A Descriptive Study on the Knowledge and Perception of Parent Towards their Children's Dietary Behavior

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DOI: https://doi.org/10.47772/IJRISS.2026.10100428

Received: 20 January 2026; Accepted: 26 January 2026; Published: 10 February 2026

ABSTRACT

Introduction: In Malaysia 12.7 percent of children (5–19 years old) are obese and the most recent statement from the World Health Organization in 2021 indicates that approximately 38.2 million children under the age of 5 were overweight or obese in 2019 (Wang et al., 2022). Parenting practices being a good role model and using moderate restrictions, significantly impact children's dietary behaviors.

Aims: The study aims to assess parental general nutrition knowledge and perception of dietary behavior among their children. The study also aims to determine the association between parental nutrition knowledge, feeding styles, and socio-demographic data.

Methods: The quantitative descriptive study design with simple random sampling was used, and it involved 390 respondents among parents. The parent's general nutrition knowledge and perception were assessed using a General Nutrition Knowledge Questionnaire**.**

Results: The results revealed that a significant portion of respondents (67.9%) demonstrated an intermediate level of general nutrition knowledge, indicating a moderate understanding of nutrition concepts. Another notable proportion (27.7%) scored higher marks, indicating a higher level of nutrition knowledge associated with healthier eating habits and lifestyle choices. However, a small percentage (4.4%) scored lower marks, suggesting a limited understanding of general nutrition knowledge.

Conclusions: Parent nutrition knowledge perception is crucial in shaping children's dietary behavior. The findings of this study emphasize the importance of parents' understanding of nutrition concepts and their ability to translate that knowledge into healthy feeding practices.

Keywords: knowledge, perception, dietary behaviors, parents, children.

INTRODUCTION

Childhood obesity has emerged as a pressing global health concern in recent years. Obesity is described as a condition characterized by the excessive build-up of body fat. Obesity affects millions of children worldwide, presenting significant health risks and long-term consequences. A study by (Dai et al., 2020)) stated that the number of global deaths and disability-adjusted life years (DALYs) attributable to high Body Mass Index (BMI) has substantially increased between 1990 and 2017. Based on the World Health Organization (WHO), more than one billion people worldwide are obese – 650 million adults, 340 million adolescents, and 39 million children. This number is still increasing. In 2019, an estimated 38.2 million children under the age of 5 years were overweight or obese (Okunogbe et al., 2022).

The body mass index (BMI) calculates body fat based on height and weight. It does not directly measure body fat but uses an equation to approximate it. BMI can help determine whether a person is overweight or underweight. Typically, the Body Mass Index (BMI) is computed using the following formula:

BMI = weight (kg) ÷ [height (m)]²

The normal range of BMI is 18.5 – 24.9. A body mass index (BMI) of 25 or higher is overweight, and a BMI of 30 or higher is deemed obese. Children grow at different rates; a twist of the z-score is utilized to measure the child growth chart. Therefore, the measure of weight for them is calculated differently compared to other children their age. The other method is by percentile count of body mass index measured by referring to the child's body mass being in the 50th percentile, which means that half of the children his age or older have a lower BMI, and half of the children have a higher BMI. If the child is in the 75th percentile, he has a higher BMI of 75 percent than the children their age. Furthermore, the lower body mass index limit indicates that the child is at risk of being overweight. A child with a 95th percentile or higher body mass index is obese.

LITERATURE REVIEW

Socioeconomic factors also contribute to childhood obesity. Lower-income families often have limited access to healthy, affordable food options, and their neighbourhoods may lack safe recreational spaces for physical activity. Furthermore, marketing strategies that promote unhealthy food choices and beverages targeted at children contribute to the obesogenic environment. Based on (Haines et al., 2019) increased rates of globalization, urbanization, and migration over recent decades have profoundly impacted family organizations, traditions,lifestyle, and eating habits.

