Identification and Treatment of Obesity as a Standard of Care for All Patients in Children's Hospitals

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KEY WORDS

pediatric obesity, children, adolescents, obesity treatment, hospital environment, children's hospitals

ABBREVIATION

NACHRI—National Association of Children's Hospitals and Related Institutions

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abstract

Obese children and adolescents have unique needs for specialized medical equipment while hospitalized and might require special diets and physical activity options as part of their medical treatment. It is important that patients with a diagnosis of obesity be identified on admission so that appropriate equipment and resources can be provided. We examined what components a healthy hospital environment should include and sought to determine if children's hospitals provide a healthy hospital environment that offers these components. In addition, we sought to determine if children's hospitals have policies in place to identify children with obesity so that appropriate resources and services can be offered to treat that diagnosis. We surveyed National Association of Children's Hospitals and Related Institutions member hospitals via a Web-based questionnaire and found that the majority of them do not have policies in place to identify patients with obesity. We did find that the majority of hospitals reported innovative programs or services to provide a healthy hospital environment for their patients, visitors, and staff but acknowledged limitations in providing some services. Specifically, children's hospitals can and should improve on their identification and management of obese pediatric patients. *Pediatrics* 2011;128:S47–S50

Obesity is defined as a BMI at ≥95th percentile for age/gender according to Centers for Disease Control and Prevention 2000 growth charts for patients who are aged 2 years or older. Weight-for-length growth charts should be used for children younger than 2 years.[1] Obese children and adolescents are at risk for developing significant medical conditions and complications, many of which might require inpatient treatment. They might also have unique needs for specialized medical equipment that is not normally supplied for patients admitted to children's hospitals. Although identification and treatment of obesity is considered important, few children's hospitals address this issue in a consistent fashion, even in ambulatory clinics. In addition, these children might require special diets and physical activity options as a part of their medical treatment; therefore, it is important that obese patients be identified on admission so that appropriate equipment and resources can be used and the patients' diagnoses of obesity can be addressed. In addition, because patients who have been diagnosed with obesity have greater resource use,[2] there is a financial need to identify these patients early in an effort to contain costs, a medical need to help them with their weight to decrease their risk for comorbid conditions, and a safety need to assess risk and identify appropriate equipment. We sought to determine if pediatric hospitals are routinely identifying patients with obesity as a diagnosis and, if so, if physicians and hospitals are addressing pediatric obesity.

METHODS

A survey designed by the Healthy Hospital Environment Subcommittee of FOCUS on a Fitter Future was sent to 47 National Association of Children's Hospitals and Related Institutions (NACHRI) member hospitals through a Web-based questionnaire service. It was received by the medical director of the obesity clinic at each hospital, who was asked to complete it or send it to the person most knowledgeable about their program to complete it. The survey addressed components of a healthy hospital environment that included physical activity, food service options, and wellness programs, in addition to information about policies that identify children with obesity and whether appropriate resources are in place to treat or manage pediatric obesity. The survey was intended to determine if appropriate obesity screening and intervention were in place in children's hospitals and included open-ended questions to determine what innovative practices were occurring in these hospitals. A total of 19 of 47 (40%) of the children's hospitals that were polled responded to the survey. Survey results were compiled by the NACHRI and interpreted by the subcommittee members. The responses were used to help determine current practices regarding pediatric obesity in children's hospitals. Innovative practices reported by these hospitals in the survey, expert guidelines previously published, and consensus by the obesity expert committee members were compiled into best practices and guidelines that might be used by children's hospitals and other medical facilities.

RESULTS

In September 2009, 19 NACHRI member hospitals responded to a survey regarding the healthy hospital environment. Only 37% of the respondents reported that they had a policy for identifying patients who are overweight or obese or a policy to treat those patients once they are identified. Thus, 63% of the responding children's hospitals did not have a policy in place to identify or treat obese pediatric patients once identified. Weight-reduction support groups for patients were offered at 2 hospitals (2 of 15 [13%]). Several hospitals reported a mechanism for identification of overweight or obese patients that triggered a referral to the weight-management program.

The majority of hospitals (84%) reported that their hospital has taken steps to make it a healthier hospital environment, including displaying healthy lifestyle messages throughout the hospital, having healthy foods available at all times, providing easy access to stairs, and providing walking paths around the hospital.

Children's hospitals are also making strides to increase their patients' physical activity and decrease television and video-game time when appropriate during hospitalization or outpatient visits to the hospital. Examples of this effort include access to exercise equipment, outdoor green space and playgrounds, rooftop basketball courts, teen lounges with pool tables, activity rooms, fitness classes offered on-site, and activities planned by child life specialists or recreation therapists (eg, scavenger hunts, community outings).

In the survey, hospitals were asked about the biggest barriers or challenges in promoting physical activity and making hospitals healthier from a nutrition perspective; their responses are listed in Table 1.

TABLE 1 Barriers to Health Promotion in Children's Hospitals ($N = 18$)

	Barrier	No. (%) of Hospitals
Physical activity	Financial	14 (78)
	Not a priority	5 (28)
	Space	13 (72)
	Other	4 (22)
Nutrition	Financial	10 (59)
	Not a priority	7 (41)
	Space	2 (20)
	Other	5 (29)

DISCUSSION

Children's hospitals need to work to improve the identification of overweight and obese pediatric patients admitted to their hospitals to provide appropriate services. Although only 40% of the 47 hospitals surveyed responded, we believe that it is likely representative that only 37% of respondents reported that they have a policy in place for identifying overweight or obese patients. Therefore, the majority (63% of children's hospitals) have no policy to either identify or treat overweight or obese children in their hospitals.

