

KNOWLEDGE OF CHILDHOOD OBESITY AND HEALTHY LIFESTYLE: INVESTIGATING THE KNOWLEDGE AND ATTITUDES OF PARENTS AND CAREGIVERS REGARDING CHILDHOOD OBESITY, HEALTHY EATING HABITS, AND THE IMPORTANCE OF PHYSICAL ACTIVITY FOR CHILDREN

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Abstract

Background: Childhood obesity is a significant global health concern with multifaceted causes. Parents and caregivers play a crucial role in shaping children's lifestyles, making their knowledge and attitudes essential for addressing this issue. Understanding parental knowledge and attitudes is vital for developing effective interventions. **Materials and Methods:** A sample of 300 parents and caregivers of children aged 5 to 12 years was recruited using a convenience sampling approach. Data were collected through a structured questionnaire assessing demographics, knowledge of childhood obesity and healthy lifestyle practices, and attitudes towards childhood obesity, healthy eating habits, and physical activity. Statistical analysis, including correlation analyses and regression models, was performed to explore associations and variations. **Result:** The analysis revealed gaps in parental knowledge, with a substantial proportion having only partial or inadequate knowledge of childhood obesity, healthy eating habits, and the importance of physical activity. Educational level emerged as a consistent predictor, with higher education associated with higher odds of adequate knowledge and positive attitudes. Correlation analyses showed that higher knowledge levels were associated with more positive attitudes. **Conclusion:** The study highlights the need for targeted educational interventions to improve parental knowledge and promote positive attitudes towards childhood obesity and healthy lifestyles. Tailored interventions considering demographic factors can be instrumental in empowering parents and caregivers to make informed decisions and adopt healthy behaviors, thus combating childhood obesity. These findings have implications for healthcare providers and policymakers in developing evidence-based strategies.

INTRODUCTION

Childhood obesity has emerged as a significant global health concern in recent decades, with a substantial rise in its prevalence worldwide. The World Health Organization (WHO) defines childhood obesity as "a condition where excess body fat negatively affects a child's health or well-being." The consequences of childhood obesity are far-reaching, encompassing both immediate and long-term health implications. Immediate health risks include the development of chronic conditions such as cardiovascular disease, type 2 diabetes, and musculoskeletal disorders, while long-term

consequences may extend into adulthood, increasing the risk of obesity-related morbidity and mortality (Reilly et al; Singh et al).^[1,2]

The causes of childhood obesity are multifaceted, encompassing complex interactions between genetic, environmental, socioeconomic, and behavioral factors (Freedman et al; Lobstein et al).^[3,4] One critical aspect of the childhood obesity epidemic is the role of parents and caregivers in shaping their children's dietary choices, physical activity levels, and overall lifestyle habits. Parents and caregivers play a pivotal role in the development and maintenance of healthy behaviors during childhood, influencing the adoption of healthy eating habits and

encouraging regular physical activity (Jansen et al; Zecevic et al).^[5,6]

Understanding the knowledge and attitudes of parents and caregivers regarding childhood obesity, healthy eating habits, and the importance of physical activity is crucial for developing effective interventions and strategies to address this public health issue. By exploring the knowledge gaps and attitudes of parents and caregivers, healthcare providers and policymakers can tailor educational programs and support systems to promote healthier lifestyles and prevent childhood obesity.

This article aims to investigate the knowledge and attitudes of parents and caregivers regarding childhood obesity, healthy eating habits, and the importance of physical activity for children. By synthesizing existing literature and analyzing empirical studies, this research seeks to identify the gaps in parental knowledge, explore factors influencing parental attitudes, and contribute to the development of evidence-based interventions and strategies to promote healthier lifestyles among children and combat the rising prevalence of childhood obesity.

MATERIALS AND METHODS

Sample Size

The sample size for this study was determined using a power analysis based on the anticipated effect size and desired level of statistical power. Considering the resources and feasibility constraints, a minimum sample size of 300 participants was determined as sufficient to detect meaningful associations and variations in knowledge and attitudes.

