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School Nurses' Perceived Barriers to Discussing Weight With Children and Their Families: A Qualitative Approach

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ABSTRACT

BACKGROUND: Previous studies have documented the presence of specific barriers to school nurses' communications with families about weight-related health. The purpose of the present study was to contribute to the literature by further analyzing, using focus group methodology, school nurses' perceived barriers to addressing weight-related health issues with children and their families.

METHODS: Twenty-two school nurses from urban and rural school districts in the Midwestern United States participated in 7 focus groups during the spring semester of 2008. Sessions were recorded and transcribed in their entirety. Study authors reviewed the focus group content and identified themes of perceived barriers. NVivo 8 was used to code and evaluate themes.

RESULTS: Consistent with the extant literature, nurses identified a lack of knowledge and resources, personal weight challenges, lack of institutional support, and lack of time as barriers to weight-related communications with families. However, in addition to these previously identified barriers, nurses also identified family characteristics, child motivation, fear of reactions, and difficulty establishing relationships with children as barriers that impeded their communication with families about weight-related health.

CONCLUSIONS: As expected, the use of focus group methodology yielded evidence of barriers to communication that had not been previously identified in the literature, as well as those that had been well documented. Consistent with a socioecological view of pediatric healthcare, results suggest a number of systems that could be targeted to improve nurses' weight-related communications with families.

Keywords: school nurses; pediatric obesity; overweight; weight-related health; barriers; communication.

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Over the past 20 years the United States has witnessed a substantial increase in the prevalence of obesity (ie, BMI percentile >95%) and overweight (ie, BMI percentile >85%) in children and adolescents, with estimates exceeding 30% in some demographic groups.[1-3] Children and youth who are obese or overweight are at greater risk for a number of negative outcomes in terms of physical health, mental health, and overall quality of life than their nonoverweight peers.[4,5] Moreover, these children remain at increased risk for obesity in adulthood. In response to the increasing problem, the US Surgeon General recently identified prevention and treatment of childhood obesity as 1 of the nation's premier public health concerns.[6] In this report, the Surgeon General noted the importance of educating the healthcare community about healthy eating and physical activity, as well as the need for training healthcare professionals in effective prevention and treatment techniques for pediatric overweight and obesity. These recommendations are consistent with the Expert Committee's recently

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published list of prevention, assessment, and treatment recommendations for children and adolescents with obesity.[7]

Although it seems counterintuitive that health professionals would need education and/or training regarding the treatment of child and adolescent overweight, recent literature suggests that significant numbers of healthcare providers are uncomfortable providing or are unable to provide such services.[8-11] In these investigations, samples of pediatricians, school nurses, nurse practitioners, and registered dietitians identified a number of barriers that interfere with treatment efforts, including lack of knowledge regarding nutrition and exercise, behavioral management, and prevention/intervention strategies. In addition, these healthcare professionals reported low perceived competence in counseling school-age children regarding childhood obesity. Of particular relevance to the current investigation, only one-quarter of school nurses considered themselves competent in recommending weight loss programs for children.[10]

Because the majority of children spend significant portions of their waking hours in the public school setting, school-based health services hold enormous potential to affect change in children's health status.[8,9] Schools are closely linked with their communities, are accessible to all children regardless of socioeconomic status, and maintain relationships with children and families for long periods of time. Better integration of public schools into children's healthcare can result in systems of care that will more successfully manage and prevent healthcare concerns, including obesity and its related health risks.[10]

Within these school-based systems of care, school nurses represent a crucial target population because of their mandated role to monitor and promote children's health in the school setting. Further, they serve as facilitators of the relationships between school systems, families, and medical communities. In fact, several editorials and opinion pieces in school nursing journals, as well as school nurse organizations have signaled a desire to move nutrition and overweight to the front of statewide research agendas.[11-13] Specifically, most nurses surveyed from the American School Health Association 85% reported that achieving ''normal weight'' is very important to the health of children, and about half of the sample strongly agreed that school nurses are ''obligated to counsel the parents of obese children concerning the health risks of obesity'' (p. 333).[11] More recently, the great majority (76%) of a large sample of school nurses believed that school health services ''should be used for obesity prevention'' (p. 506).[14]

