Journal of Extension
www.joe.org

June 2020
Volume 58
Number 3
Article #v58-3rb4
Research In Brief

Reducing Obesity in Rural Alabama: From Focus Groups to Community Coalitions

Abstract

With an adult obesity rate of 35.6%, Alabama is the second most obese state in the United States. Alabama Extension and the Centers for Disease Control and Prevention (CDC) joined in the first collaboration between the CDC and land-grant institutions to prevent further incidence and reduce the prevalence of obesity. The objective of our study was to determine perceived barriers and assets related to nutrition education, food retail, and physical activity in 14 rural counties in Alabama where adult obesity rates are greater than 40%. Extension formed community coalitions in the counties to help identify community-specific needs and strategies related to obesity prevention and reduction.

Keywords: focus groups, obesity, needs assessment, themes, Alabama

Onikia Brown
Associate Professor
Department of Nutrition, Dietetics, and Hospitality Management
onbrown@auburn.edu

Wayde Morse
Associate Professor
School of Forestry and Wildlife Sciences
Wcm0005@auburn.edu

Mitch Carter
Outreach Programs Specialist
Alabama Cooperative Extension System
Wmc0005@auburn.edu

Auburn University
Auburn, Alabama

Introduction

Alabama has the second highest rate of adult obesity in the United States, at 35.6% (Trust for America's Health & Robert Wood Johnson Foundation, 2015a); the ninth highest rate of high school obesity (Trust for America's Health & Robert Wood Johnson Foundation, 2015b); and the 11th highest percentage of obese children aged 10–17, at 18% (Trust for America's Health & Robert Wood Johnson Foundation, 2016). In 2014, the Centers for Disease Control and Prevention (CDC) identified 14 Alabama counties with 40% or higher adult obesity rates and partnered with Alabama Extension and Auburn University in its first collaboration with a land-grant institution to implement community-based strategies to decrease obesity. The majority of the counties the CDC identified are concentrated in a crescent-shaped region called the Black Belt that stretches across the midsection of Alabama from the Chattahoochee River in the east, westward to Mississippi. Those counties are Barbour, Bibb, Bullock, Crenshaw, Greene, Lowndes, Macon, Pickens, Sumter, and Wilcox. The term Black Belt originally referred to the region's rich, black topsoil, which supported a plantation economy. Although Chambers, Coosa, Cullman, and Escambia counties of Alabama are not considered part of the Black Belt region, these counties also were identified by the CDC as having 40% or higher adult obesity rates. The 14 high-obesity counties in Alabama are all primarily rural, low income, and African American.

Low-income families typically have diets that are high in fat, sodium, and sugar and low in fruits, vegetables, and whole grains—diets that contribute to obesity (Drewnowski, 2010; Drewnowski & Specter, 2004; Larson, Story, & Nelson, 2009; Monsivais & Drewnowski, 2007, 2009). Moreover, obesity rates are higher in rural America than in urban America (Trivedi et al., 2015) and are influenced by gender, race/ethnicity, and socioeconomic status (Hill, You, & Zoellner, 2014; Johnson & Johnson, 2015). Regular physical activity improves health and helps reduce rates of obesity, diabetes, and some cancers (Godbey, 2009). However, rates of low physical activity are higher in the southern United States as compared to the rest of the country and in rural areas as compared to urban areas (Sanderson et al., 2003). Behavioral and environmental factors such as food choices, culture, access to healthful foods, and opportunities for physical activity are dependent contributors to obesity (Chrisman, Nothwehr, Yang, & Oleson, 2014; Eikenberry & Smith, 2004; Greaney, Lees, Lynch, Sebelia, & Greene, 2012; Lee, Willig, Agne, Locher, & Cherrington, 2016; McGee et al., 2008; Ontai, Williams, Lamp, & Smith, 2007; Rolnick et al., 2009; Walsh, White, & Greaney, 2009; Whaley & Haley, 2008). Although these are general findings applicable to the target population, community-specific research is needed to implement the most acceptable community-based strategies for decreasing obesity.

The purpose of our study was to use community-based participatory research to identify community concerns and to determine strategies to reduce the inequality of obesity in the 14 Alabama counties.

