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Parental beliefs, attitudes, and practices on nutrition and children feeding: implications to preventive measures on children's obesity in Saudi Arabia

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Abstract. – OBJECTIVE: Parents have a profound influence on their children's dietary habits. Parents' perspectives, attitudes, and behaviors regarding feeding their children a nutritious diet can have a significant impact on their children's health. The objective of this study was to examine the attitudes, beliefs, and feeding practices of parents in relation to nutrition for their children and to determine how these factors influence strategies for preventing obesity.

SUBJECTS AND METHODS: A total of 446 Saudi mothers with children aged 2-12 years were recruited for this study. The Child Feeding Questionnaire (CFQ) was administered to mothers *via* an instant messaging application.

RESULTS: Mothers' age showed a significant difference in perceived responsibility ($p < 0.004$), perceived parental weight ($p = 0.000$), perceived child's weight ($p = 0.000$), and concern about the child's weight ($p = 0.000$). Mothers with postgraduate degrees exhibited a significant difference in perceived child weight ($p < 0.003$); occupational status showed a significant difference in perceived parental weight ($p < 0.004$), perceived child weight ($p < 0.001$), and residence, particularly in Riyadh, which showed a significant difference in perceived parental weight ($p < 0.026$). There were also significant differences in body mass index (BMI) ($p = 0.000$) and perceived parental weight in relation to the mother's age. Mothers' age was significantly related to food restrictions ($p = 0.000$), pressure to eat ($p = 0.000$), and monitoring ($p < 0.009$). Mothers with only one child displayed significance in relation to pressure to eat ($p < 0.019$), while government-employee mothers showed a significant relationship with food restrictions ($p < 0.005$). There was a noteworthy association between the age of the mothers and perceived responsibility ($p < 0.001$), occupation ($p < 0.22$), residence ($p = 0.000$), and the mother's BMI ($p = 0.000$) with perceived parental weight. Finally, occupation ($p < 0.006$) was found to significantly influence food restriction, while the mother's age was significantly related to the pressure to eat ($p < 0.002$).

CONCLUSIONS: Parental attitudes, practices, and beliefs regarding child feeding were strongly associated with maternal age, occupation, and BMI. Targeted interventions should be developed to assist mothers exhibiting these characteristics in establishing healthier and more effective feeding routines for their children. For example, interventions could be designed to educate parents on the latest findings regarding child-feeding habits and help them develop a greater sense of responsibility for their children's nutrition.

Key Words:
Parental beliefs, Attitudes, Practices, Child nutritional feeding, Saudi Arabia.

Introduction

Eating habits and children's nutrition are significantly shaped by the thoughts, feelings, and actions of parents.

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This contributes to the prevention of childhood obesity more effectively through lifestyle modifications rather than medication[1]. Over the last three decades, these issues have become more widespread in developing countries. Saudi Arabia is no exception, with approximately 12.4% of children under five being obese and 9.3% overweight[2]. While Saudi Arabia is indeed facing a significant challenge with obesity[3], there is still limited understanding of effective interventions due to a lack of research on parental views and practices related to child feeding.

The World Health Organization (WHO)[4] defines childhood obesity as a child carrying weight from unhealthy fats that could harm their health. Such include having a body mass index (BMI) for age that is above two standard deviations above the WHO growth reference median and a weight for height exceeding three standard deviations above the child growth standard median for those between five to nineteen years old. In this context, obesity for children aged between 5 and 19 years is defined by two conditions. Firstly, their body weight must be significantly higher than expected for their height, meaning it exceeds three standard deviations above the median on a growth chart. Secondly, their BMI must be considerably higher than normal for their age group. According to the WHO's growth reference median, if a child's BMI exceeds two standard deviations above the median, it is a serious concern[5]. Childhood obesity is a complex issue that is influenced by a variety of factors, including environmental conditions and lifestyle choices[6]. This highlights the importance of attitudes towards nutrition and how they can impact a child's health throughout their years. Research on these aspects and parental behaviors related to children's eating habits from infancy onward remains limited.

