Galore International Journal of Health Sciences and Research
[Indexed, Peer-Reviewed Journal]
Vol. 10; Issue: 1; January-March 2025
Website: www.gijhsr.com
Review Article *P-ISSN: 2456-9321*

A Systematic Review of Qualitative Experiences in Tier 2 Weight Management Programs in School-Aged Children

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DOI: https://doi.org/10.52403/gijhsr.20250106

ABSTRACT

Background: Childhood obesity, affecting numerous young children from various backgrounds has gradually become a rampant problem. Weight management programs, especially Tier 2, serve as opportunities to prevent and manage obesity among these children and their families, paying special attention to behavioural, physical, and environmental elements of the affected individual.
Method: The study uses a systematic review approach to analyse findings from existing qualitative literature to assess the personal experiences of families and children managing obesity through Tier 2 weight management option. Some of the factors assessed centred around family background, school management, adherence to the program, and structure of the weight management program.
Findings: The recurring barriers that impact affected individuals' adherence to weight management programs included finance and lack of time. Findings showed that family background and culture paid a significant part in participants' engagement with weight management programs. Support from school, parents, and the program itself were found to be essential in promoting adherence.
Conclusion: For Tier 2 weight management programs to be effective, it is crucial to tailor the programs' offerings to consider various cultural beliefs, financial status of families, as well appropriate mental health services for those participating in the program. It is suggested that further studies can build on the findings from this study and examine the cultural diversity of participants of Tier 2 weight management programs.

Keywords: Child Obesity, Weight Management Programs, Qualitative Experience, Tier 2 weight management approach

INTRODUCTION

Obesity, as described by World Health Organization (WHO) refers to the excess accumulation of adipose tissue in the body, presenting risks to an individual's overall health. WHO has categorised obesity and overweight to be major global health issues that have affected various individuals, irrespective of their age or social status (Islam et al., 2024). Obesity is diagnosed by the measurement of an individual's body mass index (BMI) which requires dividing a person's weight in kilograms (kg) by their height in (m^2) (Purnell, 2023). In the year 2022, almost 900 million adults were living with an obesity diagnosis, and it has been highlighted by WHO that the number of people living with obesity globally has doubled between 1990 and 2022 (WHO,

2024). Some studies consider obesity to be high-income country disease, however it has risen in both low and middle-income countries over the past years (Hruby and Hu, 2015; Abay et al., 2022; Safaei et al., 2021).
In 2022, Asia had the highest number of children under the age of 5 years living with obesity (Phelps et al., 2024). As highlighted by WHO, almost 400 million school-aged children between the ages of 5-19 years were considered obese in this same year all across the world, which is a 20 percent increase from what it was in 1990 (WHO, 2024). Obesity caused approximately 5 million deaths from diseases such as cancer, respiratory distress, heart problems, and digestive issues in 2021 (Powell-Wiley et al., 2021). According to Okunogbe et al. (2022), if swift actions are not taken regarding the high prevalence of obesity, it is predicted to cost the global economy almost $3 trillion per annum by 2030 and almost $19 trillion by 2060. Globally, a little less than 3 million lost their lives to obesity every year, with 36 million global disability-adjusted life years (DALYs) being caused by obesity (Ferrari et al., 2024).
According to National Health Service UK (NHS), obesity prevalence is highest in Western Europe, with a higher occurrence in males and females (NHS, 2020). In 2019, there were about 12,000 hospital admissions as a result of obesity, which was a 4 percent increase from 2018 (NHS, 2021). Also, 20 percent of children above the age of 6 were classified as obese with prevalence in disadvantaged areas than high-income areas. As highlighted by the Department of Health and Social care (DHSC), the issue of obesity costs the NHS about £6 billion per annum, putting great pressure on the healthcare system and the overall economy. DHSC also notes that there are several measures being taken to reduce the prevalence of obesity such as introducing calorie labelling, restricting foods high in fat in supermarkets, and encouraging children and adolescents to engage in active living, supporting Sport Premium with about £600 million in funding (DHSC, 2024).
Childhood obesity is now considered to be a worldwide epidemic (Wang and Lim, 2012; Di Cesare et al., 2019). The increasing prevalence of obesity among school-aged children in some developing economies has become as high as that of high-income due to children consumption of foods low in macronutrients, sugary foods, and high-calorie diet that are low in cost but have poor nutrient quality (Adeniyi et al., 2019; Jakobsen et al., 2023). The introduction of e-food apps, increased screen time, higher pressure in academics, and busy schedules of parents has been highlighted by (Thomas et al., 2021; Haghjoo et al., 2022) to increase the obesity issue among children. According to WHO, obesity in children has its psychosocial consequences, such as stigma, depression, bullying, poor quality of life, low self-esteem reduced academic performance, and discrimination (WHO, 2024).
Many studies have identified obesity and malnutrition to exist together. For instance, children in low and middle-income countries are more at risk of poor pre-natal infant nutrition (Kobylińska et al., 2021; Vctora et al., 2021) In addition, many of these children with their poor diets also engage in little to no physical activity, resulting in childhood obesity (Adeniyi et al., 2019; Barazzoni and Cappellari, 2020). Bharti and Kulshrestha (2019) have highlighted the health consequences of obesity among children, including atherosclerosis, hypertension, cardiovascular issues, and high leptin resistance. Furthermore, childhood obesity puts a child at risk of type II diabetes, particularly because obesity in some children and adolescents is a result of insulin deficiency (Oranika et al., 2023). Hasan et al. (2024) also mentions how excess body weight in children has negative impact on the growth of bones, muscles, and joints because of stress on growth plates. There is a severe need for obesity management interventions targeting both children and their families to help them maintain a healthier life.
There are various weight management interventions that have been identified to maintain a static body weight, especially as

children are still growing. Some of these interventions include lifestyle modifications, pharmacological treatment, faecal microbiome transfer, and metabolic/bariatric surgery (Clemente-Suárez et al., 2023). However, this study is focusing on lifestyle modifications which is the first-line treatment recommended for childhood obesity. Lifestyle modification constitute exercises, dietary restrictions, and behavioural modification measures (Wadden et al., 2020). Often times, these lifestyle interventions are done in out-patient settings, but evidence from studies have revealed that in-patient programs are also effective (Fernández-Abascal et al., 2021; Schmidt et al., 2020). The management of obesity is difficult and it requires rapid actions to prevent.

Theoretical Overview

The Social Cognitive theory (SCT) is used to underpin this study because it serves as the foundation for a health behaviour change model that can be used to address lifestyle modifications in childhood obesity (Anton et al., 2021). The SCT theory focuses on how individuals regulate how they behave through reinforcement and control to achieve a specific goal that can be maintained long-term (Islam et al., 2023). Applying this theory to weight management intervention programs for childhood obesity, it describes all the factors working together and influencing an individual's lifestyle to achieve the goal of preventing obesity or maintaining one's weight after engaging in a weight management program. In addition, the theory emphasises the relationship between environmental, personal, biologic, and behavioural factors influencing health behaviours, particularly in regards to physical activity and diet, which is the main focus on Tier 2 weight management programs.