Methods

Our project was approved by the Institutional Review Board of Auburn University. We partnered with community members and stakeholders in 14 communities in Alabama to implement characteristics of the community-based participatory research approach. We included community members and stakeholders to facilitate trust, identify resources, define barriers, and share assessment results (Israel et al., 2003). Extension personnel in each of the 14 communities participated in community events, led focus group recruitment, led focus group discussions, and organized community coalitions as part of the assessment phase in our community-based approach (Makosky Daley et al., 2010). The community coalitions that were formed are groups of people from the same community who focus on common goals.

Each of the 14 county Extension coordinators convened focus group discussions in their respective counties in February and March 2015. Community members and community stakeholders received invitations from the county Extension coordinators to participate in the focus group discussions. Individuals invited to the focus group discussions were encouraged to RSVP and to invite other community members who might be interested in participating. Individuals who were younger than 19 years of age or who did not live or work in the specified community were ineligible to participate in the focus group discussions.

A trained facilitator who was a member of our research team led the focus group discussions using a semistructured questionnaire to elicit discussion about perceptions of health in three areas: nutrition education, food retail, and physical activity. The facilitator read the consent form aloud and addressed participant questions and concerns. After receiving written consent from each participant, the facilitator audio recorded the focus group discussions. The discussion questions were adapted from previous community assessments (North Carolina Community Health Assessment Process, n.d.; Rockingham County Health and Human Services, 2012). Some of the questions asked during the focus group discussions were as follows: *What do you see as the major health-related issues in (INSERT COMMUNITY NAME HERE)? What*

are some things in (INSERT COMMUNITY NAME HERE) that cause community members to gain weight? Do you feel there are places in (INSERT COMMUNITY NAME HERE) for individuals to purchase healthy foods? (Probes: What types of places are available? Where are those located?) Where do people currently go for exercise? At the end of the discussion, focus group participants received a light meal and an invitation to become members of their respective community coalitions.

An external company transcribed the audio recordings of the focus group discussions. Trained personnel who were members of our research team used the NVivo qualitative data analysis package to determine overarching themes in each county using a series of thematic analysis procedures (Corbin & Strauss, 2008). First, the transcripts were read and summarized for familiarity. On the basis of the focus group summaries, our team members created a preliminary coding tree. Next, they searched all the transcripts for themes using the preliminary coding tree and discussed and, as appropriate, added new emerging codes. Our team members grouped the similar codes into themes, which led to the final coding tree. Members of our research team then presented a summary of the focus group research to each of the community coalitions to help the coalitions prioritize strategies to prevent and reduce the incidence of obesity in their respective communities.

Results

There were a total of 199 participants in the 14 focus groups: Barbour (n = 15), Bibb (n = 19), Bullock (n = 17), Chambers (n = 19), Coosa (n = 10), Crenshaw (n = 6), Cullman (n = 13), Escambia (n = 15), Greene (n = 18), Lowndes (n = 12), Macon (n = 15), Pickens (n = 11), Sumter (n = 15), and Wilcox (n = 14). We recognize that the majority of the focus groups were above the ideal maximum of 10 and that this circumstance poses a limitation to focus group discussions. To combat this limitation, the moderator made sure to acknowledge focus group members who had not had a chance to speak. In two of the counties (Bibb and Greene), the attendance was large and the location was big enough to accommodate two focus group discussions. On average, the focus group discussions lasted 90 min. Focus group members included local residents, community leaders, faith-based leaders, city planners, mayors, city clerks, principals, parks and recreation directors, department of human resources staff, local business owners, retirees, parents, and Extension staff. The focus group discussions were held in various locations, including churches, community centers, farms, public and private organization facilities, and Extension offices.

The focus group discussions, which centered on a community-based participatory research model, revealed community-specific information. They resulted in five topics with related themes that persisted in at least three of the discussions: major health-related issues, weight gain, nutrition education, food access, and physical activity. Themes related to major health-related issues included disease, medical facilities, and medical personnel. Themes related to weight gain included access to gyms, behavior, culture, cost of gym membership, food choices, inactivity, knowledge, and motivation. Themes related to nutrition education included funds, motivation, and support. Themes related to food access included community gardens, convenience stores, cost, farmers' markets, fast food, food pantries, groceries, and restaurants. Themes related to physical activity included fields, indoor facilities, outdoor facilities, parks, sidewalks, schools, and trails. Primary themes and supporting sample comments from the discussions are shown in Table 1.