The prevalence of obese children in Saudi Arabia seems to be influenced by the status of parents[7]. Thus, interventions aimed at guiding the parents are necessary. The weight outcomes of children are connected to family behaviors such as parenting styles and practices[7]. Arguably, feeding patterns may influence the way caregivers approach infant nutrition[8]. Rather than concentrate solely on single food choices, it is important to think about the context in which these choices are made. Mothers with higher levels of education often adopt specific feeding practices, indicating a notable link between maternal education and parental eating habits[9].

Thus, parental education contributes to teaching children about healthy eating habits and plays a key role in preventing childhood obesity. However, it can be quite challenging to get children to stick to a diet that requires patience for success. From their early years through to childhood, giving children proper nutrition is very important. This period is crucial for children's development as they experiment with different foods and begin to form their own dietary preferences. It is crucial to provide children with regular meals and demonstrate healthy eating habits during this developmental phase. Mealtime interactions are often seen as a way of showing care and support, which may be influenced by the parenting approach used[10,11]. The choices parents make regarding feeding practices can be influenced by their relationships with their children during meals and snacks[10].

Various studies[12-14] have found that most parents underestimate their children's weight. Health information, attitudes, and behaviors exhibited by a child's parents greatly influence how the child manages their weight[12-14]. Therefore, starting measures against obesity at an advanced age can help reduce the challenges associated with treating existing cases of obesity[15]. It is crucial to pay attention to caregivers of young children, as they shape the environment for their children's eating habits and physical activity[16,17]. One study[18] highlighted that parents' occupation and education are factors influencing childhood obesity among schoolchildren in Saudi Arabia. However, the study did not explore the perspectives, actions, or beliefs held by parents regarding providing diets for their children[18].

A considerable amount of data about childhood obesity in Saudi Arabia is provided by research works on obesity-related variables such as genetics, eating habits and metabolic traits among other factors[19]. As such, this study aims to address this gap by focusing on how Saudi Arabian parents perceive the needs of their children. Limited studies exist on how parents' attitudes, beliefs, and actions affect efforts to prevent obesity through feeding practices in Saudi Arabia. Since children's eating behaviors are largely influenced by their parents, it is crucial to understand how parental perspectives, attitudes, and behaviors toward diets can affect their children's well-being. The goal of this study was to bridge the identified knowledge gaps by exploring beliefs, attitudes, and practices related to child feeding and nutrition.

Subjects and Methods

Research Design

This study used a cross-sectional design to investigate parental beliefs, attitudes, and practices concerning nutrition and child feeding.

Participants/Setting

The number of participants was determined using a sample calculator with 95% confidence interval. The study utilized convenience sampling to recruit 446 mothers from three provinces in Saudi Arabia: Aseer, Jazan, and Riyadh. Saudi mothers who could write and whose children were aged 2-12 years were included in the study. The participants' mothers were taken from government schools in Aseer, Jazan, and Riyadh. These schools were selected randomly according to their location. Google Forms was used to gather the data, which were sent through an instant messaging application. The satisfaction with this response rate was considered adequate, acceptable, and reflective of the target study sample. Data were collected from August to October 2023.

Instrument

This research employed the Child Feeding Questionnaire (CFQ), which is used to measure parental influence on child feeding[20]. A demographic data sheet was used as the study tool. The CFQ is a self-report tool used to assess different dimensions of parents' beliefs, attitudes, and behaviors concerning child feeding in relation to obesity, food intake control, and the early stage of food acceptance behavior in youngsters. This tool was created for parents whose children were between the ages of 2 and 12 years. The CFQ was translated into Arabic for this study, and a back-translation of the items was made. Mothers and the competency committee helped refine and clarify the questions and response options.

Each CFQ item was scored according to a 5-point scale, which starts with one and ends with five, from strong disapproval to strong approval. The subscale score was obtained by adding the scores of various items to one factor and averaging the total score. As such, higher CFQ scores suggest that more parents have unhealthy feeding habits. The scoring instructions for each factor were as follows. Responsibility: Items 1-5 were included in the sub-score. Higher scores indicate that those parents considered themselves more responsible for regulating their children's food intake. Perceived parent weight: The subscales were calculated using items 6-10. Parents who scored higher considered themselves to be obese or overweight. Perceived child weight: Adding items 11-15 provided subscale scores. Parents who perceived their children as overweight/obese had higher scores. Concern about child weight: the subscale score was computed by adding items 16-20. This suggests that the higher the score, the more parents are worried about their children becoming obese or overweight. Pressure to eat: items 21-25 were added to create this subscale score. More points meant that a parent pressed their child harder regarding eating in comparison to lower points. Monitoring and restrictions: this subscale score was computed by summing items 26-29. The use of high scores suggests more parental supervision and imposition of limits on an individual's dietary patterns. Encouragement of autonomy: the subscale score was computed by adding the numbers 30 and 31. High scores indicate that parents encouraged independent nutritional intake in the child.