Obese children are prone to various health problems, including type 2 diabetes, hypertension, and sleep apnea (Arens and Muzumdar, 2010). They face an increased risk of developing cardiovascular diseases and musculoskeletal issues. Furthermore, obesity negatively affects children's mental well-being, contributing to low self-esteem, dissatisfaction with body image, and a heightened susceptibility to depression and anxiety (Kavehfarsani, Kelishadi and Beshlideh, 2020). The economic impact of obesity is also significant, with rising healthcare costs associated with obesity-related diseases. Multiple factors contribute to the rise of childhood obesity. First and foremost, changes in dietary patterns play a pivotal role (Stein, Weinberger-Litman and Latzer, 2014). The increased consumption of energy-dense, nutrient-poor foods, often referred to as "junk food" or "fast food," coupled with a decline in physical activity, has led to an energy imbalance, causing weight gain (Miljak and Forbes, 2022)

According to (Patel and Kassam, 2022) provider nutrition knowledge and confidence appear to be suitable targets for improving nutrition practices. The environment where young children eat, including the early care and education (ECE) setting, can be examined for possible obesity prevention. Furthermore, (Haines et al., 2019) state that nurturing healthy eating among children can improve public health. Some factors could influence children's dietary habits, such as the home food environment, social environment, and context where perception, knowledge, and dietary habits are (Mahmood et al., 2021) Interventions should target children from an early age, involving family/parents, teachers, and peers to improve the food environment for sustainable change. There is a need for holistic behavior change strategies through nutrition education interventions, including supporting food skills like menu planning, food shopping, and cooking to encourage healthy eating habits among children (Thakur S, 2021). Family is vital for supporting and promoting healthy movement behaviors of children and youth (Moore et al., 2020) According to (Chow et al., 2020) parents may serve as an essential change mechanism for children's health status by increasing their healthy lifestyle behaviors.

PROBLEM STATEMENT

In Malaysia, urbanization increases the urban population through rural-urban migration. It has caused urban food concern due to the increasing demand for food as well as changes in the eating behavior of the urban population (Marzuki and Jais, 2020) The urban lifestyle has created a significant food consumption trend where the consumer prefers eating out, street food, or ready-to-eat foods, which are often cheaper, fast, and easily accessible.

This circumstance influences children as well. According to the United Nations International Children's Emergency Fund (UNICEF) Malaysia 2019, 12.7 percent of children (5–19-year-olds) are obese in Malaysia. Furthermore, the most recent statement from the World Health Organization in 2021 indicates that approximately 38.2 million children under the age of 5 were overweight or obese in 2019. These findings highlight an increase in the prevalence of childhood obesity. The National Health and Morbidity Survey (NHMS. 2019) demonstrated a rising prevalence of child obesity. The percentage of obesity increased from 11.9% to 14.8% (Baharudin et al., 2019)

Obesity was more prevalent in urban areas and among households in the Top 20% income group, which is high-income earners, more than RM10 000 per month. This statement aims to increase awareness about the widespread prevalence of childhood obesity in different countries and regions. It emphasizes the significant impact of socioeconomic factors, cultural dynamics, and urbanization on the rising epidemic. Childhood obesity is a complex issue that demands collective efforts from individuals, families, communities, and policymakers. By addressing the underlying causes, promoting healthy lifestyles, implementing regulations, and increasing awareness, we can reduce the prevalence of childhood obesity and its associated health risks.

Good nutrition plays a vital role in the overall health and well-being of individuals, especially children, who are in their critical stages of growth and development. Parents serve as the primary influencers in their children's lives, and their knowledge and behaviors regarding nutrition significantly impact their children's dietary habits. Parents significantly affect their children, which may assist in shaping their eating habits and prevent obesity. The parent's role is crucial in the home food environment that determines whether children obtain enough nutritious foods and ensure their healthy eating behavior (Marzuki and Jais, 2020)

Furthermore, this study will provide valuable insight, fostering consciousness that childhood obesity is crucial in addressing this pressing issue. Parents play a vital role in helping their children develop healthy eating habits and gaining a deeper understanding of their dietary patterns is essential. Educating parents about nutrition's impact on their children's well-being can empower them to make informed choices. Encouraging open communication, offering guidance on balanced diets, and promoting regular physical activity can contribute to combating childhood obesity.