Although school nurses are key health providers to students and are uniquely positioned to address weight-related health with students and families, previous investigations indicate that school nurses do not address weight-related health issues as much as (perhaps) they feel they ''should.'' For example, in 1 report, only 25% of school nurses agreed with the statement ''*I usually recommend treatment for weight loss for all children who are obese*.''[10] This number increased to 55% when the statement was changed to ''*I usually recommend treatment for weight loss only for children (or parents of children) who ask for help*.'' Conversely, 67% of school nurses in another sample ''never'' or ''rarely'' contacted a child's parent because they had concerns about a child's weight, and 68% ''never'' or ''rarely'' recommended that a parent contact a health provider for a child-related weight concern.[14] These percentages are generally consistent with those reported among samples of other healthcare professionals.[8,15,16]

Some survey research, including studies reported above, has investigated reasons for the apparent disconnect between what school nurses report that they ''should'' do and what they report they currently practice. As noted above, a common barrier reported by school nurses is a lack of perceived competence to address weight-related health with children.[10,11,14] Other self-reported reasons for not addressing weight-related health with families of obese or overweight children included lack of time, lack of institutional support, inconvenience, and reasons related to perceived causes of obesity (eg, lack of willpower on the part of the child).[10,11,14] However, more information about perceived barriers to treatment has the potential to inform educational interventions designed to improve healthcare professionals' weight-related communication with families and promote better health outcomes.[17]

Given the importance of the topic, and the potential of school-based health services to address the pediatric obesity epidemic, our purpose for the current investigation was to further examine, in the context

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of Bronfenbrenner's socioecological model,[18,19] school nurses' perceived barriers to addressing weight-related health issues with children and their families. We see particular value in the socioecological framework for this study because of the multiple systems of influence on children's health and on nurses' health-care provision.[19] Further, and in contrast to previous investigations among school nurses that relied on surveys of a priori notions of factors that might be barriers to weight-related communications, the current study employed an open-format focus group methodology to assess these barriers. Although we do not question the validity of previous (a priori) surveys, we suggest that the literature can benefit from the richness of information that open-format focus group data can provide. In the context of health-behavior research, data collected via focus group methodologies are particularly useful for eliciting client/participant points of view that may differ from providers' or researchers' preconceptions.[20,21] As such, data obtained in the present examination may be particularly well-suited to inform the design of more robust intervention or educational programs to facilitate school nurses' communications with families about pediatric weight management. We anticipated that results from the present investigation would both confirm existing reports of barriers to communications between nurses and families,[10,11,14] as well as contribute additional (and as of yet undocumented) barriers for investigation in the empirical literature.

Table 1. **School Nurse Focus Group Questions, by Content Area**

Content Area 1
1. How do you typically address weight management issues at your school?
Who helps you most in addressing pediatric obesity?
How is weight-related health assessed in your school?
How has your school (or school district) addressed weight-related health?
How important is it for school nurses to be involved with families about weight-related health issues?
2. What are the biggest barriers to talking with children and families about weight-related health?
Why are these barriers?
How have you overcome them?
Which barriers do you still struggle with and why?
3. Are there cultural or environmental issues that serve as barriers to conversations about weight management?
How have you addressed these?
4. What are the 2 or 3 things that would help you most in your communication with children and families about weight management?
What additional information do you need in order to have more productive conversations with families about pediatric obesity?
5. When families approach you about weight management issues, what questions do they have?
How do you respond?
Content Area 2
6. If you were to design an intervention for pediatric obesity, what would it look like?
How would you administer it?
What would your role in this intervention be?
7. What other thoughts or suggestions do you want to share about addressing pediatric obesity in the schools?

METHOD

Subjects

Twenty-two school nurses from 3 Midwestern school districts participated in the current study. Nurses reported their race/ethnicity as Caucasian (79%), Black (13%), and Native American (8%). On average, nurses had practiced for 9.1 years (SD = 5.7). A majority (71%) of nurses worked in elementary schools. Other nurses worked in middle (8%) and high schools (12%), preschools (4%), and all grades (5%). Some nurses (n = 6) worked in multiple schools. The average number of students that each nurse reported serving was approximately 617 (SD = 452). Nurses reported that on average 40% of students in their schools received free and reduced breakfast/lunch.