Statistical Analysis

Using IBM SPSS Statistics version 22.0 (IBM Corp., Armonk, NY, USA), researchers were able to gather and analyze their data. Descriptive statistics were used to examine the sample characteristics, distribution of questionnaire factors, and mothers' body mass index (BMI). Multiple regression represented factors influencing parents' beliefs, attitudes, and practices regarding child feeding. One-way ANOVA was used to test the differences in variables, such as the type of education received by the mothers and their place of residence. A two-sided $p<0.05$ was considered to be statistically significant.

Results

Table I provides an overview of the background variables, revealing that the majority of the participating mothers were aged over 30 years (74.4%) and were graduates (67.5%). Approximately half of the mothers had more than two children (50.7%) and were homemakers (54%). In terms of residence, 42.8% were from Aseer Province. The remaining 57.2% were from other provinces. Regarding body mass index (BMI), 41.9% had normal BMI. The other 58.1% fell into other BMI categories (underweight, overweight, or obese).

Table I. Demographic characteristics of the participants. N=446.

Characteristics	Frequency	%
Age of the mothers in years		
<20	13	2.9
20-30	101	22.6
>30	332	74.4
No. of children		
1	92	20.6
2	127	28.5
>2	226	50.7
Educational status		
Primary	34	7.6
High school	80	17.9
Graduate	301	67.5
Postgraduate	31	7.0
Occupation		
Homemaker	241	54.0
Government employee	26	5.8
Private employee	179	40.1
Place of residence		
Riyadh	112	25.1
Aseer	191	42.8
Jizan	143	32.1
BMI of mothers		
Underweight	20	4.5
Normal	187	41.9
Overweight	145	32.5
Obesity	94	21.1

Table II presents the mean scores of the variables with beliefs: perceived responsibility (13.35/15), perceived child weight (18.17/30), attitudes regarding the child's weight (11/15), practices on restricting food (31.92/40), pressure to eat (14.93/20), and monitoring (12.65/15).

Table III shows that the age of the mothers, specifically when they were less than 20 years old, was significantly different from perceived responsibility ($p < 0.004$), perceived parental weight ($p = 0.000$), perceived child's weight ($p = 0.000$), and concern about the child's weight ($p = 0.000$). There was no significant difference between the number of children and variables ($p > 0.05$). Meanwhile, the mothers with postgraduate degrees had a significant difference in perceived child's weight ($p < 0.003$), occupational status – specifically with government employees – with perceived parental weight ($p < 0.004$) and the child's perceived weight ($p < 0.001$), and residence, especially in Riyadh, with perceived parental weight ($p < 0.026$), and the BMI of the mothers, especially obese ($p = 0.000$), and perceived parental weight, were all found to be significant.

Table IV shows that significance was found for mothers aged over 39 years with restrictions on food ($p = 0.000$), pressure to eat ($p = 0.000$), monitoring ($p < 0.009$), those who had one child with pressure to eat ($p < 0.019$), and government employee mothers with restrictions on food ($p < 0.005$). Other variables (i.e., educational status, residence, and BMI of mothers) were found to be insignificant.

Table V presents the factors affecting parental beliefs and attitudes toward child feeding among the mothers. There was a significant correlation between the age of the mothers and perceived responsibility ($p < 0.001$), occupation ($p < .022$), residence ($p = 0.000$), and mothers' BMI ($p = 0.000$) with perceived parental weight. However, there was no correlation between the other variables and child-feeding practices ($p > 0.05$).

Table VI presents the factors affecting child-feeding practices among mothers. Only occupation ($p < 0.006$) with restrictions on food and the age of mothers under pressure to eat ($p < 0.002$) were found to be factors that affected the practices of child feeding among mothers.

Table II. Perceived parental beliefs, attitudes, and practices on child feeding.

