Childhood Obesity in the Community

S. Catherine Furry

Radford University
Childhood obesity is an epidemic in the United States that is growing exponentially and posing a great threat to the current and future health of Americans. A National Health and Nutrition Examination Survey found that obesity in adolescents aged 12 to 19 has grown from five percent in 1980 to 18.1 percent in 2008 (Ogden & Carroll, 2010). This is a trend that has been increasing for decades; an Institute of Medicine report notes that the national childhood obesity rate in 2004 was three times the rate in 1970 (Institute of Medicine [IOM], 2004).

“Obesity” in children is defined as a body mass index [BMI] above the 95th percentile (Ogden & Carroll, 2010); add to that the population of overweight children (above the 85th percentile), and nationally over 23 million children and teenagers from both genders and across all age, race, and ethnic groups in the United States are overweight or obese (Robert Wood Johnson Foundation [RWJF], 2011). If current trends continue, some predict that by the year 2015, one in four children and adolescents will have BMIs above the 95th percentile (Wang & Beydoun, 2007).

Because of the many detrimental physical, psychosocial, and economic effects of the obesity epidemic, Healthy People 2020 has emphasized reducing the number of obese children and adolescents as a crucial health goal for the next decade (U.S. Department of Health and Human Services, 2010).

This paper will focus on obesity among middle and high school students (ages 10-17) in the city of Roanoke, Virginia. States in the Southeast United States are known for having higher reported obesity rates than the national average (Wang & Beydoun, 2007). The Virginia Atlas of Community Health reports that 22% of children ages 10-17 statewide are overweight or obese. In comparison, out of the 9,203 kids ages 10-17 in Roanoke City, an estimated 2,577 are overweight or obese (28%) (Community Health Solutions, 2011). Demographically, the residents of Roanoke City have several inherent risk factors for obesity that will need to be taken into
consideration. For example, approximately 25% of the 93,000 residents are African-American, two percent are Hispanic, and 17% live in poverty (Community Health Solutions, 2011). My focus is specifically on the populations in the five middle and two high schools in Roanoke City, approximately ages 10-17. Other contributing factors to this population’s weight status are that an average of 34% of Roanoke City 10-17-year-olds don’t meet physical activity targets, 88% don’t meet daily fruit and vegetable requirements, and 30% of children 10-17 in Roanoke City watch three or more hours of TV a day (Community Health Solutions, 2011). Clearly, these statistics show that obesity should be a concern of pediatric health care providers in Roanoke City.

Obesity has countless negative consequences, both immediate and long-term. It is currently the second leading preventable cause of disease and death in the U.S., second only to tobacco, and some project that it may soon be the first (Wang & Beydoun, 2007). Physically, obesity leads to a host of other illnesses, some of which have traditionally been classified as “adult” but are being seen in increasingly younger populations. These include type two diabetes mellitus (as well as glucose intolerance and insulin resistance), dyslipidemia, sleep apnea, orthopedic problems, hypertension, metabolic syndrome, arthritis, cancer, cardiovascular disease, and an overall decreased life expectancy (IOM, 2004). One article notes that there is an 80% chance that an obese teenager will become an obese adult (RJWF, 2011), so it is important to begin focusing on obesity prevention at young ages.

Many psychosocial consequences result from obesity as well, especially for the teenage population. Emotionally, being overweight increases one’s propensity for self-blame, suffering from low self-esteem, feeling shame, and having a negative body image. Obesity is also a risk factor for clinical depression. Socially, overweight people are often subject to negative
stereotyping, discrimination, teasing, and social marginalization, and there are often social stigmas around this population (IOM, 2004). One longitudinal study cited in the Institute of Medicine’s “Preventing Childhood Obesity” report actually found that overweight young women finished fewer years of school, earned less money, and were less likely to get married (IOM, 2004).

