

Exploring barriers and access to physical activity in a Mississippi African American community: a qualitative study

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ABSTRACT

Background: This study was designed to examine the level of participation in physical activity (PA) in a Mississippi African American community.

Methods: We selected the Metro Jackson Area comprised of Hinds, Madison and Rankin Counties because it is a combination of urban and rural communities. The sample consisted of 70 participants from seven sites. A total of seven focus groups were asked to respond to five questions and statements to assess physical activity participation: Focus groups consisted of 6–12 participants and were asked to comment on their participation in physical activity. The focus group interviews were digitally-recorded. The recorded interviews were transcribed by a professional transcriptionist.

Results: Focus group members were aware of facilities that were available in their communities to facilitate physical activity. They also cited the built environment as a contributing factor in the decision to participate or not participate in physical activity. They feel that interventions to target inadequate physical activity should target the safety of the physical environment and personal and social correlates of PA.

Conclusion: Sustaining physical activity and exercise routines continue to be a challenge to many individuals, and particularly in African American communities where opportunities and facilities for large scale organized exercise may be limited. It may be up to individual African American communities to devise and manage intervention programs that include regular physical activity as a deterrent to the spiraling rise in obesity and cardiovascular disease.

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Introduction

The prevalence of overweight and obesity can be attributed to many factors such as genetic, metabolic, behavioral, socio-economic influences, and built environment characteristics. For risk factors that are modifiable, preventive interventions can be initiated [1]. Physical activity (PA) is one of those interventions that can help reduce negative outcomes resulting from obesity and overweight [2]. PA is equally as important as good dietary practices in maintaining healthy weight and improving health status, and environmental

factors play a major role in accessing PA opportunities and contribute to obesity-related behaviors [3]. Public health professionals have been advocating the importance of creating opportunities for PA at worksites, coalitions, agencies, and communities in an attempt to change the local environment to increase the opportunity for PA [4]. Some of the recommended changes to improve health status include creating walking trails, building exercise facilities, or providing access to existing facilities. People residing in many low-income communities and minority ethnicities are adversely affected by

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obesity and other risk factors for cardiovascular disease (CVD) because their communities offer limited opportunities for their families to become physically active [5].

There is overwhelming evidence that PA has numerous physical, health, and emotional benefits [6]. According to the United States Department of Health and Human Services [7], regular PA can improve the health and quality of life of Americans of all ages, regardless of the presence of a chronic disease or disability. Communities of color and low-income communities face challenges because many of them live in areas where PA facilities are less likely to be available, or accessible.

The American Heart Association has described sedentary lifestyle as a major risk factor for CVD. If PA is increased among households and communities, the chance of having a heart attack or experiencing a negative health outcome, like a stroke or some other chronic disease, could be significantly decreased. Weight loss for some individuals can lead to a reduction in blood pressure and cholesterol levels, particularly the low-density lipoprotein level. Regular PA and exercise can have positive effects on overall cardiovascular health [8–11].

There are ethnic and cultural differences that impede participation in PA of community members [12,13]. Additional obstacles to participation in PA include: a lack of time and energy, and caregiving. Some women have indicated that the absence of a safe place to exercise or walk is a major obstacle that hinders them from participating in PA. African American and Hispanic women have mentioned the lack of a safe place to exercise as an obstacle more often than white women [14]. This is because access to exercise facilities and availability of organized exercise opportunities are limited in the neighborhoods in which they live. African-American women resist participation in PA because PA takes away valuable time they would normally devote to family and church commitments [13]. Many African American women have concerns about the effect exercise has on their hair and as a result they avoid engaging in any form of PA because they fear that their hair-style could be affected by perspiration [15].

Lower-socio-economic status and high-minority communities experience reduced access to facilities, and this situation is associated with decreased PA and increased overweight [3]. The prevalence of CVD and obesity can be attributed

to the experiences of daily living [16–19]. There is a need to understand the experiences of African Americans relating to exposure and access to PA, and their motivation and encountered barriers to participation. Understanding their experiences can facilitate the development of sustainable solutions, like policies and intervention and prevention strategies to target the rising prevalence of CVD. Through qualitative data collection, it is possible to examine relevant contextual variables in the Mississippi communities [20]. The purpose of this study was to describe the perceptions of African American community members regarding their experiences with PA (access, participation, and barriers) in order to build and broaden a synthesis of efforts to enhance an understanding of effective obesity and CVD interventions in African Americans.