Variables	Obtainable score	Obtained score		Mean	Mean %	SD
		Minimum	Maximum			
Beliefs						
Perceived responsibility	3-15	6	15	13.35	89	1.488
Perceived parental weight	4-20	6	20	12.61	63	2.052
Perceived child weight	6-30	0	30	18.17	61	2.992
Attitude						
Concern about child's weight	3-15	5	15	11.00	73	2.176
Practices						
Restrictions on food	8-40	2	40	31.92	80	5.346
Pressure to eat	4-20	4	20	14.93	75	3.225
Monitoring	3-15	4	15	12.65	84	2.282

Table III. Differences between demographic variables and parental beliefs and attitudes on child feeding.

Variables	Perceived responsibility		Perceived parental weight		Perceived child weight		Concern about child's weight	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Demographic variables								
Age in years								
<20	14.50	1.168	18.00	3.191	22.08	7.775	13.83	2.209
20-30	13.57	1.538	12.36	1.978	18.30	2.696	10.63	1.875
>30	13.24	1.462	12.48	1.746	18.00	2.684	11.02	2.187
F and *p*-value	*F*=5.69	***p*=.004**	*F*=52.69	***p*=.000**	*F*=11.43	***p*=.000**	*F*=2.22	***p*=.000**
No. of children								
One	13.41	1.549	13.01	2.941	18.02	3.947	10.84	2.230
Two	13.18	1.797	12.51	1.847	18.34	2.679	11.06	2.304
>Two	13.41	1.252	12.50	1.685	18.13	2.711	11.02	2.081
F and *p*-value	*F*=1.093	*p*=.336	*F*=2.259	*p*=.106	*F*=.335	*p*=.716	*F*=.302	*p*=.739
Educational status								
Primary	13.35	1.721	12.53	2.326	18.79	3.382	11.00	2.030
High school	13.50	1.359	12.66	2.434	18.61	3.220	10.83	2.011
Graduate	13.29	1.506	12.52	1.832	17.83	2.627	11.00	2.205
Postgraduate	13.52	1.387	13.35	2.589	19.58	4.441	11.42	2.487
F and *p*-value	*F*=.549	*p*=.649	*F*=1.587	*p*=.192	*F*=4.759	***p*=.003**	*F*=.554	*p*=.645
Occupation								
Housewife	13.28	1.367	241	12.37	241	17.96	241	10.97
Government employee	13.62	1.813	26	13.62	26	20.31	26	11.77
Private employee	13.40	1.592	179	12.78	179	18.13	179	10.93
F and *p*-value	*F*=.773	*p*=.46	*F*=5.57	***p*=.004**	*F*=7.44	***p*=.001**	*F*=1.758	*p*=.174
Residence								
Riyadh	13.39	1.435	12.89	2.498	18.41	3.447	10.96	2.258
Aseer	13.35	1.486	12.73	2.123	18.25	3.167	10.98	2.272
Jizan	13.32	1.546	12.24	1.420	17.91	2.239	11.06	1.987
F and *p*-value	*F*=.072	*p*=.930	*F*=3.69	***p*=.026**	.982	*p*=.375	*F*=.083	*p*=.920
BMI of mothers								
Underweight	13.00	1.257	11.85	2.390	17.80	4.150	10.65	1.843
Normal	13.42	1.473	12.04	1.714	18.02	2.241	10.87	2.102
Overweight	13.27	1.478	12.97	1.869	18.17	3.403	10.97	2.277
Obesity	13.40	1.582	13.34	2.487	18.54	3.333	11.38	2.210
F and *p*-value	*F*=.700	*p*=.552	*F*=12.01	***p*=.000**	*F*=.741	*p*=.528	*F*=1.394	*p*=.244

Discussion

This study aimed to explore how parents' attitudes, beliefs, and feeding practices influence their children's nutrition and strategies used to prevent obesity. The parents in the study showed a sense of responsibility, accurate understanding, and positive outlook and used food restrictions and pressure to manage their children's diet. These findings are consistent with a previous study in which parents also demonstrated that a level of responsibility for their children's diet

Table IV. Differences between demographic variables and practices on child feeding.