A third area in which obesity has a role is economic consequences. The United States spends $117 billion a year on direct and indirect costs related to obesity. Childhood obesity alone costs the U.S. $14 billion a year in direct health care costs (RWJF, 2011). This places a huge burden on taxpayers, the healthcare system, and the community. In fact, Vaczy, Seaman, Peterson-Sweeney, and Hondorf (2011) report that the “national medical costs attributed to overweight and obesity accounted for 9.1% of the total medical expenses of all national medical expenditures in 1998” (p. 32) and rates have only continued to rise since then. This also can lead to a downward cycle within families: there may be a correlation between low income level and risk for obesity (Food Research and Action Center, n.d.), but once children are obese, their high medical expenses are a financial burden to already struggling families. Nurses have to always be aware of all the consequences of illnesses; in any healthcare setting it is vital to maintain a “community nurse” mentality, going beyond the obvious physical effects of illnesses to assess the influence poor health can have on all aspects of a patients’ lives and the communities in which they live.

Childhood obesity is an issue that affects the whole community, and therefore everyone plays a role in helping to reverse the epidemic, from the neighborhood grocery store manager to the city parks and recreations director. The community resources that perhaps carry the most
weight in the campaign against obesity, though, are school system and primary health care providers.

Li and Hooker (2010) emphasize that the issue of obesity should affect school health policy. Responsibility for effecting change, they note, should be adopted by all members of the school community. Physical education [PE] teachers can share their efforts in promoting exercise and nutrition with the school nurse to track their effect on students with high BMIs. Teachers can work to ensure that issues are being adequately addressed in the curriculum, sports coaches can help develop programs that welcome and encourage overweight students, and cafeteria staff can implement programs to encourage healthy lunch and snack choices. Superintendents can coordinate efforts with community programs and the local government to help make resources available to the schools (Li & Hooker, 2010). Furthermore, schools can potentially have a significant impact on the obesity epidemic because more than 95% of children are enrolled in school. Schools have traditionally incorporated health and PE into the curriculum and school programs have been shown to be effective in promoting nutrition, exercise, and reduced television time which in turn promotes academic success (Wechsler, McKenna, Lee, & Dietz, 2004). Primary health care providers (doctors, nurse practitioners, and the nurses in their clinics) also play a role in affecting overweight and obesity rates, especially by providing well-child visits before weight becomes a problem: “For nurses, the challenge is to be an educator now so as to not have to be a provider later” (Mayer & Villaire, 2010, p. 15).

Information about primary prevention of obesity abounds in the literature. With the focus of primary prevention in health care being on reducing or eliminating risk factors, the emphasis with respect to obesity lies in education regarding diet and exercise and implementing programs to provide opportunity and encouragement for students to practice what they are taught. As
mentioned, schools play a pivotal role in educating children about good versus poor choices. Wechsler et al. (2004) suggest several areas on which schools should focus, including a quality health education program that helps students apply the facts they learn and thorough PE programs that provide at least 225 minutes of instruction a week for secondary schools, the majority of which is actual physical activity involving all the students. They also encourage collaboration with community programs. Additionally, providing students with nutritious but appealing lunch and snack selections is crucial.

Primary prevention takes place in the pediatrician’s office and the school nurse clinic as well as the classroom, and there are opportunities for education both at well-child checkups and when students come into the school clinic. The research shows that teaching children and their families the importance of eating a nutritious but well-balanced diet is necessary (Hockenberry & Wilson, 2009) but it is important to avoid focusing on “dieting” or “weight loss” terminology to encourage a healthy balance of nutritious eating and exercise rather than harmful fad diets or practices such as bulimia (Ben-Sefer, Ben-Natan, & Ehrenfeld, 2009). When educating about exercise, it is important to encourage activities that the child enjoys doing to increase the likelihood of developing a consistent routine, keeping in mind that aerobic exercise is helpful but weight-training is not recommended before puberty (Hockenberry & Wilson, 2009). Literature suggests limiting television time as well, as excessive sedentary activity is directly linked to obesity (Liou, Liou, & Chang, 2010). A third important focus of prevention education is sleep. There is an inverse relationship between the hours of sleep a child gets and the obesity rate, but it is a fairly straightforward and low-cost intervention (Chen, Beydoun, & Wang, 2008)