Methods

Focus group participants and selection criteria

Data for this analysis were collected from 70 residents at seven sites in the Metro Jackson, MS Area (Hinds, Madison, and Rankin County, a combination of urban and rural communities) between May 2014 and February 2015. Seven focus groups were asked to respond to five questions that assessed their PA experiences (see Table 1). Each Focus group consisted of 6–12 participants who were also asked to respond to six demographic questions that provided a description of the characteristics of the participants. The number of focus group participants was determined when saturation was achieved. The sample of 70 participants represented six organizations: Organization Number 1 had 10 participants; Organization Number 2 had eight participants; Organization Number 3 had 13 participants; Organization Number 4 had two groups totaling 21; Organization Number 5 had 12 participants; and Organization Number 6 had six participants. The counties were selected due to their high rates of residents who were physically inactive [8]. Hinds County is the largest county in the state, and it is location in the state capitol. Madison and Rankin Counties are rapidly growing rural and suburban counties [10]. Participants were recruited by networking with community partners, local churches, fitness centers and local government entities as well as dissemination of flyers and announcements at churches, and town hall events within each of the counties.

Table 1. Focus group questions.

PA focus group questions
1. Indicate facilities that you have to exercise in your community
2. Describe any playgrounds, running tracks, or fields that belong to a school or educational facility in your community
3. Describe any sidewalks or bicycle lanes in your community
4. Describe your daily exercise activities
5. What are the barriers to PA in your community?

Focus group procedures

To elicit community members' perceptions regarding PA, the program administrators developed a Community Questionnaire designed to collect demographic data such as: county of residence; gender; age; income; education; and employment. An ecological model was used to design the questionnaire that was implemented via face to face interviews at the designated sites [21]. The focus group process comprised data collection about the community residents' perceptions of access, participation and barriers to PA.

A qualitative study design was selected because it was best suited to enable our researchers to strive for an understanding of the whole [11] by engaging the community members to explore their own needs and aspirations [12] in a manner that acknowledges the community as a unit of identity, a major principle of community-based participatory research [13]. Emphasizing the value of life among African Americans can effectively initiate discussions to address issues that improve the quality or quantity of life [14]. These focus group interviews allowed us to hear multiple voices at one sitting [15], and participants had an opportunity to discuss issues and question that built upon one another's answers.

Ethics statement

All community members gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Institutional Review Board at Jackson State University, Jackson, Mississippi, and the protocol was approved by the institutional review board (2014–2015). All participants were asked to complete and sign a consent form, thus abiding by the informed consent process. Participants were reminded that their participation was voluntary and provided instructions for protecting confidentiality.

Data analysis

We analyzed the focus group data using Interpretive Phenomenology in order to arrive at interpretive

descriptions of common practices and shared meanings that could reveal, enhance or extend our understanding of how participants perceived specific PA access, practices, motivation, and barriers. We adapted Diekelmann's seven stage process of data analysis [11]. Audio-recordings were transcribed verbatim into Microsoft Word (Microsoft, Albuquerque, NM). Similarities and differences in the different aspects of PA were identified within individual interview sites in the three counties (Organizations 1, 2, 3, 4, 5, and 6), and then similarities and differences were examined between counties (Hinds, Madison, and Rankin Counties). A data file worksheet, by setting, for each of the three counties (Hinds, Madison, and Rankin) was developed. Writing group members read through each county-specific focus group data file, and listed, on the worksheet, their interpretations for use in developing key themes for each focus group, according to the response to the questions. For this study, the data files were separated for interpretation according to the question addressed in the focus group sessions about PA. Writing group members reached consensus on their interpretations of the responses, and/or reconciled differences via discussion.

Results

Focus group demographics

A total of 70 focus group members participated in interviews about dietary practices and possibilities for healthy eating. They were from the three counties that encompass the Jackson Heart Study: Hinds ($N = 28$); Madison ($N = 27$); and Rankin ($N = 13$). We did not have county data for two participants. Of the 70 participants, 56 were female, 14 were male; we are missing gender data for one participant. Participants' ages ranged from 18 to 60 and over; most participants ($N = 30$) were age 60 and over, two-thirds (66%) were 50 years of age and older. In terms of income, we are missing data for eight participants; of the remaining 62, 20% earned less than \$21,000 per year. Income for slightly more than half of the participants ranged from \$21,000 to \$39,000 per year. Participants with incomes of \$40,000 to over \$60,000 per year totaled 16 (26.0%) (See Table 2).

