

BMI and Childhood Obesity

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Purpose: The purpose of this study is to (a) to increase staff RN's awareness and knowledge base regarding childhood obesity, (b) to insure all children admitted to a 14 bed medical/surgical pediatric unit get both a height and weight documented in the computerized charting system, and (c) to educate staff nurses on calculating and plotting BMI using the computerized charting system (LINKS).

Background: Failure to implement BMI as part of routine screening resulted in children that were not identified as overweight: and therefore lead to children not examined or treated (Dorsey, K.B., et al., 2005). Identifying the obese pediatric patient is crucial in constructing a nursing plan of care. Research shows that BMI isn't being used as often as should be (Larsen, L., et al., 2005). The American Academy of Pediatrics recommends that BMI should be calculated and plotted at least once every year to prevent and/or manage childhood overweight. There is lack of research regarding what other nursing interventions there are to help manage childhood obesity.

Methods: This study involved a retrospective chart analysis which was conducted on 30 randomly selected patients admitted to a pediatric medical/surgical unit between March-May 2007. Pre-data collection included age, sex, and whether height, weight, and BMI were documented. Eight 15-minute in-services regarding BMI calculation and childhood obesity were held at staff meetings and between change of shift. A pre-data questionnaire was distributed and made available to all nurses. Staff nurses were instructed to: 1) document both height and weight for all children admitted, 2) document BMI on admission database, and 3) print out plotted BMI-for-age. A second retrospective chart analysis was conducted on 30 randomly selected patients admitted during the month of August. Post questionnaires were provided to all nurses similar to the pre-intervention questionnaire.

Results: Fifty three percent of pre-data sample had a documented height, weight, and BMI on admission. Eighteen nurses successfully completed both pre and post questionnaires. Pre-survey showed: 0% of nurses agreed or strongly agreed to checking BMI regularly for obesity; 44.4% knew how to calculate BMI; 5.5% agreed or strongly agreed to being able to document and plot BMI using LINKS; 77.8% agreed or strongly agreed that more education was needed regarding childhood obesity. Post intervention data yielded 83.3% of sample had a documented height, weight, and BMI on admission. Post-survey showed: 55.6% of RN's agreed or strongly agreed to checking BMI regularly for obesity; 88.9% knew how to calculate BMI; 94.4% agreed or strongly agreed to being able to document and plot BMI using LINKS; 88.9% agreed or strongly agreed that BMI was useful and can be used in the future.

Discussion: In-services increased nurses' knowledge regarding BMI and childhood obesity. Staff nurses demonstrated the ability to calculate and plot BMI for children using LINKS. Although staff knowledge increased, the sample size was not big enough to generalize to the whole unit. This could be attributed to: low staff presence during in-services and only 18 pre and post surveys returned from a total staff unit of 32.

Implications/Conclusions: This project demonstrated that nurses understand how to calculate and plot BMI, which is key in collecting admission data and planning care. More education on obesity and the roles that diet and physical activity have are needed.

REFERENCES

- American Academy of Pediatrics (AAP). (2003). Prevention of Pediatric Overweight and Obesity. *Pediatrics*, 112(2), 424-430. Retrieved May 26, 2007, from <http://www.aap.org/obesity/recommendations.htm>
- Beno, L., Hinchman, J., Kibbe, D., & Trowbridge, F. (2005). Design and Implementation of Training to Improve Management of Pediatric Overweight. *The Journal of Continuing Education in the Health Professions*, 25, 248-258.
- Centers for Disease Control and Prevention (CDC). (2006e). Overweight Prevalence. Retrieved May 17, 2007, from <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/prevalence.htm>
- Centers for Disease Control and Prevention (CDC). (2006e). *Defining Childhood Overweight*. Retrieved May 17, 2007, from <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/defining.htm>
- Centers for Disease Control and Prevention (CDC). (2006e). *Consequences*. Retrieved May 17, 2007, from <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/consequences.htm>
- Centers for Disease Control and Prevention (CDC). (2006e). *About BMI for Children and Teens*. Retrieved May 17, 2007, from http://www.cdc.gov/nccdphp/dnpa/bmi/childrens_BMI/about_childrens_BMI.htm
- Dilley, K.J., Martin, L.A., Sullivan, C., Seshadri, R., & Binns, H.J. (2007). Identification of Overweight Status as Associated With Higher Rates of Screening for Comorbidities of Overweight in Pediatric Primary Care Practice. *Pediatrics*, 119. Retrieved April 14, 2007, from <http://www.pediatrics.org/cgi/content/full/119/1/e148>
- Dorsey, K.B., Wells, C., Krumholz, H.M., & Concato, J.C. (2005). Diagnosis, Evaluation, and Treatment of Childhood Obesity in Pediatric Practice. *Archives of Pediatrics and Adolescent Medicine*, 159, 632-638.
- Larsen, L., Mandelco, B., Williams, M., & Tiedman, M. (2006). Childhood obesity: Prevention practices of nurse practitioners. *Journal of the American Academy of Nurse Practitioners*, 18, 70-79.
- O'Brien, S.H., Holubkov, R., & Reis, E.C. (2004). Identification, Evaluation, and Management of Obesity in an Academic Primary Care Center. *Pediatrics*, 114. Retrieved March 18, 2007, from <http://www.pediatrics.org/cgi/content/full/114/2/e154>