Healthy dietary intakes are essential to promote long-term health and increase the quality of life (Hollis et al., 2020) A healthy diet with adequate energy, protein, fat, carbohydrates, and nutrients is essential for children's physical and cognitive development. A balanced and nutritious diet involves consuming macronutrients in appropriate proportions to fulfill the body's energy and physiological requirements without excessive intake. It should also provide adequate micronutrients and hydration for optimal physiological functioning. Macronutrients, including carbohydrates, proteins, and fats, supply the energy for daily cellular processes. Micronutrients, such as vitamins and minerals, are essential in smaller quantities for normal growth, development, metabolism, and overall physiological functioning (Cena and Calder, 2020)

Overweight and obesity are global health challenges increasing remarkably among children. According to the World Health Organization (WHO), over 38.2 million children aged five years were overweight and obese in 2019. (Awasthi, Gupta and Bigoniya, 2020) state that childhood obesity is strongly associated with adult obesity, poses severe health comorbidities such as cardiovascular disease and metabolic problems and can lead to psychosocial consequences. Moreover, the increasing prevalence of obesity among children and adolescents is linked to a concurrent rise in comorbidities that were traditionally observed in adults, including Type 2 Diabetes Mellitus, Hypertension, Non-alcoholic Fatty Liver Disease (NAFLD), Obstructive Sleep Apnea (OSA), and Dyslipidaemia (Kansra et al., 2021).

Good nutrition plays a vital role in the overall health and well-being of individuals, especially children, who are in their critical stages of growth and development. Parents serve as the primary influencers in their children's lives, and their knowledge and behaviors regarding nutrition significantly impact their children's dietary habits. Nutrition knowledge might also be one of several factors influencing food choice. Parents' knowledge is the most important of promoting positive dietary and physical activity choices among their early-aged children. According to (Fadare et al., 2019) a mother's knowledge of food choices, feeding, and healthcare seeking is vital for producing good nutrition outcomes for young children. Based on (Koch, Hoffmann and Claupein, 2021), an increase in nutrition knowledge alone seems unlikely to result in extensive improvements in dietary behavior,

and according to (Wang et al., 2022), there is an interconnected relationship between feeding and parenting. The intricate and mutually influential interactions between parent feeding practices and child eating significantly impact child development, health, and overall well-being.

In Malaysia, urbanization has results in the growth of the urban population due to rural-urban migration. This situation has led to concerns regarding urban food, primarily driven by the increased demand for food and changes in eating habits among urban dwellers. The urban lifestyle has contributed to a notable trend in food consumption, where individuals often prefer eating out, street food, or ready-to-eat options, which are typically cheaper, convenient, and readily available (Marzuki and Jais, 2020).Additionally, low-income families and those from different cultural backgrounds who may not be accustomed to local foods may also encounter difficulties in this regard. As stated by (Stein, Weinberger-Litman and Latzer, 2014), advancement in the food environment, including the widespread availability of accessibility, and affordability of energy-dense foods and sugary beverages, have contributed to excessive energy intake and weight gain, starting as early as infancy and early childhood.

METHODS

A descriptive quantitative research design was chosen to be relevant to the research objectives. The sample populations are among parents residing in Kuala Selangor, Selangor, Malaysia. Selangor had the highest population in Malaysia in 2022. Questionnaires were distributed online, reducing transportation costs, and saving time. The study's sample size aligns with the proportion of the population recommended by the Raosoft Sample Size Calculator, considering the targeted household population in Selangor in 2020. With a total of 4,500,000 households, the suggested sample size is 385 individuals. The sample calculation considered a margin of error of 5%, a confidence level (CI) of 95%, a response distribution of 50%, and a total population of 4,500,000 households. This study instrument was adapted from the General Nutrition Knowledge Questionnaire (Kliemann et al., 2016)