Table 1.

Focus Group Discussion Topics, Themes, and Sample Comments

Topic	Theme	Sample comments
Major health-related issues	Medical facilities	"There are no 911 services really. I mean, we have 911, but we don't in Kellyton. If you call 911 here, you're looking at 15 minutes quickest for an ambulance ride."
		"We're an older population. We're very ancient here. And a lot of the older folks don't drive, don't have anything. So they can't get to the grocery store. They can't get to the hospital."
		"You don't have anywhere to get health care. We know we have a fire department that responds to us, but, you know, sometimes you don't want to have to drive the 13 miles to go and get the care or drive the 29 miles down to East Alabama Medical Center."
	Disease	"I can speak for the adults in saying hypertension, obesity, lack of physical activity. So this is—that has a huge effect here in this area."
		"Diabetes. I mean, I see it in children as young as 6 and 7 now. That's terrible."
		I'm concerned about the high rate of cancer in this community."
Weight gain	Access	"There's not a grocery store."
		"A lot of people aren't able to grow them [fruits and vegetables] themselves."
		"We need fresh fruit and vegetable where people can purchase them instead of having them just grow them themselves."
		"Without the small grocery store that provides it [fruits and vegetables], they are just going to eat whatever they can get at the Dollar General."
	Knowledge	"I think sometimes people eat like that because they don't know how to prepare, they don't know how to go out and grocery shop."
		"I find that people don't know the right time to eat. We eat late at night and go to sleep on it."
	Culture	"A lot of people walk around the hospital."
		"I think all family gatherings and church gatherings are centered around food."
		"Too much TV."
		"It's just the southern culture in general. We don't eat well."

		"Major health issues is, let me see, well, training people how to eat healthy."
	Motivation	"A lot of people don't want to do it [physical activity] by themselves. I don't want to do it by myself. I'd be motivated to get on the treadmill if I had somebody in my living room just holding the Coke away. I don't want to do it by myself, so maybe make teams."
		"We have a Community Life Center. We have a walking track. We have inside equipment. We have two weight rooms. For almost two years we were open from Monday through Thursday from 10 a.m. to 2 p.m., and we didn't have anybody, maybe 5 or 6 and some days we maybe had 10 people come and utilize the facility."
Nutrition education	Access	"We don't have the funds, the time, or the resources to implement programs to educate people about their health and what they can do to prevent it besides just going to the doctor."
		"Like I was saying, there isn't really a place where they can receive any type of information."
		"Educational information is present. It's just a matter of [whether] people will utilize it and do they know about it."
		"Yeah, that's one of the problems we face with trying to do nutrition education is that nobody wants to cook."
		"It seems like we have a lot of health fairs because I hear them talk about it on the radio."
		"The university, the schools—a lot of the children receive nutritional information through the schools."
Food access	Variety	"Well, there's a lack of options. There's the other real issue. The food here in town is the Piggly Wiggly. Lord bless them, they do the best they can, but they just don't have a wide selection of fresh vegetables and fruits. And it's not their fault, I guess, it's just people don't buy them. It's expensive to buy."
		"One of the big topics is not having a grocery store that actually gives you fresh produce . . . during the summer months, we do have people that come around and sell fresh produce, but that's not offered all year long."
		"One of my concerns, just being a transplant here, is the access to the fresh foods and the healthy foods because where I live at, I will meet maybe four or five fast food restaurants before I even reach a grocery store [where] I can get fresh produce. And then the places that I do have to shop that are close by are like a

		gas station. I have two Dollar Generals and a CVS and a Walgreens but no grocery store where I can pick up fresh produce."
		"About one fourth of the members of our community is transient, and they come from places where there are more food choices, and we are not tapping into them."
		"That's the thing around here—even [at] our little restaurants [where] we do have an opportunity to sit down and eat, there's no vegetables."
		"Well, the grocery store is limited to what they sell. So we have to go out of town sometimes to get things that they would not sell."
Physical activity	Availability	"We don't have the facilities to have a ball club."
		"There's not enough activities for children. Like when we mentioned that ball park, it needs to be upgraded so that we could use it year round."
		"We go to the cemetery or create your own [walking] path, like I created mine."
		"They don't have a gym here where you can go and have a membership and you can go and work with different equipment."
		"Because one of the things about Cullman is that it has very wide streets compared to a lot of other communities. So it seems like there's a natural running place [where] you can kind of feel safe if there isn't a sidewalk."

