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Elementary School Personnel's Perceptions on Childhood Obesity: Pervasiveness and Facilitating Factors

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Abstract

BACKGROUND—Researchers in numerous disciplines have investigated the effects of the school environment on childhood obesity, one of the greatest current health concerns in the United States. There is a gap in current empirical evidence, however, on school personnel's perspectives of this issue. This study examined school personnel's perceptions of obesity as a problem among school-aged children and their views on factors contributing to obesity.

METHODS—Thirty-one semi-structured interviews were conducted with elementary school personnel (teachers, administrators, and support staff) from 5 rural schools with a predominantly Hispanic (58.18%) and Black (30.24%) student population. The constant comparison method was used to identify emergent themes.

RESULTS—All but one participant considered obesity to be a problem among elementary children. Factors facilitating obesity most frequently cited by school personnel were home environment, poor nutrition, child control of dietary choices, child inactivity, and entertainment electronics.

CONCLUSIONS—Child control of dietary choices in both home and school environments was identified as a major contributor to obesity. Further exploration of this control is warranted to understand the complexity of this dynamic and its potential link to childhood obesity.

Keywords

Child & Adolescent Health; Health Educators; Organization & Administration of School Health Programs

Childhood obesity (CHO) is certainly one of the greatest current health crises in the United States: child obesity rates have more than doubled and adolescent rates have more than tripled over the past 20 years.¹ Overweight and obese children have a greater risk of numerous negative health conditions than their non-overweight peers.^{2,3} Additionally,

overweight children have a heightened risk of becoming obese adults, extending their risk of life-long weight-related health consequences.⁴

Researchers in numerous fields have investigated the effects of the school environment on CHO. The role of school personnel in addressing CHO within the school environment has also been explored.⁵ Elementary school staff's recommendations for managing weight-related issues at school have been addressed.⁶ However, the current empirical evidence lacks data on school personnel's perspectives on the pervasiveness and facilitating factors of CHO.

School personnel work closely with a large majority of the nation's children, providing "insider" expertise on this population. This direct access to students and their families is extensive, providing school personnel with direct knowledge of school influences and both direct and indirect knowledge about parental and home environmental influences on children. Such insider expertise is useful for "outsiders" (ie, the authors of this study) to gain access to influences on child health, including childhood obesity.

Socioecological Model and Childhood Obesity

Many health behavior theories and models may not be appropriate as applied to children. Unlike adults, children have little control over the context in which they live, learn and play. A socio-ecological⁷ approach to understanding and preventing childhood obesity allows for multilevel contexts specific to children to be studied, and then utilized for effective intervention efforts.⁸ Research findings as well as *Healthy People 2020* indicate that multi-level interventions show the most promise toward reducing childhood obesity rates.⁹

Community-Based Participatory Research

This study was one component of a larger, NIH-funded community-based participatory research (CPBR) project involving the development, implementation, and evaluation of a customized obesity prevention program for 4th graders in select elementary schools in the southwestern US. It focused on the development component of the project, intended to inform the implementation and evaluation phases, by eliciting "insider" experts' perceptions of the current state of CHO in their schools and the facilitating factors of CHO. CBPR is a useful avenue to acquire the insider information school personnel possess, allowing for joint collaboration and project ownership among "insider" experts (ie, school personnel) and "outsider" experts (ie, the authors).

The overarching research questions guiding this study were: (1) Do elementary school personnel perceive child obesity to be pervasive? and, (2) what are the facilitating factors of child obesity, according to elementary school personnel? As one component of a CBPR CHO prevention project, the findings guided the development of a school-based obesity intervention program for 4th graders. Therefore, whereas the current study may stand alone as an individual research study, its overarching purpose was influenced by the larger CBPR project.

Theoretical Framework

A naturalistic approach provided the best fit for this study because it allowed for an emergent research design not afforded by traditional research designs.¹⁰ Emergent designs do not require *a priori* theory use because no *a priori* theory could possibly anticipate the many views and beliefs held by research participants.¹⁰ Theoretical frameworks employed during planning stages of a study reduce the scope of inquiry by guiding (thereby limiting) what the researcher is looking for and, consequently, reduce the richness of data. To

facilitate “rich” data collection,¹⁰ we used theory in a more dynamic explanatory role,¹¹ as an end-point for an inductive approach.¹² We also used Bronfenbrenner’s ecological model of human development¹³ as a guide for interpreting data.