Participants' educational levels range from some college experience to Masters' degrees or higher. For most participants (78%), their educational level ranged from some college to Masters' degree or higher, leaving 21% with a high school diploma, and one for whom we are missing data. While 30 of the 70 focus group participants were retired, 34 (49%)

Table 2. Demographics characteristics.

	Number	Frequency
Counties		
Hinds	28	40.0
Madison	27	39.0
Rankin	13	19.0
Missing	2	2.0
Gender		
Female	56	80.0
Male	14	20.0
Age		
60 and above		43.0
50–59		57.0
Income		
Less than \$21 K	12	17.0
	34	49.0
\$21,000–\$39,000	16	23.0
	8	1.0
\$40,000–\$60,000		
Missing		
Education		
Some college +	55	79.0
High school grad	14	20.0
Missing	1	1.0
Employment status		
Retired	30	43.0
Employed	34	49.0
Unemployed	3	4.0
Students	2	3.0
Missing	1	1.0

were employed, less than 5% were unemployed, two were students; we are missing employment data for one participant. All of the participants were from Hinds, Madison, or Rankin Counties, most were female 50 years of age and older. Fifty percent of the participants were retired and 50% of the participants were employed. Income for slightly more than half of the participants ranged from \$21,000 to \$39,000 per year.

Individually, each focus group question yielded a qualitative response. Data collected were linked to county attributes. In some cases, there was heterogeneity of perceived access to opportunities for PA within each county, and in other cases there was homogeneity of access and opportunity.

Community Members Perception of Access to Physical Activity

Location of facilities for physical activity in their communities

Focus group participants discussed accessible exercise facilities in their communities. They were able to identify some indoor facilities and some parks in area that can be utilized for PA and exercise. They mentioned a list of facilities such as gyms, health

clubs/clinics at local hospitals, and a Senior Center building. They also described exercise programs at churches and schools where residents can engage in exercise. Madison County, a suburban location with some rural characteristics, had more outside facilities for exercise, such as walking trails, parks and schools, followed by Hinds and Rankin Counties. The community members cited 14 locations in Madison County, four facilities in Hinds, comprising of urban areas with some rural characteristics, and three facilities in Rankin County, described as a rural location.

Existence of physical activity facilities

The focus group participants discussed walking and jogging areas, soccer fields that were available for walking and designated senior facilities that were available for use for these purposes. The participants identified playgrounds and tracks that were connected to schools, and provided details about where these facilities were located. They believed that the awareness of where these facilities are located may be a motivator for the elderly who have an interest in beginning an exercise routine. Hinds County and Madison County participants enumerated seven walking tracks and parks; Rankin County participants noted one outside facility. Madison County participants described 14 schools in their community that were available for PA. Hinds County respondents listed seven school facilities.

Availability of sidewalks

In Madison County, there were some sidewalks and biking lanes in most locations. Some community members from Madison County indicated that changes were being made in some parts of the county to make sidewalks and bike trails more available: “Madison is building up and putting sidewalks everywhere so you have somewhere to walk. There’s a bike trail down Pear Orchard, it’s a bike trail running past Ann Smith down by Natchez Trace.” Some responses indicated that sidewalks were community-specific: “There’s plenty of sidewalks in my community.” Overall, the prevailing response for Madison County was: “some sidewalks, limited walking trails.”

In Hinds County, there were limited sidewalks and biking lanes in most locations. For Hinds County, the prevalent response was characterized by the following: “No sidewalks, no bicycle, no walking trails, nothing, absolutely nothing.”

In Rankin County, there were no sidewalks and biking lanes in most locations. The Rankin County

response was: “No, none.” They emphasized that there are not adequate sidewalks or bicycle lanes in their communities.

Participation in physical activity

Hinds County focus group responses about their participation in PA ranged from 3 to 4 days a week to five times a day. Madison County respondents noted 5 or 6 days a week as their predominate response, with the minimum being three times a week, and the maximum twice a day, three to four times a week. Rankin, like Hinds, most often noted 3 days or three times a week. The community members were asked to provide information relating to their exercises practices. Most participants believed that exercise was the key to good health. However, while acknowledging the importance of exercise, they also noted that there are some community residents who have little difficulty offering excuses for nor participating in exercise on a daily basis. They related how, even though many individuals may be aware of their need for exercise, they do not take the initiative to engage in exercise. Those who engage in PA list the following as some of the activities they have adopted: walk, walk the dog, do yard work, tend to their flower gardens, and participate in boot camp and gym activities. The most prevalent form of PA across all focus groups was walking: “I walk in the garden,” or “I walk some even if it just be up the street,” or “I walk two and a half miles each morning,” or “I walk every day” or “I’m walking three miles about 3–4 days out of the week.”