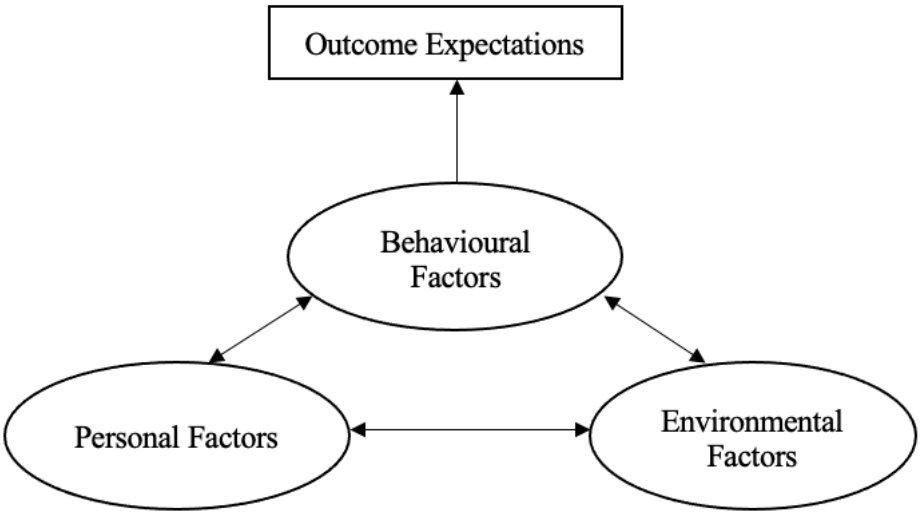


Figure 1. Social Cognitive Theory and its Components

These are the objectives the research aims to achieve;

i. To systematically review existing qualitative studies on the lived experiences of school-aged children participating in Tier 2 weight management programs.
ii. To identify and analyse specific perceptions, motivations, and attitudes of children and their families toward Tier 2 weight management interventions.
iii. To examine the main barriers and facilitators impacting adherence to, and success within, Tier 2 weight management programs from the perspective of children and their families.
iv. To evaluate how Tier 2 weight management programs address the physical, social, and psychological

aspects of weight management for children by applying the Social Cognitive theory to analyse the factors influencing the success of these programs among school-aged children

v. To provide recommendations for improving Tier 2 weight management programs based on the identified experiences and challenges of participants, with a focus on improving child-centered health outcomes

MATERIALS & METHODS

The design adopted for the study is a systematic literature review (SLR). A SLR design seeks to identify, select, and gather relevant studies and literature that can answer a well formulated research question (Purssell and Gould, 2021). The selection of SLR for this study is because it will provide an evidence-based foundation from review of existing qualitative studies, allowing to understand the experiences of children and their families with Tier 2 weight management programs. Also, this research design promotes transparency and reproducibility of this study's findings in any other research that may be conducted regarding this topic (Boell and Cecez-Kecmanovic, 2015). According to Snyder (2019), a systematic review needs to follow a clearly stated plan to know criteria for literature selection before conducting the review. SLR is not a common literature review, rather, it is comprehensive, detailed, transparent, and carried out across multiple databases (Smela et al., 2023) Conducting a SLR is time-consuming. However, the process is rigorous if conducted transparently and in a systematic order.

SLR has steps that have to be followed to align with the 7 principles stated by Pittway (2008)- clarity, transparency, focus, integration, coverage, accessibility, and equality. The process of conducting systematic review requires great planning and proper documentation of the research protocols adopted to assure other researchers that the research findings are replicable (Marzi et al., 2024). Before conducting a SLR, a clear research question has to be formulated (Kuckertz and Block, 2021). In this study, based on the research objectives, the overall question the SLR seeks to answer is "*What are the lived experiences, perceptions, and challenges faced by school-aged children and their families in Tier 2 weight management programs, and how do family involvement and behavioural factors influence adherence to and effectiveness of these interventions?"*

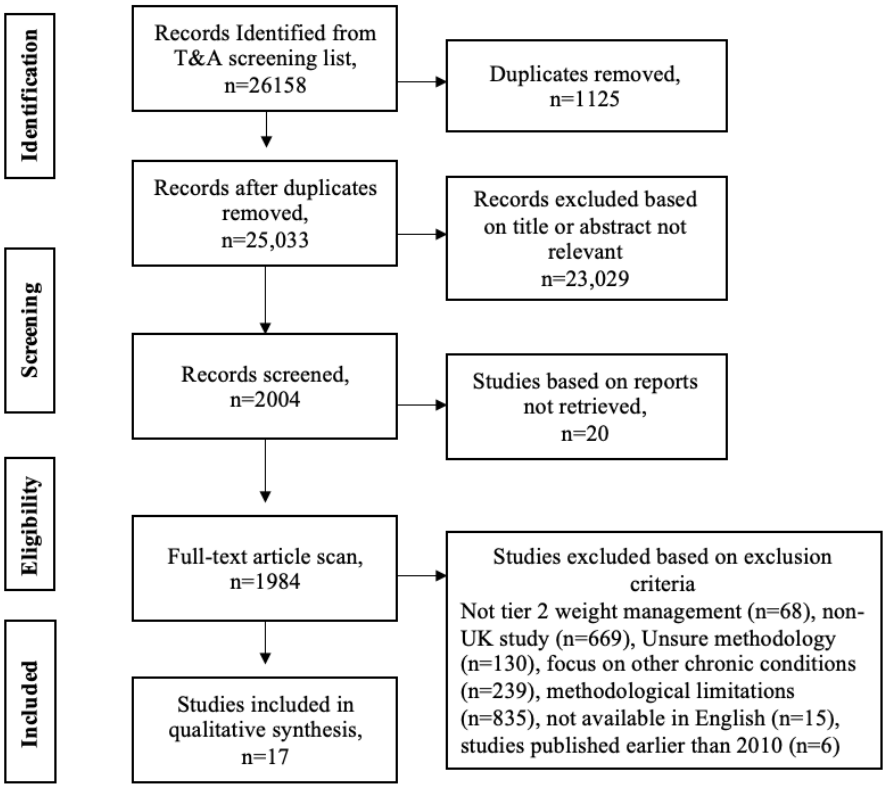
After clearly stating the research question, a protocol has to be followed. For this study, the Preferred Reporting Systematic Reviews and Meta-Analyses (PRISMA) is used to report the process of selecting literature and the final number of studies included in the research after it has been filtered based on the inclusion/exclusion criteria. A search strategy is then defined in line with the research question and databases to be used for literature search. Consequently, quality assessment is done with a specific critical appraisal tool. For the study, CASP-checklist tool is used to ensure each study included in the research is reliable. The results from the review are compiled and conclusions are drawn based on the findings to answer the research question.

For the study, the T&A screening list formed the basis of the review. Thus, criteria set for inclusion and exclusion of studies for the SLR include;

i. Only studies specifically focusing on Tier 2 weight management programs (dietary modifications, physical activity, and behavioural support) were included.
ii. Only qualitative studies were paid special attention to gather subjective experiences of participants.
iii. Only studies involving school-aged children (<18 years) or their families enrolled in Tier 2 weight management programs were included.
iv. Only studies published between the last 14 years (2010-2024) were considered.
v. Only studies published in English Language were focused on, as this is the global academic writing language.

vi. Studies focusing on children under the age of 5 or adult populations were excluded.
vii. Studies using primarily quantitative methods of data collection and analysis were not considered.
viii. Studies that were non-UK related and focused on other chronic diseases were also excluded.

The primary source of the data collected to conduct the study was from the T&A list, which ensured that all literature selected met quality standards. The search strategy did not require use of extensive external database search for new literature. However, databases were used for cross-referencing to verify the scope and context of studies included in the T&A list. The databases that were consulted included Elsevier and PubMed, which are all reliable academic databases with a wide range of indexed literatures (Samadzadeh et al., 2013). The cross-referencing was done to extract citation information and validate the information in each of the studies. Also, using the T&A screening list required adhering to the defined inclusion/exclusion criteria.



RESULT

The 17 studies included in the SLR were analysed and categorised to draw out meaningful themes that will achieve the research objectives and answer the overall research question. The analysis method chosen was ideal as it allowed the extraction of recurring themes in relation to analysing the lived experiences of school-aged children and their families in in Tier 2 weight management programs, their perceptions, challenges, and motivators. After conducting the analysis of the included texts for the SLR, a thematic chart, which was identified by Naeem et al. (2023) to be useful in data categorization and coding, was adopted to provide a summary of the generated themes from the study using the SCT theory which served as the theoretical foundation of the study.