Screening for obesity is an important form of secondary prevention and is crucial for reversal of the obesity epidemic. One way in which schools have responded to the obesity
problem is by initiating BMI screening and surveillance. Soto and White (2010) explain that BMI screening has been controversial for several reasons: it is not always an accurate indicator of overweight or obese status (some recommend tools for measuring body fat instead), it can be expensive to pay for staff time to screen, it takes children out of class time, and some parents do not agree that it is the school’s place to screen BMI or want to know the results. Additionally, some have argued against public screening because it can potentially lead to development of negative body images and adoption of harmful diets or incite teasing or bullying. If BMI screening is initiated, research shows it is important to do it in private by sensitive trained staff, watch out for psychological consequences afterwards, and ensure that parents of overweight children are educated on safe interventions and the importance of physician follow-up. Soto & White (2010) conclude that although screening remains controversial and has not been directly attributed to decreased obesity rates, it can be beneficial in raising awareness of overweight and obesity prevalence, leading to implementation of other obesity prevention programs.

Other screening besides BMI is important in the detection of overweight and obesity. Hockenberry and Wilson (2009) suggest that at visits with primary health care providers, it is important to note family history of obesity, assess the height and weight status of family members for comparison, watch out for comorbidities or other factors that increase the likelihood of obesity, and ask about the child’s diet and eating habits and patterns and physical activity.

Once a child or adolescent is identified as overweight or obese, tertiary prevention involves identifying and implementing interventions to help the individual return to a healthy weight. As with primary prevention, dietary counseling and encouraging physical activity are two important areas on which to focus. Some authors also suggest behavioral therapy, such as teaching clients how to not associate eating with other activities such as watching TV, analyzing
stimuli for eating, and substituting other activities to relieve stress or reward oneself (Hockenberry & Wilson, 2009).

Another important aspect of obesity treatment is psychosocial assessment. Adolescents especially can become resentful when forced by their parents to do something about their weight, so it is vital to assess their willingness, readiness, and motivation to take personal responsibility for their weight (Hockenberry & Wilson, 2009). It is also important assess to adolescents’ perceived weights, because underestimation can lead to lack of interest in change, while overestimation can precipitate unhealthy eating disorders (Park, 2011). However, while respecting adolescents’ independence can be helpful, Hockenberry and Wilson also emphasize that family support is important, especially for younger children. Making healthy food available and providing encouragement is key for the success of the child’s efforts, as long as the family is prepared and ready for the challenge so as to prevent “failure, frustration and reluctance to address the problem in the future” (Hockenberry & Wilson, 2009, p. 554). Parental preparation and education is essential, because parents’ perceptions of the causes of obesity and importance of nutrition and exercise vary widely (Akhtar-Danesh, Dehghan, Morrison, & Fonseka, 2011) and it is important not to assume that they know appropriate weights for their children (Mayer & Villaire, 2010). Perhaps most important is listening to patients and families and fostering trust while providing positive support. One nurse practitioner notes, “In healthcare we have adopted some damaging language such as ‘noncompliant’ and ‘resistant patient,’ and labeling people and blaming them for the situation rather than trying to explore with them what their situation is and how they could choose healthier behaviors within their current situation” (Montoya & Gance-Cleveland, 2011). Another doctor believes “it’s important for the healthcare professional to open the door, but [we must] really allow the parents the opportunity to discuss and ask questions and
begin to engage slowly in the process . . . I find it very helpful to ask the child, ‘How does your weight affect your life on a day-to-day basis?’” (Hill & Hammer, 2011)

An assessment of Roanoke City’s efforts to change the overweight and obesity prevalence reveals mixed results. A former Patrick Henry High School [PHHS] student interviewed noted that many students participated in recreational activities and there were many opportunities for organized exercise, whether school sports teams or community recreation sports, runs and bike rides. He added that “the area surrounding Patrick Henry is very focused on healthy living and exercise and fitness” (C. Metz, personal communication, April 13, 2011). Indeed, the Roanoke Parks and Recreation Department offers numerous community events promoting fitness such as races and festivals for adults and children alike. Biking and hiking trails provide easy access to outdoor recreation, and there are also campgrounds and water sports. Roanoke City maintains 68 parks and two outdoor swimming pools, available to city residents for use for free (City of Roanoke, 2011). The Roanoke YMCA also provides summer camps and youth programs and offers scholarships for low-income households (YMCA, 2011). Four hundred fifty physicians serve the region (Virginia Economic Development Partnership, n. d.) and Bradley Free Clinic offers free primary medical care for Roanoke’s low-income population (“Bradley Free Clinic”, 2011).

