

# A STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE, AND PRACTICE (KAP) REGARDING CHILDHOOD OBESITY AMONG MOTHERS RESIDING IN SELECTED RURAL AREAS.

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## ABSTRACT

Childhood obesity has emerged as a significant public health issue, necessitating effective strategies to foster awareness among mothers who play a crucial role in their children's dietary habits and lifestyle choices. Research underscores that understanding the knowledge, attitudes, and practices of mothers regarding childhood obesity is vital for developing preventive measures and interventions.

Studies reveal that a substantial number of mothers possess inadequate knowledge about childhood obesity. For instance, a study conducted in Tamil Nadu, India, found that only 1% of the surveyed mothers had adequate knowledge about controlling childhood obesity, while the majority exhibited moderate understanding (Deepika et al., 2020). Similarly, in a study conducted in Tanzania, awareness about obesity and its implications was limited among parents, highlighting the need for targeted educational interventions (Muhihi et al., 2015). Proper knowledge about dietary practices, exercise, and obesity-related health risks is essential, as mothers often influence their children's eating behaviors and physical activities (Hudaib et al., 2024).

## INTRODUCTION

Childhood obesity has emerged as a significant public health issue, necessitating effective strategies to foster awareness among mothers who play a crucial role in their children's dietary habits and lifestyle choices. Research underscores that understanding the knowledge, attitudes, and practices of mothers regarding childhood obesity is vital for developing preventive measures and interventions.

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Maternal attitudes toward childhood obesity greatly impact their perceptions and actions regarding their children's health. Research has shown that many mothers tend to underestimate their children's weight status, which can lead to neglecting effective dietary and lifestyle changes (Hossain et al., 2019). For example, a study found that mothers in Bangladesh often

perceived childhood overweight as a non-issue, primarily influenced by cultural beliefs and awareness gaps (Hossain et al., 2019). Consequently, their attitudes can significantly compromise the effectiveness of obesity prevention strategies. Furthermore, socio-economic factors have been strongly linked to varying attitudes, with mothers of lower educational backgrounds often showing less awareness about the risks associated with childhood obesity (Lee et al., 2017).

Moreover, practices surrounding diet and physical activity among mothers directly impact the prevalence of childhood obesity. Several studies have identified that maternal dietary patterns during pregnancy, such as adherence to a Mediterranean diet, positively correlate with healthier weight statuses in children (Díaz-López et al., 2024; Mantzourou et al., 2023). In contrast, adverse practices such as high-caloric diets, combined with inadequate physical activity, promote obesity in children (Magriplis et al., 2017). Additionally, maternal smoking during pregnancy has been linked to increased childhood obesity rates, further illustrating the critical nature of maternal behavior (Sunday & Kabir, 2019). While lifestyle modifications, such as engaging in physical activities and promoting healthy eating, can greatly influence childhood obesity, many mothers still face challenges in implementing these changes due to cultural expectations and lack of knowledge (Hudaib et al., 2024).

In summary, addressing childhood obesity requires a multifaceted approach that strengthens mothers' knowledge, modifies their attitudes, and encourages healthier practices. Educating mothers about the importance of nutrition, understanding their roles in

shaping their children's health, and promoting positive lifestyle changes can greatly assist in combating childhood obesity.

## MATERIALS AND METHODS

### Study Design

A descriptive cross-sectional study design was employed to assess the knowledge, attitude, and practice (KAP) regarding childhood obesity among mothers residing in selected rural areas.

### Study Setting and Population

The study was conducted in selected rural areas, targeting mothers of children aged 5 to 12 years. These areas were chosen based on accessibility and representation of typical rural demographics.

### Sample Size and Sampling Technique

A total of 135 mothers participated in the study. Convenience sampling was used to recruit participants who met the inclusion criteria and were available during the data collection period.

### Inclusion and Exclusion Criteria

#### Inclusion Criteria:

- Mothers having at least one child aged 5-12 years.
- Residents of the selected rural areas.
- Willing to provide informed consent and participate.

#### Exclusion Criteria:

- Mothers whose children have chronic medical conditions affecting growth or weight (e.g., thyroid disorders, genetic syndromes).
- Mothers who are healthcare professionals or nutritionists.

### Tool for Data Collection

A structured, validated questionnaire was developed, comprising four sections:

1. **Demographic Profile:** Includes age, education, occupation, income, number of children, and BMI status of the child.
2. **Knowledge Section (10 items):** Focused on causes, risk factors, and prevention of childhood obesity.
3. **Attitude Section (10 items):** Measured using a 5-point Likert scale (strongly agree to strongly disagree).
4. **Practice Section (10 items):** Covered feeding habits, screen time, physical activity, and monitoring practices.

### Data Collection Procedure

Data were collected over a period of two months by trained investigators through face-to-face interviews using the structured questionnaire. Interviews were conducted at anganwadis, primary health centers, and community gathering points to ensure accessibility.

### Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee. Informed consent was obtained from all participants.

