

# Efforts to Address Childhood Obesity: A Literature Review

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## ABSTRACT

Childhood obesity is a growing public health problem caused by unhealthy dietary patterns, excessive intake of high-fat and high-sugar foods, and insufficient physical activity. If not addressed early, childhood obesity may persist into adulthood and increase the risk of non-communicable diseases. Several non-pharmacological interventions have been proposed to prevent and manage childhood obesity, including self-control techniques, HAN therapy (hypnosis, physical activity, and nutrition), and FUN Water therapy. This literature review aimed to analyze efforts to address childhood obesity through self-control techniques, HAN therapy, and FUN Water therapy. This study employed a literature review design. Articles were collected from Google Scholar, PubMed, and the Indonesian National Library database. A total of 8,497 articles were identified using relevant keywords. After screening based on inclusion criteria full-text availability, relevance to childhood obesity interventions, publication years between 2015 and 2020, and Indonesian or English language nine articles were selected for review. The review showed that self-control techniques help children regulate eating behavior and physical activity, although maternal knowledge alone was not significantly associated with attitudes toward managing childhood obesity ( $p = .458$ ). HAN therapy demonstrated positive outcomes in improving dietary patterns, increasing physical activity, and supporting healthy weight management through family involvement. FUN Water therapy was found to be an enjoyable physical activity that effectively increases energy expenditure and helps prevent overweight and obesity in children. Childhood obesity can be addressed through comprehensive behavioral and lifestyle interventions. Self-control techniques, HAN therapy, and FUN Water therapy are effective non-pharmacological approaches that can support obesity prevention and management in children when implemented consistently with family involvement.

**Keywords:** Childhood Obesity, FUN Water Therapy, HAN Therapy, Self-Control

## BACKGROUND

Childhood obesity is one of the most serious public health challenges of the 21st century, with prevalence rates increasing worldwide (World Health Organization [WHO], 2018). Globally, more than 42 million children under the age of five were overweight in 2018, with the majority living in low- and middle-income countries (WHO, 2018). Obesity during childhood significantly increases the likelihood of obesity in adulthood and elevates the risk of developing non-communicable diseases such as type 2 diabetes, cardiovascular disease, and metabolic disorders (Centers for Disease Control and Prevention [CDC], 2017).

In Indonesia, data from the Basic Health Research (Riskesdas) 2018 showed that the prevalence of overweight and obesity among children aged 5–12 years reached 18.8%, consisting of 10.8% overweight and 8.0% obese children (Kementerian Kesehatan Republik Indonesia, 2018). East

Java is among the provinces with obesity prevalence above the national average. Studies conducted in urban areas such as Surabaya reported that approximately 20% of elementary school children were overweight or obese (Yaqin et al., 2019).

Unhealthy eating patterns, including frequent consumption of high-fat and high-sugar snacks, excessive caloric intake, and low levels of physical activity, are major contributors to childhood obesity (Widyawati, 2014; Rosyidah, 2015). Socioeconomic factors and parental education also influence children's dietary behaviors. Parents with higher socioeconomic status may rely more on fast food, while maternal education level affects food selection and feeding practices (Sartika, 2017; Wahyu, 2019).

To address childhood obesity, behavioral and lifestyle interventions are essential. Non-pharmacological approaches such as self-control techniques, HAN therapy (hypnosis, physical activity, and nutrition), and FUN Water therapy have been proposed as effective strategies. Self-control techniques focus on helping children regulate their own behaviors, while HAN therapy integrates psychological, physical, and nutritional interventions through family involvement. FUN Water therapy emphasizes enjoyable water-based physical activities to increase energy expenditure. This literature review aims to analyze evidence related to these interventions in addressing childhood obesity.

## **METHODS**

This study employed a literature review design. Relevant articles were identified through electronic databases, including Google Scholar, PubMed, and the Indonesian National Library. The keywords used were "childhood obesity," "obesity prevention," "self-control," "HAN therapy," and "FUN Water therapy." The initial search yielded 8,497 articles.

Inclusion criteria were: (1) articles published between 2015 and 2020, (2) full-text availability, (3) studies focusing on interventions to address childhood obesity, and (4) articles written in Indonesian or English. After screening titles, abstracts, and full texts, nine articles met the inclusion criteria and were included in the review.

This study used a literature review approach to comprehensively examine existing research on interventions aimed at preventing and managing childhood obesity. Relevant studies were identified through systematic searches of electronic databases, including Google Scholar, PubMed, and the Indonesian National Library, in order to obtain both international and national scientific publications. The search strategy employed a set of predefined keywords, namely "childhood obesity," "obesity prevention," "self-control," "HAN therapy," and "FUN Water therapy," which were selected to capture studies focusing on behavioral and therapeutic interventions for childhood obesity. The initial search resulted in 8,497 articles, indicating a wide body of literature related to the topic. To ensure relevance and quality, inclusion criteria were applied, consisting of publication between 2015 and 2020, full-text availability, a specific focus on interventions addressing childhood obesity, and articles written in either Indonesian or English. The screening process involved reviewing titles, abstracts, and full texts to exclude irrelevant or ineligible studies. After this rigorous selection process, nine articles met all inclusion criteria and were included in the final review, where their findings were analyzed and synthesized to identify key intervention strategies, outcomes, and research gaps related to childhood obesity prevention.