SCT Components	Themes
Personal Factors	Perception, Attitudes, and Motivations
Behavioural Factors	Action and Adherence to Program
Environmental Factors	Family, Societal, and Program Impact
Outcome Expectations	Physical, Psychological, and Social Outcomes

Perceptions, Attitudes, and Motivations

The impact of cultural practices and traditions on healthy living and weight management is explored by Pallan et al. (2013) who describes how South Asian families believe being overweight is a sign of healthy living, rather than having a slimmer body shape. This perception serves as a hinderance to engaging in weight management interventions that can address obesity. The Action for Health in Diabetes (AHEAD) weight management program as examined by Bell et al. (2017) shows how school teachers and trainers perceived the program's structure in diverse ways. Participants noted that healthy eating and activities were valuable. However, the behavioural standards within the program were not as strict, as the school environment expects. Some of the parents recruited for the study carried out by Goldthorpe et al. (2018) expressed their concerns about advice from healthcare professionals, as compared to advice from their families. Thus, most of their actions and perceptions are based on how they were brought up, the environment they grew up in, and the kind of information that they were exposed to.

Jago et al. (2015) points out many participants expressing positive attitudes toward program goals and benefits, such as children demonstrating knowledge about the benefits of fibre over sugars for sustained energy. However, some participants showed misconceptions or lacked motivation as a result of misunderstandings about the program's long-term benefits. The study conducted by Sweeney et al. (2016), many parents expressed a desire to promote a healthy eating but also feel a need to present themselves positively, which sometimes leads to downplaying their child's intake of unhealthy foods. Also, pre-school staff attitudes reflect a perception that parents lack essential knowledge, implying that parents need to be educated to implement healthier practices.

Longacre et al. (2014) observed that families who are in the low-income strata tend to have lower fruit and vegetable intake, due to limited affordability and availability. However, when children received healthy food in school, income-based differences lessened. As highlighted in the study, the children's motivation to adhere to program requirements is influenced by their attitudes toward the food environment, which includes their perceptions of taste and appeal of fruits and vegetables served at school versus at home. In He et al. (2011), the school staff recruited for the study noted that excessive screen time contributed to reduced fitness lack of involvement in weight management programs, and poor social skills. Study by Caraher et al. (2016) found that teachers' perception of the importance of obesity prevention positively motivated children, as they acted as role models for these children. However, some of the teachers considered these programs to be added curricular load and time consuming, rather than engaging lessons that can help children. Participants in Greca et al. (2023) study show various perceptions and motivations surrounding physical activity, lifestyle changes, and adherence to diet. Accounts from the study highlight concerns about access to necessary resources, such as bicycles for active commuting and financial burden of programs. This emphasises the impact of economic limitations and cost

considerations, especially in lower-income families to participate in these programs.

The children and adults in the research by Boddy et al. (2012) showed a good understanding of the importance of balanced meals and basic knowledge of food groups. Also, the influence of parents was important as children viewed their parents as role models for healthy eating. As revealed in Goldthorpe et al. (2022), the prevalence of fast-food outlets near schools and ice cream vendors outside school premises made parents purchase these items frequently. In these cases, the schools promoted healthy choices but their efforts were undermined by competing influences outside school. Goldthorpe et al. (2020) found that children recognised the effects of diet on behaviour, often associating high sugar intake with hyperactivity. In addition, both children and staff explained how exercise helped manage emotions, promote calmness, and improve concentration.

Stuij et al. (2020) explains how children used how they look physically to describe themselves to reveal how they have accepted their weight, even though they struggle with discrimination from their peers. However, these children were willing to get involved in weight management programs. Parents, according to Wellard et al. (2014), who attained higher education levels were found to design structured meal plans for their children and paid attention to what they ate. Although, children resisted the structured diets when they were given the opportunity to choose their meals.

Actions and Adherence

Participants in Pallan et al. (2013) study seemed to understand the difficulty of following a specific healthy routine. The importance of parents being involved in their children's meal selection is highlighted and challenges associated with parental engagement was also examined, noting how finances, time-consuming jobs, and cultural beliefs affected the adherence of families in weight management programs. One of the facilitators identified by Watson et al. (2018) to motivate participants to engage in weight intervention programs is making the program structure lively, fun, and group-based. The study also discovered that activities that resonated well with participants received full engagement. Findings from Longacre et al. (2014) reveals how participants' consumption of vegetables and fruits was based on accessibility. Children from low-income families tend to consume fruits and vegetables when provided by the school management due to events like the National School Meal program.

Follow-up sessions were organised for the participants of weight management programs in Bell et al. (2017) study, revealing challenges that peer supporters faced in engaging in these activities with school trainers, resulting in lack of motivation. Pallan et al. (2013) explains the involvement of schools in helping to manage weight by introducing physical activities. However, children preferred not to engage in these activities and their parents were also too busy to encourage their children to participate. Parents who were interviewed in Jago et al. (2015) study showed their personal commitment in engaging in these weight intervention programs to improve their children's health. Parents were reported by participants recruited for Sweeney et al. (2016) research to be barriers in their children's healthy living due to the provision of junk food to these children.

Findings by Goldthorpe et al. (2018) revealed how parents of children with special needs found it difficult to involve their children in these programs because of the lack of tailored programs to suit these children. It is suggested by participants (school staff) recruited for the study conducted by He et al. (2011) that daily physical education is better than infrequent physical education sessions in promoting active living. They, however cited competing school demands and limited resources as barriers to creating structured weight management programs for students. The participants (teachers) recruited for Caraher et al. (2011) study expressed the challenges

they faced in delivering the required 30 minutes of daily physical activity, which was intended to improve adherence to health behaviours among students, such as limited space and high staff turnover. Also, the children expressed how much they enjoyed the physical activities, but teachers mentioned the differences in energy levels and focus posed challenges, impacting adherence.

The participants' descriptions in Greca et al. (2023) reveal that adherence to weight management program requirements often faces challenges due to logistical difficulties, traffics, and poor weather affect adherence. Challenges mentioned by Body et al (2012) hindering children and their families from being actively involved in weight management programs include accessibility, preference, and affordability. Other challenges, such as limited resources and busy schedules of parents were observed in Goldthorpe et al. (2022). The challenges highlighted by Goldthorpe et al. (2020), even though the children understood the importance of healthy lifestyles included marketing of unhealthy food on social media and family beliefs.

Participants in Stuij et al. (2020) research explained how they found it difficult to be proactive in weight management programs because these programs did not address the emotional instability they experienced, especially when they see little to no changes after engaging in most of the activities. Parental involvement was noted by Wellard et al. (2014) as the major guidance for children to eat healthy meals and adhere to all the interventions the weight management program has to offer.

Family, Social and Program Influence

The participants recruited for the study by Pallan et al. (2013) reported the importance of including family educational activities. Also, the study further explains the how the components of the weight intervention programs aimed at families included educational activities, parenting skill-building, and motivational incentives. In addition, community settings were seen as underutilised opportunities to improve family engagement. As seen in Jago et al. (2015), social support from family members and community networks improved participant motivation and engagement in weight intervention programs, indicating the program's success dependent on external support. Goldthorpe et al. (2018) also highlights the important role of family as their support reinforces healthy practices, especially for parents of children with special needs who need support with unique dietary challenges.

Society and family support were highlighted in Pallan et al. (2013) as very crucial for the success of weight intervention programs. Schools, in particular were mentioned as being gateways to reach families, particularly mothers, while the involvement of fathers and extended family members were considered challenging, but necessary. In Bell et al. (2017), schools and teachers provided logistical support by accommodating the training schedule and releasing peer supporters. However, the study noted how school environments were initially supportive, then later presented constraints that affected the peer supporters' motivation, as they expressed a preference for off-site settings. In the study conducted by Watson et al. (2015), peers were indicated as motivators and a source of social comparison, as the participants' desire to be like their peers encouraged them to engage in healthy behaviours. In addition, the participants stressed on the importance of feeling similar to others in the group, which helped them feel more at ease and less self-conscious.

Clarke et al. (2015) notes the importance of teachers and sports figures as role models, strengthening the program's impact on children. Study by Sweeney et al. (2016) highlights how some pre-school centers provide structured support by promoting healthy eating, yet the communication around these policies can be inconsistent. The study by Longacre et al. (2014) emphasises the positive impact of school-

based meal programs in minimisng food and vegetable intake disparities among low-income students, highlighting how structured school environments can bridge nutritional gaps that exist in home settings. He et al. (2011) stood out among the studies, as it highlighted how parents can be barriers to maintaining healthy lifestyles among children, as some parents relied on screens as 'babysitting tool' leading to sedentary lifestyles in children.

