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Saudi fathers' perceptions of obesity, feeding practices, and promoting healthy eating in children: a cross-sectional study

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Abstract

Background Family involvement is crucial in mitigating childhood obesity. Nonetheless, research on fathers' perceptions regarding childhood weight issues remains limited, particularly within non-Western cultures.

Objectives This study aimed to (1) examine fathers' attitudes, perceptions, and practices related to child feeding and obesity risk; (2) assess their self-efficacy in promoting healthy eating; and (3) explore the relationship between these factors among fathers of school-age children in Saudi Arabia.

Methods A cross-sectional design was used, with data collected from 179 Saudi fathers of school-age children (ages 6–12 years) via online survey. Instruments included the Child Feeding Questionnaire (CFQ) and the General Self-Efficacy Scale (GSE). Data were analyzed using Spearman's correlations and descriptive statistics.

Results Self-efficacy was negatively correlated with feeding responsibility (*rho* =– 0.29, $p < 0.01$), pressure to eat (*rho* =– 0.18, $p < 0.05$), and monitoring (*rho* =– 0.25, $p < 0.01$), indicating that lower confidence was linked to greater parental control. Positive correlations were found with perceived parent overweight (*rho* = 0.34, $p < 0.01$) and perceived child overweight (*rho* = 0.23, $p < 0.01$).

Conclusions Healthcare professionals should design father-centered interventions that promote healthy eating without instilling weight-related anxiety. Culturally tailored strategies targeting paternal self-efficacy could enhance childhood obesity prevention efforts in the region.

Keywords Childhood obesity, Perception, Self-efficacy, Parents, Father, Feeding practices

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Introduction

The obesity epidemic among children is one of the most serious public health challenges of the 21st century [1]. Globally, over 390 million youth aged 5–19 years were overweight in 2022, including 160 million who were living with obesity [2]. In Saudi Arabia, the rate of childhood obesity has steadily increased over the past few decades [3, 4]. In a recent population-based study, one-fifth of children were either overweight or children with obesity, with a higher prevalence in boys compared to girls, particularly in the central and eastern regions of Saudi Arabia [5].

This rising epidemic of childhood obesity has become an important health concern, as it increases the risk of children with obesity becoming adults with obesity and developing chronic problems, such as diabetes and cardiovascular disease, at a younger age [6]. Preventing childhood obesity offers a better opportunity to reduce long-term complications compared to addressing obesity in adults [7]. Parental involvement is vital for addressing children's weight issues. Parents must recognize their child's weight challenges to manage obesity effectively and initiate early interventions [8, 9]. In recent years, numerous studies have examined parents' perceptions of their children's weight [10–14]. Most of these studies indicated that parents often misperceive their children's weight status. While these studies have significantly contributed to our understanding of how parents view their children's weights and body types, there is still limited empirical evidence about fathers' perceptions of childhood obesity. Research into parental perceptions of children's weight status has primarily focused on mothers. A study conducted across 22 counties revealed that most parents were more likely to underestimate their child's weight if the child was male and had overweight or obesity [15].

Parents with lower educational levels or those from rural areas were more likely to underestimate their children's weight compared to parents with higher educational levels or those from urban areas. One limitation of the multi-country studies is that the majority of the participants were mothers.

In many cultures—including Saudi Arabia—mothers have traditionally assumed the primary responsibility for childcare [16]. Consequently, much of the research on child feeding and obesity has centered on maternal perspectives. However, a growing body of evidence highlights the distinct and influential role that fathers play in their children's health and development [13, 15, 17, 18]. In Saudi society, fathers often serve as the primary decision-makers within the household, particularly in areas such as food purchasing, dining habits, and meal structuring. Their influence extends beyond financial provision to shaping household dietary patterns and norms around physical activity [16, 19].

Fathers' own health behaviors, such as dietary intake and food-related parenting style, have been shown to significantly affect children's eating patterns [8, 20]. A systematic review found that paternal weight status and food practices positively influence children's eating behaviors [20]. Moreover, in a large-scale study of 3,285 families, children with healthy-weight mothers and fathers with obesity were found to be 15 times more likely to develop obesity, underscoring the critical impact of paternal factors [21].