#### 1. Demographic Variables of the mothers (n = 135)

Variable	Category	Frequency (f)	Percentage (%)
Age (years)	Below 25	24	17.8%
	26-30	48	35.6%
	31-35	38	28.1%
	Above 35	25	18.5%
Education	No formal education	28	20.7%
	Primary	43	31.9%
	Secondary	42	31.1%
	Graduate and above	22	16.3%
Occupation	Homemaker	91	67.4%
	Daily wage worker	19	14.1%
	Employed (govt/private)	25	18.5%
Monthly Family Income (INR)	< ₹5,000	38	28.1%
	₹5,001-₹10,000	51	37.8%
	> ₹10,000	46	34.1%
Number of Children	One	28	20.7%
	Two	73	54.1%
	Three or more	34	25.2%
Previous Awareness on Childhood Obesity	Yes	67	49.6%
	No	68	50.4%

#### 2. Knowledge Questions (n = 135)

Confidentiality and anonymity of responses were maintained throughout the study.

### Data Analysis

Data were entered and analyzed using SPSS version 26.0. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize demographic characteristics and KAP scores. Chi-square test and independent t-test/ANOVA were used to examine associations between KAP levels and demographic variables. A p-value of < 0.05 was considered statistically significant.

## RESULTS

### Description of Demographic Characteristics

The demographic data showed that the majority of mothers were aged between 26-30 years (35.6%), followed by 31-35 years (28.1%). Most participants had completed either primary (31.9%) or secondary education (31.1%), and a significant proportion were homemakers (67.4%). In terms of income, 37.8% of families earned between ₹5,001-₹10,000 monthly. More than half of the mothers (54.1%) had two children, and prior awareness of childhood obesity was reported by 49.6% of the respondents.

### Description of Knowledge Responses

The assessment of knowledge regarding childhood obesity revealed that 45.2% of mothers had moderately adequate knowledge, 29.6% had inadequate knowledge, and only 25.2% demonstrated adequate knowledge. The majority correctly identified junk food, sugary drinks, and lack of exercise as contributing factors, though knowledge on psychological effects and genetic predisposition were comparatively lower.

### Description of Attitude Responses

Regarding attitude, 43.7% of mothers showed a neutral attitude towards childhood obesity, while 28.1% each had favorable and unfavorable attitudes. A considerable number agreed that obesity is a serious issue and supported health education, though some misconceptions—such as viewing obese children as "healthy"—persisted.

### Description of Practice Responses

In terms of practice, 45.9% of mothers followed fair practices, while 27.4% demonstrated good practices, and 26.7% had poor practices. While many mothers encouraged physical activity and monitored food intake, a significant portion still allowed frequent junk food, sugary drink consumption, and screen time during meals.

### Overall Summary of KAP Scores

The overall findings indicate that although most mothers had a moderate level of knowledge and fair practices, a substantial proportion still held neutral or unfavorable attitudes, suggesting a gap between awareness and behavior. These results highlight the need for focused educational interventions to improve knowledge and promote healthy attitudes and practices regarding childhood obesity.

Knowledge Items	Correct (f/%)	Incorrect (f/%)
1. Obesity means excessive fat in the body	97 (71.9%)	38 (28.1%)
2. Junk food consumption increases obesity risk	105 (77.8%)	30 (22.2%)
3. Childhood obesity can lead to diabetes	92 (68.1%)	43 (31.9%)
4. Obese children may face psychological problems	87 (64.4%)	48 (35.6%)
5. Obesity is preventable with diet and exercise	102 (75.6%)	33 (24.4%)
6. Lack of physical activity causes obesity	100 (74.1%)	35 (25.9%)
7. Genetics plays a role in childhood obesity	81 (60.0%)	54 (40.0%)
8. Screen time contributes to weight gain	89 (65.9%)	46 (34.1%)
9. Sugary drinks increase risk of obesity	94 (69.6%)	41 (30.4%)
10. Schools should educate about healthy habits	109 (80.7%)	26 (19.3%)

### 3. Attitude Questions (n = 135)

Attitude Items	Agree (%)	Neutral (%)	Disagree (%)
1. Obesity in children is a serious health issue	88 (65.2%)	27 (20.0%)	20 (14.8%)
2. Obese children are just "healthy-looking"	36 (26.7%)	41 (30.4%)	58 (43.0%)
3. I feel concerned if my child gains excess weight	91 (67.4%)	24 (17.8%)	20 (14.8%)
4. It's okay for children to eat junk food often	29 (21.5%)	34 (25.2%)	72 (53.3%)
5. Physical activity should be a daily habit	101 (74.8%)	24 (17.8%)	10 (7.4%)
6. Parental behavior affects child's eating habits	109 (80.7%)	16 (11.9%)	10 (7.4%)
7. Obesity is not a concern in rural areas	32 (23.7%)	38 (28.1%)	65 (48.1%)
8. Media influences eating habits in children	89 (65.9%)	30 (22.2%)	16 (11.9%)
9. Obesity can be controlled with awareness	112 (83.0%)	15 (11.1%)	8 (5.9%)
10. Schools should educate about obesity	117 (86.7%)	10 (7.4%)	8 (5.9%)