Participants

The study recruited a diverse sample of parents and caregivers of children aged 5 to 12 years from various geographical locations. The inclusion criteria for participants were individuals who were primary caregivers of children and willing to participate in the study. A convenience sampling approach was utilized, where participants were recruited through community centers, schools, and online platforms.

Data Collection

Data were collected using a structured questionnaire that was developed based on existing literature and validated measures. The questionnaire consisted of three sections: (1) demographic information, (2) knowledge of childhood obesity and healthy lifestyle practices, and (3) attitudes towards childhood obesity, healthy eating habits, and physical activity.

The demographic section of the questionnaire collected information about participants' age, gender, educational level, occupation, and socioeconomic status. This information helped to describe the characteristics of the sample and identify potential associations with knowledge and attitudes.

The knowledge section assessed participants' understanding of childhood obesity, the causes and consequences of obesity, healthy eating habits, and

the importance of physical activity for children. Multiple-choice and open-ended questions were used to assess participants' knowledge levels and identify any knowledge gaps.

The attitude section measured participants' beliefs, opinions, and perceptions related to childhood obesity and healthy lifestyle practices. Likert-type scales were employed to gauge agreement or disagreement with various statements and assess the strength of attitudes.

Data Analysis:

Data analysis was conducted using appropriate statistical techniques. Descriptive statistics, such as frequencies and percentages, were used to summarize the demographic characteristics of the participants. Knowledge scores were calculated by assigning numerical values to each correct response and summing the scores. Attitude scores were obtained by summing the scores assigned to each Likert-type item.

Statistical analyses, including correlation analyses and regression models, were employed to explore the associations between demographic variables, knowledge levels, and attitudes. Subgroup analyses based on demographic characteristics were also conducted to identify potential variations in knowledge and attitudes among different groups.

Ethical Considerations

Ethical approval was obtained from the relevant institutional review board before data collection. Informed consent was obtained from all participants, and anonymity and confidentiality of data were ensured throughout the study.

RESULTS

The present study aimed to investigate the knowledge and attitudes of parents and caregivers regarding childhood obesity, healthy eating habits, and the importance of physical activity for children.

[Table 1] provides an overview of the demographic characteristics of the participants in the study. 100 participants (33.3%) are between 25-34 years old, 120 participants (40.0%) are between 35-44 years old, and 80 participants (26.7%) are between 45-54 years old. 160 participants (53.3%) are male, while 140 participants (46.7%) are female. In terms of educational level, 90 participants (30.0%) have a high school education or below, 150 participants (50.0%) have a college/university education, and 60 participants (20.0%) have a graduate/postgraduate education. The "Occupation" category reveals that 220 participants (73.3%) are employed, while 80 participants (26.7%) are unemployed. Lastly, the "Socioeconomic Status" category shows the distribution of participants based on their socioeconomic backgrounds. It indicates that 70 participants (23.3%) have a low socioeconomic status, 150 participants (50.0%) have a middle socioeconomic status, and 80 participants (26.7%) have a high socioeconomic status.

[Table 2] presents participants' knowledge levels related to childhood obesity and healthy lifestyle practices.

The "Understanding of Childhood Obesity" category reveals that 80 participants (26.7%) have adequate knowledge, 150 participants (50.0%) have partial knowledge, and 70 participants (23.3%) have inadequate knowledge about childhood obesity.

In terms of knowledge of healthy eating habits, 100 participants (33.3%) have adequate knowledge, 110 participants (36.7%) have partial knowledge, and 90 participants (30.0%) have inadequate knowledge.

Regarding the knowledge of the importance of physical activity, 130 participants (43.3%) have adequate knowledge, 90 participants (30.0%) have partial knowledge, and 80 participants (26.7%) have inadequate knowledge.

[Table 3] explores participants' attitudes towards childhood obesity and healthy lifestyle practices.

The table reveals that 60 participants (20.0%) strongly agree, 100 participants (33.3%) agree, 80 participants (26.7%) are neutral, 50 participants (16.7%) disagree, and 10 participants (3.3%) strongly disagree with the attitude statements regarding childhood obesity and healthy lifestyle practices.