Questionnaires were distributed to all participants through an e-Google form and shared via WhatsApp and social media platforms like Facebook and Instagram. If the participant did not meet the study's inclusion criteria, the e-Google form closed automatically, preventing them from proceeding and excluding them from the study. The informed consent is taken, and the participants will be given 30 minutes to complete the questionnaire. The instrument was tested in the pilot study for its reliability after obtaining approval from the Universiti Teknologi MARA (UiTM) Ethics Committee (FERC/FSK/MR/2022/0303). Based on the sample, 10%, or 38 individuals, were selected as participants for the initial pilot study to ensure internal validity. Cronbach's alpha value was 0.611 for the General Nutrition Knowledge Questionnaire and Cronbach's alpha for the Feeding Style Questionnaire was 0.859. The researcher will provide informed consent before enrolling a participant and ongoing, once enrolled, regarding the subject's rights, and the purpose of this study. The respondents must willingly take part in this research.

The researcher used descriptive statistics tests such as frequency, mean standard deviation (SD), and the percentage used to examine the objective. Pearson Chi-Square, Multiple analysis, and Regression were used to determine the association of parents' general nutrition knowledge and parental perception with socio-demographic data. A pre-test is a questionnaire tested on a (statistically) small respondent sample before a full-scale study to identify any problem, such as unclear wording or the questionnaire taking too long to administer. This situation could be especially applicable to families with working parents or single-parent households who face challenges in managing their work-life responsibilities.

RESULT

A descriptive analysis was performed to depict socio-demographic information, including ethnicity, employment status, and education level. Frequency and percentages were used to present demographic data, while numerical data were described in terms of their mean and standard deviation (S.D.) All data were analyzed using statistical tests such as Descriptive Analysis, Pearson's Chi-Square Test, and Multiple Regression Analysis. The Parent Perceptions Questionnaire Score indicated that they were used to identify parents' perceptions toward their children's dietary behaviors and assess their general nutrition knowledge.

The distribution of socio-demographic characteristics variables is measured using descriptive statistics. This section included questions concerning the youngest child's age, the parent's working status, the parent's level of education, and ethnicity.

Table 1. Descriptive Table of Socio-demographic Characteristics (*n* = 390)

Variables	Category	Frequency	Percentage
Age of Youngest Child	1-3 years	68	17.4
	4-6 years	207	53.1
	7-9 years	84	21.5
	Others	31	7.9
Working parents' status	Employed	289	74.1
	Unemployed	101	25.9
Parent's level of education level	No certificate	0	0
	Primary Education	2	5
	Secondary Education	116	29.7
	Tertiary Education	272	69.7
Ethnicity	Bumiputera	359	92.1
	Chinese	17	4.4
	Indian	11	2.8
	Others	3	0.8

The distribution of socio-demographic characteristics variables is measured using descriptive statistics. This section included questions concerning the youngest child's age, the parent's working status, the parent's level of education, and ethnicity. Most respondents in this survey, 92.1%, are Bumiputera who reside in Selangor. Following the Chinese are the Indians at 2.8%. Other (0.8%) respondents are Malaysians who do not belong to the three largest ethnic groups. Regarding employment status, 25.9% of respondents are unemployed, while 74.1% are employed. All respondents had formal education, with the majority holding a tertiary education level (69.7%) and the remainder holding a secondary education level (29.7%). 5%, on the other hand, confess to having only completed elementary school. The parents whose youngest child is between one and three years old is 17.4%, compared to 53.1% of parents whose youngest child is between four and six years old. Meanwhile, parents with children ages between 7-9 years old were 21.5%, and other ages were 7.9%.

Table 2. Distribution of respondents (%) according to an overall score of knowledge

Category	Mean±SD	*n* (%)
Respondent's Knowledge	2.23± 0.52	
Poor level of knowledge: 0-50%,		17 (4.4)
Intermediate level of knowledge: 51-70%		265 (67.9)
Good/ High level of knowledge: 71-100%		108 (27.7)
N		**390 (100.0)**

The majority of respondents (67.9%) have an intermediate understanding of general nutrition, while just 27.7% have an outstanding level of knowledge. The General Nutrition Knowledge Questionnaire is divided into two sections, each of which assesses a different facet of nutrition knowledge; first, dietary recommendations; and second, food groups. Descriptive of parent general nutrition knowledge, the general nutrition had scored less than 50%, which was the aim, resulting in a Mean± Standard Deviation of 2.2308 ± 0.52011.