Instruments

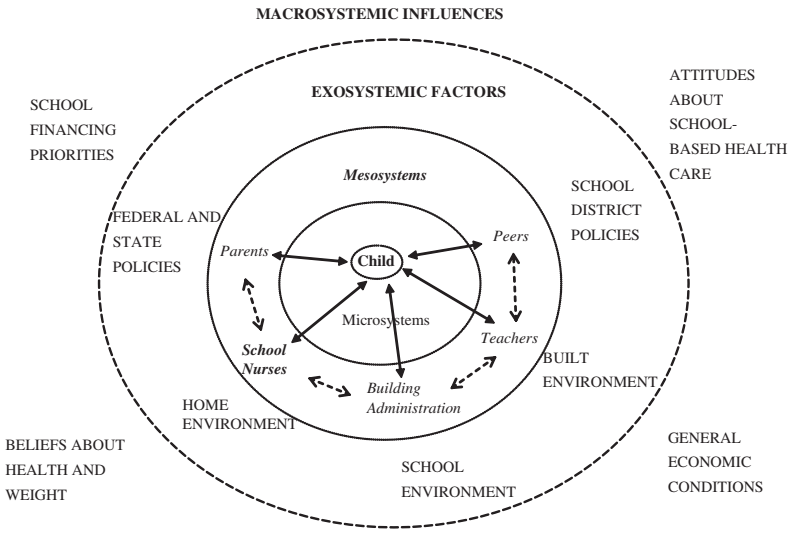
Consistent with recommended procedures,[22] focus groups were structured around a set of open-ended questions that assessed 2 broad content areas relevant to the specific project (Table 1). The first set of focus groups (which required 4 sessions to accommodate the nurses' schedules) assessed nurses' attitudes and knowledge about pediatric obesity, including their perceptions of barriers to addressing pediatric weight issues in the school setting. The majority of the findings presented in the current study were drawn from the focus groups assessing this first content area. Following the focus groups on this first content area, an additional set of focus groups assessed nurses' preferences for the format of a proposed educational intervention targeting school nurses' self-perceived effectiveness at addressing pediatric weight-related health. This second set of focus groups required 3 sessions to accommodate the nurses' schedules. Nurses attended a maximum of 1 session for each of the 2 content areas.

Prior to focus group sessions, the topic questions were reviewed by 2 pediatric psychologists with experience in weight-related health research and qualitative research methods. During the groups, 1 facilitator introduced the topic area, encouraged discussion, and clarified responses while another facilitator primarily took notes on topics discussed and provided practical support (eg, organized refreshments and welcomed nurses). Each focus group session lasted approximately 90 minutes.

Procedure

School nurses from 3 urban and rural school districts in the Midwestern United States were provided

Figure 1. **Graphic Depiction of Bronfenbrenner's (1979) Socioecological Model**



Note: Microsystems are indicated by solid lines from the child to key direct care providers. Mesosystems are indicated by dashed lines between members of the child-centered microsystems. Exosystemic factors and macrosystemic influences operate as increasingly distal and indirect influences on the child's development.[18,19]

information about the current study through district e-mail listservs and district health meetings. Although the exact number of nurses who received this information cannot be determined, we estimate that approximately 100 school nurses received information about the study. Interested school nurses (n = 33) contacted study personnel to receive more information about the project and to identify potential days/times of the focus groups. Of these, 22 were able to attend at least 1 of the focus groups conducted during the spring semester of 2008. Focus group sessions ranged in size from 2 to 6 participants each.

Three master's-level graduate students with training in focus group methodology conducted the groups. All focus groups were videotaped and/or digitally audiotaped for later transcription. Nurses received $50 in compensation for their participation.