In the Saudi context, traditional dietary habits and social norms further contribute to obesity risk in children. Saudi cuisine tends to be high in carbohydrates, fats, and sugars, with frequent consumption of rice-based dishes, fried foods, and sweetened beverages [1, 22]. Fathers, as household leaders, often determine food purchases and family meals, thereby influencing their children's long-term dietary habits [16].

Cultural expectations also shape children's physical activity opportunities. Boys are generally encouraged to engage in outdoor sports and active play, while girls often face societal restrictions that limit access to structured exercise [23, 24]. Fathers, given their authoritative role in family decision-making, can either promote or restrict their children's participation in physical activity [16, 25].

To understand the varying impacts of mothers and fathers on childhood obesity, it is essential to examine their feeding practices. Research indicates that children whose mothers exhibit unhealthy dietary patterns are 33% more likely to develop obesity [26]. Similarly, children with fathers who maintain poor eating habits face a 28% increased risk of obesity. These findings underscore the influence of parental dietary behaviors on children's health. Additionally, inconsistent or excessively lenient feeding approaches adopted by fathers can elevate the risk of obesity by as much as 25% [27] highlighting the important role parents play in shaping their children's dietary habits.

A further element that requires attention is parental self-efficacy, which could be crucial in effectively managing and preventing childhood obesity. Bandura defines self-efficacy as the belief in one's ability to manage future situations [28]. Parental self-efficacy relates to parents' confidence in making positive decisions for their children, which is essential for addressing and preventing childhood obesity [29]. Research shows that children's positive behaviors and healthy habits are linked to their parents' self-efficacy. Therefore, it is imperative to evaluate fathers' self-efficacy in managing or preventing childhood obesity [30–33]. Low parental self-efficacy can hinder parents' efforts to improve their children's eating and exercise habits [34]. Like studies examining the

relationship between parenting behaviors and obesity, research on self-efficacy has often overlooked fathers [30, 35, 36].

Given the Saudi cultural framework—where fathers often serve as the final authority in household decision-making—it is essential to explore their self-efficacy in promoting healthy eating and physical activity habits among children. Understanding how confident fathers feel in their ability to influence their children's dietary behaviors is particularly important for the development of effective, culturally tailored interventions.

By examining Saudi fathers' perceptions of child weight, their feeding practices, and their self-efficacy, this study seeks to provide a more comprehensive understanding of paternal influences on childhood obesity. These insights aim to inform the design of prevention strategies that are both evidence-based and culturally relevant.

Gaps in literature and current research

Research examining the relationship between parental behaviors and childhood obesity has primarily been conducted in Western contexts, including the United States, Australia, and Europe [15, 18, 37]. However, the extent to which these findings are applicable to Middle Eastern societies remains unclear. In countries such as Saudi Arabia, cultural norms, family structures, and dietary patterns differ significantly from those found in Western populations [38–40]. The present study aims to assess whether paternal feeding behaviors and self-efficacy in Saudi Arabia align with, or diverge from, these internationally established patterns.

Traditionally, mothers in Saudi Arabia have held primary caregiving responsibilities, while fathers have fulfilled the role of financial providers. However, recent social and economic reforms—driven in part by Saudi Vision 2030—have contributed to shifting gender dynamics, with more women joining the workforce and fathers becoming increasingly involved in childcare responsibilities [41, 42]. This transformation may significantly influence child-feeding practices, as fathers may adopt different strategies than mothers when it comes to nutrition, meal structuring, and dietary regulation [43].

Emerging research suggests that greater paternal involvement in childcare is associated with meaningful influence on children's eating behaviors, including the modeling of healthy habits, enforcement of portion control, and shaping of food preferences [44]. However, despite this evolving role, many fathers may lack confidence in managing their children's dietary behaviors, particularly in cultures where they were not traditionally expected to assume this responsibility [45]. This uncertainty may lead to increased reliance on restrictive feeding practices, which have been linked to adverse outcomes such as diminished appetite self-regulation in children [44].