## **RESULTS**

The findings from the reviewed articles indicate that multiple interventions contribute to addressing childhood obesity. Self-control techniques were shown to help children regulate eating behaviors and physical activity by setting goals, monitoring behavior, and preventing relapse into

unhealthy habits (Martin & Pear, 2015). However, a study by Febrianita (2016) found no significant relationship between maternal knowledge of obesity and maternal attitudes toward managing childhood obesity ( $p = .458$ ), suggesting that knowledge alone is insufficient to change behavior.

HAN therapy demonstrated positive outcomes in managing childhood obesity. Darmawati (2017) reported that HAN therapy effectively supports behavioral change through hypnosis-based communication, structured physical activity, and nutritional management, particularly when families are actively involved. Improvements were observed in dietary patterns and physical activity levels among obese children.

FUN Water therapy was identified as an enjoyable and effective form of physical activity. Pardede (2019) found that water-based activities promote movement, increase calorie expenditure, and help prevent overweight and obesity in children. Because water activities are perceived as fun, children are more likely to participate consistently, leading to better weight management outcomes.

The results of the literature review are summarized in Table 1, which presents a comparison of key interventions, authors, and main findings related to strategies for preventing and managing childhood obesity.

<b>Intervention Type</b>	<b>Author(s) Year</b>	<b>&amp;</b>	<b>Key Findings</b>	<b>Implications for Childhood Obesity Management</b>
Self-control techniques	Martin & Pear (2015)		Self-control strategies were effective in helping children regulate eating behaviors and physical activity through goal setting, self-monitoring, and relapse prevention.	Behavioral self-regulation plays a critical role in supporting healthy lifestyle changes and preventing the recurrence of unhealthy habits among children.
Maternal knowledge and attitudes	Febrianita (2016)		No significant relationship was found between maternal knowledge of obesity and maternal attitudes toward managing childhood obesity ( $p = .458$ ).	Knowledge alone is insufficient to change behavior, highlighting the need for practical skills training and behavioral interventions involving parents.
HAN therapy	Darmawati (2017)		HAN therapy showed positive effects on behavioral change through hypnosis-based communication, structured physical activity, and nutritional management, particularly with active family involvement.	Family-centered, multi-component interventions are effective in managing childhood obesity and improving long-term health behaviors.

		Improvements were observed in children's dietary patterns and physical activity levels.
FUN Water therapy	Pardede (2019)	Water-based activities increased physical movement, calorie expenditure, and participation rates due to their enjoyable nature, contributing to the prevention of overweight and obesity in children. Enjoyable and engaging physical activity interventions enhance adherence and are effective strategies for weight management in children.

Overall, the findings presented in Table 1 indicate that multifaceted interventions combining behavioral regulation, family involvement, and enjoyable physical activities are more effective in addressing childhood obesity than knowledge-based approaches alone.

## DISCUSSION

This literature review highlights that childhood obesity is a multifactorial condition requiring comprehensive intervention strategies. Self-control techniques play a crucial role in helping children develop the ability to regulate eating habits and physical activity. According to Martin and Pear (2015), self-control interventions enable individuals to manage problematic behaviors by setting goals, monitoring progress, and maintaining long-term behavior change.

The effectiveness of HAN therapy lies in its integrative approach, combining psychological, physical, and nutritional components. Family involvement is essential, as parents play a central role in shaping children's eating patterns and activity levels. Previous studies have shown that parental engagement significantly enhances the success of obesity interventions (Darmawati, 2017; Iswati et al., 2018).

FUN Water therapy offers an innovative approach to increasing physical activity among children. Water-based activities reduce joint strain, increase enjoyment, and promote sustained participation. As a result, FUN Water therapy may serve as an effective alternative or complement to traditional exercise programs in preventing and managing childhood obesity (Pardede, 2019).

Overall, the reviewed studies support the importance of combining behavioral control, family-based lifestyle modification, and enjoyable physical activities to address childhood obesity effectively.

In addition, the findings of this review suggest that the success of childhood obesity interventions depends not only on the type of intervention implemented but also on the degree of consistency and contextual support surrounding the child. Behavioral strategies such as self-control and HAN therapy require sustained reinforcement within the home and social environment to produce lasting outcomes. This aligns with ecological models of health behavior, which emphasize that individual behavior change is strongly influenced by family dynamics, environmental accessibility, and social support systems. Therefore, interventions that actively engage parents and create supportive, enjoyable contexts for physical activity such as FUN Water therapy are more likely to promote long-term adherence and meaningful improvements in weight management among children.

## CONCLUSION

Childhood obesity can be addressed through comprehensive non-pharmacological interventions focusing on behavior modification and lifestyle changes. Self-control techniques, HAN therapy, and FUN Water therapy have demonstrated positive effects in preventing and managing obesity among children. Consistent implementation and active family involvement are key factors in achieving sustainable outcomes. These interventions may be integrated into nursing practice, school health programs, and community-based initiatives to reduce the prevalence of childhood obesity.

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