

Clinical Decision Support for Pediatric Obesity: Accuracy, Completeness, and Usability of the Most Popular Drug Information Applications for Healthcare Practitioners

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Background

In the United States, the incidence of pediatric and adolescent obesity has respectively doubled and quadrupled over the last 30 years.¹ This healthcare concern poses the necessity to analyze approaches for prevention and treatment of pediatric obesity. Barriers to treatment include low self-proficiency with behavioral counseling as well as lack of time, resources, and reimbursement.² Online tools have demonstrated improved confidence and frequency of obesity counseling.³ These resources can assist pediatricians and healthcare professionals in providing necessary preventative counseling.

Objective

The objective is to evaluate popular iPhone/iPad drug information applications for accuracy, completeness, and usability regarding the prevention and treatment of pediatric obesity.

Methods

To examine mobile applications' accuracy of drug information (DI), we will investigate the preferred DI mobile applications used by pharmacists. Previously, Ness et al. described pharmacists' preferences and use patterns with regard to DI applications.⁴ The top 5 pharmacist preferred mobile applications identified by the study, in addition to 5 of the most frequently used applications focused on the pediatric population, will be examined. Based on information detailed in two sets of pediatric obesity guidelines, questions are in development to assess the accuracy and completeness of the applications.

Methods (continued)

Emphasis will be placed on the agreement between the guideline recommendations for prevention and treatment of pediatric obesity and information provided in each mobile application. Additionally, we will develop a rubric for evaluating the usability of these mobile applications based on ease of use.

Applications to be Assessed

Pharmacist Preferred Applications	Pediatric-Focused Applications
Clinical Pharmacology	AAP Pediatric Patient Education™
Lexicomp™	Epocrates®
Medscape®	Micromedex® Pediatric Essentials
Micromedex®	Pedi QuickCalc
WebMD®	Pedi STAT

Pediatric Obesity Guidelines to be Assessed

1. Health Care Guidelines for Prevention and Management of Obesity for Children and Adolescents (Institute for Clinical Systems Improvement, 2013)⁵
2. Prevention and Treatment of Pediatric Obesity: an Endocrine Society Clinical Practice Guidelines Based on Expert Opinion (Endocrine Society, 2008)⁶

Questions for Evaluating Accuracy and Completeness

1. How does the mobile application define obesity?
2. How does the mobile application calculate pediatric Body Mass Index (BMI)? Does this definition differ from that of the comparative treatment guidelines?
3. Does the mobile application address prevention or treatment of comorbid disease states for childhood obesity? If so, are these recommendations consistent with those provided in the guidelines?
4. Does the application provide dosing and/or indications for use of the following in treating pediatric obesity? If so, is this information consistent with recommendations provided in treatment guidelines?

Treatments to be Evaluated

growth hormone	octreotide
leptin therapy	orlistat
metformin	sibutramine

Results

Results in progress.

References

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