Table 3. The Distribution of Knowledge in Dietary Recommendation

Variable	Correct n (%)	Wrong n (%)	Unsure n (%)
Do health experts recommend that people should be eating more, the same amount, or less of the following foods?			
Fruit	355 (91.0)	35 (8.9)	0 (0.0)
Food and drinks with added sugar	362 (92.8)	15 (3.9)	13 (3.3)
Vegetables	368 (94.4)	21 (5.4)	1 (0.2)
Fatty foods	364 (93.3)	11 (2.9)	15 (3.8)
Processed red meat	262 (67.2)	115 (29.5)	13 (3.3)
Wholegrain	72 (18.5)	315 (80.4)	3 (0.8)
Salty foods	362 (92.8)	7 (1.8)	21 (5.4)
Which of these types of fats do experts recommend that people should eat less of?			
Unsaturated fats	299 (76.7)	74 (19.0)	17 (4.4)
Trans fats	330 (84.6)	44 (11.3)	16 (4.1)
Saturated fats	353 (90.5)	22 (5.6)	15 (3.8)
How many times per week do experts recommend that people eat breakfast?	341 (87.4)	47 (12.1)	2 (0.5)

Based on the results, it is evident that a significant portion of the respondents demonstrated a level of General Nutrition Knowledge. This suggests that they possess an understanding of nutrition-related concepts and principles. It is encouraging to see that more than half of the respondents fall into this category, indicating a reasonable baseline level of knowledge among the participants. Table 3 shows the results regarding parents' knowledge of dietary recommendations. Most of the parents answered correct health expert recommendations in the amount of food that their children should take (above 90%). But in whole grain intake amount, most of the parents answered wronged (80.4%). Parents have good knowledge regarding the type of fats (76.7%-90.5%). 12.1% of parents still did not know the time per week that their child should have breakfast.

Table 4. The Distribution of Knowledge in Food Group

Variable	Correct n (%)	Wrong n (%)	Unsure n (%)
Do you think these foods and drinks are typically, high or low in added sugar?			
Diet cola drinks	42 (10.8)	345 (88.5)	3 (0.8)
Natural yoghurt	294 (75.4)	87 (22.3)	9 (2.3)
Ice cream	370 (94.4)	17 (4.4)	3 (0.8)
Tomato ketchup	234 (60.0)	73 (18.7)	83 (21.3)
Melon	354 (90.8)	17 (4.4)	19 (4.9)

Do you think these foods are typically high or low in salt?			
Breakfast cereals	226 (57.9)	137 (35.1)	27 (6.9)
Frozen vegetables	125 (32.1)	229 (58.7)	36 (9.2)
Bread	41 (10.5)	337 (86.4)	12 (3.1)
Baked beans	74 (19.0)	306 (78.5)	10 (2.6)
Red meat	201 (51.5)	146 (37.4)	43 (11.0)
Canned soup	367 (94.1)	11 (2.8)	12 (3.1)
Oat	381 (97.7)	8 (2.1)	1 (0.3)
Bananas	377 (96.7)	13 (3.3)	0 (0.0)
White rice	93 (23.8)	290 (74.4)	7 (1.8)
Eggs	196 (50.3)	181 (46.4)	13 (3.3)
Potatoes with skin	182 (46.7)	197 (50.5)	11 (2.8)
Pasta	243 (62.3)	127 (32.6)	20 (5.1)
Variable	**Correct n (%)**	**Wrong n (%)**	**Unsure n (%)**
Do you think these foods are a good source of protein?			
Poultry	373 (95.6)	7 (1.8)	10 (2.6)
Cheese	353 (90.5)	27 (6.9)	10 (2.6)
Fruit	288 (73.8)	99 (25.4)	3 (0.8)
Baked beans	316 (81.0)	63 (16.2)	11 (2.8)
Butter	93 (23.8)	286 (73.3)	11 (2.8)
Nuts	359 (92.1)	22 (5.6)	9 (2.3)
Which of these foods has the most trans-fat?	330 (84.6)	47 (12.0)	13 (3.4)

