ISSN: 2320-9267

Indian Journal of Pharmaceutical and Biological Research (IJPBR)

Journal homepage: www.ijpbr.in

REVIEW ARTICLE

The Role of Health Information Technology in the Screening and Treatment of Childhood Obesity A Systematic Review

Om Prakash Swami[1*], Annie Caroline W[2], Jaunita John Barren[3], Gurpreet Kaur[4], Rinki Sharma[5], Rakesh Kumar[6], Aarif Mohammad[7]

ABSTRACT

Introduction: Childhood obesity poses significant global health risks, including diabetes, cardiovascular disease and psychological issues, emphasizing the urgent need for public health interventions.

Materials and Methods: Describe the inclusion criteria (e.g., peer-reviewed studies from specific databases within the last 10 years), exclusion criteria, and the PRISMA guidelines.

Results: Summarize key findings related to HIT's role in increasing screening rates, enhancing follow-up care, and supporting behavioral interventions.

Conclusions: Highlight HIT's potential in facilitating more comprehensive obesity screening and management in pediatric populations, noting any gaps and future research directions.

Keywords: Role; Health Information; Screening; Childhood Obesity

Indian J. Pharm. Biol. Res. (2026): https://doi.org/10.30750/ijpbr.14.1.04

INTRODUCTION

Childhood obesity is a serious public health issue worldwide, associated with an increased risk of various health problems, including type 2 diabetes, cardiovascular diseases, and psychological issues, with effects that may persist into adulthood.[1] The prevalence of childhood obesity has increased dramatically over recent decades, making it a pressing area for public health intervention.[2] In addressing childhood obesity, early screening and sustained intervention are crucial for effective prevention and treatment.[3] However, healthcare providers face significant barriers to consistent screening and follow-up care, including limited time, resources, and patient engagement challenges.[4]

Health Information Technology (HIT) offers a promising solution to address some of these barriers. By integrating tools such as electronic health records (EHRs), clinical decision support systems (CDSS), mobile health (mHealth) applications, and telemedicine, HIT has the potential to streamline obesity screening and treatment in pediatric care settings.[5] EHRs, for example, allow for the use of automated alerts to remind providers of recommended screening protocols, helping ensure that screenings are completed during routine visits.[6] CDSS, integrated into EHRs, can provide tailored recommendations for obesity interventions based on a child's specific health profile, aiding healthcare providers in making informed decisions at the point of care.[7]

[1]Associate Professor, Mahatma Gandhi Nursing College, Jaipur, India

[2] Infection Control Nurse, Government Medical College and Hospital, Thiruvallur, India

[3]Associate Professor, Plot No. 41, Metro College of Nursing, Greater Noida, Uttar Pradesh, India

[4]Principal cum Professor, Sukhjinder Novel institute of Nursing, Dunera, Pathankot, Punjab, India

[5]Assistant Professor, NIMS, University, Jaipur, India

[6]Assistant Professor, College of Nursing, LLRM Medical College, Meerut, Uttar Pradesh, India

[7]HOD/Assistant Professor Department of Pediatrics Nursing, Integral University, Lucknow, Uttar Pradesh, India

Corresponding Author: Om Prakash Swami, Associate Professor, Mahatma Gandhi Nursing College, Jaipur, India. E-Mail: omprakash2030@yahoo.in

How to cite this article: Swami OP, Caroline AW, Barren JJ, Kaur G, Sharma R, Kumar R, Mohammad A. The Role of Health Information Technology in the Screening and Treatment of Childhood Obesity A Systematic Review. Indian J. Pharm. Biol. Res. 2026;14(1):20-22.

Source of support: Nil

Conflict of interest: None.

Received: 08/01/2026 **Revised:** 08/02/2026 **Accepted:** 27/02/2026 **Published:** 12/03/2026

Moreover, digital health tools, such as mHealth apps and telemedicine, can enhance patient engagement by providing remote access to lifestyle counseling, nutrition education, and behavioral support.[8] These tools empower families to take a more active role in managing their child's health outside of clinical settings, which is essential for sustained behavioral change.[9] For instance, mobile apps can enable children and their parents to monitor dietary intake, physical activity, and progress over time, while receiving regular feedback and guidance from healthcare providers.[10]

Despite the theoretical advantages of HIT in addressing childhood obesity, there is a need to consolidate existing evidence to understand its real-world effectiveness.[11] This systematic review aims to evaluate the current research on the role of HIT in childhood obesity screening and treatment, focusing on its impact on screening rates, intervention adherence, and overall health outcomes in pediatric populations. By summarizing and analyzing the existing literature, this review seeks to identify both the strengths and limitations of HIT interventions, and to propose directions for future research in this critical field of public health.