Discussion

The focus group discussions revealed both individual and community-wide behavioral and environmental factors contributing to positive and negative health outcomes regarding obesity within the 14 communities studied. Although the community members expressed the same concerns as those involved in other studies, it is important to assess each community separately and prioritize the community-specific concerns. The discussions were well attended and led to reconnections between community leaders, the exchange of information about new and existing efforts to prevent the incidence and reduce the prevalence of obesity, and the formation of 14 community coalitions.

Participants in each community expressed concerns about diet-related diseases, such as obesity, high blood pressure, heart disease, diabetes, and cancer, among their residents. These concerns seemed intensified by the lack of emergency services and medical and/or health facilities. Although outdoor space is plentiful in these rural areas, culture, self-motivation, and safety topped the list of barriers to healthful lifestyles. The community coalitions were instrumental in prioritizing needs and strategy implementation. The most common strategies implemented were enhancing or establishing community and school gardens (f = 30), installing outdoor and indoor exercise equipment (f = 15), and establishing farmer's markets (f = 10). Some other strategies included enhancing the safety of parks and trails, establishing multiuse

walking/biking trails, and installing playground equipment. Other strategies that required little to no funding included conducting tours of local farms, forming an exercise/wellness group, training farmers to accept produce vouchers, planting trees for shade, and creating healthful checkout aisles at grocery stores.

Conclusion

The focus group discussions described herein support the need for culturally relevant nutrition information and food preparation methods. Time, convenience, access, and cost are also important factors for Extension personnel to consider when developing obesity-related programs in rural, low-income communities. We confirmed existing and identified additional community-specific barriers to more healthful lifestyles using focus group discussions in the 14 rural, low-income communities in Alabama with adult obesity rates greater than 40%. Extension professionals can use existing community connections to build community coalitions to prevent and reduce the incidence of obesity. The community-based participatory method we used was successful and is applicable in other rural, low-income communities. Extension professionals can work with community members, stakeholders, and researchers to develop and/or expand farmers' markets, revitalize and/or update community parks, enhance and/or beautify walking trails, and offer more healthful snacks to bible school attendants (e.g., changing from juice to water). The successful attendance of the focus group discussions implies that Extension is an excellent conduit for facilitating the movement of bringing all sides of the community together for one cause.

Acknowledgments

Our project was funded by the Centers for Disease Control and Prevention. We would like to thank the Alabama Cooperative Extension System county Extension coordinators and regional Extension agents, Supplemental Nutrition Assistance Program educators and Expanded Food and Nutrition Education Program educators, and all the community members for help with our research.

References

Chrisman, M., Nothwehr, F., Yang, G., & Oleson, J. (2014). Environmental influences on physical activity in rural midwestern adults: A qualitative approach. *Health Promotion Practice*, *16*(1), 142–148.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc. doi:10.4135/9781452230153

Drewnowski, A. (2010). The cost of US foods as related to their nutritive value. *American Journal of Clinical Nutrition*, *92*(5), 1181–1188.

Drewnowski, A., & Specter, S. E. (2004). Poverty and obesity: The role of energy density and energy costs. *American Journal of Clinical Nutrition*, 79, 6–16.

Eikenberry, N., & Smith, C. (2004). Healthful eating: Perceptions, motivations, barriers, and promoters in low-income Minnesota communities. *Journal of American Dietetic Association*, 104, 1158–1161.

Godbey, G. (2009). *Outdoor recreation, health, and wellness: Understanding and enhancing the relationship.* Washington, DC: Resources for the Future.

Greaney, M. L., Lees, F. D., Lynch, B., Sebelia, L., & Greene, G. W. (2012). Using focus groups to identify

factors affecting healthful weight maintenance in Latino immigrants. *Journal of Nutrition Education & Behavior*, *44*, 448–453.

Hill, J. L., You, W., & Zoellner, J. M. (2014). Disparities in obesity among rural and urban residents in a health disparate region. *BMC Public Health*, *12*, E40.

