

Parental Influence On Risk Factors Associated With Childhood Obesity And Unhealthy Weight Gain

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Abstract

Background: Obesity among children has evolved to be one of the key problems of global public health with parents and home environment being the key factors of determining parental diet and physical activity among children. **Objective:** This project intends to analyze how parental factors contribute to risk behaviors related to childhood obesity and its unhealthy weight gain. **Methodology:** A cross-sectional study design was used where two populations of 250 children (6 years old to 12 years old) and their parents were used. Structured questionnaires that measured parental feeding practices, lifestyle admission as well as dietary intake and physical activities in children were used to collect data. Mass weight was categorized according to Body Mass Index (BMI) percentiles. **Findings:** It was found that 32% of children were either overweight or obese. There were significant relationships that existed among parental sedentary lifestyle ($p < 0.01$), high intake of processed foods ($p < 0.05$), and high screen time with high BMI in children. Healthy eating and active physical exercise among parents was positively connected to reduced risk of obesity. **Conclusion:** Parental influence is a major risk factor to childhood obesity. Parental-focused interventions that involve behavior change and parental awareness can be used as an effective intervention to decrease weight gain in children who are not healthy.

Keywords: Obesity in children, parental factors, BMI, nutrition, exercise, risk factors.

1. Introduction

Physical and emotional health of children is a much-needed determinant of well-being in adulthood, as it defines not only the process of growth and development, but also the possibility of chronic diseases. Childhood obesity is one of the most relevant public health issues in the world in recent decades, so this problem rates are growing exponentially [1]. Angiolillo et al. (2011) state that obesity has been correlated with a plethora of negative effects in children, such as metabolic problems, cardiovascular, and psychological, including low self-esteem, anxiety, and depression [2][3]. Physical health is tightly linked to emotional one since stress or a low level of emotional control can lead to developing poor eating habits and leading an inactive lifestyle by children [4].

Parenting behavior is a core contributor towards early development of children, especially in matters to do with diet, exercise and emotional health. Parents are the key role models; they not only control what children eat, how they eat, and the type of lifestyle but also indirect modeling [5]. As an example, the feeding behaviours of parents like restriction and pressure to eat or permissiveness have been reported to have a considerable influence in childhood eating habits and weight results [6]. Also, such warmth, consistency, and support types of parenting help to have healthier behavioral patterns potentially, and neglect or over-control parenting practices upsurge the chances of unhealthy weight gain [7]. Parents make a vast decision on the type of atmosphere they provide at home, which consists of food choices, the use of screen time, and the physical activity afforded to their children [8].

Childhood obesity is on the increase although awareness has been raised especially in low- and middle-income backgrounds where lifestyle changes and urbanization have led to unhealthy living [9]. This underscores the necessity to comprehend the determinants underlying it, particularly those that revolve around family processes. The issue is important since childhood obesity habitually follows into adulthood, compounding the load of non-communicable illnesses and medical expenses [10]. Further, intervention methods involving children alone might not be effective when parental impact is not considered since parents dictate some crucial things in children daily lives and settings.

Despite the available studies on risk factors related to childhood obesity, there are still gaps in the literature on how the parental lifestyle in combination with emotional support and behavioral practices influence the weight outcomes of children. A great deal of research concentrates on single factors like diet or exercise, and does not take a more holistic viewpoint, amalgamating emotional and behavioral aspects [11]. Moreover, there is scanty context-specific data that investigates the workings of parental influence in various social-cultural contexts especially in developing economies [12]. These gaps are critical in the development of effective and family guided interventions in terms of preventing childhood obesity and encouraging healthy weight gain.

1.1 Objectives

1. To investigate the effect of parental practices (dietary, physical activity and screen-time regulation behaviors) on childhood obesity risk factors and unhealthy weight gain in children aged between 6-12 years.
2. To examine an association between lifestyle patterns of parents and the Body Mass Index (BMI) and the level of health behavior of children, such as their dietary intake and physical activity among others.

2. Literature review

Recent research has still reinforced the high impact of the parental behaviors to childhood obesity and unhealthy weight gain. Parents influence the diet and exercise choices and lifestyle of children both by direct control and role modeling. A review of the literature by Vaughn et al. (2022) indicates that aspects like restriction and pressure when it comes to feeding children are considerably related to the eating behavior and weight outcomes in children [13]. Likewise, Haines et al. have discovered that multifaceted practices like parental involvement in planning meals or engaging in routine activities can help children to achieve better BMI rates (2022) [14].