Moreover, the way fathers perceive their role in their child's health and obesity risk may differ substantially from maternal perspectives. These differences in perception may further shape paternal approaches to feeding, including the degree of control exerted over children's eating behaviors [46]. As such, exploring paternal beliefs and behaviors in the unique Saudi cultural context is critical for informing effective and culturally appropriate obesity prevention strategies. Comparative studies from other Middle Eastern countries reveal both shared patterns and culturally specific distinctions in parental roles related to childhood obesity. For instance, research in the United Arab Emirates (UAE) found that a majority of parents demonstrated strong knowledge (96.3%) and positive attitudes (88.4%) regarding childhood obesity. However, certain subgroups, particularly younger and less educated parents, were less likely to hold favorable attitudes. Importantly, fathers were less likely than mothers to engage in effective obesity prevention practices [47–52]. Similar findings have been reported in Kuwait and Qatar, where fathers often play a more limited role in regulating children's diets, deferring to mothers for meal preparation and nutritional choices [53, 54]. In contrast, research from Jordan and Lebanon highlights a growing trend toward shared parental responsibility, with fathers increasingly involved in meal planning and the encouragement of physical activity [55, 56].

These studies underscore both common regional trends and country-specific cultural dynamics. In the Saudi context, for example, family structures and social norms often shape meal patterns through practices such as large family gatherings and the consumption of traditional, carbohydrate-rich dishes [52]. Moreover, religious practices, particularly fasting during Ramadan, introduce further variation in parental feeding strategies. During this period, meal timing changes significantly, and children are frequently encouraged to begin fasting at an early age. This experience may shape children's long-term appetite regulation and eating behaviors [57]. Such cultural and religious influences distinguish Saudi parental feeding strategies from those in Western societies and highlight the importance of examining these dynamics within a localized framework.

To that end, this study draws on the Costanzo and Woody model [44], which posits that parenting styles may differ not only across households but also across specific developmental domains—and even among siblings. According to this model, parents may exert control over their children's eating behaviors out of concern for weight-related health risks or doubts about their children's ability to self-regulate. However, excessive control can backfire, undermining children's ability to recognize

internal hunger and satiety cues and potentially contributing to the development of disordered eating behaviors [44].

Therefore, we hypothesized that fathers' attitudes, perceptions, and practices regarding child feeding, and the risk of childhood obesity are associated with fathers' confidence in promoting healthy eating habits in their children. Specifically, fathers who pressure their children to eat, restrict their food intake, and monitor their eating habits tend to have lower confidence in promoting healthy eating habits in their children.

The present study aimed to achieve the following objectives: (1) to describe parental attitudes, perceptions, and practices regarding child feeding and the risk of obesity; (2) to assess parental self-efficacy in promoting healthy eating habits; and (3) to examine the relationship between parental attitudes, perceptions, and practices and self-efficacy among fathers of school-age children in Saudi Arabia.

Methods

Design and study population

This cross-sectional study was conducted in Saudi Arabia from June to December 2023. We employed this design to efficiently examine associations between variables while establishing foundation data for subsequent longitudinal research [58].

Participants comprised Saudi fathers with at least one school-aged child (6–12 years), a developmental period characterized by formation of eating habits and substantial parental influence [59]. Recruitment occurred through community settings and pediatric clinics using convenience sampling via electronic survey distribution.

Eligibility criteria included: (1) Saudi paternity status, (2) having ≥ 1 child aged 6–12 years, (3) Arabic language literacy, and (4) capacity to provide informed consent. We excluded fathers of children with pathological obesity (obesity resulting from genetic disorders, endocrine diseases, or medication-induced effects) due to the distinct etiology, management approaches, and parental perceptions in these cases, which differ fundamentally from primary obesity, the focus of our investigation [60].