METHODS

All data were collected between March and May 2009. A phenomenological approach was best suited for this study’s purpose. Signed consent for participation and audio recording of interviews was provided by participants.

Participants

Thirty-one elementary school personnel participated in this study; 87% were women, and more than 50% were White (Hispanic and Non-Hispanic). Nearly half of the participants were 4th-grade teachers (N=15); the remaining were physical education teachers (N=4), school counselors (N=4), cafeteria managers (N=3), principals (N=2), school nurses (N=2), and an assistant principal (N=1). The 31 participants represented 5 elementary schools in a rural southwestern school district selected for a customized CHO prevention program. This school district served approximately 8000 students in 15 elementary schools. The racial/ethnic distribution of students in the 5 targeted schools was 58.18% Hispanic, 30.24% Black, 11.18% Caucasian, 0.36% Asian or Pacific Islander, and 0.04% American or Alaskan Native.

Instruments

A semi-structured interview protocol was developed for this project allowing for both predetermined questions and follow-up questions in response to participant answers. Fifteen predetermined questions were asked of each participant, with follow-up questions employed to clarify a participant’s response or to ask a participant to expand her response. The interviews educated personnel’s perceptions of: (1) the current state of child obesity (“Do you think that overweight or obesity is a problem among school age children?”), and (2) contributing factors of child obesity (“What do you think contributes to the overweight problems in children?”).

Procedure

Participants were recruited by email invitation; emails were first sent to their respective school principals, who then forwarded to their staff school-wide. Participants selected either their respective school or the researchers’ lab for the interview and were interviewed one-on-one at their chosen location by 2 doctoral-level qualitatively trained research assistants. Interviews were conducted between March and May 2009 and were audio-recorded with participant permission. Participants were compensated with a \$50 gift card to a local retailer.

Data Analysis

Audio recordings were transcribed verbatim. The raw data were separated and categorized by recurrent or significant themes with the constant comparison method¹⁰ by a 3-member analytic team consisting of the lead author and 2 qualitatively trained research assistants. Each member of the analysis team independently coded one interview, creating data cards with data segmented into words, sentences, or paragraphs. Comparisons of this single interview’s analysis followed to establish a working code book. Each member then coded 10 interviews independently, with the codebook, looking for common themes across interviews related to facilitators of childhood obesity. Team debriefings ensued throughout the process, and adjustments made to the code book as needed. When all interviews were coded on data cards, the team examined all data cards for fit within established codes and discrepancies

were discussed until 100% consensus was reached. Peer debriefing was ongoing throughout all stages of the analysis with a seasoned qualitative expert, to enhance trustworthiness. Emergent themes were further organized utilizing Bronfenbrenner's socioecological model,¹³ which includes 4 systemic levels of influence on human development: microsystems, mesosystems, exosystems, and macrosystems.

RESULTS

All but one participant (N=30) unequivocally considered overweight or obesity to be a problem among school aged children. A 4th grade teacher of a bilingual classroom was the sole participant who hesitated to label CHO as problematic for school-aged children. In response to the question, "Do you think that overweight or obesity is a problem among school-aged children?" the participant replied, "Not all students. There are some students that are kind of obese, there's some students that do play sports and that are very active so I think it's about half." This teacher further elaborated that CHO was less prevalent among the bilingual 4th grade students in her class than their non-bilingual peers: "I don't think it's much of a problem [child obesity] because they [bilingual students] do go to PE and [...] most of my kids are, they're like doing soccer, playing soccer, really going outside so I don't think it's as much of a problem [as opposed to non-bilingual students]."

When asked about the extent of CHO, 28 participants felt that it was a "big problem" among their elementary students with declarations that obesity was "definitely" or "absolutely" a problem. Three participants voluntarily estimated that more than half of their student population was overweight or obese. While nearly all personnel were aware that the school district measured the prevalence of obesity among elementary school students, only one participant (a school principal) recalled the rate for her school. This principal shared that 58% of her school's students were categorized as overweight or obese in the school's most recent health report card (from the previous school year), and estimated a 15% increase for the current student population.

The factors contributing to CHO most frequently identified by participating elementary school personnel were: (1) parents/the home environment; (2) poor nutrition; (3) child control of dietary choices; (4) child inactivity; and, (5) the prevalence of entertainment electronics. These five contributing factors will now be explored in depth.

