for this study is part of Live Well, a randomized controlled lifestyle intervention, developed and implemented through community-based participatory research (CBPR) [33, 34]. The central premise is that an appropriately timed intervention, co-created by community partners and academic researchers, can prevent excess weight gain in newly arrived immigrants (<10 years in the US). Participants in our study are mothers with a child between the ages of 3–12, arriving from Haiti, Brazil, and Spanish-speaking Latin American countries (primarily from El Salvador, Colombia, Guatemala, Dominican Republic and

Honduras). These three populations constitute the major immigrant groups in the northeast [35, 36]. A steering committee was established at the onset of the project, and consists of a professionally and culturally diverse membership, including project staff; Tufts researchers and students representing different specializations and leaders from five community organizations that work with immigrants in Somerville, MA. The community-university relationships were built prior to Live Well through two CBPR projects in the Somerville area; Shape up Somerville [37] and the Somerville Community Immigrant Worker Health Project [38, 39]. At the end of Shape up Somerville, community partners identified the need to address obesity among immigrant populations.

We conducted three focus groups to inform the Live Well nutrition and physical activity intervention, one in each language (Portuguese, Spanish and Haitian-Creole) yielding a total of 25 women at community agencies in Somerville, Massachusetts, a densely populated, highly diverse city 5 miles north of Boston. Women were recruited for the focus groups via flyers in each of the three target languages posted in community agencies throughout Somerville. Interested participants called the contact number of a bilingual/bicultural interviewer who explained the study aims, and administered a brief screening questionnaire to determine eligibility. Focus group participants were required to meet the following criteria: (1) aged 22–55 years, (2) resident of Somerville, MA, (3) had a child between the ages of 3–12, and (4) immigrated to the US less than 7 years ago from Brazil, Spanish speaking Latin American countries (central/south America) or Haiti. The focus groups were stratified by language/country of origin and included: Portuguese (n = 3), Spanish (n = 11), and Haitian Creole (n = 11). The Tufts University Social, Behavioral and Educational Institutional Review Board reviewed and approved all aspects of the study.

The content of the moderator guide (see Table 1) used to lead the focus group discussions was informed by three key informant interviews with community leaders from Brazilian, Spanish speaking Latin American countries and Haitian communities, and discussions with community partners and university investigators. Focus groups were moderated by trained, bilingual moderators and lasted approximately 1 h. A second research team member took notes, operated the digital recorder, and provided logistical support. During the focus groups, open-ended questions were posed to stimulate discussion. Digital recordings were transcribed verbatim and transcripts translated for analysis. Upon completion of the groups, moderators and note takers convened to debrief and discuss their initial reactions and thoughts. The approach was largely deductive [40]; a priori hypotheses were rooted in current literature which observes that certain obesity related health behaviors change with length of stay in the US. A framework of selective acculturation, that individuals make personal choices about the ways they will or will not change with length of stay in the US, further informed hypothesis formation [41]. We hypothesized that patterns of diet, physical activity, stress, and sleep, all modifiable risk factors associated with obesity, would differ between the US and the home country. Specifically, we expected that some of these behaviors would change and deteriorate following exposure to a more “obesogenic”, fast paced environment. For example, we expected that mothers would report less consumption of fruits and vegetables and higher consumption of energy dense, convenient foods, less time for food preparation, sleep and physical activity and higher levels of stress. The analysis of the transcripts was completed in two phases. First an independent researcher trained in qualitative data analysis identified concepts and themes in the transcribed and translated narratives [42]. In this first phase, a hypothesis driven approach was taken; the coding guide was based on the moderator guide questions. The second phase of the analysis applied a community– based, participatory research approach. Themes and concepts from phase one were reviewed and discussed by the steering committee and additional concepts and themes that could have been missed or miscoded by researchers with less extensive experience with the immigrant communities included. During this process, an additional

theme emerged, and was discussed and interpreted, resulting in consensus to add this theme to the results [43].

Results

Focus group participants self-identified as Spanish speaking Latin American (central/south America), Brazilian or Haitian, and met all inclusion criteria. The corresponding themes from the focus groups, and representative quotes, are presented in Table 1.

Response Theme: In the Home Country, Food is “Healthier” Because it is More Natural but There are Issues with Food Safety

Women across all three groups felt the food they consumed in their home countries was healthier because it was less processed and contained fewer chemicals. Women shared their experience of growing their own foods in their home countries, or of buying foods in local markets where produce was fresh and not frozen (like in the US). Although most of the women felt their food was healthier back home because it contained less chemicals, more vitamins and fewer preservatives, they also felt the food in the US was more hygienic and safer to eat. The Spanish speaking Latina women also discussed differences in taste between their home country food and US food. Although they said many of the foods they had in the US were similar to what they could get in their home countries, the food did not taste as good.