Research personnel approached eligible fathers to ascertain participation interest. Upon agreement, survey links were distributed via WhatsApp, a predominant social media platform in Saudi Arabia. Sample size calculations using G*Power indicated a minimum requirement of 164 participants ($\alpha = 0.05$, moderate effect size $f = 0.25$, power = 0.95) for correlation analysis. The study exceeded this threshold, with 215 completed responses.

Measures

Child feeding questionnaire (CFQ)

The Child Feeding Questionnaire (CFQ) was adapted from the work of Birch et al. [61] to evaluate parental beliefs, attitudes, and practices concerning child feeding and obesity proneness. It consists of a 31-item rated on a five-point Likert scale with seven factors grouped into two broad categories: (1) Risk factors and concerns and (2) control in child feeding, attitudes, and practices. The first category addresses parental perceptions and concerns, including perceived parent weight, perceived child weight, parental concerns about child weight, and parental responsibility. The second category assesses parental control attitudes and practices in child feeding, including restriction, pressuring the child to eat more, and monitoring. The seven factors were computed by obtaining the mean score of their underlying items; higher scores indicate higher levels in each factor.

The test-retest reliability assessments indicated that the translated CFQ presented an acceptable alpha coefficient, ranging from 0.61 to 0.90 [53]. Permission to use the CFQ Arabic version was obtained before conducting the study [53].

General self-efficacy (GSF)

The General Self-Efficacy Scale (GSE) is a 10-item self-report instrument designed to assess individuals' global confidence in their ability to cope with novel or challenging situations and exert control over their environment [54]. Each item is rated on a 4-point Likert scale ranging from 1 ("Not at all true") to 4 ("Exactly true"), with total scores ranging from 10 to 40. Higher scores indicate greater levels of general self-efficacy. The GSE has demonstrated unidimensional structure and robust psychometric properties across a range of adult populations and cultural settings, including Arabic-speaking cohorts [55].

In the current study, the GSE demonstrated excellent internal consistency (Cronbach's $\alpha = 0.94$), comparable to previously reported estimates for Arabic versions of the scale ($\alpha = 0.95$) [55]. For the purposes of this study, we adapted the GSE instructions slightly to focus on paternal confidence in promoting healthy eating behaviors among school-age children (ages 6–12), while retaining the original scale items. This adaptation ensured contextual relevance to the study's objectives without compromising the integrity of the instrument. The GSE's use in parenting research is supported by existing literature linking general self-efficacy to a range of health-related parenting practices, including dietary monitoring and role modeling [62].

Ethical protocol

The study protocol received approval from the institutional review board at Imam Abdulrahman bin Faisal

University in Saudi Arabia [IRB approval number 2023-04-192]. An online survey was created using the QuestionPro platform, which included an informed consent form that participants had to read before beginning the survey questions. The informed consent outlined the study's objectives, methodologies, expected benefits, the right to decline participation, the voluntary nature of involvement, and the right to withdraw at any time during the study. Participants could only start the survey after they had reviewed the informed consent form and agreed to participate. To maintain participant confidentiality, personal identifiers were not collected; instead, unique ID codes were assigned to each participant.

Data analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 28. Descriptive statistics were used to present continuous variables as means and standard deviations and categorical variables as frequencies and percentages. No missing data were found due to the online survey design in QuestionPro and the use of a feature that reminds study participants to complete all the questionnaire fields before submission. Spearman's correlation coefficients (*rho*) were used to assess the associations between each of the Child Feeding Questionnaire subscales and the general self-efficacy variable. The non-parametric correlation test was selected after violating the normality assumption in parametric testing.

Results

Sample characteristics

Of the 393 eligible participants who opened the online survey, 179 fathers completed and submitted it, yielding a response rate of 45.5%. The mean age of fathers was 29.6 years old (SD = 6.85). The majority of participants had a university-level education or above ($N = 118$, 66%), were employed ($N = 165$, 92.2%) and had a school-age child between 6 and 12 years old ($N = 170$, 95%). Almost half of the fathers ($N = 98$, 54.7%) reported that their children ate homemade and fast food. 71% of fathers reported that their families consume fast food once a week, 51% twice a week, 41% three times a week or more, and 16% at least once daily. Regarding children's physical activities, just over half the sample reported that their children engage in physical activities two to three times per week ($N = 100$, 55.9%). See Table 1 for further details on sample characteristics.