Predictors/variables	Restrictions on food		Pressure to eat		Monitoring	
	Mean	SD	Mean	SD	Mean	SD
Demographic variables						
Age in years						
<20	38.17	3.129	18.83	1.801	14.58	.996
20-30	31.38	4.962	15.30	2.883	12.74	2.361
>30	31.88	5.389	14.70	3.219	12.56	2.258
F and *p*-value	*F*=9.046	***p*=.000**	*F*=10.962	***p*=.000**	*F*=4.739	***p*=.009**
No. of children						
One	31.85	5.273	15.11	3.408	12.87	2.160
Two	32.42	5.550	15.50	3.273	12.89	2.198
>2	31.65	5.270	14.52	3.083	12.42	2.368
F and *p*-value	*F*=.834	*p*=.435	*F*=4.004	***p*=.019**	*F*=2.235	*p*=.108
Educational status						
Primary	32.76	5.533	15.47	3.422	12.47	2.842
High school	31.45	5.683	14.71	3.238	12.76	2.218
Graduate	31.91	5.305	14.92	3.175	12.59	2.271
Postgraduate	32.26	4.719	14.94	3.540	13.06	1.896
F and *p*-value	*F*=.529	*p*=.663	*F*=.439	*p*=.725	*F*=.533	*p*=.660
Occupational status						
Housewife	31.17	5.466	14.73	3.273	12.50	2.246
Government employee	33.27	5.489	15.69	3.004	12.88	2.251
Private employee	32.73	5.024	15.08	3.183	12.82	2.333
F and *p*-value	*F*=5.367	***p*=.005**	*F*=1.379	*p*=.253	*F*=1.144	*p*=.319
Residence						
Riyadh	32.28	5.115	14.61	3.501	12.81	2.216
Aseer	32.28	4.825	15.23	3.103	12.50	2.258
Jizan	31.13	6.095	14.76	3.155	12.70	2.368
F and *p*-value	*F*=2.249	*p*=.107	*F*=1.585	*p*=.206	*F*=.725	*p*=.485
BMI of mothers						
Underweight	30.50	4.617	14.55	3.379	11.75	2.552
Normal	31.79	5.097	14.93	3.156	12.79	2.288
Overweight	32.31	5.335	15.21	3.077	12.57	2.260
Obesity	31.88	5.971	14.56	3.546	12.69	2.234
F and *p*-value	*F*=.767	*p*=.513	*F*=.852	*p*=.466	*F*=1.338	*p*=.261

had realistic views on the weight of their children. This maintains a positive attitude towards it and implements moderate food restrictions and pressures[21]. These results indicate that parents actively work to instill their children's eating habits.

It is interesting to note that teenage mothers claimed that they were responsible for their children's body mass, weight, and health. It is necessary to investigate how young mothers feel about shaping the eating behaviors of their children. The association between younger mothers and an augmented level of child obesity is uncertain. Even though a number of studies claim that younger mothers might have fewer concerns over their children's weight[22,23], it has never been proven as a fact, but further research is needed

Table V. Factors affecting the parental beliefs and attitudes on child feeding among mothers.

Predictors		Unstandardized coefficients		Standardized coefficients	*t*	*p*-value
		B	Std. Error	Beta		
Beliefs	**Perceived responsibility**					
	Age of mother	- .503	.151	- .171	- 3.336	**.001**
	Number of children	.125	.096	.066	1.308	.191
	Educational level	.007	.106	.003	.064	.949
	Occupation	.000	.079	.000	- .004	.996
	Place of residence	- .023	.094	- .012	- .249	.803
	Mothers' BMI	.008	.083	.005	.099	.921
Attitude	**Perceived parental weight**					
	Age of mother	- .138	.123	- .053	- 1.122	.262
	Number of children	.224	.137	.076	1.636	.102
	Educational level	.172	.102	.081	1.678	.094
	Occupation	- .278	.121	- .102	- 2.297	**.022**
	Place of residence	.668	.108	.277	6.214	**.000**
	Mothers' BMI	.668	.108	.277	6.214	**.000**
	Perceived child weight					
	Age of mother	.155	.191	.041	.813	.417
	Number of children	- .107	.212	- .025	- .504	.615
	Educational level	- .071	.158	- .023	- .451	.652
	Occupation	- .244	.187	- .062	- 1.305	.193
	Place of residence	.225	.166	.064	1.354	.176
	Mothers' BMI	.225	.166	.064	1.354	.176
	Attitude - concern on child's weight					
	Age of mother	- .360	.221	- .084	- 1.627	.104
	Number of children	.105	.140	.038	.751	.453
	Educational level	.148	.156	.048	.949	.343
	Occupation	- .016	.117	- .007	- .140	.889
	Place of residence	.070	.138	.024	.512	.609
	Mothers' BMI	.218	.122	.085	1.779	.076

