

Screening Project Identifies Highest Risk Obese Teens in North Carolina SBHC

By Todd Neal, RN, MSN, FNP

The United States and many other countries in the world face an epidemic of obesity-related chronic disease. As the number of obese children increases, the incidence of resultant chronic disease will rise in tandem. This will strain healthcare resources and adversely impact personal welfare and workplace productivity.

With its roots deep in public policy, the free market, and our culture of convenience, the obesity epidemic must be addressed on many fronts at once.

The staff of a Healthy Schools, Healthy Communities site in rural North Carolina designed a program to identify the highest-risk children and concentrate intervention efforts in this group. We had tried weight management initiatives in our middle school with very little success. We found that few of these children are willing to come forward to participate in a program, and those that do are not often the ones with the highest health risk.

Our screening project was based on a checklist of five easily identifiable risk factors:

- BMI greater than the 95th percentile,
- blood pressure over the 95th percentile (systolic or diastolic, 2 or more measurements),
- acanthosis nigricans,
- a first-degree family history of cardiovascular disease or type II diabetes, and
- ethnic predisposition (African-American, Latino, Pacific Islander, or Native American).

We considered type II diabetes and cardiovascular risk together based on evidence that insulin resistance and compensatory hyperinsulinemia underlie many if not most cases of both disease processes.

We collected family medical history information on our registration forms, and we screened the students in PE class for weight, blood pressure, and acanthosis nigricans. Those with one blood pressure measurement >95th percentile we rechecked twice.

Nearly 22% of our middle school students were obese. Our objective was to cut this risk group of over 150 students to a more manageable number that we could hope to address in some meaningful fashion given our resources. By applying the above criteria, we formed a highest-risk subset of those with two or more risk factors, cutting the number roughly in half.

The menu of possible interventions is well known. What may work best in one setting may not work best in another. Our efforts to work with risk group students and their parents to change behavior met with limited success.

Many parents either do not correctly perceive their children as obese, or do not think of it as a health risk. Working from the health belief model, one of our principal goals was to raise parental awareness and set in motion parent-driven medical monitoring for development of type II diabetes and cardiovascular disease. We also notified the primary care physicians of risk group student to encourage their attention to the problem.

The risk factor checklist we used is easily modifiable—e.g., 85th percentile BMI, self-assessment of activity level—to widen or narrow the risk group. Also, it can be applied individually in clinical practice, and further stratified by the actual number of risk factors a child has.

We formulated this approach after speaking with many parents about their child’s weight, then receiving the responses such as “everybody in our family is that big” and “just because he’s overweight doesn’t mean he’s going to have problems.” By gathering additional risk factor data before broaching the subject, we hoped to make a stronger case for frequent medical monitoring as well as behavioral change.

Todd Neal is the Program Director of Apple Valley Middle School Health Center which is sponsored by Blue Ridge Community Health Services, Inc. in Hendersonville, North Carolina. For additional information about this screening project, Todd can be contacted by email at neelwt@tds.net.

Top 10 reasons it is important to take action on diabetes and cardiovascular risks *now*.

“What you can conceive of, and believe in, you can achieve.”

10. Health habits established in childhood are hard to change in adulthood. An overweight teenager has a 70% chance of being an overweight adult. We want your child to beat the odds. Plus, by dealing with the weight problem, you'll be dealing with a lot of problems at the same time.
9. While your child is still in middle school, a parent can still have more of an influence on his or her behavior than in the high school years. Until they have independence of transport and finances, you are the one who calls the shots.
8. Any health habits that you undertake to change for your child will have benefits for the whole family, because the change cannot be made only by the child. Parents set the example and children follow that lead. If parents do not take the lead, the child won't make the change.
7. If you take the necessary "lifestyle" steps early, you will prevent, delay or reduce the severity of diabetes, high blood pressure, or high cholesterol. Since "lifestyle" changes (exercise, food choices and amounts) are the first line of treatment for these diseases, your child will be ahead of the game if they are already in place.
6. If your child does develop diabetes, high blood pressure or high cholesterol, you and your doctor want to catch it as soon as possible and start the proper treatment for it. The longer your child has one of these health problems without knowing it, the more irreversible damage is done to the body.
5. Doctors do not expect to see diabetes, high blood pressure and cholesterol problems in young adults. These have traditionally been diseases of middle-age and older, and established screening guidelines often do not apply to young adults. Therefore, these problems are more likely to go unnoticed for years.
4. Young adults, especially young men, do not see doctors frequently. When they do, they go in for an illness or injury, not preventative care. It is during preventative visits ("check-ups" or "physicals") that these problems are typically identified.
3. Young adults are the age group most likely to be without health insurance, especially if they are self-employed. When applying for jobs that may offer health insurance, being overweight may count against them in terms of ability to perform tasks necessary to do the job. Also, there is discrimination in the workplace against obese people. If your child applies for an individual health or life insurance policy, diabetes and cardiovascular risk factors may make him or her ineligible.
2. For young women, high blood pressure and diabetes or the tendency to it may affect fertility and could lead to complications in pregnancy.
1. When he grows into adulthood, your child is still your child and you will still be involved in his life. If diabetes or heart disease causes early death or disability, you will feel the same then as you would if such a thing happened now. In life, all happiness and success is dependent on health. Nothing should be more important to us as parents than the health of our children.