Data Analyses

At the conclusion of the focus groups, a professional transcriptionist transcribed the focus group digital recordings. Transcripts were reviewed by study personnel to ensure accuracy. Nurses' names were removed from their comments and were replaced with identification numbers. Following procedures outlined in the literature,[20,22,23] 2 coders, 1 of whom co-facilitated the focus groups, read the focus group transcripts and facilitators' handwritten notes and identified, using an iterative process, ''emergent'' and ''expected'' themes related to nurses' perceived barriers to addressing students' weight. After all themes had been identified through the iterative process, a coding system was created and the focus group transcripts were coded using the NVivo 8 software package.[24]

The coding system included 18 types of barriers that nurses identified as factors preventing them from addressing students' weight-related health. All transcripts were coded by a bachelor's level research assistant. In addition, following recommended guidelines,[22] 4 transcripts (57%) were also coded by a second individual. If disagreements in coding occurred, a consensus rating was reached through discussion and/or consultation with a third party. Before discussing coding results to reach consensus ratings, coders agreed on 71.4% of the barriers identified within the 4 transcripts. Following discussion, coders agreed on 100% of the barriers identified. The results presented in this article are the consensus ratings.

RESULTS

School nurses described a range of barriers that, in their view, prevent them from addressing students' weight-related health. To enhance conclusions to be drawn from the array of barriers endorsed, comments were categorized into several areas. Specifically, following an ecological systems orientation to pediatric healthcare (Figure 1),[18,19] these barriers are presented in 5 categories: Individual (Nurse) Factors, Family Factors, Interactions between Nurses and Families, Institutional Factors, and Societal Factors. A representative list of barriers, along with those reported in previous surveys, is presented in Table 2.

Table 2. **Perceived Barriers to Addressing Pediatric Weight**

Barriers Identified in Existing Literature	Barriers Identified in Current Study
Self-perceived competency[10,11,14]	Self-perceived competency
Difficulty designing programs and counseling families[10,11]	Lack of knowledge or resources
Nurses should maintain a normal weight to serve as role models[10,11]	Personal weight challenges
Perceived lack of support from school staff, administration, community health providers[14]	Perceived lack of support from school staff, administration, allied health professionals
Time limitations[14]	Time constraints (several types)
Inconvenience of counseling families[10,11]	Family characteristics (motivation, culture, resources, language, body size perceptions)
Counseling is not professionally gratifying[10,11]	Child lack of motivation
Nurses not obligated to counsel parents about obesity's health risks[10,11]	Fear of reactions
Treatments not effective in addressing weight[10,11]	Difficulty establishing relationships with students to allow conversations about weight
	Negative past experiences with school weight programs or with families
	Food at school
	Societal norms

Individual (Nurse) Factors

Generally consistent with the available literature, the most frequently endorsed barrier to addressing weight-related health with families was a *lack of knowledge or resources*. For example, 1 nurse stated, ''*I'm just not sure exactly how to approach [weight management]. Something fun to build my relationship with the child would be helpful*.'' Underscoring this point, all but 1 of the nurses mentioned that they did not have resources or materials relevant to weight-related health to provide to students, their families, or school personnel. Moreover, many nurses noted that they were not aware of referrals for weight-related treatment programs or community resources that they could provide to families. Nurses also reported that they did not know how to approach children and families about a sensitive issue such as weight.

In addition to the lack of knowledge or resources, nurses indicated process-oriented deficits. Specifically, some nurses noted that their *self-perceived competency* in addressing weight and related issues was a barrier. Specifically, about a quarter of the nurses said that they did not feel competent to communicate with families about weight, motivate families to address weight, and particularly, to work with students and families who may be struggling with existing emotional or behavioral problems. One participating school nurse said, ''*I think there's been some traumas and all kinds of family issues going on. I'm sure it's a whole complex situation. But it's kind of above what I am able to deal with*.'' Several nurses also perceived *personal challenges with weight management* as a barrier. Specifically, nurses reported that being overweight themselves caused them to be reluctant to discuss weight management with children and families. For example, 1 nurse reported, ''*I personally get the feeling that the parents are thinking*, 'how can you be talking about this, you're fat yourself.'''