Furthermore, the study suggested that schools and parents share joint responsibility when it pertains to physical activities for children to promote accountability between schools and families. Some parents recruited in Greca et al. (2020) research mentioned how they felt insecure when their children have to engage in physical activities that may expose them to the roads where cars are passing or harsh weather conditions. The role of parents was further explained by Body et al. (2012) opining that they are in control of setting rules and making sure children are involved in the preparation of their meals, as well as educating these children on the importance of healthy eating. This was further corroborated by Wallard et al. (2014) expressing the essential part parents play in designing the meal plans of their children.

The study by Goldthorpe et al. (2022) found that for children from low-income households, financial limitations were a major barrier to accessing healthy foods and participating in activities that might improve physical fitness. However, schools in this context were key community resources, filling a void where families lacked means or knowledge to maintain a healthy lifestyle. According to Goldthorpe et al. (2020), some parents recruited in the study felt supported by school policies, while others found it challenging to align home routines with school health messages. Participants in Stuij et al. (2020) research explained how they found it difficult to be proactive in weight management programs because these programs did not address the emotional instability they experience, especially when they see little to no changes after engaging in most of these activities. Parental involvement was noted by Wallard et al. (2014 as the major guidance for children to eat healthy meals and adhere to all the interventions the weight management program has to offer.

Physical, Psychological, and Social Impact

Findings from Pallan et al. (2013) demonstrate the impact of weight management programs on its participants. Physically, the children were able to increase their fitness. Socially, involving children in planning interventions promoted a sense of ownership and made them feel valued. Psychologically, adult role models including teachers, parents, and faith leaders were highlighted as critical persons influencing children's health behaviours. Participants included in Watson et al. (2015) research reported seeing key changes in themselves, including knowledge about healthy behaviours, shifts in self-concept, improved physical and mental wellbeing, increased confidence, improved capabilities, heightened self-esteem, and personal growth. In addition, participants highlighted how they developed a higher degree of autonomy over their health choices, as they adapted to these new behaviours. However, some experienced slight challenges when it came to engaging in exercises but the experiential learning approach opened their eyes to fun aspects, allowing participants to gain self-efficacy and internalise the value of physical activity rather than relying on external motivators.

The AHEAD program in Bell et al. (2017) showed improved dietary habits among its participants, as seen in increased breakfast and fruit intake. While the program influenced some positive dietary changes, sustaining physical activity improvements within the school setting was a challenge. Jago et al. (2015) used the WAVES study to test the effectiveness of obesity prevention programs and highlights how the weight intervention programs impacted the participant positively as they improved in their health and social interactions. Clarke et

al. (2015) study showed how the children participating in these programs were reported to enjoy discussing their new knowledge with teachers and peers, as well as improved alertness among children after they finish a physical activity. According to Sweeney et al. (2016), some parents and staff express that children are open to healthy food options provided at pre-school, suggesting that the setting positively impacts dietary behaviours. Participants report the impact of weight management intervention programs on child wellbeing in Goldthorpe et al. (2018), such as providing nutritional support and managing behavioural challenges. However, for children with special needs, it is noted that these programs have limited advice on feeding strategies suited to their needs. According to Longacre et al. (2014), consistent intervention programs in school may help reduce disparities in physical health outcomes related to weight management among low-income students. However, for high-income adolescents, the outcomes may be different, as some of them perceive school food options as less appealing. Tier 2 weight management programs, according to He et al. (2011) were proven to improve the self-esteem of children and help them to engage with their friends without feeling self-conscious or less of themselves. These programs were also revealed to help children gain knowledge of healthy lifestyle (Caraher et al. 2016). The benefits of these programs also included physical and mental fitness, as mentioned by Goldthorpe et al. (2020). This is further corroborated by Goldthorpe et al. (2022), explaining how it increases children's confidence and heightens the mood.

DISCUSSION

Findings from Pallan et al. (2013) state how cultural beliefs and practices influence how participants perceive weight management programs. This is further emphasised by Goldthorpe et al. (2018) explaining how various cultures view food, health, and physical appearance. Existing studies like Zewude et al. (2022) and Islam et al. (2020) highlight the varying opinions of cultures when it pertains to body weight. All these cultural beliefs and rules play a significant role, as they can negatively impact healthy living among children and families battling with obesity or overweight. Results from studies such as Putter et al. (2022); Watson et al. (2015); Davis et al. (2015) point out the role of motivation in achieving a specific goal. From these studies, it was gathered those fun activities within these programs keep children wanting more or engaging in other things.

Many challenges were discovered to affect adherence of participants to weight management programs. Some of them include busy parents, poor finances, and cultural upbringing in terms of physical fitness and food. Parents who are away at work for prolonged periods, as highlighted by Poulimeneas et al. (2021) can affect the consistent participation of children in weight management programs due to time constraints. This can be compared with existing studies such as Baruth et al. (2014); Karmali et al. (2020) who explain how low-income families have no means of purchasing healthier foods. Apart from internal challenges faced by participants in these programs, there are also external issues such as closeness of fast-food shops to schools and this is explained by Betts et al. (2022) who opines that school-based programs still experience major challenges that hinder the success of weight management programs.

The findings from Stuij et al. (2020) study explains resistance from children to parents when structured meals are created. This aligns with the results from studies such as McCarthy et al. (2022); Latino and Tafuri (2023) which provides better understanding on the explains that the prevalence of unhealthy food marketing advertisements and access plays a huge part in shaping the eating habits of children and causing a relapse after the completion of these programs. These barriers did not prevent promoters of adherence to weight management programs from being

mentioned by the studies. Some of these positive drivers include parental proactive approach, friends, and activities included in the program structure. The role of community and environment cannot be mentioned enough, as this was highlighted by Zhen-Duan et al. (2019); Seyild et al. (2020) who mention that children tend to engage in activities where they feel supported.

The importance of parents in encouraging children in adhering to weight management programs is revealed by Watson et al. (2015) which is considered similar to research carried out by Vorage et al. (2024) who emphasised how structured weight management programs allow children to be encouraged and stick to living healthy. Also, programs organised by schools were discovered to facilitate children involvement and proactiveness in Furthermore, school-based programs are mentioned by Pallan et al. (2013); He et al. (2011) and supported by Barnes et al. (2021) to be effective facilitators of providing physical activity opportunities and providing nutritious meals. The findings reveal that weight management programs have overall impact on children. Physical improvements such as fitness improvement, better cardiovascular health, and reduced body weights were recurring findings and this can be seen in other existing studies such as Teixeira et al. (2012) Participants also recorded feeling more confident and improved self-esteem, which is corroborated by findings from Spreckley et al. (2023). The social impact of weight management programs was not as straightforward as the other impacts, as some children experienced social stigma, just like findings from Haqq et al. (2021); Westbury et al. (2023) while others reported positive social interactions and reduced feelings of isolation.

Although the study provides comprehensive understanding of the lived experiences of children and families involved in Tier 2 weight management programs, the reliance on self-reported data from parents, teachers, and children may introduce bias in reporting attitudes and behaviours toward weight management programs. Also, the sample size of some studies included in the SLR may not completely capture the diversity of other factors that influence adherence to these programs. Future research could examine cultural factors and geographical elements in more detail across different communities to provide a better understanding of how cultural perceptions of health influence the success of weight management interventions.

CONCLUSION

The findings from the SLR indicate that weight management programs need to take a holistic approach that considers personal, behavioural, and environmental factors. The motivation to encourage healthier choices was there, but changing these attitudes presented a challenge. From the study findings, the immersive experience participants felt was a strong motivator that reflected an emotional engagement that contributed to positive associations with the program and improved their attitudes toward physical activities. The barriers impacting adherence to weight intervention programs such as financial limitations and societal influences reflects the difficulty in maintaining engagement with healthy behaviours over the long-term. Findings reveal that once comfort level is reached among participants, they were able to fully engage and enjoy the activities, promoting enjoyment and continued participation, highlighting the role of environmental factors in creating conditions where individuals feel socially secure. There were concerns about body image and sociocultural acceptability of sportswear for Muslim girls, highlighting the need to make weight intervention programs culturally sensitive to ensure inclusivity.