Contributing Factor #1: Parents/Home Environment

Elementary school personnel believed that parents and the home environment had the largest impact on CHO. Specifically, parents were overwhelmed and unprepared to create a healthy, active environment for their children, according to personnel. They also cited a lack of parental knowledge and education related to healthy lifestyle habits and parental time constraints due to hectic work schedules as the leading causes of unhealthy diets and inactivity of children *within the home environment*.

"A lot of parents around here really don't know. They work all the time and so they really don't know what research says about what these foods are doing to their child, all they know is its cheap, it's what I can afford, so I get it. Its gonna keep them full" – *4th grade teacher*

"[There's] not a lot of parental involvement [at home]. A lot of our kids go home and they're there by themselves and money is left for them to go to the store...they are bring[ing] things back like...the big chips and the candy and the soda" – *4th grade teacher*

“You know, every once in a while you might see them [children] out walking or riding their bike or whatever, but most of the time they’re inside playing video games and eating [...] very unhealthy foods ‘cuz no one’s there to watch ‘em [at home]” – *school principal*

“Parents nowadays are working parents and a lot of times its fast food on the go, easy suppers for the kids especially with both parents working” – *P.E. teacher*
 “Because of their [parents’] time schedules, they are picking up fast foods; kids are snacking on junk food and making that [junk food] their meals instead of eating a well-balanced diet” – *school nurse*

Personnel also perceived that parents’ income affected the home environment and CHO rates; reporting money played a role in nutrition and physical activity. Multiple participants shared that low-income families can’t afford to purchase healthy foods, so they buy cheaper, unhealthier foods. Additionally, low-income families can’t afford extra-curricular activities for their children so these children are often left home alone while parents work, and are left to make nutritional and activity decisions for themselves.

Personnel also perceived that some parents of overweight children are in denial about their child’s weight and do not respond well to school personnel’s inquiries about, or offers of help with, their child’s weight. Multiple participants mentioned negative reactions of parents to the weight report cards sent home at the end of the school year. The weight report cards contain the BMI of children and are sent home to increase parental awareness of their child’s weight. Personnel voiced their concerns about some parents who reportedly did not want the school’s input on their child’s health, and did not perceive their child’s obesity as problematic.

Contributing Factor #2: Poor Nutrition

Most personnel (N=22) identified poor nutrition as a facilitator of CHO. Specifically, personnel identified a lack of home cooked meals, not eating healthy breakfasts, and an increased consumption of sugary foods, junk foods, processed foods, canned foods, sodas, and fast food as contributing to children’s unhealthy diets. The prevalence of fast food was especially prominent:

“What I see is a lot of my kids in fast food restaurants” – *school principal*

“McDonalds is like a play land to them [children]; its fun and cool to go to McDonalds and Burger King” – *4th grade teacher*

“Fast food is a problem. [During] our lunch program, we have parents that will come to eat with their children and bring in the fast food” – *school counselor*

Personnel overwhelmingly believed that the home environment contributed to the poor nutritional diets of children. Only 2 participants felt that school cafeteria foods were contributing to their students’ unhealthy diets; the majority felt that their schools were doing a good job at improving the nutritional quality of food served on campus. One participant identified cafeteria workers serving overweight students extra portions and the second participant felt that school cafeteria breakfasts contained too much sugar:

“[The] cafeteria lady sometimes will give kids extras...these kids are the ones that are already overweight” – *assistant principal*

“As for the school, I think, the food they give them [children] here is – in the morning for breakfast –it [has] too much sugar, jellies and syrups and things that are too sweet” – *4th grade teacher*

Contributing Factor #3: Child Control of Diet

Child-focused control of dietary choices emerged as a prominent theme, despite the lack of questions specific to control issues in the interview process. Participants felt that children had the power to decide what foods are purchased and what they consumed in myriad circumstances, and identified both school and home environments as places where children exert control over food selection:

“Parents are buying what the kids want, rather than what may be healthy for them”
– *4th grade teacher*

“And when parents are working, you know, kids go home alone and so they go straight to the cabinet and pull whatever is easiest and tastes best” – *school principal*

“When we give the kids apples and bananas and stuff they throw it away [in the school cafeteria]” – *4th grade teacher*

“I just know from what they bring in for lunch to eat along with their [school] lunch and sometimes they won’t even touch their [school] lunch and eat all the junk that they brought from home” – *4th grade teacher*