Family Factors

Nurses also frequently endorsed *characteristics of students' families* as a barrier to their decision to address weight-related health. Most of the nurses mentioned that some students' families did not see weight as a problem and families did not seem motivated to address weight. For example, 1 nurse noted, ''*I think the family very definitely would acknowledge that they're overweight but I think maybe they don't see where they play a role in that*.'' In addition, nurses noted that some children with weight problems had complicated family situations that made it more difficult for nurses to consider intervening. Nurses also mentioned barriers such as families' limited time and resources to monitor their children's physical activity or eating habits and families' ability to attend and pay for weight intervention programs.

More specifically, school nurses reported that *family cultural factors* represent barriers to their efforts. These reported barriers may be categorized into 4 areas: language barriers, lack of knowledge about foods common among different cultural groups, differing perceptions of normal body size/shape, and high prevalence of weight problems among certain cultural groups. Overall, nurses reported feeling less competent providing counseling or information to families from cultural groups different from their own.

Finally, some of the nurses in the present study viewed *lack of motivation* among children and adolescents as a barrier to addressing weight problems in schools. One nurse stated, ''*The stigma that may have motivated some people years ago is no longer there. Plus you have a media component coming in too, saying 'be comfortable with yourself and large is okay' and they don't see the health side*.'' Nurses also cited resistance from overweight children to be weighed and infrequent contacts where children seek information about weight management. These results perhaps help to explain prior findings that the majority of school nurses only counsel children and their families on weight issues when families seek out information from nurses.[10]

Interactions Between Nurses and Families

A majority of nurses mentioned that their *fear of others' reactions* is a barrier that prevents them from

addressing students' weight. Primarily, nurses cited their fear of parents' reactions to receiving information about their child's weight. Nurses worry that parents will feel personally attacked or that their child has been singled out. For example, 1 nurse stated, ''*I can talk till the cows come home about whatever medical problem you have but when it comes to something that's that touchy, you don't want the parents to 'go off' on you*.''

Similarly, some nurses reported concern that having weight-related services in school would stigmatize children and families. In addition, nurses worried about the consequences for themselves if parents complained to school administration. Perhaps related to this barrier, several nurses in the focus groups indicated that it was *difficult to establish relationships with students* that could more easily lead to discussions about weight, often because school nurses rarely see children who do not have urgent health needs.

Further, many school nurses cited *negative past experiences* with addressing weight with children and families or unsuccessful school programs as a barrier to addressing child and adolescent weight-related health. About a third of nurses voiced concerns about past experiences with parents who were offended, unsuccessful school efforts to intervene with weight, or lack of follow-through by families when referred to community weight management programs.

Institutional Factors

Over half of participating nurses mentioned *institutional barriers* which made addressing weight-related health more difficult. Specifically, many nurses cited a *lack of support from administration* (eg, to address food and physical activity in the schools) for various reasons, including potential legal ramifications, limited school resources, and pressure to focus on reaching academic benchmarks (eg, Adequate Yearly Progress; No Child Left Behind). As an illustration of this barrier, 1 nurse said, ''*If you get the principals on board you can make anything happen. But if the principals aren't on board, you can forget it, they're going to shut it down.*'' Moreover, some nurses perceived school districts as unwilling to implement programs related to weight because of a fear of parents' reactions to such programs. Interestingly, some nurses perceived that administrators were unsupportive because they had personal weight-related health concerns and felt singled out by efforts to address weight among schoolchildren. Additionally, nurses frequently cited limited opportunity for physical activity along with few healthy food options in schools as barriers to their efforts to intervene.

Related to institutional support, a large majority of school nurses mentioned *professional time constraints* as a barrier to addressing students' weight-related health. These were voiced in a variety of ways. For example, participants reported that they have numerous responsibilities and a range of student health problems to address (ie, not only obesity). One nurse lamented, ''*I hate to use time as an excuse, but I think school nurses are just torn in every direction*.'' In addition, some nurses reported that instructional time constraints make it difficult for them to provide weight-related education to students in their classrooms. Mentioned earlier, several of the school nurses who participated in the focus groups indicated that they work in multiple schools. Finally, nurses mentioned that time limitations prevent them from keeping current with the latest research findings related to pediatric weight. Indeed, 1 nurse mentioned that she perceived *expectations of expertise in multiple areas* as a barrier. Specifically this nurse stated, ''*You're a nurse therefore you must know how to do this because we are expected to know how to do everything*.'' This participant's comments suggest that nurses may feel burdened by too many responsibilities, leaving little room for attention to nonemergent medical concerns such as weight problems.