Table 2 presents the means, standard deviations, and Cronbach's alpha coefficients for all study variables. The General Self-Efficacy Scale (GSE) demonstrated excellent internal consistency ($\alpha = 0.94$). Subscales of the Child Feeding Questionnaire (CFQ) also demonstrated acceptable reliability, ranging from 0.75 to 0.86, except for the "Pressure to Eat" subscale ($\alpha = 0.65$), which indicates marginal reliability and should be interpreted with caution.

Spearman's correlation analysis revealed several significant relationships between general self-efficacy and the domains of the CFQ (Table 3). General self-efficacy was moderately and negatively correlated with perceived feeding responsibility ($rho = -0.29$, $p < 0.01$) and monitoring ($rho = -0.25$, $p < 0.01$) and weakly negatively correlated with pressure to eat ($rho = -0.18$, $p < 0.05$). These findings suggest that lower confidence in promoting healthy eating was associated with greater parental control behaviors, such as increased responsibility, pressure, and monitoring of the child's eating.

Conversely, moderate positive correlations were found between general self-efficacy and perceived parent overweight ($rho = 0.34$, $p < 0.01$) and perceived child overweight ($rho = 0.23$, $p < 0.01$). This indicates that fathers who view themselves and their children as overweight tend to report higher confidence in promoting healthy dietary habits. No significant relationships were found between self-efficacy and concerns about child overweight ($rho = 0.12$, ns) or restriction behaviors ($rho = -0.11$, ns).

Discussion

This investigation addresses a significant gap in the literature regarding paternal influence on childhood eating behaviors and obesity risk in non-Western contexts. Few studies have examined associations between fathers' self-efficacy in promoting healthy eating habits and their perceptions of feeding responsibility, weight status, and feeding practices, particularly within Saudi Arabian culture.

Principal findings and interpretation

Our findings reveal a significant negative correlation between fathers' perception of feeding responsibility and their self-efficacy in promoting healthy eating habits. This suggests that fathers who perceive greater responsibility for child feeding report lower confidence in their ability to instill healthy eating behaviors. This observation contradicts findings from Western populations, where paternal feeding responsibility typically correlates positively with self-efficacy [20, 36, 56]. For instance, Gaynor and colleagues [56] found that fathers' perception of their feeding role importance was associated with higher self-efficacy in promoting healthy eating behaviors.

This discrepancy may reflect cultural differences in parental role expectations. In Saudi Arabia, where fathers have traditionally occupied primarily financial provider roles [41, 42], the perception of feeding responsibility may represent an unfamiliar domain, potentially explaining their lower confidence. As Saudi gender roles evolve [43], fathers may experience uncertainty in navigating

Table 1 Sociodemographic and sample characteristics (*N* = 179)

Variable	Mean (SD)	Frequency	Percentage
Father's age	29.6 (6.85)		
Father's educational level			
High school and below		61	34.1
University and above		118	65.9
Father's Employment			
Employed		165	92.2
Not employed		14	7.8
Children Between 6–12 yrs. old			
Yes		170	95
No		9	5
Total number of children			
3 children or less		96	53.6
4–6 children		65	36.3
7 children or more		18	10.1
Children's daily meals			
Homemade		79	44.1
Fast-food		2	1.1
Both		98	54.7
Family's consumption of fast-food			
Once a week		71	39.7
Twice a week		51	28.5
Three time a week or more		41	22.9
At least once a day		16	8.9
Children's physical activities			
Yes		98	54.7
Maybe		54	30.2
No		27	15.1
Frequency of physical activities			
20 min/ daily		46	25.7
30 min/daily		23	12.8
60 min/daily		10	5.6
2 to 3 times/ Weekly		100	55.9