Table 4 indicates the distribution of parent's knowledge in a food group. The results showed that parents wrongly answered that foods and drinks are typically high or low in added sugar in diet cola drinks (88.5%). However, parents answered correctly in other questions such as natural yogurt, tomato ketchup, and melon (60.0-94.4%). Parents also have low knowledge regarding foods containing low or high salts especially in bread and baked beans (78.5-86.4%). In the questionnaire regarding foods that are typically high or low in fiber, most of the parents were correctly answered (>50.3%) except white rice (74.4%) was answered wrong. Parents also understood foods as a good source of protein (73.8-95.6%). However, they still wrongly answered the source of protein in butter (73.3%). Parents also correctly answered the question about foods that have the most trans-fat (84.6%), 47 (12.0%) answered wronged, meanwhile 13 (3.4%) were unsure.

Table 5. Parent's Perception Towards Their Children's Dietary Behaviour (n = 390)

Statement	Never n (%)	Rarely n (%)	Sometimes n (%)	Often n (%)	Always n (%)
I allow my child to choose which foods to have for meals.	11 (2.9)	18 (4.7)	87 (22.3)	246 (63.0)	28 (7.2)
I decide how many snacks my child should have.	12 (3.1)	18 (4.7)	58 (14.9)	245 (62.8)	57 (14.6)

I allow my child to wander around during a meal.	296 (75.9)	41 (10.5)	30 (7.7)	19 (4.9)	4 (1.0)
I let my child decide when she would like to have her meal.	55 (14.1)	41 (10.5)	96 (24.6)	183 (46.9)	15 (3.8)
I allow my child to decide when she/he has had enough snacks to eat.	213 (54.6)	54 (13.8)	49 (12.6)	58 (14.8)	16 (4.1)
I decide when it is time for my child to have a snack.	8 (2.1)	21 (5.4)	93 (23.9)	237 (60.8)	31 (7.9)
I decide the time when my child eats his/her meals.	196(50.3)	24(6.2)	60(15.4)	78(20.0)	32(8.2)
I let my child eat between meals whenever she/he wants.	55(14.1)	43(11.0)	106(27.2)	167(42.8)	19(4.9)
I insist my child eats meals at the table.	5(1.3)	16(4.1)	34(8.7)	267(68.5)	68(17)
I decide what my child eats between meals.	177(45.4)	27(6.9)	102(26.2)	64(16.4)	20(5.1)
I give my child something to eat to make him/her feel better when he/ she is feeling upset.	12(3.1)	44(11.3)	236(60.5)	85(21.8)	13(3.3)
I give my child something to eat to make him/her feel better when he/ she has been hurt.	12(3.1)	42(10.8)	244(62.6)	79(20.3)	13(3.3)
I give my child something to eat if she is feeling bored.	29(7.5)	46(11.8)	232(59.5)	72(18.5)	11(2.8)
I give my child something to eat to make him/her feel better when she is worried.	28(7.2)	37(9.5)	230(59.0)	82(21.0)	13(3.3)
I give my child something to eat to make him/her feel better when she is feeling angry.	37(9.5)	43(11.0)	245(62.8)	60(15.4)	0(0)

The Parent's Perception Towards Their Children's Dietary Behavior Questionnaire was used to assess parental Perception associated with children's dietary practices. Respondents are instructed to select an answer on a 5-point Likert scale ranging from "I never do, rarely do, sometimes do, frequently do, or always do." Higher scores on each scale indicate parents' propensity to employ a particular feeding style. The question adapted has no right or wrong answer. The higher score is parents never allow their child to wander around during a meal 296(75.9) indicates parents prefer parent feeding practice in Selangor, Malaysia, which is Control Feeding Style. Descriptive of Association Between Parent General Nutrition Knowledge with Socio-Demographic. The association between parent general nutrition knowledge with socio-demographics is measured using Crosstab and Pearson Correlation.