Contributing Factor #4: Child Inactivity

The majority of school personnel (N = 19) identified inadequate physical activity as a key contributor to CHO. They thought children led “sedentary lifestyles,” engaged in “too little exercise” and were, in general, “just not active at all”. Additionally, personnel perceived a decrease in child activity levels from previous generations:

“A lot of kids are just not being as active as they used to [be]” – *school principal*

“Just not as active as they were a long time ago” – *4th grade teacher*

A school nurse summed up fellow participants’ perspectives by stating, “[children] are becoming like couch potatoes at an early age of watching television and [...] they are just not getting enough physical activity.” Personnel perceived that child inactivity was partially due to children not wanting to engage in physical activity, particularly outdoor activities:

“Kids don’t want to exercise” – *4th grade teacher*

“Children prefer to stay here inside the classroom, to spend their recess here” – *school counselor*

“[Children] wanna be inside playing, doing that [playing on computers and video games] instead of going outside and playing” – *4th grade teacher*

“They don’t even get physical exercise at home and when you mention physical exercise, the kids cringe...” – *school counselor*

“They don’t want to go outside in the heat or the elements [to play]” – *school nurse*

Contributing Factor #5: Electronic Devices

School personnel reported that technology played a major role in the inactivity among elementary school children, namely televisions, computers, and gaming systems. They believed that children engaged in physical activities less frequently because of an increased access to entertainment-focused electronics. Personnel painted a picture of children remaining indoors, sitting in front of computer and television screens, rather than actively playing outdoors:

“Fewer kids are going to the parks and playing and riding their bikes. [The] computer age has taken over; [Nintendo] DS, guitar hero, taking up their time” – *PE teacher*

“They sit and play video games all day long” – *cafeteria manager*

“[There are] too many electronics [...] keeping kids inside and keeping them stuck to their TV playing their video game” – *school principal*

Children often preferred to play video games or play games on the computer over physical activity at school and home. When given the option between a physical activity and a sedentary activity, personnel believed children choose the latter. However, many children are left unsupervised at home while their parents work, and parents therefore instruct their children to remain inside for safety reasons. Confined indoors and left to their own devices, children entertain themselves by playing video games and watching television:

“Kids are having to stay home without their parents. They are being instructed to stay in the house, so they sit in front of televisions and computers and they don’t get out a play and exercise and run around and get physical activity” – *school nurse*.

“The [children] that do go home by themselves, they’re usually not allowed to leave the house so they sit in front of the TV, eating chips and playing video games” – *school principal*

DISCUSSION

We sought elementary school personnel’s input for the formative stages of our CHO prevention project. The current CBPR study explored personnel’s perceptions of the prevalence of CHO in their schools and their perception of CHO’s facilitating factors. We employed a qualitative approach because it allowed for flexibility in data collection not inherent in traditional research methods. Consequently, our investigation of participants’ perspectives was not constrained by a rigid, predetermined methodology; rather, the data were allowed to “grow” organically, resulting in richer findings.

Our sample of school personnel identified parents and the home environment as the most influential facilitators of CHO, which seems to suggest that school personnel frequently blame parents. Multiple participants cited that parental time constraints due to hectic work schedules led to unhealthy child diets. Because parents work late and don’t have time to prepare “home cooked” meals for their families, faster food options are selected. The resulting unhealthy diet of fast foods and processed foods contributes to CHO. Additionally, as many parents do not get home from their multiple jobs in time to eat with their children; dietary choices are often left up to the children. Such family feeding practices have been linked to overweight in children in previous studies.^{14–16}

From a health education standpoint, parental denial about their overweight children’s weight status and the association of weight and health is concerning. Previous research has found that parents who recognize that their overweight child’s weight is a health problem were more likely to be ready to make changes for their child.¹⁷ Parents who do not recognize the connection between their child’s weight and health status could benefit from weight-related health education. Personnel’s perception of a lack of parental knowledge and education of healthy lifestyles may partially explain parents’ denial. Therefore, to have successful school-based CHO prevention programs, educational programs for parents of obese or at risk children should be included.