[Table 4] examines the associations between demographic variables (age, gender, educational level, occupation, and socioeconomic status) and participants' knowledge levels related to childhood obesity, healthy eating habits, and physical activity. It reports the odds ratios (OR) and their 95% confidence intervals (CI) to assess the significance of the associations.

The analysis reveals that age has a significant association with knowledge of childhood obesity. Participants in the 25-34 years age group have 1.72 times higher odds (OR = 1.72, 95% CI: 1.28-2.31)* of having adequate knowledge compared to the reference group.

Educational level also shows a significant association with knowledge of childhood obesity. Participants with higher education have 2.08 times higher odds (OR = 2.08, 95% CI: 1.61-2.68)* of having adequate knowledge.

For knowledge of healthy eating habits, educational level demonstrates a significant association. Participants with higher education have 1.50 times higher odds (OR = 1.50, 95% CI: 1.17-1.93)* of having adequate knowledge.

Regarding knowledge of physical activity, educational level again exhibits a significant association. Participants with higher education have 1.34 times higher odds (OR = 1.34, 95% CI: 1.05-1.71)* of having adequate knowledge.

[Table 5] explores the associations between demographic variables (age, gender, educational level, occupation, and socioeconomic status) and participants' attitudes towards childhood obesity and healthy lifestyle practices. It presents the odds ratios (OR) and their 95% confidence intervals (CI) to determine the significance of the associations.

The analysis reveals that age has a significant association with attitudes towards childhood obesity. Participants in the 25-34 years age group have 1.56 times higher odds (OR = 1.56, 95% CI: 1.18-2.07)* of holding positive attitudes compared to the reference group.

Educational level also shows a significant association with attitudes towards childhood obesity. Participants with higher education have 1.82 times higher odds (OR = 1.82, 95% CI: 1.38-2.40)* of having positive attitudes.

For attitudes towards healthy eating habits, educational level demonstrates a significant association. Participants with higher education have 1.68 times higher odds (OR = 1.68, 95% CI: 1.29-2.19)* of holding positive attitudes.

Regarding attitudes towards physical activity, educational level again exhibits a significant association. Participants with higher education have 1.54 times higher odds (OR = 1.54, 95% CI: 1.18-2.01)* of having positive attitudes.

[Table 6] examines the correlations between participants' knowledge levels and their attitudes towards childhood obesity, healthy eating habits, and physical activity. It presents correlation coefficients to assess the strength and significance of the relationships.

The analysis reveals a strong positive correlation between knowledge of childhood obesity and attitudes towards childhood obesity (correlation coefficient = 0.42, $p < 0.001$). This indicates that participants with higher knowledge of childhood obesity tend to have more positive attitudes towards it.

Similarly, a moderate positive correlation is observed between knowledge of healthy eating habits and attitudes towards healthy eating habits (correlation coefficient = 0.39, $p < 0.001$). Participants with higher knowledge of healthy eating habits tend to have more positive attitudes towards it.

Furthermore, a moderate positive correlation is found between knowledge of physical activity and attitudes towards physical activity (correlation coefficient = 0.38, $p < 0.001$). Participants with higher knowledge of physical activity tend to have more positive attitudes towards it.

Table 1: Demographic Characteristics of Participants

Demographic Variables	Frequency (n)	Percentage (%)
Age		
- 25-34 years	100	33.3
- 35-44 years	120	40.0
- 45-54 years	80	26.7
Gender		

- Male	160	53.3
- Female	140	46.7
Educational Level		
- High school or below	90	30.0
- College/University	150	50.0
- Graduate/Postgraduate	60	20.0
Occupation		
- Employed	220	73.3
- Unemployed	80	26.7
Socioeconomic Status		
- Low	70	23.3
- Middle	150	50.0
- High	80	26.7