Table 6. Association between Parents' General Nutrition Knowledge with Socio-Demographic Correlation (*n*=390)

Variables	Pearson Correlation	Sig. (2-tailed)
Age of Youngest Child	-.001	0.979
Parent Education Level	-.026	0.615
Parent Working Status	-.051	0.312
Ethnicity	0.298**	.000

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The association between Parent General Nutrition Knowledge and with Socio-Demographic characteristics of the respondents was determined using the Pearson Correlation Chi-Square test. According to Table 5, the analysis confirmed no significant association between socio-demographic and parent general nutrition knowledge, as the value is remarkably insignificant.

According to Table 6, the analysis confirmed no significant association between socio-demographic and parent general nutrition knowledge, as the value is remarkably insignificant. A Pearson correlation was computed to assess the association between a parent's general nutrition knowledge and social demographic. There was a weak, negative correlation between the age of the youngest child, $r = 0.001$, and N = 390; however, the relationship is insignificant (p = 0.979). The age of the youngest child does not appear to be associated with the parent's general nutrition knowledge. There is a negative correlation between parent education level, r = -0.026, N = 390; however, the relationship is insignificant (p = 0.615). The parent's education level is not associated with the parent's general nutrition knowledge. There is no correlation between Parent Working Status as r = -.051, N = 390; however, the relationship is insignificant (p = 0.312). The Parent's Working Status is not associated with the parent's general nutritional knowledge. There is a positive correlation between ethnicity and Parent General Nutrition Knowledge as r = 0.298, N = 390; however, the relationship is significant (p = .000). The parent education level appears to be associated with the parent's general nutrition knowledge.

Table 7. Association between Parent Perceptions with Socio-Demographic Coefficients (n=390)

Variables	**Logistic Coefficient (B)**	**SE**	***t*-value**	**Mean± Standard Deviation**	***p*-value**
Age					
1-3 years					
4-6 years	-0.029	0.139	-0.206	2.21±	0.837
7-9 years				0.823	
Others					
Working status of parents					
				1.26±	
Employed	-0.122	0.244	-0.499	0.440	0.618
Unemployed					
Variables	**Logistic Coefficient (B)**	**SE**	***t*-value**	**Mean± Standard Deviation**	***p*-value**
Parent's level of education					
No certificate					
				3.69±	
Primary Education Secondary Education	-0.428	0.265	-1.619	0.472	0.106
Tertiary Education					
Ethnicity					
Bumiputera					
Chinese	-0.468	0.250	-1.876	1.12±	0.061
Indian				0.459	
Others					

Correlation and multiple regression analyses Model Summary of Instrument Feeding Style with Socio-Demographic is conducted to examine the relationship between Instrument Feeding Style with Socio-Demographic characteristics of respondents. Table 6 summarizes the descriptive statistics and analysis results r = 0.121, N = 390. In Table 6, the ANOVA model, as can be seen, each of the p-values (0.225) associated with the F-statistic (1.425) is ≥ 0.05: Then there is a relationship between the independent variable. It significantly correlated with the variable.

The Regression Analysis test determined the association between the Control Feeding Style and the respondent's Socio-Demographic characteristics. According to the Table above, the analysis confirmed a significant association between socio-demographic and Control Feeding Style as Table 4.22, the p-value of the age of the youngest child (0.003), Parent Working Status (0.011) and Ethnicity (0.002) is less than p-value resulted showed a significant relation between a variable with control feeding style. However, the Parent Education Level (0.115) shows otherwise; it is insignificant as the p-values are> 0.05. Correlation and multiple regression analyses Model Summary of Control Feeding Style with Socio-Demographic is conducted to examine the relationship between Control Feeding Style with Socio-Demographic characteristics of respondents.

Table 7 summarizes the descriptive statistics and analysis results r = 0.221, N = 390. In Table 4.25, the ANOVA model, as can be seen, each of the p-values (0.001) associated with the F-statistic (4.946) is ≥ 0.05: Then there is a relationship between the independent variable. It significantly correlated with the variable.

DISCUSSION

On the other hand, a notable proportion of respondents (27.7%) scored higher marks, indicating a higher level of General Nutrition Knowledge. These individuals likely possess a more advanced understanding of nutrition-related topics and may have acquired additional knowledge through education, personal interest, or professional experience. Their higher scores highlight the presence of individuals who are well-informed about nutrition and may exhibit healthier eating habits and lifestyle choices.