Declaration by Authors

This research is an original work and has not been published elsewhere in any form. All authors have contributed significantly to the conception, design, data collection, analysis, and interpretation of the research.

Ethical Approval: Not Applicable
Acknowledgement: None
Source of Funding: None
Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Abay, K. A., Ibrahim, H., & Breisinger, C. (2022). Food policies and obesity in low- and middle-income countries. World Development, 151, 105-775.
2. Adeniyi, O. F., Fagbenro, G. T., & Olatona, F. A. (2019). Overweight and Obesity Among School-aged Children and Maternal Preventive Practices against Childhood Obesity in Select Local Government Areas of Lagos, Southwest, Nigeria. International Journal of MCH and AIDS (IJMA), 8(1), 70–83.
3. Alkharaiji, M., Anyanwagu, U., Donnelly, R., & Idris, I. (2018). Tier 3 specialist weight management service and pre-bariatric multicomponent weight management programmes for adults with obesity living in the UK: A systematic review. Endocrinology, Diabetes & Metabolism, 2(1), e00042.
4. Alulis, S., & Grabowski, D. (2017). Theoretical frameworks informing family-based child and adolescent obesity interventions: A qualitative meta-synthesis. Obesity Research & Clinical Practice, 11(6), 627–639.
5. Anton, S., Das, S. K., McLaren, C., & Roberts, S. B. (2021). Application of social cognitive theory in weight management: Time for a biological component? Obesity, 29(12), 1982–1986.
6. Bailey, K., Easterbrook, B., Blinder, H., Hoogenes, J., & Morrison, K. (2018). Understanding paediatric patients' attitudes toward obesity and expectations prior to entering a weight management program. Paediatrics & Child Health, 24(1), e26–e32.
7. Barazzoni, R., & Gortan Cappellari, G. (2020). Double burden of malnutrition in persons with obesity. Reviews in Endocrine and Metabolic Disorders, 21(3), 307–313.
8. Barnes, C., McCrabb, S., Stacey, F., Nathan, N., Yoong, S. L., Grady, A., Sutherland, R., Hodder, R., Innes-Hughes, C., Davies, M., & Wolfenden, L. (2021). Improving implementation of school-based healthy eating and physical activity policies, practices, and programs: a systematic review. Translational Behavioral Medicine, 11(7).
9. Baruth, M., Sharpe, P. A., Parra-Medina, D., & Wilcox, S. (2014). Perceived Barriers to Exercise and Healthy Eating Among Women from Disadvantaged Neighborhoods: Results from a Focus Groups Assessment. Women & Health, 54(4), 336–353.
10. Betts, G. M., Schwedhelm, C., Lipsky, L. M., Haynie, D. L., & Nansel, T. R. (2022). Impact of the external school food environment on the associations of internal school food environment with high schoolers' diet and body mass index. Public Health Nutrition, 1–25.
11. Bharti, A., & Kulshrestha, K. (2019). Childhood Obesity: An Overview. International Journal of Current Microbiology and Applied Sciences, 8(01), 963–980.
12. Boell, S., & Cecez-Kecmanovic, D. (2015). On being "Systematic" in Literature Reviews in IS. Journal of Information Technology, 30(2), 161–173.
13. Branscum, P., Sharma, M., Wang, L. L., Wilson, B., & Rojas-Guyler, L. (2012). A Process Evaluation of a Social Cognitive Theory–Based Childhood Obesity Prevention Intervention. Health Promotion Practice, 14(2), 189–198.
14. Brown, C. W., Alexander, D. S., Warren, C. A., & Anderson-Booker, M. (2016). A Qualitative Approach: Evaluating the Childhood Health and Obesity Initiative Communities Empowered for Success (CHOICES) Pilot Study. Journal of Racial and Ethnic Health Disparities, 4(4), 549–557.
15. Caraher, K. J., & Kirschenbaum, D. S. (2014). "I See Inspiration Everywhere": Potential Keys to Nurturing Healthy Obsessions by Very Successful Young Weight Controllers. Childhood Obesity, 10(6), 518–532.
16. Cassidy, O., Sbrocco, T., Vannucci, A., Nelson, B., Jackson-Bowen, D., Heimdal, J., Mirza, N., Wilfley, D. E., Osborn, R., Shomaker, L. B., Young, J. F., Waldron, H., Carter, M., & Tanofsky-Kraff, M. (2013). Adapting Interpersonal Psychotherapy for the Prevention of Excessive Weight Gain in Rural African American Girls. Journal of Pediatric Psychology, 38(9), 965–977.

17. Centers for Disease Control and Prevention. (2022, August 10). Childhood Obesity Prevention. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyschools/obesity/index.htm. Accessed 6th November, 2024.
18. Chen, S., Zhu, X., Welk, G. J., & Kim, Y. (2015). Tracking energy balance in adolescents: Levels of compliance, energy flux, and learning. Journal of Exercise Science & Fitness, 13(1), 35–41.
19. Clemente-Suárez, V., Martín-Rodríguez, A., Redondo-Flórez, L., López-Mora, C., Yáñez-Sepúlveda, R., & José Francisco Tornero-Aguilera. (2023). New Insights and Potential Therapeutic Interventions in Metabolic Diseases. International Journal of Molecular Sciences, 24(13), 106-172.
20. Davis, A. M., Stough, C. O., Black, W. R., Dean, K., Sampilo, M., Simpson, S., & Landrum, Y. (2015). Outcomes of a weight management program conjointly addressing parent and child health. Children's Health Care, 45(2), 227–240.
21. Department of Health and Social care. (2024, February 2). Government plans to tackle obesity in England . Healthmedia.blog.gov.uk; GOV.UK. https://healthmedia.blog.gov.uk/2023/06/07/government-plans-to-tackle-obesity-in-england/. Accessed 6th November, 2024.
22. Di Cesare, M., Sorić, M., Bovet, P., Miranda, J. J., Bhutta, Z., Stevens, G. A., Laxmaiah, A., Kengne, A.-P., & Bentham, J. (2019). The epidemiological burden of obesity in childhood: a worldwide epidemic requiring urgent action. BMC Medicine, 17(1).
23. Eli, K., Howell, K., Fisher, P. A., & Nowicka, P. (2014). "A little on the heavy side": a qualitative analysis of parents' and grandparents' perceptions of preschoolers' body weights. BMJ Open, 4(12), e006609.
24. Fernández-Abascal, B., Suárez-Pinilla, P., Cobo-Corrales, C., Crespo-Facorro, B., & Suarez-Pinilla, M. (2021). In- and outpatient lifestyle interventions on diet and exercise and their effect on physical and psychological health: a systematic review and meta-analysis of randomised controlled trials in patients with schizophrenia spectrum disorders and first episode of psychosis. Neuroscience & Biobehavioral Reviews.
25. Ferrari, A. J., Santomauro, D. F., Aali, A., Abate, Y. H., Abbafati, C., Abbastabar, H., Abd ElHafeez, S., Abdelmasseh, M., Abd-Elsalam, S., Abdollahi, A., Abdullahi, A., Abegaz, K. H., Abeldaño Zuñiga, R. A., Aboagye, R. G., Abolhassani, H., Abreu, L. G., Abualruz, H., Abu-Gharbieh, E., & Abu-Rmeileh, N. M. (2024). Global incidence, prevalence, years lived with disability (YLDs), disability-adjusted life-years (DALYs), and healthy life expectancy (HALE) for 371 diseases and injuries in 204 countries and territories and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. Lancet, 403(10440).
26. Fong, M., McSweeney, L., Adamson, A., Mathews, C., Lloyd, S., & Rothwell, C. (2023). A cross-sectional survey study exploring provision and delivery of expanded community tier 2 behavioural weight management services in England. Clinical Obesity, 14(2).
27. Gainsbury, A., & Dowling, S. (2018). "A little bit offended and slightly patronised": parents' experiences of National Child Measurement Programme feedback. Public Health Nutrition, 21(15), 2884–2892.
28. Gericke, C., Rippy, S., & D'Lima, D. (2023). Anticipated barriers and enablers to signing up for a weight management program after receiving an opportunistic referral from a general practitioner. Frontiers in Public Health, 11.
29. Gibson, C. A., Sullivan, D. K., Ptomey, L. T., Rice, A. M., & Donnelly, J. E. (2022). Interviews with parents of adolescents with intellectual and developmental disabilities in a weight management study. Journal of Applied Research in Intellectual Disabilities, 36(2), 289–299.
30. Gibson, L. Y., Allen, K. L., Davis, E., Blair, E., Zubrick, S. R., & Byrne, S. M. (2017). The psychosocial burden of childhood overweight and obesity: evidence for persisting difficulties in boys and girls. European Journal of Pediatrics, 176(7), 925–933.
31. Goldthorpe, J., Ali, N., & Calam, R. (2018). Providing healthy diets for young children: the experience of parents in a UK inner city. International Journal of Qualitative Studies on Health and Well-Being, 13(1), 149-623.
32. Goldthorpe, J., Vaughan, M., Keyworth, C., Epton, T., Calam, R., & Armitage, C. (2022). What are the environmental factors that