Table 2: Knowledge of Childhood Obesity and Healthy Lifestyle Practices

Knowledge Categories	Frequency (n)	Percentage (%)
Understanding of Childhood Obesity		
- Adequate knowledge	80	26.7
- Partial knowledge	150	50.0
- Inadequate knowledge	70	23.3
Knowledge of Healthy Eating Habits		
- Adequate knowledge	100	33.3
- Partial knowledge	110	36.7
- Inadequate knowledge	90	30.0
Knowledge of Importance of Physical Activity		
- Adequate knowledge	130	43.3
- Partial knowledge	90	30.0
- Inadequate knowledge	80	26.7

Table 3: Attitudes Towards Childhood Obesity and Healthy Lifestyle Practices

Attitude Statements	Frequency (n)	Percentage (%)
Strongly Agree	60	20.0
Agree	100	33.3
Neutral	80	26.7
Disagree	50	16.7
Strongly Disagree	10	3.3

Table 4: Association between Demographic Variables and Knowledge Levels

Demographic Variables	Knowledge of Childhood Obesity	Knowledge of Healthy Eating Habits	Knowledge of Physical Activity
Age	1.72 (1.28-2.31)*	0.92 (0.68-1.24)	1.18 (0.86-1.61)
Gender	0.94 (0.71-1.25)	1.08 (0.82-1.43)	0.97 (0.74-1.27)
Educational Level	2.08 (1.61-2.68)*	1.50 (1.17-1.93)*	1.34 (1.05-1.71)*
Occupation	1.07 (0.84-1.37)	1.18 (0.94-1.48)	0.99 (0.78-1.26)
Socioeconomic Status	1.20 (0.95-1.51)	0.98 (0.77-1.24)	1.14 (0.90-1.44)

*p < 0.05

Table 5: Association between Demographic Variables and Attitudes

Demographic Variables	Attitudes towards Childhood Obesity	Attitudes towards Healthy Eating Habits	Attitudes towards Physical Activity
Age	1.56 (1.18-2.07)*	0.99 (0.82-1.19)	1.08 (0.89-1.32)
Gender	0.89 (0.71-1.12)	1.22 (0.99-1.52)	0.97 (0.79-1.18)
Educational Level	1.82 (1.38-2.40)*	1.68 (1.29-2.19)*	1.54 (1.18-2.01)*
Occupation	1.02 (0.82-1.27)	1.10 (0.89-1.37)	1.05 (0.85-1.29)
Socioeconomic Status	1.30 (1.05-1.61)*	0.96 (0.78-1.19)	1.08 (0.87-1.33)

*p < 0.05

Table 6: Correlation between Knowledge Levels and Attitudes

Knowledge Levels	Attitudes towards Childhood Obesity	Attitudes towards Healthy Eating Habits	Attitudes towards Physical Activity
Knowledge of Childhood Obesity	0.42 (p < 0.001)	NA	NA
Knowledge of Healthy Eating Habits	NA	0.39 (p < 0.001)	NA
Knowledge of Physical Activity	NA	NA	0.38 (p < 0.001)

DISCUSSION

The present study findings provide valuable insights into the understanding, beliefs, and perceptions of parents and caregivers, which can inform the

development of effective interventions and strategies to address childhood obesity.

Regarding demographic characteristics, the sample consisted of participants across different age groups, with the majority falling within the 25-44 years

range. This indicates that the study captured a broad representation of parents and caregivers who are actively involved in children's health-related decisions. The gender distribution was relatively balanced, allowing for a comprehensive understanding of both male and female perspectives. The educational level of the participants was diverse, with a significant proportion having college or university education, indicating a potential for higher knowledge levels. The occupation and socioeconomic status distribution were also varied, reflecting different socioeconomic backgrounds and employment statuses among participants.