Barriers to physical activity

The community members provided their perceptions of the barriers to PA in their neighborhoods. Even though the community members said that they believed that the majority of participants did engage in some type of exercise, they offered their opinion about barriers that may exist. Barriers to PA reported by the participants were: making excuses, age and problems with knees, work and scheduling problems, time, and just “not putting forth the effort to do it” (Table 3).

Table 3. Barriers to physical activities.

Personal barriers
Insufficient time to devote to PA
Unwillingness of community members
Family responsibilities
Built environment (parks, sidewalks for walking, bike trails, and playgrounds)
Presence of physical disabilities
Lack of availability of adequate facilities
Inclement weather
Being obese and overweight

Focus group participants across the tri-county region believed that “making excuses,” or “being their own barrier” and “barriers within” are reasons for not exercising daily. Excuses included: “It’s too cold”; “I just don’t want to” or “I think it’s because of my partner” or “I don’t have a gym membership.” Also, across focus groups, age and problems with knees were noted as mobility barriers. Additional barriers were “working too much” and “scheduling problems at work.” Time and “not putting forth the effort to do it” were also listed as barriers by the Madison focus group participants.

Most of the participants related that the weather is sometimes a barrier to their ability and willingness to exercise. Some of them reported that they exercise every day, except when there is inclement weather. Others remarked about the lack of self-motivation that removes the inspiration for them to participate in PA. There were still others who cited the lack of understanding about exercise as a barrier. For some others, age was a barrier to participating in exercise. Another barrier faced by some in the community was physical limitations.

Participants believe that many community members do not participate in exercise and PA because they work too much, do not have gym membership, or may be a single parent. Even for some people who have access to bikes and gym equipment, they do not participate because they are too lazy to change their sedentary way of life. According to them, some of the limitations may be self-imposed (Table 3).

Built environment

Factors relating to the built environment and the unavailability of adequate facilities served as barriers to PA. For participants from Hinds County, the availability of safe places to walk was an issue and a barrier to exercising.

Self-imposed limitations

For Rankin County community members, laziness, a lack of understanding of exercise, and a lack of understanding of the benefits of exercise were barriers to participation in PA.

Age and physical inability

For community members from Hinds and Madison counties, advancing age created limits on one’s ability to participate fully in physical activities.

Hinds county participants also believed that being overweight and obese were barriers to participating in PA.

For Madison County community members, the demands of work, unavailability of time, and being a single parent were the most prominent barriers to participating in PA.

Personal choice and excuses

Even though some Madison community members indicated that there were several opportunities for PA, there were others who felt that opportunities for PA were not available locally. Therefore, the choice to exercise was determined more by self-motivation to become engaged in PA. Hinds and Rankin counties' participants cited the fact that physical activities are sometimes limited by weather.

Discussion

There has not been widespread research conducted on PA in African American communities in Mississippi. Understanding correlates of PA in African Americans is important because of the high prevalence of CVD in Mississippi African American communities. Together, the responses to the five focus group questions help us to begin to explore the perceptions of access, participation, and barriers to PA, and experiences within the tri-county African American community. The authors extracted common themes and patterns from the data collected that described the experiences for each county-specific focus group to their access to PA. We presented the experiences using exemplars and narrative descriptions that outline how access, participation, and barriers to PA were experienced by the members of the focus groups in Hinds, Madison, and Rankin counties. We compared and contrasted the described experiences between/among focus groups in Hinds, Madison, and Rankin counties to determine their awareness of PA avenues and opportunities that exist in their communities.

There were some positive and encouraging information revealed by the community members concerning their knowledge about what was available for community use to allow PA. Focus group members were able to identify some exercise facilities and some parks in their area. Whether it's biking to work or taking the stairs, walking the dog or parking farther away from the store, being physically active offers countless benefits. Participation in regular exercise can facilitate better health status and reduce the prevalence of obesity. Even with this knowledge, many people do not participate in daily activity. There are many

reasons why community members do not engage in PA. The built environment that includes parks, playgrounds, and other facilities are contributing factors to the decision of community members to engage in physical activities. Contrary to our findings, a study by Bungum et al. [22] stated that environment factors are not strong predictors of PA among African American Adults. In addition, the social environment plays an important role. This finding is supported by previous research [23] that proposed interventions that target urban African American women must address the safety of the physical environment and personal and social environmental correlates of PA. Programs should focus particularly on inactive individuals who perceive themselves to be in poor health and a lower level of education [23]. Supportive families and coworkers, for example, may make it easier for people to get up and get moving. Where we live, learn, work, and play appears to have a great deal to do with how active we are [24–26].