Conversely, nurses noted that having the support of administration, teachers, and sports coaches would be very helpful if nurses were to implement weight-related services. Several school nurses mentioned that *allied health professionals* could be more supportive of nurses' efforts to identify and intervene with overweight or obese children by accurately identifying overweight students at annual physicals and initiating discussions about weight-related health with families.

About three-quarters of the sample also cited *food at school* as an institutional barrier to addressing students' weight. For example, nurses mentioned that it can be difficult for students to find healthy choices at school breakfast and lunch. In addition, nurses noted that students often receive unhealthy snacks as a reward for their school performance or during special events such as birthday celebrations and holiday parties.

Societal Factors

Almost half of the nurses in our sample endorsed a variety of *societal norms* which they perceived as barriers to addressing weight issues. These norms included increased sedentary behavior, societal focus on competitive sports rather than lifelong physical activity, changing perceptions of normal weight, proliferation of nonnutritious foods, and increases in food portion sizes. An illustrative example provided by a school nurse was, ''*People don't perceive themselves maybe as being overweight because it's becoming the norm. It's almost amazing when you go out and you see someone who's normal size*.'' Nurses who mentioned these barriers viewed societal factors as barriers to approaching children and families about weight management (eg, increased weight is viewed as

normative), and as a barrier to success in providing counseling about weight management (eg, poor diet and sedentary behavior inhibit intervention success).

DISCUSSION

Using a focus group methodology, the current study examined school nurses' perceived barriers to discussing weight-related health with children and their families. Among the benefits of qualitative research are the richness of the data obtained and the opportunity to assess perspectives of clients/participants that might diverge from ''conventional wisdom'' as demonstrated through prior empirical work or researcher biases or preconceptions.[20,21] Such data are often extremely useful in the design of interventions to remedy significant social and behavioral issues. Further, our study is unique in its effort to place nurses' self-identified barriers to communication in a socioecological framework.[18,19] Consistent with other authors,[25-27] we see particular value in the socioecological framework in terms of translating research findings to interventions designed to promote larger systemic changes affecting children's health. Implications of our results to various ecological systems are discussed below.

Of perhaps most importance, the current study identified several key barriers to weight-related communication not previously identified in the literature. These included family characteristics, lack of child motivation, fear of others' reactions, difficulty establishing relationships with children, negative past experiences, and societal norms. Additional barriers identified through our focus group methodology were similar to barriers identified through previous survey research (Table 2).[10,11,14] Self-perceived competency, lack of knowledge or resources, personal weight challenges, lack of support, and lack of time were all consistent barriers across studies.

At the individual (nurse) level, our results identified a number of barriers that may be amenable to targeted intervention or education programs. Specifically, and consistent with previous reports,[10,11,14] a large majority of our respondents indicated inadequate knowledge and low perceived competency to provide information to families about pediatric obesity and treatments for pediatric obesity. Such data underscore the importance of intervention and educational efforts aimed at boosting school nurses' knowledge and perceived competencies in this domain. Although the efficacy of continuing medical education (CME) is sometimes debated, 1 study found that physicians who were more knowledgeable of specific recommendations by the Expert Committee[7] (ie, regarding obesity assessment and treatment) were more likely to utilize appropriate assessment and treatment recommendations than those who did not know about the Expert Committee's recommendations.[16] The literature on CME indicates that ''interactive'' workshops and learning opportunities may be more effective than static or noninteractive workshops.[28] Our results suggest that school nurses would value increased opportunities for CME to address pediatric obesity assessment, prevention, and treatment. Of course, it is left for future studies to examine the efficacy of obesity-related CME on school nurses' knowledge and behavior.