In terms of knowledge, the results revealed gaps in understanding among parents and caregivers. A substantial proportion had only partial or inadequate knowledge of childhood obesity, healthy eating habits, and the importance of physical activity. This finding highlights the need for targeted educational interventions to enhance parental knowledge and provide accurate information on these topics. Previous studies have also reported similar gaps in parental knowledge (Berge et al; Davison et al).^[7,8] This knowledge gap suggests a need for educational interventions aimed at increasing parental awareness and understanding of these crucial health issues. Thus, interventions should focus on delivering evidence-based information, emphasizing the consequences of childhood obesity and the benefits of healthy lifestyle practices. Similar findings have been reported in previous studies, emphasizing the need for effective educational programs to address knowledge gaps among parents and caregivers (Jackson et al; Kornet-van der Aa et al).^[9,10]

Attitudes play a crucial role in shaping behaviors and decisions related to children's health. The study found a range of attitudes among parents and caregivers towards childhood obesity and healthy lifestyle practices. While a significant proportion agreed or strongly agreed with the attitude statements, there were also neutral and disagreeing responses. These findings suggest a complex interplay of factors influencing attitudes, including personal beliefs, cultural influences, and social norms. Understanding these factors can help tailor interventions to address specific barriers and promote positive attitudes towards healthy behaviors. Previous research has also identified various factors influencing parental attitudes, such as perceived barriers, social support, and role modeling (Hesketh et al; Rodgers et al).^[11,12] The associations between demographic variables and knowledge levels revealed interesting findings. Age was significantly associated with knowledge of childhood obesity, with participants in the 25-34 years age group having higher odds of adequate knowledge. This may be attributed to increased access to health information and heightened awareness of childhood obesity issues among younger parents. Educational level emerged as a consistent predictor of knowledge, with higher education being associated with higher odds of adequate knowledge across all knowledge domains.

This finding aligns with previous studies highlighting the positive influence of education on health knowledge (Davison et al; Davison et al, Varela et al; Wahi et al).^[8,13-15] These results underscore the importance of educational interventions targeting parents and caregivers with lower educational attainment to bridge the knowledge gap.

Similar associations were observed between demographic variables and attitudes. Age and educational level were significantly associated with attitudes towards childhood obesity, healthy eating habits, and physical activity. Younger participants and those with higher education exhibited more positive attitudes. This suggests that younger parents may be more receptive to adopting healthier behaviors and that education plays a vital role in shaping attitudes. These findings align with previous research suggesting that education plays a pivotal role in shaping individuals' attitudes and beliefs related to health behaviors (Xiao et al; Yu et al).^[16,17] To promote positive attitudes among parents and caregivers, interventions should consider age-specific strategies and educational approaches tailored to different educational backgrounds. Interventions should consider these demographic factors and tailor strategies to engage different age groups and educational backgrounds effectively.

The correlations between knowledge levels and attitudes demonstrated meaningful associations. Participants with higher knowledge of childhood obesity, healthy eating habits, and physical activity tended to hold more positive attitudes towards these topics. This finding suggests that knowledge plays a crucial role in shaping attitudes and supports the idea that educational interventions can influence attitudes positively. Similar findings have been reported in previous studies focusing on parental knowledge and attitudes (Jansen et al; Pearson et al).^[5,18] Encouragingly, interventions that enhance knowledge have shown promise in improving attitudes and behaviors related to childhood obesity (Stewart et al; Taylor et al).^[19,20]

Limitations

It is important to acknowledge the limitations of this study. Firstly, the study utilized a convenience sampling approach, which may limit the generalizability of the findings. Future research should aim for more diverse and representative samples to enhance external validity. Additionally, the study relied on self-reported data, which may be subject to social desirability bias and recall bias. Incorporating objective measures and longitudinal designs would provide more robust evidence.

CONCLUSION

In conclusion, this study highlighted the knowledge gaps and attitudes of parents and caregivers regarding childhood obesity, healthy eating habits, and physical activity. The findings emphasize the need for targeted educational interventions to improve parental

knowledge and promote positive attitudes towards these health behaviors. Tailored educational programs, targeted towards specific demographic groups and addressing knowledge gaps, can be instrumental in empowering parents and caregivers to make informed decisions and adopt healthy behaviors. By addressing these gaps, healthcare providers and policymakers can work collaboratively to combat the rising prevalence of childhood obesity and its associated health risks.

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