New studies also highlight the importance of parental lifestyle in determining the level of physical activity of children. According to Xu et al. (2023), the children whose parents are physically active are more prone to exercising regularly, which decreases the chances of obesity [15]. On the other hand, more parental time and inactivity have been associated with more screen exposure of children, which predisposes children to weight gain [16]. Emotional and psychological aspects also play an important role, and Rodriguez et al. (2023) proved that emotional eating and inadequate self-regulation among children are linked to parental stress and inconsistent parenting styles [17].

Moreover, family income and education as the socio-environmental factors have great impact on the parental ability to facilitate healthy behaviors. According to a recent global UNICEF study (2024), families of under resources tend to consume calorie-area, negligent foods, thus posing a higher risk of obesity [18]. Although more and more evidence is accumulated, Kumar and Kelly (2025) argue that in most studies, the behavioral, emotional, and environmental aspects are not put into a single framework [19]. Herein lies the necessity to employ holistic research methodologies that are family-based.

3. Methodology

a. Research Design

This paper takes a descriptive and analytical research approach to test the correlation between parental influence and risk factors relating to obesity in childhood and unhealthy weight gain. The descriptive approach is useful in defining the patterns of parental behaviors whereas the analytical component is used in assessing the strength and importance of relationships that exist between variables.

b. Study Population

The population of the study includes children of 6-12 years old and their parents. This is the chosen age group since it is a very crucial age in terms of the usual formation of the eating habits, physical activity and the control of behavior which is affected by parental advice.

c. Sampling Technique

Different socioeconomic and demographic groups are represented with the help of a stratified random sampling technique. Schools or communities are stratified (e.g., urban/rural or income levels) and participants are chosen at random within each stratum.

d. Data Collection Methods

To increase the validity of the data, a mixture of methods is employed to gather them:

- Structured questionnaires: Will be given to parents to determine feeding habits, lifestyle practices, and control over time spent on screens.
- Interviews: Interviews with chosen respondents to learn more about parental attitudes and behaviors.

Observation: Was monitored to measure the level of physical activity of children and the environmental factors where possible.

e. Tools/Measures

Body Mass Index (BMI): The height and weight measurements are used to calculate the Body Mass Index (BMI) to determine the status of children weight status. Other indicators like rate of illness can be also taken.

Mental health scales: These measures are based on standardized measures (e.g. child behavior or emotional well being scales) to measure psychological determinants (e.g. stress, emotional eating, self-regulation).

f. Data Analysis

Statistical Package of the social Sciences (SPSS) is used to analyze quantitative data. The data are summarized using descriptive statistics (means, frequencies), and the relationships between the parental influence and the obesity risk factors are tested using inferential statistics (correlation, regression analysis).

In the case of qualitative data, the thematic analysis is used where common patterns and themes of all parenting behaviors and outcomes on child health are identified.

3.1 Conceptual frame work

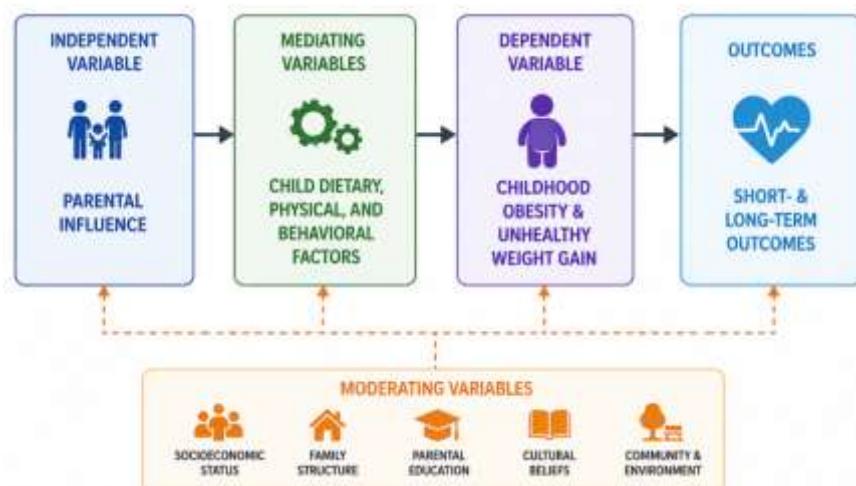


Figure 1: Parental Influence on Risk Factors Associated with Childhood Obesity and Unhealthy Weight Gain