Response Theme: There is More Time for Food Shopping/Food Preparation in Our Home Country

Another common theme that emerged around the topic of food was that there was more time for food preparation and food shopping in their home countries. The time constraints due to maintaining a job, taking care of children, and dealing with other pressures in the US does not allow for time to prepare foods or to spend much time food shopping. Also, changes in their job schedules from their home country prevented them from spending time preparing or eating food together. Due to these time restraints women reported eating more convenient and fast food.

Response Theme: There is More Diversity of Foods in the US and Differences in Food Prices Compared to Their Home Country

All of the groups mentioned that there was more food diversity in the US. The Spanish speaking Latina women, in particular, had a lengthy discussion about the differences between the sizes of supermarkets here in the US as compared with their home country, and how they could find so many different types of foods in the US. In addition to greater food diversity in the US, the Spanish speaking Latin American mothers felt that certain foods were more expensive; in particular, the “healthier” foods such as fruits and vegetables. In contrast, the Brazilians felt they had the economic means to buy food in the US, and that food in Brazil was more expensive. The Brazilian women also discussed the greater exposure to fast food in the US and their concerns with obesity related to this.

Response Theme: There is More Work-Related Activity in US (Not Necessarily Perceived as Physical Activity)

Women were asked if they thought there were differences between their level of physical activity in their home country and in the US. The overall theme was that there was less work to be done in their home country, and that the work-related activities they performed in the US were tiring and strenuous. In this context, the types of work-related activities they had were associated with fatigue and exhaustion. The Brazilian women, in particular, most

frequently mentioned working to clean houses in the US, but not considering this type of work to be “true” physical activity. For them, this work was often associated with work injuries and inappropriate physical positioning.

Response Theme: The Weather in the US Can be a Barrier to Engaging in Physical Activity

Women from all the groups discussed how in the US they had to think about the weather all of time, especially during the winter. They felt the weather affected both their own and their children’s physical activity.

Response Theme: Women Don’t Sleep as Well in the US Due to Stress or Busy Schedules

The majority of women from all groups mentioned having a decrease in sleep quality and quantity compared to what they experience in their countries. Women attributed this change to their high levels of stress and busy schedules in the US. They also mentioned that the lack of family and social support prevented them from being able to take time off from work or to rest or sleep when they needed it. In addition to stress and busy schedules, the Spanish speaking Latin American women mentioned different work schedules, and that the night shifts interfered with their sleep routine.

Response Theme: There is Less Control Over Their Time in the US, with Higher Levels of Stress and Less Social Support

Throughout the focus group discussions, high levels of stress and lack of time were frequently mentioned by all of the groups. The type of job, the financial obligations and their work hours contributed to the women feeling stressed and not having control over their time. Participants characterized their lives in their home country as not being as busy and as having other people, especially family members, available to help out with different household chores and childcare. Three Spanish-speaking women mentioned how in this environment, they had gained weight. Two Brazilian women also shared their immigration status as a source of stress, and how they lived in fear of being apprehended for immigration violations. Brazilian women also mentioned how they often felt depressed and lonely due to the lack of social support.

Response Theme: Childcare Arrangements, School-Related Activities, and Seeking Services are More Stressful in the US Compared to Their Home Country

Women stated that having children was a source of stress because they were often worried about them, and the type of care that could be provided for them while they were at work. They also felt an enormous burden of taking care of their children on their own without family members, who provided emotional support, like in their home countries.

Another theme that emerged was that school-related activities here in the US may be a source of stress. This stress was discussed in the context of not having a good relationship with the school or lacking relationships with the other parents. One woman shared her frustration with the school due to language barriers. In particular, all of the Haitian women felt annoyed about how the schools were managing their children’s problems compared to their home country. This, they said, created a lot of stress. Women also felt significant stress around receiving services such as the Supplemental Nutrition Assistance Program (SNAP; previously “food stamps”).

Discussion

We found that recent immigrant women in this sample articulated differences in their beliefs, attitudes, and perceived barriers to eating and activity in the US, as compared with their home countries. In particular, they thought food in the US is less “natural”; there is less

time for food preparation; and there is more food diversity as compared to their home country, which may be associated with more high energy dense foods [44]. With respect to physical activity, all three groups reported the weather was a barrier to engaging in physical activity in the US, and that although their work is more active in the US; they do not necessarily consider it to be physical activity. Finally, all of the group's report higher levels of stress, less control over their time, and less social support in the US as compared to their home country.