BMI: body mass index.

to determine if the mother's understanding of her child's dietary needs really affects his or her weight. Equally important is the need to account for other possible influences on a child's health besides mere knowledge by mothers. In light of these findings, it is essential to equip mothers with resources and support to foster their children's eating habits. Establishing communities in which young mothers can exchange experiences and receive encouragement is crucial.

It is worth noting that mothers with doctorate degrees, government workers, and residents of Riyadh are keen on their weight. Those with qualifications may be more critical of weight due to expectations. Government workers might know about maintaining weight because of their access to resources and information on exercise and nutrition. Government workers' eating habits are influenced by their workplace environment[24]. A balanced work-life schedule can promote healthy habits like nutritious eating and regular exercise[25], while family factors like parental education and income also play a crucial role in shaping children's dietary habits[26].

Table VI. Factors affecting the practices on child feeding among mothers.

Factors	Unstandardized coefficients		Standardized coefficients	*t*	*p*-value
	B	Std. Error	Beta		
Restrictions on food					
Age of mother	- .465	.541	- .044	- .860	.390
Number of children	- .156	.343	- .023	- .456	.649
Educational level	.307	.380	.040	.806	.420
Occupation	.789	.285	.142	2.771	**.006**
Place of residence	- .472	.337	- .066	- 1.402	.162
Mothers' BMI	.292	.299	.046	.977	.329
Pressure to eat					
Age of mother	- .989	.322	- .157	- 3.072	**.002**
Number of children	- .245	.204	- .061	- 1.203	.229
Educational level	- .014	.226	- .003	- .061	.951
Occupation	.060	.170	.018	.352	.725
Place of residence	.080	.200	.019	.400	.689
Mother's BMI	- .005	.178	- .001	- .028	.978
Monitoring					
Age of mother	- .342	.232	- .076	- 1.476	.141
Number of children	- .206	.147	- .071	- 1.402	.162
Educational level	.148	.163	.045	.910	.363
Occupation	.160	.122	.068	1.311	.190
Place of residence	- .013	.144	- .004	- .094	.925
Mother's BMI	.089	.128	.033	.697	.486

BMI: body mass index.

A study[27] has shown that urban mothers worry more about the weight status of their children compared to mothers living outside cities. Furthermore, it has been demonstrated that obese mothers give more alternatives regarding food options for their kids than normal-weight ones[26]. This finding provides insights into aspects related to how parents view, think, and feed their children in terms of nutrition and also highlights the importance of understanding these traits and their impact on the efforts to prevent obesity. By acknowledging the intricacies linked to influences and perceptions about their children's weight, interventions can be customized to meet needs and promote healthy eating habits for both children and parents. Parents aged more than 39 years utilize particular feeding strategies, possibly owing to their accumulated experience and knowledge of social norms, which may boost their confidence as opposed to younger ones[28]. Besides, single-child mothers might want to supervise weight and eating habits by comparing them with peers. On the other hand, mothers in government roles often prefer to limit certain aspects of their children's diets, possibly due to their greater knowledge about child development and nutrition[28].

These findings are supported by previous studies[29,30]. For example, Gerards and Kremers[29] found a link between behaviors, such as parenting styles and food-related practices and children's weight outcomes. Similarly, Aljassim and Jradi[21] revealed that parents tend to apply levels of food restriction and pressure on eating while taking an approach towards their children's dietary choices and weight management. Murashima et al[30] found that mothers with one child tend to rely on food pressure strategies. These data could be beneficial for healthcare providers and specialists involved in developing programs to encourage

feeding habits among mothers and discourage the use of food practices, pressure tactics, and excessive monitoring.