Also consistent with prior reports,[10,11] our sample of school nurses voiced concerns that their own personal weight challenges, and weight challenges of other school staff and administration served as a barrier to addressing weight-related health with students and their families. Such comments underscore a key tenet of the Coordinated School Health Program developed by the Centers for Disease Control and Prevention (http://www.cdc.gov/HealthyYouth/CSHP/) that the health status of school personnel is not independent of efforts to promote healthy behaviors and lifestyles in children.[29] School nurse associations (ie, the National Association of School Nurses, state school nursing associations), state departments of education, and local school districts are encouraged to give greater attention to staff health and wellness objectives as a means of promoting student health. Concrete examples of staff wellness initiatives include state-sponsored health assessments, health education, identification of community or Web-based health and/or fitness programs, and sponsorship of health-related fitness activities.

In addition to individual nurse factors that pose barriers to communication, our results indicated that nurse-perceived family factors may serve to limit communication between nurses and families about weight-related issues. Of particular importance were issues surrounding ethnicity and cultural differences, including not having enough knowledge about cultural foods, not knowing how to approach families about replacing unhealthy foods that have particular importance within cultures, and not knowing how to address overweight in light of cultural differences in ideal body size. However, contrary to the fears and anxieties of many school nurses, cultural competence does not necessarily require that one be an expert on every aspect of each cultural group encountered. Rather, it requires recognition that cultural variables have an impact on health behaviors, willingness to explore culture as a factor in health decisions, respect for decisions made from a cultural viewpoint, and a collaborative approach to resolving health-related problems.[30-32] Educational efforts aimed at promoting this view of cultural competence may go a long way toward improving school nurse communications with families of diverse ethnic and socioeconomic backgrounds.

At Bronfenbrenner's micro- and mesosystemic levels,[18,19] our sample of nurses also indicated a number of barriers to communication with families. As a whole, these are not inconsistent with previously published barriers;[10,11] however, our results highlight unique aspects of these interpersonal barriers that, if confirmed by additional investigations, need to be addressed. Of particular importance were comments indicating fear of negative reactions from others, negative past experiences with families, and difficulties establishing relationships with children/families. Concerns reflecting fear of negative reactions from families appear well justified in the literature.[33] Motivational Interviewing (MI) techniques[34] may be particularly suited to assist nurses who perceive these types of barriers to addressing weight with families. Specifically, the nonconfrontational, collaborative stance espoused by MI fosters establishment of cooperative relationships between the patient and provider. Moreover, MI techniques seek to honor patient autonomy and discourage focus on behavior outcomes, a characteristic that could minimize negative responses to nurses' efforts to intervene. Finally, MI's focus on patient values and concerns rather than the interventionist's aims seems likely to alleviate school nurses' fears of adversarial interactions when approaching parents and families about weight concerns.[34]

At Bronfenbrenner's exosystemic level, nurses reported a number of institutional barriers to communication with families about weight-related health, including time constraints, lack of support from school administration or staff, and lack of opportunities in the school setting for physical activity and/or healthy meal options. Anecdotally, and quite simply, the nurses in our sample seemed overwhelmed. Increased support at all levels within the school, including a lower student-to-nurse ratio, may alleviate some of the burden that nurses feel when addressing weight-related health. However, more specifically, school district policies that clearly delineate the roles that school nurses are authorized or mandated to fulfill vis-à-vis weight-related health may serve to enhance communication between nurses and families. Support from school staff and administrators may be particularly important given recent evidence suggesting that nurses who perceive staff support are more likely to engage in child- and school-level obesity prevention activities.[14] Further, identification of key school district personnel who can assist with the school nurses' mission (ie, ''allies'') may further strengthen the role of school nurses in addressing the obesity epidemic. The development of Coordinated School Health boards noted above[29] suggests movement toward greater acceptance of the role of schools in monitoring and treating health conditions. State and local coordinated school health boards (eg, the Kansas Coordinated School Health Program, http://www.kshealthykids.org/KCSH_Menus/KCSH_Home.htm) may be particularly useful as school nurses seek allies within their districts to promote children's improved weight-related health.