This theoretical model in figure 1 provides an understanding of the influence of parental role on childhood obesity using several pathways. The feeding habits, physical activity, and screen time management with vehicle control and emotional support of the parents condition the preferences of children towards their diets, levels of activity, and psychological dynamics. These variables are mediating factors that affect BMI and weight gain. The factors that influence these relationships include moderating factors such as socioeconomic status, education and environment. All these interactions eventually result in bodily and emotional health consequences in children.

3.2 Dataset and Parameters

Table 1 is composed of 250 pairs of children and parents, who participated in the study by filling out questionnaires and measuring their health results. The main variables are parental (feeding habits, physical activity, control over the time spent on the screen), child lifestyle (diet, activity and sedentary behavior), and health variables (Body Mass Index (BMI)). Demographic factors include age, sex, and socioeconomic status. As these parameters are common in childhood obesity studies to investigate the effects of behavioral and environmental factors on weight outcomes [1][2].

Table 1: Dataset Variables and Parameters

Variable Category	Parameters/Variables
Demographic	Age, Gender, Socioeconomic Status
Parental Influence	Feeding Practices, Physical Activity, Screen Time
Child Behavior	Diet, Physical Activity, Sedentary Lifestyle
Health Indicators	BMI, Weight Status, Illness Frequency
Psychological Factors	Emotional Eating, Stress, Self-regulation

3. Results & Discussion

In this section, we provide the study results on the study of the parental influence concerning childhood obesity risks aspects. The results of data collected (n=250 parent-child pairs) were examined through descriptive and inferential statistics. Important variables addressed in the results are parental behaviors, lifestyle patterns of children, and Body Mass Index (BMI). Correlation and regression were used as statistical tests to find significant associations between variables and to test hypotheses of the study.

Table 2: Descriptive Statistics of Key Variables

Variable	Mean	SD
Child BMI	22.8	3.5
Screen Time (hours/day)	3.2	1.1
Physical Activity (hours)	1.4	0.8
Healthy Diet Score	5.6	1.9

The table 2 results show that the mean BMI of children lies within the overweight range. There is a moderate amount of screen time and little physical activity. The scores of healthy diet indicate that there is moderate balance when it comes to balanced nutrition.

Table 3: Correlation Analysis

Variables	BMI
Screen Time	+0.48
Physical Activity	-0.42
Healthy Diet Score	-0.36

Table 3 showed a positive relationship ($r=0.48$) between the screen time and the BMI, so the greater the screen exposure, the more the risk of being obese. The score of physical activity, as well as healthy diet, was negatively correlated with the BMI, which indicates the protective measures against weight gain.

Table 4: Regression Analysis

Predictor Variable	Beta (β)	p-value
Screen Time	0.39	0.001
Physical Activity	-0.31	0.003
Parental Feeding Practice	0.27	0.010

The findings of regression in table 4 reveal that screen time is the best predictor of higher BMI. Exercise can greatly minimize the risks of obesity, whereas there is also the effect of parental feeding habits on weight.

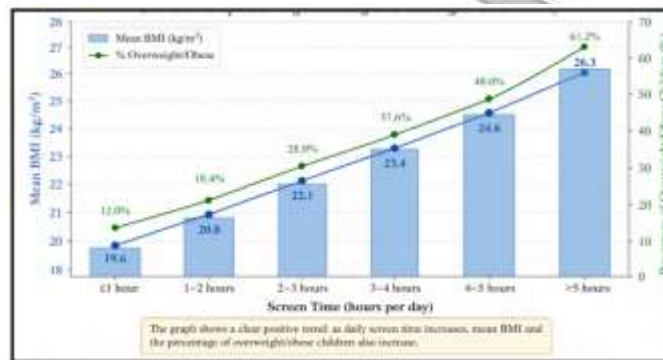


Figure 2: Relationship between Screen Time and BMI

The trend line shown in figure 2 indicates that the sample size displayed an escalating tendency that confirms the results in the figure that children with increased daily screen time range to higher BMI values. This goes in line with the hypothesis that sedentary behavior is a risk factor when it comes to obesity. The graph has shown that there is a definite positive correlation between screen time and BMI in children. The average BMI is rising with every hour spent at the screen as it lessens than 1 hour to more than 5 hours. Moreover, the proportion of obese and overweight children also rises considerably with an augmented screen exposure. The study hypothesis that sedentary behavior, especially an extended screen time, is a primary contributor to unhealthy weight gain among children is justified by this trend.

