



BACKGROUND/SIGNIFICANCE

Childhood obesity is an ongoing epidemic in the United States. Approximately 34.2% of 6 to 11-year-old children are overweight or obese, and 17.7% fall into the obese category (Kumar et al., 2017). "The increasing prevalence of childhood obesity is associated with emergence of comorbidities considered to be "adult" diseases including type 2 diabetes mellitus, hypertension, nonalcoholic fatty liver disease, obstructive sleep apnea, and dyslipidemia" (Kumar et al., 2017). It is important that health care providers intervene because children are less able to manage their own health since they are only allowed what their parents grant them access to. Things such as socioeconomic status, race/ethnic background, hereditary factors, and parent habits all have an impact on a child's health and weight. Encouraging physical activity in children is important because of the newfound normalcy for children to use technology for leisure. This sedentary lifestyle may have a contributing part in the development of fatal obesity-related diseases.

For obese primary school children in the United States (P), how does implementing daily physical activity (I) compare to a sedentary lifestyle (C) and weight loss (O)?

Population – Obese school-age children in the U.S.

Intervention – daily physical activity

Comparison – sedentary lifestyle

Outcome – weight loss



RESULTS

- Ghang Zhang et al. (2015) conducted a meta-analysis to identify if there is a relationship between television watching and childhood obesity. The meta-analysis included 14 cross-sectional studies with 106,169 subjects. The study found "a linear-dose response relationship for TV watching and childhood obesity ($P < 0.001$), and the risk increased by 13% for each 1 h/day increment in TV watching" (Ghang Zhang et al., 2015). The findings of this study are relevant because it proves that increased TV viewing is associated with "decreased physical activity, increased energy intake, increased sedentary behavior, exposure to food advertising, and reduced sleep time" (Ghang Zhang et al. 2015).
- Bülbül (2020) conducted a meta-analysis to analyze the effectiveness of exercise as a treatment for childhood obesity. The study found that "adding exercise to dietary therapy improved weight loss by maintaining non-fat body mass" (Bülbül, 2020). This is relevant because it displayed the correlation between exercise and weight reduction in children. "[...] with overweight and obese children, it was found that a 0.4% (0.1–0.7%) reduction in body fat occurred with moderate-high intensity physical activity performed for 155–180 minutes weekly" (Bülbül, 2020).
- Nemet et al. (2017) conducted a quantitative content analysis to show the short-term and long-term effects of dietary, behavioral, and physical activity for the treatment of obesity in children. The sample consisted of 46 total subjects; 24 obese subjects that completed the intervention and 22 control subjects. The study found that after just 3 months of the diet and physical activity changes, there were significant differences in body weight, body fat percentage, serum total cholesterol level, LDL cholesterol level, and fitness in the intervention vs. the control group ($p < 0.5$) (Nemet et al., 2017). This information was relevant because it proved the intended intervention has significant results in decreasing the effects of childhood obesity.
- Nigg et al. (2016) conducted a review of the literature and focused on nutritional and physical activity. The review studied 590 articles, in which 18 had effective intervention studies. The studies targeted different environmental levels: home, school, and community, with interventions to reduce or prevent obesity. The results showed that a combination of involvement of children, parents, teachers, and community members in intervention activity will produce more effective outcomes. This was significant in that it targeted increasing physical activity, decreasing TV watching, and eating healthy food to decrease obesity in the home, school, and community settings.
- Fang et al. (2019) conducted a meta-analysis to determine if obesity was positively correlated with total screen-viewing time. Reducing television and computer screen time could be an important factor to prevent childhood obesity. Screen time > 2 hr/day were positively associated with childhood (< 18 years) obesity. It showed that increased screen time and increased sedentary behavior can be a risk factor for being overweight/obese in children and adolescents. The results showed that reducing screen time could be an important factor to prevent overweight/obesity in children and adolescents.

PRACTICE IMPLICATIONS

One significant role of a nurse is to be a patient advocate, and that is even more important in the pediatric population. Ghang Zhang and colleagues (2015) found that a sedentary lifestyle is greatly associated with obesity in children. Nurses can utilize this information to advocate for their patients and teach both children and parents about the importance of exercise to combat childhood obesity. According to the Center for Disease Control and Prevention (2020) preventing obesity in childhood will reduce the risk of developing serious health conditions, such as heart disease, type 2 diabetes, and cancer. Ongoing education that is evidence-based is essential.

CONCLUSIONS

The main findings of this review of the literature were that physical activity show significant positive outcomes in children who are obese, and that technology plays a significant role in the decline of physical activity in children. School-age children want to play video games, watch television, and play on the computer more and more versus going outside to play. According to the literature, screen time > 2 hours per day was positively associated with childhood obesity vs < 2 hours per day (Fang et al., 2019). All in all, increasing daily activity in children is a strong intervention in decreasing the child's BMI and weight and to help prevent further complications in the future. Consistent with the Self-Care Deficit theory, this promotes self-care activities early that can influence a lifetime. More research is needed.

METHODS

Dorothea Orem's Self-Care deficit theory helped guide this review of the literature. Her theory "focuses on the patient's self-care capacities and the process of designing nursing actions to meet the patient's self-care needs" (Black, 2020). This theory correlates with the PICO question in the sense that obese children often do not recognize the lifestyle choices that lead to becoming obese, and healthcare professionals can serve as that gatekeeper between knowledge deficit and enrichment. This review was conducted to find if implementing a physical activity regimen would help school-age children lose weight and to determine if a sedentary lifestyle contributes to childhood obesity. Terms utilized in finding research were as follows: childhood obesity, pediatric obesity, sedentary, physical activity, exercise, overweight, health promotion. Databases used included CINAHL and PubMed through Cumberland University's Vise Library. Five articles were found to be appropriate to answer the proposed PICO questions that were published within the past 5 years, in English, in peer-reviewed journals, and had full text available.

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