One strategy to help sedentary people from low-income and minority groups meet recommended levels of daily PA is implementing walking as a form of exercise [27]. Walking can help lower risk of obesity; each additional hour per day spent in a car is associated with a 6% increase in the likelihood of obesity [25]. The Centers for Disease Control and Prevention recommends that communities improve access to public transportation as an obesity prevention strategy, since better access to public transportation may encourage people to use it [28]. Public transportation is not very well developed in the three counties targeted by this study (Hinds, Madison, and Rankin Counties). So, this is one area that future policy decisions can accentuate the community's ascension towards the CDC's recommendations.

The amount of PA we get on a daily basis is sometimes determined by the environment and existing policies that can impact behaviors relating to PA. This is important for communities in Mississippi and elsewhere because lack of PA is a major risk factor for obesity. Policies can influence changes in the environment that could help turn around the obesity epidemic. Such policies could include the restructuring of buildings, streets, and communities to encourage walking and biking; new parks and playgrounds developed; and neighborhoods can be modified to make the community members feel safe. Communities can begin to explore creating spaces and places that promote PA [29].

Limitations

Limitations of this study include the convenience-sampling methods which could have resulted in selection bias and potential contamination bias. The strength of this study rests in the qualitative design with a community-based sampling approach that uncovered rich contextual data from which to analyze the findings.

Conclusion

Many of the participants believe that PA can improve health. Participants explored their perceptions of their health status (such as obesity), their observations of the environment and the challenges and barriers they face as well as their personal knowledge of the risk factors for development of CVD. They assessed their own health status and have been able to do so because many of them have participated in health education and health promotion activities provided by the Jackson Heart Study and their conclusions are based on the new knowledge they have acquired. Factors such as support from friends and relatives to become engaged in regular exercise can inspire community members to walk back and forth from churches and other walking destinations in their communities. The option to utilize facilities in area schools might also be an advantage to those community members who have an interest in engaging in PA. Even though the focus of this study is on African Americans, the results have broader implications and may apply to other populations [20]. People who are physically active live longer. They experience significant health benefits by increasing their ability to lower their risks for heart disease, stroke, type 2 diabetes, and other chronic diseases. Supporting a healthy lifestyle for the citizens of Hinds, Madison, and Rankin counties in Mississippi can facilitate the reduction of the prevalence of health risks that placed African Americans in Mississippi among the top of the communities with the highest degree of chronic disease in the nation. Creating a culture that supports active living will enable future generations of African Americans in Mississippi to change the current negative health trends into more positive ones.

The prevalence of CVD, obesity, diabetes mellitus, and hypertension is significantly higher in African Americans and is more closely related to physical inactivity in African Americans. The higher prevalence of these risk factors in African Americans is linked to the higher CVD mortality rate in African Americans compared to whites [30,31]. So, increased

PA can reduce risk factors that account for the high levels of CVD in the African American population. Sustaining PA and exercise routines continue to be a challenge to many individuals, particularly in African American communities where opportunities and facilities for largescale organized exercise may be limited. It may be up to individual African American communities to devise and manage intervention programs that include regular PA as a deterrent to the spiraling rise in obesity and CVD.

The present study provides relevant data on barriers to PA in African American adults in selected counties in Mississippi. This study has implications for developing strategies to increase PA. It is important for communities to devise promotion and intervention strategies based on the existing barriers. Addressing high rates of inactivity, obesity, and related chronic diseases among African Americans have become a priority. As rural communities in Mississippi incorporate more urban practices in their lifestyles, it is important that they acknowledge the important lessons learned from their more urbanized neighbors and they continue to promote availability and access to PA opportunities as a means of addressing the spirally prevalence of obesity and CVD.

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Author Contributions

All authors conceived the manuscript. Monique White, Clifton Addison, Donna Antoine-LaVigne, Frances Henderson, Dorothy McGill, and Brenda Jenkins undertook data analysis and conceived the presentation of results. Marinelle Payton, Donna Antoine-LaVigne, and Monique White drafted different versions of the manuscript. Monique White, Marinelle Payton, Brenda W. Campbell Jenkins, and Donna Antoine-LaVigne provided ongoing feedback and reviews concerning data analysis, interpretation of results, and write-up until final manuscript completion. All authors read and approved the final manuscript.

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