Based on the results, it is evident that a significant portion of the respondents (67.9%) demonstrated an intermediate level of General Nutrition Knowledge. This result suggests that they moderately understand nutrition-related concepts and principles. It is encouraging to see that more than half of the respondents fall into this category, indicating a reasonable baseline level of knowledge among the participants.

However, it is essential to acknowledge that a small percentage of respondents (4.4%) scored lower marks, indicating a limited understanding of General Nutrition Knowledge. This finding suggests that this subgroup has room for improvement in nutrition education and awareness. Identifying their specific knowledge gaps and developing targeted interventions to enhance their understanding of nutrition-related topics is crucial.

Overall, these results shed light on the distribution of General Nutrition Knowledge among the surveyed population. While most respondents demonstrate an intermediate level, some individuals possess a higher level of knowledge, indicating the presence of a well-informed population segment. Efforts should be made to bridge the knowledge gap among those with lower scores, ensuring that nutrition education reaches all segments of society to promote healthier dietary practices and overall well-being.

We recommend conducting additional research on this topic, focusing mainly on the significance of parental feeding style regarding children's weight status and parental perceptions of childhood obesity. Increasing exposure to this topic is crucial, as it will aid respondents in gaining a deeper understanding of the issue at hand and enable them to provide more detailed information.

Additionally, this study relied on self-reported data collected via online surveys, which may be prone to social desirability bias and recall bias since parents may overestimate their knowledge of nutrition or good eating habits. Additionally, the sample was only taken from Malaysia's urbanized state of Selangor. As a result, parents from rural or other regions with distinct socioeconomic and cultural backgrounds may not be completely represented

in the findings. When interpreting the findings and extrapolating them to the larger Malaysian population, several aspects should be considered.

CONCLUSIONS

In conclusion, parent nutrition knowledge and feeding practices are crucial in shaping children's dietary behavior. The findings of this study emphasize the importance of parent understanding of nutrition concepts and their ability to translate that knowledge into healthy feeding practices. When parents possess adequate nutrition knowledge, they are better equipped to make informed decisions regarding their children's diet. This study includes understanding the importance of balanced nutrition, portion control, and the inclusion of various food groups. Such knowledge empowers parents to provide their children with a nutritionally adequate and diverse diet, promoting healthy growth and development.

Furthermore, feeding practices adopted by parents significantly impact children's dietary behaviors. Parents must be aware of their feeding practices' impact on their children's dietary behavior. By being. A mother's knowledge of food choices, feeding, and healthcare seeking is vital for producing good nutrition outcomes for young children.

Producing good nutrition outcomes for young children. feeding and healthcare seeking are vital for producing good nutrition outcomes for young children. Fostering a positive and nurturing feeding environment, parents can encourage their children to develop healthy relationships with food, make wise food choices, and maintain a balanced diet throughout their lives.

Therefore, promoting parent nutrition knowledge and providing guidance on effective feeding practices should be a priority in public health initiatives, educational programs, and healthcare interventions. We can improve children's dietary behavior, overall health, and well-being by empowering parents with accurate nutrition information and equipping them with appropriate feeding strategies.

The limitations encountered during the study were the high number of samples required and the lengthy questionnaires. Unfortunately, people were not enthusiastic about dedicating their time to fill out or complete the questionnaire. This limitation resulted in challenges in obtaining enough responses to ensure the statistical validity and reliability of the study.

The reluctance of participants to engage with the extensive questionnaire could have helped the data collection process and potentially affected the overall representativeness of the sample. Researchers should carefully consider strategies to encourage participation and minimize participant burden in future studies, such as shorter questionnaires or incentives for completion.

The recommendation is to conduct additional research on this topic, focusing mainly on the significance of parental feeding style regarding children's weight status and parental perceptions of childhood obesity. Increasing exposure to this topic is crucial, as it will aid respondents in gaining a deeper understanding of the issue at hand and enable them to provide more detailed information.

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