### 4. Practice Questions (n = 135)

Practice Items	Yes (%)	No (%)
1. I monitor my child's weight regularly	83 (61.5%)	52 (38.5%)
2. My child eats vegetables/fruits daily	89 (65.9%)	46 (34.1%)
3. I restrict sugary snacks at home	75 (55.6%)	60 (44.4%)
4. My child consumes soft drinks weekly	96 (71.1%)	39 (28.9%)
5. My child plays outdoors at least 1 hr/day	68 (50.4%)	67 (49.6%)
6. We eat junk food more than 2x/week	51 (37.8%)	84 (62.2%)
7. I encourage physical activity in daily routine	97 (71.9%)	38 (28.1%)
8. I educate my child on healthy food	106 (78.5%)	29 (21.5%)
9. We watch TV/mobile during meals	91 (67.4%)	44 (32.6%)
10. I consult health workers about my child's weight	42 (31.1%)	93 (68.9%)

### Combined KAP Scores Regarding Childhood Obesity (n = 135)

Component	Score Category	Score Range	Frequency (f)	Percentage (%)
Knowledge	Inadequate Knowledge	0-3	40	29.6%
	Moderately Adequate	4-6	61	45.2%
	Adequate Knowledge	7-10	34	25.2%
Attitude	Unfavorable Attitude	10-23	38	28.1%
	Neutral Attitude	24-36	59	43.7%
	Favorable Attitude	37-50	38	28.1%
Practice	Poor Practice	0-3	36	26.7%
	Fair Practice	4-6	62	45.9%
	Good Practice	7-10	37	27.4%

## DISCUSSION

The study findings indicate that a notable 45.2% of mothers had moderately adequate knowledge regarding childhood obesity, with only 25.2% demonstrating adequate knowledge. This reflects an alarming gap in understanding, primarily as mothers are critical influencers of dietary and lifestyle practices that contribute to childhood obesity. The data aligns with previous research indicating that parental knowledge significantly affects children's eating habits and health outcomes (Dharmarajlu et al., 2021; (Rune et al., 2015; Taveras et al., 2015). For example, improved nutrition knowledge can lead to better dietary choices and increased fruit and vegetable consumption among children, supporting long-term health (Dharmarajlu et al., 2021; . Attitudinally, the study revealed that 43.7% of mothers demonstrated neutral attitudes towards childhood obesity, while only 28.1% expressed favorable attitudes. The neutral stance may indicate a lack of urgency or a true understanding of the health implications associated with childhood obesity, which can hinder positive behavioral change (Rune et al., 2015; Berge et al., 2016). Indeed, research suggests that recognizing the health risks associated with childhood obesity is a powerful motivator for parents to change their behaviors and practices (Rune et al., 2015; Taveras et al., 2015). If mothers perceive obesity as less of

a problem, they may be less likely to enact strategies that promote healthy lifestyles for their children, emphasizing the need for educational interventions to shift perceptions and encourage proactive health behaviors (Henauw et al., 2015).

In terms of practices, the findings demonstrated that 45.9% of mothers exhibited fair practices regarding obesity prevention, with only 27.4% implementing good practices. This indicates that while some mothers are aware and may engage with healthful behaviors, many are not meeting optimal standards for health practices as recommended in obesity prevention guidelines (Xu et al., 2020; Stea et al., 2016; . Interventions aimed at improving maternal practices surrounding healthy eating and regular physical activity are essential, as evidence shows that structured nutritional interventions can significantly alter dietary behaviors and reduce obesity prevalence in children (Dharmarajlu et al., 2021; Stea et al., 2016; (Ash et al., 2017; . Moreover, multi-component approaches that involve family engagement, similar to those highlighted in a systematic review of childhood obesity interventions, are crucial for amplifying the effects of such educational efforts (Ash et al., 2017; Bourke et al., 2014).

The observed gaps in knowledge, attitudes, and practices present a compelling case for implementing health education interventions tailored to mothers of young children. Such interventions should focus on enhancing understanding of

childhood obesity's implications, reshaping attitudes towards its seriousness, and equipping mothers with practical tools to foster healthier home environments. Implementing community-based programs that engage mothers in educational and participatory formats can lead to meaningful changes in their behaviors and ultimately reduce the incidence of childhood obesity (Dharmarajlu et al., 2021; Ojeda-Rodríguez et al., 2018; Umer et al., 2017).

## CONCLUSION

The study concluded that while a majority of mothers had moderately adequate knowledge about childhood obesity, there were notable gaps in attitude and practice. Nearly half of the participants showed neutral attitudes and followed only fair practices. These findings highlight the need for structured educational programs to enhance mothers' understanding, foster positive attitudes, and promote healthy practices to prevent childhood obesity effectively.

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