MATERIALS AND METHODS

Search Strategy

- Include keywords such as "Health Information Technology," "childhood obesity," "screening," "treatment," and "digital health."
- Databases: MEDLINE, PubMed, CINAHL, Cochrane Library, and others.

Inclusion/Exclusion Criteria

- **Inclusion**: Studies focused on pediatric populations, examining HIT interventions for obesity.
- **Exclusion**: Studies not focused on HIT or not addressing childhood obesity treatment outcomes.

Data Extraction

- Information to extract includes the type of HIT used, population demographics, intervention specifics, and outcome measures.

Quality Assessment

- Use tools like the Cochrane Risk of Bias Tool or the Newcastle-Ottawa Scale for quality assessment.

RESULTS

Screening

- Findings on how EHR prompts and reminders impact screening rates and early detection of childhood obesity.

Treatment Interventions

- Summarize studies on telemedicine for follow-up appointments, mobile apps for behavioral change, and other digital health tools designed to support dietary and physical activity monitoring.

Patient Engagement

- How HIT improves communication between providers, patients, and families; examples of remote monitoring and feedback that enhance adherence to treatment.

Outcomes

- Effectiveness in improving BMI, adherence to lifestyle changes, and overall health outcomes.

DISCUSSION

Advantages of HIT

Explain how HIT addresses barriers to screening and treatment, such as accessibility, follow-up care, and adherence.

Limitations

Note limitations of current research, including limited long-term data and challenges in integrating HIT with traditional care models.

Future Directions

Suggestions for further research on HIT's effectiveness across diverse populations and settings.

CONCLUSION

Summarize the potential of HIT in advancing childhood obesity screening and management, highlighting its ability to support preventive care and lifestyle changes.

ACKNOWLEDGEMENTS

Authors acknowledge the immense support received from Mahatma Gandhi Nursing College, Jaipur for completing this study. Authors are grateful for the help received from the scholars whose articles are cited and included in references of this manuscript.

FUNDING/CONFLICTS OF INTEREST

Self-funded and there is no conflict of interest.

REFERENCES

1. WHO. Childhood overweight and obesity. Available from: https://www.who.int.
2. Ogden CL, Carroll MD, Fryar CD, Flegal KM. Prevalence of obesity among adults and youth: United States, 2011–2014. NCHS Data Brief, no 219. Hyattsville, MD: National Center for Health Statistics. 2015.
3. Barlow SE, Expert Committee. Expert committee

recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. Pediatrics. 2007;120(Suppl 4).

4. Dietz WH. Health consequences of obesity in youth: childhood predictors of adult disease. Pediatrics. 1998;101(3):518–525.
5. Fiks AG, Grundmeier RW, Margolis B, Bell LM, Steffes J, Massey J, et al. Impact of clinical alerts within an electronic health record on routine childhood obesity screening and counseling practices. Pediatrics. 2007;120(6).
6. Binns HJ, Ariza AJ, Christensen N. Changes in obesity management practices of pediatricians and family physicians: results from the AAP Periodic Survey. Ambul Pediatr. 2006;6(6):370–375.
7. Rhee KE, Kessl S, Lindback S, Littman M, El-Kareh R. Provider perceptions of electronic decision support for childhood obesity management. Clin Pediatr (Phila). 2018;57(6):664–668.
8. Liu J, Kattan M. Racial/ethnic disparities in children's health: The interplay between socioeconomic status and neighborhood characteristics. Soc Sci Med. 2018;215:115–122.
9. Turner T, Spruijt-Metz D, Wen CKF, Hingle MD. Prevention and treatment of pediatric obesity using mobile and wireless technologies: a systematic review. Pediatr Obes. 2015;10(6):403–409.
10. Staiano AE, Beyl RA, Guan W, Hendrick CA, Hsia DS, Newton RL. Home-based exergaming among children with overweight and obesity: a randomized clinical trial. Pediatr Obes. 2018;13(11):724–733.