Israel, B. A., Schulz, A. J., Parker, E. A., Becker, A. B., Allen, A. J., III, & Guzman, J. R. (2003). Critical issues in developing and following community-based participatory research principles. In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health* (pp. 53–76). San Francisco, CA: Jossey-Bass.

Johnson, J. A., & Johnson, M. A. (2015). Urban-rural differences in childhood and adolescent obesity in the United States: A systematic review and meta-analysis. *Childhood Obesity*, *11*(3), 233–241.

Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, *36*(1), 74–81.

Lee, L. T., Willig, A. L., Agne, A. A., Locher, J. L., & Cherrington, A. L. (2016). Challenges to healthy eating practices: A qualitative study of non-hispanic Black men living with diabetes. *Diabetes Education*, *42*(3), 325–335.

Makosky Daley, C., James, A. S., Ulrey, E., Joseph, S., Talawyma, A., Choi, W. S., . . . Coe, M. K. (2010). Using focus groups in community-based participatory research: Challenges and resolutions. *Qualitative Health Research*, *20*(5), 697–706.

McGee, B. B., Richardson, V., Johnson, G. S., Thornton, A., Johnson, C., Yadrick, K., . . . McCabe-Sellers, B. (2008). Perceptions of factors influencing healthful food consumption behavior in the lower Mississippi Delta: Focus group findings. *Journal of Nutrition Education & Behavior*, *40*, 102–109.

Monsivais, P., & Drewnowski, A. (2007). The rising cost of low-energy-density foods. *Journal of American Dietetic Association*, *107*, 2071–2076.

Monsivais, P., & Drewnowski, A. (2009). Lower-energy-density diets are associated with higher monetary costs per kilocalorie and are consumed by women of higher socioeconomic status. *Journal of American Dietetic Association*, *109*, 814–822.

North Carolina Community Health Assessment Process. (n.d.). *Community assessment guide book.* Retrieved July 2014 from www.healthycarolinians.org

Ontai, L., Williams, S. T., Lamp, C., & Smith, D. (2007). An integrative approach to addressing childhood obesity: Inclusion of parenting information in nutrition education programs. *Journal of Extension*, *45*(3), Article 3FEA2. Available at: https://www.joe.org/joe/2007june/a2.php

Rockingham County Health and Human Services. (2012). Community health assessment. Retrieved from https://www.rockinghamcountypublichealth.org/pview.aspx?id=27903&catID=415

Rolnick, S. J., Calvi, J., Heimendinger, J., McClure, J. B., Kelley, M., Johnson, C., & Alexander, G. L. (2009). Focus groups inform a web-based program to increase fruit and vegetable intake. *Patient Education and Counseling*, *77*, 314–318.

Sanderson, B. K., Foushee, H. R., Bittner, V., Cornell, C. E., Stalker, V., Shelton, S., & Pulley, L. (2003). Personal, social, and physical environmental correlates of physical activity in rural African-American women in Alabama. *American Journal of Preventive Medicine*, *25*(3 Suppl. 1).

Trivedi, T., Liu, J., Probst, J., Merchant, A., Jones, S., & Martin, A. (2015). Obesity and obesity-related behaviors among rural and urban adults in the USA. Retrieved from http://www.rrh.org.au/articles/subviewnew.asp?ArticleID=3267

Trust for America's Health & Robert Wood Johnson Foundation. (2015a). *Adult obesity in the United States.* Retrieved from http://stateofobesity.org/adult-obesity/

Trust for America's Health & Robert Wood Johnson Foundation. (2015b). *Study of high school students.* Retrieved from https://stateofobesity.org/high-school-obesity

Trust for America's Health & Robert Wood Johnson Foundation. (2016). *The state of obesity: 2016.* Retrieved from https://stateofobesity.org/files/stateofobesity2016.pdf

Walsh, J. R., White, A. A., & Greaney, M. L. (2009). Using focus groups to identify factors affecting healthy weight maintenance in college men. *Nutrition Research*, *29*, 371–378.

Whaley, D. E., & Haley, P. P. (2008). Creating community, assessing need: Preparing for a community physical activity intervention. *Research Quarterly for Exercise and Sport*, *79*, 245–256.