affect implementation of the Manchester Healthy Schools programme? A qualitative exploration of staff perspectives. BMJ Open, 12(4), e048683.
33. Haghjoo, P., Siri, G., Soleimani, E., Farhangi, M. A., & Alesaeidi, S. (2022). Screen time increases overweight and obesity risk among adolescents: a systematic review and dose-response meta-analysis. BMC Primary Care, 23(1).
34. Haqq, A. M., Kebbe, M., Tan, Q., Manco, M., & Salas, X. R. (2021). Complexity and Stigma of Pediatric Obesity. Childhood Obesity, 17(4), 229–240
35. Hasan, S., Naseer, S., Zamzam, M., Mohilldean, H., Van Wagoner, C., Hasan, A., Saleh, E. S., Uhley, V., & Kamel-ElSayed, S. (2024). Nutrient and Hormonal Effects on Long Bone Growth in Healthy and Obese Children: A Literature Review. Children, 11(7), 817.
36. Hazlehurst, J. M., Logue, J., Parretti, H. M., Abbott, S., Brown, A., Pournaras, D. J., & Tahrani, A. A. (2020). Developing Integrated Clinical Pathways for the Management of Clinically Severe Adult Obesity: a Critique of NHS England Policy. Current Obesity Reports, 9(4), 530–543.
37. Hruby, A., & Hu, F. B. (2015). The Epidemiology of Obesity: A Big Picture. PharmacoEconomics, 33(7), 673–689.
38. Irschik, S., Brandt, J. B., & Johannes Eisenkölbl. (2023). COVID-19 pandemic-related weight gain in the pediatric population declined after restrictions ended, except among obese patients. Frontiers in Public Health, 11.
39. Islam, K. F., Awal, A., Mazumder, H., Munni, U. R., Majumder, K., Afroz, K., Tabassum, M. N., & Hossain, M. M. (2023). Social Cognitive theory-based Health Promotion in Primary Care practice: a Scoping Review. Heliyon, 9(4).
40. Islam, M. R., Trenholm, J., Rahman, A., Pervin, J., Ekström, E.-C., & Rahman, S. M. (2020). Sociocultural influences on dietary practices and physical activity behaviors of rural adolescents—a qualitative exploration. Nutrients, 11(12), 2916.
41. Islam, S., Sultana, H., Refat, H., Zaki Farhana, Anton Abdulbasah Kamil, & Mohammad Meshbahur Rahman. (2024). The global burden of overweight-obesity and its association with economic status, benefiting from STEPs survey of WHO member states: A meta-analysis. Preventive Medicine Reports, 46, 102-882
42. Jakobsen, D. D., Brader, L., & Bruun, J. M. (2023). Association between Food, Beverages and Overweight/Obesity in Children and Adolescents—A Systematic Review and Meta-Analysis of Observational Studies. Nutrients, 15(3), 764.
43. Kansra, A. R., Lakkunarajah, S., & Jay, M. S. (2021). Childhood and Adolescent Obesity: A Review. Frontiers in Pediatrics, 8(581461).
44. Karmali, S., Battram, D. S., Burke, S. M., Cramp, A., Johnson, A. M., Mantler, T., Morrow, D., Ng, V., Pearson, E. S., Petrella, R. J., Tucker, P., & Irwin, J. D. (2020). Perspectives and Impact of a Parent-Child Intervention on Dietary Intake and Physical Activity Behaviours, Parental Motivation, and Parental Body Composition: A Randomized Controlled Trial. International Journal of Environmental Research and Public Health, 17(18), 6822.
45. Kim, S. Y., Sharma, A. J., & Callaghan, W. M. (2012). Gestational diabetes and childhood obesity. Current Opinion in Obstetrics and Gynecology, 24(6), 376–381.
46. Knoblock-Hahn, A. L., & LeRouge, C. M. (2014). A Qualitative, Exploratory Study of Predominantly Female Parental Perceptions of Consumer Health Technology Use by Their Overweight and/or Obese Female Adolescent Participating in a Fee-Based 4-Week Weight-Management Intervention. Journal of the Academy of Nutrition and Dietetics, 114(4), 570–577.
47. Kobylińska, M., Antosik, K., Decyk, A., & Kurowska, K. (2021). Malnutrition in Obesity: Is It Possible? Obesity Facts, 15(1), 19–25.
48. Kuckertz, A., & Block, J. (2021). Reviewing systematic literature reviews: ten key questions and criteria for reviewers. Management Review Quarterly, 71(3), 519–524.
49. Lanigan, J., & Sauven, N. (2020). Treatment of childhood obesity: a multidisciplinary approach. Clinics in Integrated Care, 3, 100-126.
50. Latino, F., & Tafuri, F. (2023). Physical Activity and Academic Performance in School-Age Children: A Systematic Review. Sustainability, 15(8), 6616.