Mothers in this study had varying perspectives on child feeding and were influenced by factors such as age, occupation, living areas, and body mass index. Understanding these distinctions can empower parents to adopt mealtime practices that promote healthy eating habits in their children. A study conducted by Ayine et al[31] highlighted a link between feeding behaviors and maternal education levels and found that parents with education tend to follow feeding routines. Bimpoog et al[28] found that while mothers generally view offering diets to their children, around 52% find it challenging to implement despite recognizing its importance. Research[32] shows that children's weight outcomes are connected to how parents handle food choices and overall parenting approaches. Targeted strategies can empower mothers with parenting techniques based on insights from this study. Encouraging feeding practices and tackling childhood obesity may require customized interventions for mothers, with education levels providing them with knowledge and resources to offer a variety of nutritious foods based on different parenting styles.

In this study, employed mothers, those older in age, and those with higher levels of education tended to use strategies to feed their children (e.g., food pressure, set restrictions, and unrealistic expectations). While it is true that early life experiences contribute to shaping dietary choices that endure over time[33], these factors only partially elucidate the issue of childhood obesity. Fertig et al[34] found an association between maternal employment and reduced meal frequency among children (potentially due to skipped meals) and increased television viewing duration. According to Scaglioni et al[35], the domestic environment, particularly the family dynamics in which children are raised, plays a pivotal role in shaping and fostering behaviors that persist throughout their lifetimes.

Overall, it is important to note that the results of the present study show a link but do not definitively prove the cause and effect between these traits and how mothers feed their children. In this regard, it is highly important to create support groups that are specially made for parents. This group can also help with information concerning feeding methods, making them not be forced to feel stressed about kinds of food. Moreover, communities should introduce policies that make it easier for families to access play areas and healthy food options. Healthcare professionals can offer their expertise to assist parents in developing parenting approaches focused on health and encouraging children to adopt good eating habits through targeted efforts that address the factors influencing maternal feeding practices. By taking these steps, parents and caregivers can work towards reducing the risk of childhood obesity and its related health issues.

Implications for Non-Pharmacological Obesity Prevention

The study findings highlight the importance of approaches to combat obesity by targeting groups of parents with tailored no pharmacological interventions based on their individual needs. Factors such as age, job, and educational level play a role in shaping perspectives, attitudes, and actions related to child nutrition. Supporting working parents could involve offering help with time management, stress reduction techniques, and designing meal plans. However, interventions for parents may aim to reduce food pressure and set expectations. Similarly, programs for educated parents might focus on sharing research on child-feeding practices and educating them about the effects of restrictive diets, food pressure, and unrealistic expectations. By integrating these strategies that address the unique characteristics and requirements of different parent groups into obesity prevention efforts, we can improve effectiveness and sustainability and promote healthy lifestyles while combating childhood obesity.

Limitations

This study has various limitations. The authors employed a cross-sectional approach to collect data from participants, which hindered the establishment of relationships between variables. It is conceivable that parental perspectives, beliefs, and practices regarding child nutrition could influence childhood obesity, yet this aspect could not be thoroughly explored due to the chosen methodology.

Moreover, convenience sampling was used to select individuals from places, such as hospitals and schools. Participants were required to provide self-reported information about their perspectives, attitudes, and behaviors, which could

introduce biases such as memory and social desirability biases. Additionally, it is worth noting that the research was specific to Saudi Arabia; therefore, the results may not be applicable to countries with different cultural and economic backgrounds. To address these limitations, researchers could consider using probability sampling methods, longitudinal designs, and objective measurements when examining attitudes and behaviors related to childhood nutrition and obesity.

Conclusions

The correlation between a mother's age, occupation, and body mass index, along with their attitudes, practices, and beliefs regarding feeding their children, is of paramount importance to consider. This connection suggests that specific measures need to be put in place to assist women with these attributes in establishing regular eating schedules for their children. For example, interventions could involve educating mothers on research on child feeding habits and instilling a sense of responsibility towards their children's nutrition. Providing guidance on preparing meals and snacks easily can benefit all mothers while also encouraging them to adopt healthier eating habits for themselves and their families. These interventions promote healthy eating among parents to reduce childhood obesity.

Conflict of Interest
The authors declare no conflict of interest.

Ethics Approval
Ethical approval was obtained from the Institutional Ethical and Review Board of King Khalid University, Abha (ECM #2023-904), dated November 3, 2023.

Informed Consent
Participation in the study was voluntary and anonymous. Written informed consent was provided by the participants.

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Data Availability
The data presented in this study are available on request from the corresponding author.

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