Recently, studies have focused on specific immigrant groups, rather than broad categories of race and ethnicity, and demonstrated that the risk of obesity increases with time in the US [31]. One explanation for undesirable weight gain observed may be changes in dietary patterns [1, 11, 28, 29, 45]. Our qualitative findings support this, inasmuch as women expressed clear differences in their food consumption patterns between the US and their country of origin. In particular, we found that women believe the food from their home country is more "natural" and that food preparation time is limited in the US, which leads to higher consumption of fast and prepared food. One study of immigrant Latin Americans from Central and South America found similar findings; women described greater accessibility to fresh fruits and vegetables in their home country, and indicated that food quality and availability in their native countries were more conducive to a healthy diet [46]. Our results are similar and suggest that recent immigrants from Brazil and Haiti, where the literature is extremely limited, share some of the same beliefs that food in their home country is less processed. Participants also put a greater emphasis on the increased availability of fast food in the US where as compared to their home country is inexpensive and readily available.

A change in physical activity habits represents another possible contributor to weight gain in immigrants. It remains unclear whether physical activity increases or decreases the longer immigrants live in US. Research to date suggests different associations depending on the type of physical activity studied. For example, some studies have found a positive association between length of residence in the US and level of leisure time physical activity [3, 8, 23, 24, 47], while non-leisure time physical activity (occupational, transportation-related, and household-related), seems to be negatively associated with acculturation [22, 25–27]. Other studies have not differentiated between leisure time and non-leisure time physical activity and found that with higher degree of acculturation there are higher levels of physical activity [3, 8].

Women in our study reported that the work they do in the US is more tiring and strenuous, possibly due to the types of jobs they hold. In particular, Brazilian women felt the physical expenditure required as a house cleaner did not "count" as physical activity. Koya and Egede [8] found that with length of time in the US, immigrants may be less likely to be sedentary, although they may not be aware of this shift. This differs from other studies that distinguish between leisure time and non-leisure time physical activity. Observed differences may also be due in part to differences in acculturation and physical activity across immigrant groups; as most of the studies, have been completed in Mexican populations [3, 23, 24]. It is worth noting that in the context of physical activity, these immigrant women often alluded to the high amounts of physical work, and repetitive movements, which may be associated with work injuries. This is similar to other research, which found that foreign-born individuals are significantly more likely to be injured while working a paid job than a US born person [48]. Future work in immigrant populations needs to clearly differentiate between types of physical activity and address the working conditions of immigrants, as they are highly changeable, and could be associated with overweight and obesity [49].

The term, “acculturative stress” has been described in the literature as the “psychological, somatic and social difficulties that accompany the adaptation to the new culture” [50]. This stressful transition has been shown to influence the physical and mental wellbeing of Latin American immigrants, with separation from family and lack of community cited as the most common stressors [51]. Our findings are consistent with the provided definition of acculturative stress in that respondents stated they lacked social support, and perceived they had less control over their time than prior to immigrating to the US. A study completed with Latin American mothers in Boston reported similar results to ours, wherein mothers reported leading increasingly busy lives with little time for much else, such as preparing foods [46].

Several limitations of our study should be noted. Although we conducted three focus groups, we were limited to one focus group per ethnic group, and the Brazilian group size was smaller than the others. Nonetheless, even with the limited number of groups, we were able to identify commonalities and differences between groups in the areas of diet, physical activity and stress. Second, although we restricted our sample to recent immigrants (<7 years), we did not gather information on the precise time of residence in the US, and thus could not assess the influence that increasing years in the US may have on contributors to obesity. Finally, those who seek to use these results should carefully examine the procedures, methods, and analysis strategies to decide to what degree this study might be applied in another situation. We expect that the larger themes generated from these groups may be transferred as opposed to the specific behaviors.

Conclusion

Among our sample of recent immigrant mothers we found clear differences between their diet and physical activity behaviors, beliefs and attitudes as a result of moving to US. It appears that living in the US is characterized by more stress and less social support, and with less time to shop for and prepare healthy food. Despite engaging in a great deal of work-related physical activity, Brazilian women did not consider this energy expenditure to be physical activity. Future studies should explore both work-related and leisure time physical activity in relation to the process of acculturation. Given the scarcity of studies on determinants of obesity in immigrant populations, a better understanding of time management strategies and perceptions of time in relation to diet and physical activity is needed to help inform future interventions with recent immigrants. Future interventions aimed at prevention of obesity in these populations should also ensure that social support, stress management, and time allocation are addressed and discussed. Given that immigrants make up a large percentage of the US population and are at risk for obesity with increased time of residence, it is important to intervene on individual modifiable risk factors early in the acculturative process. Our results informed our current intervention; the steering committee decided that there would be group sessions, whereby participants’ individual acculturative experiences are shared while raising awareness about the US’s “obesogenic” environment and how to navigate it. Through these groups, our work also focuses on improving social support systems where women can have an opportunity to share their experiences with changes in lifestyle behaviors, while receiving education about nutrition, physical activity, and stress management. Appropriate support and education early in the acculturative process may help prevent future obesity among recent immigrants to the US.