51. Lubrecht, J., Arayess, L., Reijnders, D., Hesselink, M. L., Velde, G. ten, Janse, A., von Rosenstiel, I., van Mil, E. G. A. H., Verweij, M., & Vreugdenhil, A. C. E. (2022). Weight Gain in Children during the COVID-19 Pandemic and the Protective Effect of Lifestyle Intervention in Children with Obesity. Obesity Facts, 15(4), 600–608.
52. Madsen, M., Michaelsen, L., DeCosta, P., & Grabowski, D. (2023). Stigma-Generating Mechanisms in Families Enrolled in a Pediatric Weight Management Program: A Qualitative Study of Health Identities and Healthcare Authenticity. Children (Basel), 11(1), 46–49.
53. Mancin, S., Sguanci, M., Anastasi, G., Godino, L., Alessio L., Emanuela Morenghi, Michela Piredda, & Grazia, M. (2024). A methodological framework for rigorous systematic reviews: Tailoring comprehensive analyses to clinicians and healthcare professionals. Methods, 225, 38–43.
54. Manz, K., Mensink, G. B. M., Finger, J. D., Haftenberger, M., Brettschneider, A.-K., Lage Barbosa, C., Krug, S., & Schienkiewitz, A. (2019). Associations between Physical Activity and Food Intake among Children and Adolescents: Results of KiGGS Wave 2. Nutrients, 11(5), 1060.
55. Marzi, G., Balzano, M., Caputo, A., & Pellegrini, M. M. (2024). Guidelines for Bibliometric-Systematic Literature Reviews: 10 steps to combine analysis, synthesis and theory development. International Journal of Management Reviews.
56. Maurya, A., & Madhusudhan, M. (2023). Plagiarism in Research: Problems and its Solutions. Journal of Advancements in Library Sciences.
57. Mc Carthy, C. M., Vries, R., & Mackenbach, J. D. (2022). The Influence of Unhealthy Food and Beverage Marketing through Social Media and Advergaming on Diet-related Outcomes in children—A Systematic Review. Obesity Reviews, 23(6).
58. McSweeney, Bradley, Adamson, & Spence. (2019). The "Voice" of Key Stakeholders in a School Food and Drink Intervention in Two Secondary Schools in NE England: Findings from a Feasibility Study. Nutrients, 11(11), 27-46.
59. Mears, R., Jago, R., Sharp, D., Patel, A., Kipping, R., & Shield, J. P. H. (2019). Exploring how lifestyle weight management programmes for children are commissioned and evaluated in England: a mixed methodology study. BMJ Open, 9(12), e025423.
60. Meek, C. L. (2023). An unwelcome inheritance: childhood obesity after diabetes in pregnancy. Diabetologia, 66(11), 1961–1970.
61. Miller, A. L., Lumeng, J. C., & LeBourgeois, M. K. (2015). Sleep patterns and obesity in childhood. Current Opinion in Endocrinology & Diabetes and Obesity, 22(1), 41–47.
62. Moreno, A., Tarry-Adkins, J. L., & Aiken, C. (2023). The Uterine Environment and Childhood Obesity Risk: Mechanisms and Predictions.
63. Newson, L., Sides, N., & Rashidi, A. (2024). The psychosocial beliefs, experiences and expectations of children living with obesity. Health Expectations, 27(1).
64. NHS Digital. (2020, May 5). Statistics on Obesity, Physical Activity and Diet, England, 2020. NHS Digital. https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/england-2020. Accessed 5th November, 2024.
65. NHS Digital. (2021, May 18). Part 1: Obesity-related hospital admissions. NHS Digital. https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-obesity-physical-activity-and-diet/england-2021/part-1-obesity-related-hospital-admissions. Accessed 7th November, 2024.
66. NICE. (2014, November 27). Obesity: Identification, assessment and management | guidance | NICE. Www.nice.org.uk. https://www.nice.org.uk/guidance/cg189/chapter/Recommendations. Accessed 6th November, 2024.
67. Okunogbe, A., Nugent, R., Spencer, G., Powis, J., Ralston, J., & Wilding, J. (2022). Economic impacts of overweight and obesity: current and future estimates for 161 countries. BMJ Global Health, 7(9).
68. Oranika, U. S., Adeola, O. L., Egbuchua, T. O., Okobi, O. E., Alrowaili, D. G., Ayokunle Kajero, Koleowo, O. M., Emeka Okobi, David, A. B., & Ezeamii, J. C. (2023). The role of childhood obesity in early-onset type 2 diabetes mellitus: A scoping review. Cureus, 15(10).

69. Papatriantafyllou, E., Efthymiou, D., Zoumbaneas, E., Popescu, C. A., & Vassilopoulou, E. (2022). Sleep Deprivation: Effects on Weight Loss and Weight Loss Maintenance. Nutrients, 14(8), 1549.
70. Petrunoff, N. A., Wilkenfeld, R. L., King, L. A., & Flood, V. M. (2012). "Treats", "sometimes foods", "junk": a qualitative study exploring "extra foods" with parents of young children. Public Health Nutrition, 17(5), 979–986.
71. Pham, A., Kerman, H., Albertson, K., Crouch, J. M., Inwards-Breland, D. J., & Ahrens, K. R. (2022). Understanding the Complex Relationship Between One's Body, Eating, Exercise, and Gender-Affirming Medical Care Among Transgender and Nonbinary Adolescents and Young Adults. Transgender Health.
72. Phelps, N. H., Singleton, R. K., Zhou, B., Heap, R. A., Mishra, A., Bennett, J. E., Paciorek, C. J., Victor PF Lhoste, Carrillo-Larco, R. M., Stevens, G. A., Rodriguez-Martinez, A., Bixby, H., Bentham, J., Mariachiara Di Cesare, Goodarz Danaei, Rayner, A. W., Barradas-Pires, A., Cowan, M. J., Savin, S., & Riley, L. M. (2024). Worldwide trends in underweight and obesity from 1990 to 2022: a pooled analysis of 3663 population-representative studies with 222 million children, adolescents, and adults. The Lancet, 403(10431).
73. Pietrabissa, G., Volpi, C., Bottacchi, M., Bertuzzi, V., Guerrini Usubini, A., Löffler-Stastka, H., Prevendar, T., Rapelli, G., Cattivelli, R., Castelnuovo, G., Molinari, E., & Sartorio, A. (2021). The Impact of Social Isolation during the COVID-19 Pandemic on Physical and Mental Health: The Lived Experience of Adolescents with Obesity and Their Caregivers. International Journal of Environmental Research and Public Health, 18(6), 3026.
74. Poulimeneas, D., Anastasiou, C. A., Kokkinos, A., Panagiotakos, D. B., & Yannakoulia, M. (2021). Motives for weight loss and weight loss maintenance: results from the MedWeight study. Journal of Human Nutrition & Dietetics, 34(3), 504–510.
75. Powell-Wiley, T. M., Poirier, P., Burke, L. E., Després, J.-P., Gordon-Larsen, P., Lavie, C. J., Lear, S. A., Ndumele, C. E., Neeland, I. J., Sanders, P., & St-Onge, M.-P. (2021). Obesity and Cardiovascular disease: a Scientific Statement from the American Heart Association. Circulation, 143(21), 984–1010.
76. Purnell, J. Q. (2023). Definitions, Classification, and Epidemiology of Obesity. Nih.gov; MDText.com, Inc.
77. Purssell, E., & Gould, D. (2021). Undertaking qualitative reviews in nursing and education - A method of thematic analysis for students and clinicians. International Journal of Nursing Studies Advances, 3(100036), 100-136.
78. Putter, K. C., Jackson, B., Thornton, A. L., Willis, C. E., Goh, K. M. B., Beauchamp, M. R., Benjanuvatra, N., Dimmock, J. A., & Budden, T. (2022). Perceptions of a family-based lifestyle intervention for children with overweight and obesity: a qualitative study on sustainability, self-regulation, and program optimization. BMC Public Health, 22(1).
79. Rodgers, R. F., Wertheim, E. H., Damiano, S. R., Gregg, K. J., & Paxton, S. J. (2015). "Stop eating lollies and do lots of sports": a prospective qualitative study of the development of children's awareness of dietary restraint and exercise to lose weight. International Journal of Behavioral Nutrition and Physical Activity, 12(1).
80. Rosairo, H. (2023). Thematic Analysis in Qualitative Research. Journal of Agricultural Sciences, 18(3).
81. Safaei, M., Sundararajan, E. A., Driss, M., Boulila, W., & Shapi'i, A. (2021). A systematic literature review on obesity: Understanding the causes & consequences of obesity and reviewing various machine learning approaches used to predict obesity. Computers in Biology and Medicine, 136(104754).
82. Sahoo, K., Sahoo, B., Choudhury, A. K., Sofi, N. Y., Kumar, R., & Bhadoria, A. S. (2015). Childhood obesity: Causes and Consequences. Journal of Family Medicine and Primary Care, 4(2), 187.
83. Salam, R. A., Padhani, Z. A., Das, J. K., Shaikh, A. Y., Hoodbhoy, Z., Jeelani, S. M., Lassi, Z. S., & Bhutta, Z. A. (2020). Effects of Lifestyle Modification Interventions to Prevent and Manage Child and Adolescent Obesity: A Systematic Review and Meta-Analysis. Nutrients, 12(8), 2208.
84. Samadzadeh, G., Rigi, T., & Reza Ganjali, A. (2013). Comparison of Four Search Engines and their efficacy With Emphasis on

Literature Research in Addiction (Prevention and Treatment). International Journal of High-Risk Behaviors and Addiction, 1(4).