Consistent with previous authors, we see the value in socioecological frameworks for “translating research findings to interventions designed to promote larger systemic changes affecting children’s health.”^{5(p. 134)} Bronfenbrenner’s ecological model¹³ was especially helpful in organizing and interpreting results. At the individual (child) level, our results show that personnel perceived child inactivity, unhealthy child diet, and child control of physical activity and food decisions as facilitating factors of CHO. Dietary and activity habits were widely associated with weight, but the identification of child control of these two major lifestyle decisions was less common. School personnel’s strong indication of the home environment and parental factors as contributors to CHO fit within Bronfenbrenner’s microsystemic level. This finding supports previous literature on environmental correlates of obesity with a similar ethnic population¹⁸ that reported a high correlation between home and parental variables and child weight but no significant correlation with school and community variables.

Only one factor fell within Bronfenbrenner’s exosystem level: technology. Personnel felt strongly that the overuse of entertainment electronics led to decreased physical activity among children, which contributed to obesity. Personnel’s identification of technology as a contributor to CHO, namely video games and television, is consistent with previous research. The association of watching television and children’s unhealthy food preferences has previously been reported,¹⁹ as well as a higher risk for obesity among both children and adolescents who spend more time playing video games.²⁰ What is not known, however, is whether children left home alone increase the amount of time spent playing video games, watching television and using computers recreationally. Future studies could examine the relationship between the amount of unsupervised time a child has and screen time with entertainment electronics.

Limitations

Qualitative methodologies are inherently constrained by time and context; therefore, results are not generalizable. However, the subjective experience of participants was accessible only through qualitative methods, and a transfer of ideas is possible to other populations in other settings. While our sample of participants was relatively diverse in terms of job position within our included elementary schools, our population was limited to one school district in a single geographical location and therefore may reflect a selection bias. Additionally, because of the voluntary nature of participation, results may be biased by perspectives of personnel willing to participate as compared to those who declined to participate.

Conclusions

Although researchers have explored the facilitating and inhibiting factors of CHO, very few studies have included elementary school personnel’s perceptions on the issue. This study served to assess personnel’s perceptions of the prevalence of CHO and contributing factors of CHO. The strategy of including school personnel in the modification efforts of school-based obesity prevention programs is consistent with CBPR approaches, and yielded useful information which may not have been uncovered using traditional research methodologies.

Of perhaps most import, personnel emphasized the effect of the home environment, including parental factors, on CHO. This suggests a need for a home/parental component in school-based obesity prevention programs, a finding consistent with the current literature.²¹ Moreover, the control children exert on dietary choices in both home and school environments was identified as a major contributor to CHO. Further exploration of this control is both warranted and necessary to fully understand the complexity of this dynamic and its potential link to CHO.

IMPLICATIONS FOR SCHOOL HEALTH

Our results have significant implications for school health, and highlight the importance of collecting information and garnering support from school personnel who are on the front lines. Perceptions of school personnel may have tremendous influence on the effectiveness of programs and policies. CBPR techniques should be continued to further explore the connection between school and home environments to inform CHO prevention efforts. Given the influential nature of parents and the home environment on child weight, the impact of school-based weight-related interventions may depend on the successful incorporation of both parents and the home environment. Commensurate with CBPR approaches, the community – in this case the school personnel – must be involved on the front end toward the development of solutions. Failure to do so may impact intervention program fidelity, and long-term sustainability.

Another implication is for more recognition of the limits of schools sphere of influence as it relates to CHO. We know that a social ecological approach is needed to adequately address childhood obesity. Whereas schools are an important entity within the model, they represent merely one level of the socio-ecological model. Meanwhile, the public is placing undue burden on schools to solve the issue without consideration of the myriad of other factors and interactions among levels and factors which contribute to the problem. Indeed, it seems that more and more, the burden is placed on schools to address more of the micro level factors, and most solutions proposed seem to focus on either school or the home. The developers of these solutions fail to consider the relationship between these levels, especially the limits of schools influence in the home. In the meantime, schools will need to find innovative ways to better engage families as a means to influence CHO collectively.

The need to better engage families is related to the third implication for school health. Given the growing link between childhood obesity and academic performance, efforts should be made to garner more support for CHO prevention because the health issue ultimately affects academic performance and the future working population. Legislation and policies surrounding academic performance and school accountabilities center on student test scores and achievements. The prevailing solution focused on further elimination of physical activity opportunities in schools in order to increase classroom instructional time. These policies are inconsistent with the research linking physical activity and learning. Efforts should be made to better inform school boards and other policymakers of the benefits of increased physical activity as a critical part of a larger strategy to improve child academic outcomes and health.

Human Subjects Approval Statement

All study procedures were reviewed and approved by the Texas A&M University internal review board.

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