The Roanoke City schools have also made a commendable effort to include nutrition and exercise programs into their curriculum. The Roanoke City School Board has included in its policies a goal of at least 150 minutes a week of physical fitness programs, as well as a health education program (Roanoke City Public Schools, 2010). According to the secondary school lunch menu for April 2011, salad, fruit and vegetables are provided every day (although cheeseburgers, sugar cookies, and corn dogs are available as well), and the menu offers nutrition
suggestions and advice: “Eat better. Play harder. Live healthier. Learn easier. Wellness is a way of life!” (“Menus for April 2011”, 2011). A nurse at a Roanoke City middle school confirmed that the cafeteria is trying to improve food choices, and they are focusing on providing PE (personal communication, April 13, 2011). The PHHS student said his health class did a thorough job of focusing on nutrition, physiology, and proper exercise (C. Metz, personal communication, April 13, 2011). A Roanoke City high school nurse noted that they have a teen health clinic several days a week on their campus (staffed by Carilion employees, including a nurse practitioner) where students struggling with their weight could potentially go for advice and referrals (personal communication, April 13, 2011). Both nurses noted yearly BMI screenings were provided.

However, despite community fitness programs, available medical care, and attempts to improve school lunches and provide physical and health education in the schools, obesity remains a problem in Roanoke City. Regarding PE, the PHHS student mentioned above explained, “Gym class was a complete joke. We either dressed out the entire class and did nothing, or we had mass free time in which people would sit around or play basketball.” He said that fitness was only really focused on the week that they had annual fitness testing. The middle school nurse also explained that it was difficult to get students to actively participate in exercise during PE class. She stated that obesity is a “huge” and growing problem at the school. She screens students when they come into the clinic, but when she sees 50 to 80 students a day she does not have time to teach classes herself, even though she would like to. She also noted that due to the demands of classroom time for all the academics, there is insufficient time to spend on health issues. Virginia does have Standards of Learning for health and physical education (“Virginia: Curriculum and instruction”, 2010). She said the information was being transmitted...
to the students; the biggest problem she saw was getting students to participate and apply it. Research has repeatedly shown, as cited previously, that to be successful, exercise education should be as interactive and involved as possible; perhaps this is an area that could be improved upon in Roanoke City schools. The high school nurse pointed out that although they collect BMI data every year, they do not follow up on specific children’s results because parents often “get upset” when their children are labeled as obese. Tracking high-BMI children to see what interventions are effective is something she would like to be able to do, but she says it is difficult when there are stigmas surrounding obesity. In this case also, utilizing the research cited previously about sensitive and careful screening would be beneficial.

School nurses have their finger on the pulse of pediatric health. School nurses typically see dozens of students a day if not more, and each visit by a child to the school clinic provides an opportunity for the nurse to screen for obesity, provide education, and be a resource for students who want to take responsibility for their health but need somewhere to turn for guidance. Public school nurses in lower-socioeconomic-status areas especially have a pivotal role because there is a direct correlation between BMI and eligibility for free or reduced lunches (Li & Hooker, 2010). Nurses in pediatric health care providers’ clinics are in the same strategic place to provide primary, secondary, and tertiary prevention, as outlined previously. Community health nurses can also collaborate with other community leaders to develop health programs. Nurses are in a powerful position to influence change as the largest group of healthcare professionals (Budd & Layman, 2008); if each nurse does his or her part as an educator, a patient advocate, a collaborator, a public lobbyist, a researcher, a mentor, and a role model, together nurses can help reverse the epidemic of childhood obesity.
References


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