85. Schaefer, S. E., Van Loan, M., & German, J. B. (2014). A Feasibility Study of Wearable Activity Monitors for Pre-Adolescent School-Age Children. Preventing Chronic Disease, 11.
86. Schmidt, S. K., Hemmestad, L., MacDonald, C. S., Langberg, H., & Valentiner, L. S. (2020). Motivation and Barriers to Maintaining Lifestyle Changes in Patients with Type 2 Diabetes after an Intensive Lifestyle Intervention (The U-TURN Trial): A Longitudinal Qualitative Study. International Journal of Environmental Research and Public Health, 17(20), 7454.
87. Schmied, E. A., Chuang, E., Madanat, H., Moody, J., Ibarra, L., Ortiz, K., Macias, K., & Ayala, G. X. (2018). A Qualitative Examination of Parent Engagement in a Family-Based Childhood Obesity Program. Health Promotion Practice, 19(6), 905–914.
88. Sevild, C. H., Niemiec, C. P., Bru, L. E., Dyrstad, S. M., & Husebø, A. M. L. (2020). Initiation and maintenance of lifestyle changes among participants in a healthy life centre: a qualitative study. BMC Public Health, 20(1).
89. Skoglund, G., Nilsson, B. B., Olsen, C. F., Bergland, A., & Hilde, G. (2022). Facilitators and barriers for lifestyle change in people with prediabetes: a meta-synthesis of qualitative studies. BMC Public Health, 22(1).
90. Smela, B., Toumi, M., Świerk, K., Francois, C., Biernikiewicz, M., Clay, E., & Boyer, L. (2023). Rapid literature review: definition and methodology. Journal of Market Access & Health Policy, 11(1), 224-234.
91. Smith, J. D., Fu, E., & Kobayashi, M. A. (2020). Prevention and Management of Childhood Obesity and Its Psychological and Health Comorbidities. Annual Review of Clinical Psychology, 16(1), 351–378.
92. Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. Journal of Business Research, 104(1), 333–339. ScienceDirect.
93. Spreckley, M., Judith de Lange, Seidell, J., & Halberstadt, J. (2023). Primary care-led weight-management intervention: qualitative insights into patient experiences at two-year follow-up. International Journal of Qualitative Studies on Health and Well-Being, 18(1).
94. Strauss, W. J., Nagaraja, J., Landgraf, A. J., Arteaga, S. S., Fawcett, S. B., Ritchie, L. D., John, L. V., Gregoriou, M., Frongillo, E. A., Loria, C. M., Weber, S. A., Collie-Akers, V. L., McIver, K. L., Schultz, J., Sagatov, R. D. F., Leifer, E. S., Webb, K., & Pate, R. R. (2018). The longitudinal relationship between community programmes and policies to prevent childhood obesity and BMI in children: the Healthy Communities Study. Pediatric Obesity, 13, 82–92.
95. Stuij, M., Maarschalkerweerd, P. E. A., Seidell, J. C., Halberstadt, J., & Dedding, C. (2020). Youth perspectives on weight-related words used by healthcare professionals: A qualitative study. Child: Care, Health and Development, 46(3), 369–380.
96. Suárez-Reyes, M., Fernández-Verdejo, R., Daiana Quintiliano, Pinheiro, A. C., & Pizarro, T. (2024). Effects of school closure on lifestyle behaviours and health outcomes in children during the COVID-19 pandemic in Chile: A time-matched analysis. Pediatric Obesity.
97. Taghizadeh, S., Hashemi, M. G., Zarnag, R. K., Fayyazishishavan, E., Gholami, M., Farhangi, M. A., & Gojani, L. J. (2023). Barriers and facilitators of childhood obesity prevention policies: A systematic review and meta-synthesis. Frontiers in Pediatrics, 10.
98. Tay, A., Hoeksema, H., & Murphy, R. (2023). Uncovering Barriers and Facilitators of Weight Loss and Weight Loss Maintenance: Insights from Qualitative Research. Nutrients, 15(5), 1297.
99. Teixeira, P. J., Carraça, E. V., Markland, D., Silva, M. N., & Ryan, R. M. (2012). Exercise, Physical activity, and self-determination theory: a Systematic Review. International Journal of Behavioral Nutrition and Physical Activity, 9(1), 78. BMC.
100. Thomas, U., Narayanappa, D., & Sujatha, M. (2021). Prevalence of overweight and obesity among school children in Mysuru, Karnataka. Journal of Family Medicine and Primary Care, 10(8), 27-88.
101. Thorén, A., Janson, A., & Persson, M. (2021). "Now she prefers jeans, like everyone else…" – Parents' experiences of group- and web-based treatment of

children's obesity. Acta Paediatrica, 110(6), 1869–1879.
102. Vasquez, T., Fernandez, A., Haya-Fisher, J., Kim, S., & Beck, A. L. (2020). A Qualitative Exploration of Barriers and Facilitators to Physical Activity Among Low-Income Latino Adolescents. Hispanic Health Care International, 154-163.
103. Victora, C. G., Christian, P., Vidaletti, L. P., Gatica-Domínguez, G., Menon, P., & Black, R. E. (2021). Revisiting maternal and child undernutrition in low-income and middle-income countries: variable progress towards an unfinished agenda. The Lancet, 397(10282).
104. Vorage, L., Vincze, L., Tudehope, L., & Harris, N. (2024). Effectiveness of Interventions Promoting Dietary Intake, Physical Activity, and Healthy Weight Status of Children in Family Child Care: A Systematic Review. Journal of Nutrition Education and Behavior.
105. Wadden, T. A., Tronieri, J. S., & Butryn, M. L. (2020). Lifestyle modification approaches for the treatment of obesity in adults. American Psychologist, 75(2), 235–251.
106. Wang, Y., & Lim, H. (2012). The global childhood obesity epidemic and the association between socio-economic status and childhood obesity. International Review of Psychiatry, 24(3), 176–188.
107. Watts, A. W., Lovato, C. Y., Barr, S. I., Hanning, R. M., & Mâsse, L. C. (2015). A qualitative study exploring how school and community environments shape the food choices of adolescents with overweight/obesity. Appetite, 95, 360–367.
108. Westbury, S., Oyebode, O., van Rens, T., & Barber, T. M. (2023). Obesity Stigma: Causes, Consequences, and Potential Solutions. Current Obesity Reports, 12(1), 10–23.
109. Woolford, S. J., Khan, S., Barr, K. L. C., Clark, S. J., Strecher, V. J., & Resnicow, K. (2012). A Picture May Be Worth a Thousand Texts: Obese Adolescents' Perspectives on a Modified Photovoice Activity To Aid Weight Loss. Childhood Obesity, 8(3), 230–236.
110. World Health Organization. (2024, March 1). Obesity and overweight. World Health Organization; World Health Organization. https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight. Accessed 6th November, 2024.
111. Xu, S., & Xue, Y. (2015). Pediatric obesity: Causes, symptoms, prevention and treatment. Experimental and Therapeutic Medicine, 11(1), 15–20.
112. Zach, S., Zeev, A., Dunsky, A., Goldbourt, U., Shimony, T., Goldsmith, R., & Netz, Y. (2012). Adolescents' physical activity habits - results from a national health survey. Child: Care, Health and Development, 39(1), 103–108.
113. Zavala, J. (2018, July 31). Adolescent obesity management: Understanding the communication and support preferences of underserved youth. Washington.edu. https://digital.lib.washington.edu/researchworks/items/e08ee9af-a2cd-405d-bd2a-8de65ec744e5\
114. Zewude, B., Siraw, G., Melese, B., Habtegiorgis, T., Hizkeal, A., & Tadele, M. (2022). Beliefs About Body Weight and Practices of Regulating Food and Physical Exercise Patterns of Children Among Parents in Southern Ethiopia. Psychology Research and Behavior Management, Volume 15, 1871–1883.
115. Zhen-Duan, J., Engebretsen, B., & Laroche, H. H. (2019). Diet and physical activity changes among low-income families: perspectives of mothers and their children. International Journal of Qualitative Studies on Health and Well-Being, 14(1), 1658700.

How to cite this article: Adisa Faithful. O, Adisa Excel, E. A systematic review of qualitative experiences in tier 2 weight management programs in school-aged children. *Gal Int J Health Sci Res*. 2025; 10(1): 46-63. *DOI: https://doi.org/10.52403/gijhsr.20250106*

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