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Table 1

Concepts/response themes created from focus group narratives

Response themes	Selected quotes from participants	Questions from moderator guide
<i>The food available to the participants and their dietary habits are different in the US than in their home country</i>	<p>Latina: "Here they grow things with more chemicals- I think. In our countries things are more natural. The food in our countries is grown from our own hands and here they use machines and the procedures to get food are different."</p> <p>Brazilian: "It changed because when you work in Brazil, you are sure that from 11 AM to noon is your lunch time. And I clean houses here, so I am not able to have lunch some days. I eat in the car, driving from one house to another and it is very fast sometimes because the houses are close to each other"</p> <p>Haitian: "The way we eat in Haiti is really different from the way we eat here. For example in Haiti you take more time to prepare the food and we use a lot of spices"</p>	<p>1. How would you describe the food you eat in the U.S.? What is the same or different about it? Why?</p> <p>2. Tell us about some of the differences between shopping in an American grocery store compared to your home country. What are some of the challenges about shopping in an American grocery store? What is different about the types/kinds of foods? Tell us about how you pay for food – do you use Food Stamps; credit cards, etc.?</p>
<i>The participants' physical activity and exercise levels are different in the US than they were in their home country</i>	<p>Latina: "But here in terms of exercise, you are always cleaning...there isn't a day that goes by that I don't clean and if it is not at home it is at work"</p> <p>Brazilian: "But I believe that it does not make you move a lot (house cleaning)... many people say that cleaning houses is a physical activity, but it seems to me that it is not the same if you go to the gym"</p> <p>Haitian: "Here, we work harder than in Haiti. When you have a child we have to work, to take care of the child, and to do everything. In</p>	<p>3. How physically active are you on a typical day? How much movement are you getting now versus where you were living before? Does the weather influence your activity level?</p> <p>4. Do you think of your job as physical activity? Why or why not? How do you think physical activity is different than exercise?</p>
<i>There is more work-related activity in US (not necessarily perceived as physical activity)</i>	<p>Latina: "But here in terms of exercise, you are always cleaning...there isn't a day that goes by that I don't clean and if it is not at home it is at work"</p> <p>Brazilian: "But I believe that it does not make you move a lot (house cleaning)... many people say that cleaning houses is a physical activity, but it seems to me that it is not the same if you go to the gym"</p> <p>Haitian: "Here, we work harder than in Haiti. When you have a child we have to work, to take care of the child, and to do everything. In</p>	
<i>The weather in the US can be a barrier to engaging in physical activity</i>		

Response themes	Selected quotes from participants	Questions from moderator guide
<p><i>Sleep habits are different here in the US compared to the participant's home countries</i></p> <p>Women don't sleep as well in the US due to stress or busy schedules</p>	<p>Haiti: "I had a child but I had people to take care of everything"</p> <p>Latina: "Here it is much harder because if you don't get a job during the day, you have to work at night... and we all know that the best sleep is at night"</p> <p>Brazilian: "It seems to me that you have more tranquility to sleep in Brazil. I can tell it for myself... I have to leave my son at school on time and pick him up later. I have to do everything I have to do during the period he is at school. So, you are very busy, your body gets too tired"</p> <p>Haitian: "In the US we don't have the time to sleep. We go to sleep late, we wake up early. So we sleep more in Haiti because we are not that busy"</p>	<p>5. How does your quality of sleep now compare with where you were living before? Better? Worse? Wake up more/less frequently?</p>
<p><i>Time management and levels of stress are different in the US compared to their home country</i></p>	<p>Latina: "Here you have to fend for yourself. People are very independent"</p> <p>Brazilian: "It is much more stressful here. When I was in Brazil I did not know what it was to go to a doctor. I never had the need to be seen by a doctor before. I just did not need it. Now I am depressed. I went to see a doctor today because my arm is hurting as a consequence of overworking, according to the doctor. It is too much stress, many health problems"</p> <p>Haitian: "In Haiti, people like being together. For example, on Sunday, people go to church together. When they come back, they prepare food. They enjoy staying on the table together. Here it is a question of work, work, and work"</p>	<p>6. Do you feel you have a lot of control over how you spend your time? Why or why not? How is this different than before you came to the US?</p> <p>7. Tell us about your stress level now compared to when you were living in your home country. When I say "stressed" I mean how frequently you are anxious, tense, or have difficulty breathing</p> <p>8. Tell us about your work out of the home. How do you get to and from work? Is it different here in the US than in your country?</p>