Hospitals have a financial interest in identifying obese or overweight children because these children have longer lengths of stay. The mean length of stay in the hospital for all pediatric patient subgroups is 3.9 days.[3] The extra cost per hospitalized obese pediatric patient is approximately $1200 and a half-day longer stay in the hospital as a result of complications caused by obesity.[4]

Having hospitals adopt standard BMI-recording practices is an imperative first step in addressing childhood obesity. With the increased use of electronic medical records, BMI for children could be automatically calculated and categorized on the basis of percentile once height and weight are entered. Patients whose BMI or weight/length is at the ≥95th percentile should be identified as obese, and a standard care plan for the hospitalized obese patient should be initiated by appropriate hospital personnel.

Some pediatric patients and their families do not seek weight-management treatment on their own; an inpatient admission or outpatient visit could provide an opportunity for education and resources for obesity treatment. Hospitals can help to encourage treatment by proactively screening all patients identified as overweight or obese for readiness to change.

The obesity experts on the Healthy Hospital Subcommittee reached consensus on management of obese pediatric patients in children's hospitals by using the results of the survey of NACHRI hospitals and extrapolating from research and the 2007 expert committee outpatient guidelines. We recommend the following guidelines for these patients.

Inpatient

After a patient has been identified as being overweight or obese, notification should be sent to the medical team and the clinical dietitian staff.

Diet

The patient's diet order should be specified as a "healthy options" or "healthy choice" menu, which will offer healthier, lower fat/sugar/calorie foods. The medical team, in consultation with the registered dietitian, will choose a daily caloric intake level appropriate for each individual patient. The inpatient dietary service, using appropriate resources, will have or develop guidelines for this menu.

Factors Related to Addressing Obesity During Admission

Consider the appropriateness of addressing the issue of obesity during the hospitalization. Factors to consider include the patient's length of stay, reason for admission, the severity of obesity, readiness to change, and likelihood of family outpatient follow-up with the primary care physician.

Assessment and Treatment

If it is deemed appropriate to move forward with identifying risk factors related to obesity during the hospitalization, appropriate additional history, physical examination, and ancillary testing should be initiated. Assess underlying causes of abnormal weight gain, discuss family history that can place the child at increased risk of comorbidities, assess for psychological issues that might need urgent attention, and uncover medical problems related to obesity that have not yet been recognized but can help the inpatient team stabilize the ill obese patient. Nutritional, behavioral, and physical activity changes can be started for both the patient and family, depending on their identified needs. Screening laboratory tests, as referenced in the 2007 Expert Committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity[1] should include, but are not limited to:

- a fasting lipid profile for patients with a BMI at the 85th to 94th percentile;
- alanine transaminase and aspartate transaminase measurement, fasting lipid profile, and blood glucose measurement for patients with a BMI at the >95th percentile (or BMI at the 85th–94th percentile if they have risk factors such as high blood pressure or family history of cardiac disease or diabetes); and
- hemoglobin A1c measurement (a new recommendation).[5]

Education and Follow-up

For patients and families who are interested in receiving education and/or further information, a formal visit with a dietitian is recommended. The dietitian can provide basic nutrition information in the inpatient setting and resources available for outpatient counseling and treatment. Other comorbidities that are identified might require referral to specialists or further workup.

Outpatient

All children should have their height and weight measured and BMI calculated at the first visit and at least annually[6] for all primary care and spe-

cialty clinic visits. The BMI percentile and category (underweight, normal or healthy weight, overweight, or obese) should be determined and the family informed of this information, if appropriate. If the BMI category is in the overweight or obese category, steps should be taken to screen and initiate treatment/referral after assessing for readiness to change.

Primary Care Clinic

Hospital-based primary care clinics should check children's BMI annually as part of their well-child visits and follow the BMI percentile trend over time to catch abnormal growth.

Specialty Clinics

The priority in most specialty clinics is to take care of the primary reason for the visit. If the child is either overweight or obese, alerting the primary care physician is part of normal documentation and communication. Certain specialty clinics (eg, medical home, hypertension, sleep clinic, and others) might manage overweight and obesity as part of their care.

CONCLUSIONS

On the basis of the 2007 Expert Committee recommendations,[2] to screen with BMI all children over 2 years, and all children younger than 2 years with weight/length, and the US Preventive Task Force recommendations to use BMI to screen all children older than 6 years,[7] consensus of national obesity experts[8] in the NACHRI FOCUS group was reached to submit the following key recommendation: identification of obesity and treatment (or referral for treatment) should occur in all inpatient and outpatient settings in children's hospitals.

LIMITATIONS AND FURTHER RECOMMENDATIONS

There were a few limitations to this study. The survey did not specifically include questions related to ambulatory clinics based at children's hospitals. The number of hospitals that responded was small. Many of the questions were intentionally open-ended to invite innovative ideas. Research is needed in this area to develop guidelines for the management of obese pediatric inpatients.

Promotion of healthy, active ideas for all patients/family members who visit a children's hospital provides a positive message. The following are more ideas on creating a healthy office or hospital environment[9]:

- Promote physical activity and healthy eating through health-related posters and educational material readily available in waiting rooms and examination rooms.
- Display books, puzzles, and activity sheets that support healthy living to entertain children in waiting rooms and examination rooms.
- Use the 5-2-1-0 message (daily: 5 servings of fruit and vegetables, <2 hours of screen time, at least 1 hour of physical activity, and no sugar-sweetened beverages).
- Provide and promote seasonal activities and healthy eating during holidays.
- Feature healthy foods and a variety of fruits and vegetables in the cafeteria, vending machines, and other hospital food sources.
- Use activity-related rewards, and encourage nonfood items to be used as rewards.

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