SD: Standard Deviation

Table 2 Descriptive statistics, Cronbach's alphas of general Self-efficacy (GES) and child feeding questionnaire domains (CFQ) (*N* = 179)

Variables		Mean (SD)	Min-Max	Cronbach's Alphas
Perceived General Self-efficacy		29.6 (6.8)	10–40	0.94
The Child Feeding Questionnaire				
1.	Perceived feeding responsibility	2.32 (1.00)	1–5	0.82
2.	Perceived parent overweight	2.74 (0.60)	1–5	0.78
3.	Perceived child overweight	2.94 (0.49)	1–5	0.77
4.	Concerns about child overweight	3.31 (1.18)	1–5	0.80
5.	Restriction	2.06 (0.68)	1–4.25	0.75
6.	Pressure to eat	2.52 (0.87)	1–5	0.65
7.	Monitoring	2.24 (0.86)	1–5	0.86

these changing responsibilities, leading to diminished self-efficacy despite recognizing their importance.

Our study also identified significant positive associations between fathers' perceptions of parent overweight and child overweight with self-efficacy in promoting healthy eating. These findings suggest that weight-related awareness may motivate fathers to develop confidence in guiding children toward healthier diets. This aligns with Rhee and colleagues' [63]. observation that parental perception of child overweight correlates with readiness for behavioral change, and White et al.'s [64] finding of positive associations between parental weight perceptions and stage of change. Similarly, Mallan et al. [37] reported that Australian fathers perceived parental weight

Table 3 Spearman's correlation coefficients (*rho*) between general Self-efficacy (GES) and the domains of the child feeding questionnaire (CFQ) (*N* = 179)

Variables		Spearman's Correlation Coefficients (rho)
The Child Feeding Questionnaire		**General Self-efficacy**
1.	Perceived feeding responsibility	– 0.29**
2.	Perceived parent overweight	0.34**
3.	Perceived child overweight	0.23**
4.	Concerns about child overweight	0.12
5.	Restriction	– 0.11
6.	Pressure to eat	– 0.18*
7.	Monitoring	– 0.25**

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

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

positively correlated with increased self-efficacy, though their study found no relationship with perceptions of child weight.

Particularly noteworthy are the significant negative associations between paternal self-efficacy and controlling feeding practices: monitoring and pressure to eat. These findings contrast with Duncanson et al. [65], who suggested that high parental self-efficacy combined with perceived control over child feeding represents an optimal scenario for improving feeding practices. Our results suggest that fathers who employ controlling feeding strategies may experience diminished confidence in their ability to promote healthy eating.

This discrepancy may be explained through cultural context. In Saudi Arabia, parents often adopt highly controlling approaches to children's eating behaviors, employing negative reinforcement and pressure regardless of children's internal cues [66, 67] According to Costanzo and Woody's theoretical framework [44], such practices indicate excessive mealtime control that may inhibit children's ability to recognize hunger and satiety signals, potentially increasing obesity risk. Our findings suggest that fathers employing these culturally normative but potentially counterproductive feeding strategies may recognize their limited effectiveness, leading to reduced self-efficacy.

Cultural context and implications

Saudi Arabian feeding practices are embedded within cultural traditions emphasizing food abundance and communal eating as expressions of generosity and hospitality. In this context, encouraging children to eat beyond satiety signals may represent cultural values rather than nutritional knowledge deficits. The transition from traditional dietary patterns to increasingly processed food consumption [68] creates a complex environment for fathers navigating between cultural expectations and evolving nutritional recommendations.

The tension between traditional values and contemporary health knowledge may contribute to parental uncertainty. Recent research indicates that pressures of fatherhood, insufficient father-specific information, and challenges accessing culturally appropriate nutrition resources undermine paternal confidence in promoting healthy eating [56]. Our findings underscore the need for culturally sensitive interventions that acknowledge these tensions while supporting paternal self-efficacy development.