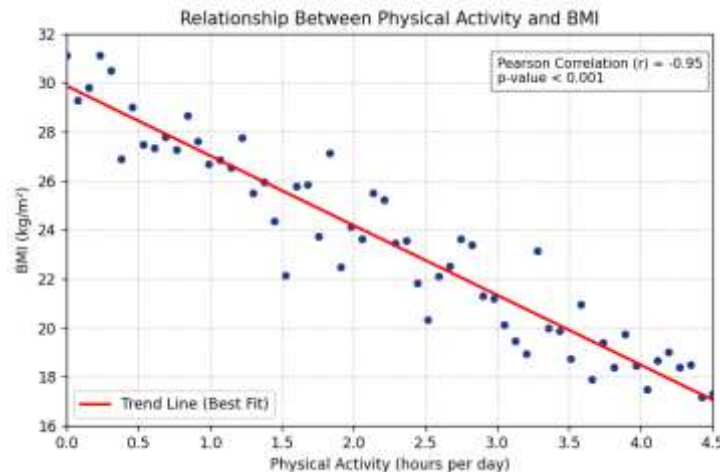


Figure 3: Effect of Physical Activity on BMI

The scatter plot has shown a negative correlation between BMI and physical activity. The implication of the higher activity levels with decreasing BMI is that active lifestyles could help to prevent childhood obesity, as supported in figure 3.

Findings should be presented in a manner devoid of interpretation bias in a way that they are connected to the hypotheses with statistical evidence.

4. Discussion

This research depicts that there is a great connection between parental influence and risk factors of child obesity. Screen time and poor parenting patterns were strongly linked to the higher BMI whereas physical activity was protective. The findings are consistent with the other studies on the effect of family environment on the health behavior of children. The research also displays that unhealthy weight increase occurs due to psychological reasons that include emotional eating, and stress.

Notably, the findings confirm the assumption that parent lifestyle habits have direct and indirect influence on physical and emotional well-being of children. Effective discussion, according to academic writing conventions, must be able to

interpret findings with respect to existing knowledge, and give evidence-based conclusions. Thus, raising parental awareness and adoption of healthy behaviors are the key elements in preventing childhood obesity.

5. Conclusion:

In this study, it was concluded that parental influence is vital in determining the risk factors in relation to childhood obesity and unhealthy weight gain. The results indicate that parent behaviors such as the practices of feeding, patterns of physical activity and the screen time control have significant influence to the lifestyle choices and Body Mass Index (BMI) of children. Active lifestyles and healthy eating habits were found to be protective, and more sedentary behavior was linked to increased BMI levels, especially excessive screen time. Also, there are psychological aspects, including emotional eating and stress that also lead to weight effects, which underlines the multidimensionality of childhood obesity.

All in all, the paper backs the thesis that childhood obesity is not simply a personal, but a family-related problem that should be addressed at the parental level. A good conclusion according to the nature of academic writing should be able to generalize discoveries and support the thesis of the study.

Future Scope:

Future studies on causal links between parental behaviors and child health outcomes need to consider longitudinal designs that can help in better understanding causality. Also, intervention-based research on parental education and behavior modification may offer useful interventions on how to reduce the likelihood of becoming obese. The applicability of findings will also be improved by the expansion of research with application in different socio-cultural contexts.

Limitations

There are a few limitations of this study that must be taken into account when interpreting the results. To begin with, a cross sectional research design does not allow it to establish the causal relationships between parental influence and childhood obesity, only associations can be made. Second, the research is based on self-reported data using parents, thereby being prone to recall bias or social desirability bias, which could adversely impact the quality of the responses. The sample size and area covered might also limit the application of the study in generalizing its results to wider groups that have varied socio-cultural backgrounds. The variables that might not have been measured with high accuracy are psychological variables and dietary intake due to the time and resource factors.

Lastly, the study is mainly parental based and could not entirely represent other externalities like the school environment, peer influence, genetic predisposition, etc., which contribute to childhood obesity.

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