Finally, results of the present investigation highlight the larger ecological and societal challenges facing healthcare professionals attempting to address weight concerns among children and adolescents. Indeed, nurses in our sample noted that a barrier to addressing pediatric weight is the sheer magnitude of the problem and its numerous contributing factors. Because nurses have less influence on societal-level factors contributing to pediatric obesity and nurses in our sample mentioned that these societal-level factors are a barrier to addressing pediatric weight, educational programs targeting school nurses might consider acknowledging the ecological contributions to pediatric weight while also providing nurses with skills that increase their effectiveness and self-perceived competency in working with children and families on weight issues. In addition, educational programs might present research findings summaries demonstrating that healthcare professionals can effectively address pediatric weight-related health.

From a heuristic standpoint, our results suggest that existing self-report measures may not cover the breadth of barriers to effective communication between families and nurses. Our results indicate that school nurses might perceive barriers at multiple ecological levels (eg, individual, school, societal) that have yet to be fully examined or discussed in the literature. In order to assess how frequently these newly identified and other barriers are endorsed by larger samples of nurses, our group is currently developing an objective measure of barriers based on the results of the current study.

Limitations

We present these results in light of a number of specific methodological strengths and weaknesses. On the positive side, our use of a qualitative approach to data collection allowed us to access the subjective experience of school nurses regarding this topic. As noted previously, the use of this methodology allows new and heretofore undocumented perspectives on the topic questions. Within this approach, our sample of nurses was relatively diverse in terms of individual nurse characteristics and characteristics of schools served. Despite this diversity, our sample was limited to 1 geographic area of the country, and may have reflected selection bias (ie, perhaps limited to nurses who were interested in the topic).

Conclusion

In conclusion, the results of our investigation suggest that school nurses perceive numerous barriers that affect their willingness or ability to address

pediatric weight-related health. Results are generally consistent with previous findings and recommendations to address pediatric obesity within an ecological framework,[27] and highlight a number of perennial barriers including lack of knowledge, time and resource constraints, low perceived competence, and personal weight challenges. However, results of this study revealed a number of barriers that have not been included in previous studies. These barriers include negative past experiences, lack of child motivation, family characteristics, difficulty establishing relationships with children, fear of reactions of others, quality of food at school, and societal norms. Future research and intervention programs designed to assist school nurses in providing weight-related health services should consider these important obstacles.

IMPLICATIONS FOR SCHOOLS AND SCHOOL HEALTH PROFESSIONALS

Overall, the results of the current study highlight the importance of considering (and seeking opportunities to overcome) school nurses' perceived barriers to communication with families within a number of systems or ecological levels. First, and most proximally, our results underscore the value of the availability of CME opportunities that address the assessment and treatment of pediatric obesity. As noted above, CME opportunities that utilize active or interactive learning strategies may have greater effects on healthcare providers' usual practices. At a minimum, CME opportunities or in-services for school nurses should include the Expert Committee's recommendations for the assessment and treatment of pediatric obesity.[7,16] Similarly, opportunities for training in communication methods that have been shown to be effective in promoting adolescent and child health behavior change (eg, Motivational Interviewing)[34] may be particularly helpful for school nurses.

Further, and consistent with the Coordinated School Health Program recommendations,[29] our results suggest that staff wellness initiatives may have direct salutary effects in terms of nurses' communications with families about weight-related health. Similarly, identification of key school district personnel who can assist with the school nurses' mission (ie, ''allies''), may facilitate better communication with families about weight-related health. These issues may be functionally related: districts with progressive staff wellness initiatives may be establishing a climate in which weight-related health topics are discussed with greater ease, creating more opportunities for the development of coordinated health promotion strategies among staff members.

Our results have significant policy implications. Nurses in our sample noted the importance of clear policy directives surrounding their role vis-à-vis weight-related health. Clarification of administration expectations and support for weight-related health communications may assuage school nurses' hesitancies about such communications. As noted above, nurses who perceive staff and administration support for individual intervention and school-level obesity prevention programs are more likely to become engaged in such activities.[14] More broadly, school districts that seek greater involvement of their nurses in weight-related health provision will need to consider resource allocation (eg, release time for CME, funding for staff wellness initiatives) that supports this goal. In conjunction with direct support, such resource allocations may improve the overall ability of school nurses to affect individual- and school-level indicators of weight-related health.

Human Subjects Approval Statement

This study was approved by the institutional review board (Human Subjects Committee) of the University of Kansas, Lawrence, KS.

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