Practical implications and recommendations

Our findings have substantial implications for healthcare professionals and policymakers. First, pediatric healthcare providers should routinely assess paternal feeding perceptions and practices during clinical encounters, recognizing that controlling feeding strategies may indicate lower self-efficacy rather than disinterest. Clinicians should actively encourage fathers' attendance at children's health appointments, using these opportunities to promote healthier feeding approaches.

Second, educational interventions should focus on enhancing paternal self-efficacy through skill development rather than merely increasing weight concern. Programs should emphasize responsive feeding practices that respect children's hunger and satiety cues while acknowledging cultural contexts. Educational content should specifically address the relationship between controlling feeding practices and potential negative outcomes, offering alternatives that maintain cultural values while promoting healthier eating patterns.

Third, policy development should incorporate father-specific components in childhood obesity prevention programs. Health ministry initiatives should include targeted resources for fathers navigating changing gender roles, providing culturally appropriate guidance that enhances self-efficacy. School-based programs should engage fathers in nutrition education, leveraging their growing involvement in childcare to promote healthier family eating environments.

Fourth, healthcare systems should implement training for providers on effective engagement with fathers

regarding childhood nutrition. This training should emphasize cultural sensitivity and recognition of evolving gender roles, equipping providers to support paternal self-efficacy development through evidence-based, culturally appropriate guidance.

Strengths and limitations

This study makes a significant contribution by examining paternal feeding practices in a non-Western context, addressing an important gap in the literature predominantly focused on Western populations and maternal perspectives. The use of validated instruments and robust analytical methods strengthens our findings.

Several limitations warrant consideration. The cross-sectional design precludes causal inference regarding the directionality of observed associations. Longitudinal investigations are necessary to establish temporal relationships between paternal self-efficacy and feeding practices. The convenience sampling approach limits generalizability, potentially overrepresenting fathers with higher educational attainment. Future studies should employ stratified sampling to ensure representation across socioeconomic and educational strata.

Self-reported measures may introduce social desirability bias, particularly regarding weight perceptions and feeding practices. Additionally, while our adaptation of the General Self-Efficacy Scale to the specific context of promoting healthy eating is supported by previous research [69], domain-specific instruments might provide more nuanced assessment of paternal feeding self-efficacy.

Conclusion

This study provides novel insights into the relationships between Saudi fathers' self-efficacy in promoting healthy eating and their feeding perceptions and practices. Our findings suggest that cultural context significantly influences these relationships, with important implications for childhood obesity prevention efforts. As gender roles in Saudi Arabia continue to evolve, understanding and supporting paternal self-efficacy in child feeding represents a crucial component of comprehensive obesity prevention strategies.

Future research should employ longitudinal designs to examine how paternal self-efficacy and feeding practices develop over time, particularly as fathers navigate changing social expectations. Intervention studies should evaluate the effectiveness of culturally tailored programs specifically designed to enhance paternal self-efficacy in promoting healthy eating behaviors within the Saudi cultural context.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12889-025-23039-x.

Supplementary Material 1

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Author contributions

Sadeg A, conceptualized, designed, and conducted the study. Sadeg A, also supervised participant recruitment and data collection, drafted the initial manuscript, and was responsible for the final content. Hebah A, contributed to conceptualizing, designing the study, performing the analysis, and interpreting the results, and significantly contributing to manuscript preparation. Latifa A, contributed by writing parts of the original draft and reviewing and editing the manuscript. Bushra B, contributed to manuscript preparation. Bushra B, Ibtihal A, Rawan A, and Ahlam A, recruited participants and collected data. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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Data availability

Data will be available upon reasonable request from the corresponding author.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the Institutional Review Board at Imam Abdulrahman bin Faisal University, Saudi Arabia (IRB approval number: 2023-04-192). The first page of the survey informed participants that submission of the completed survey would be considered as their informed consent to participate. It was also clarified that participation was voluntary and that individuals could withdraw from the study at any time without any consequences. Participant anonymity was maintained by assigning unique identification codes to each respondent.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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