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RELATIONSHIP BETWEEN MATERNAL DIET QUALITY AND INTUITIVE EATING ACROSS GESTATIONAL TRIMESTERS

RELAÇÃO ENTRE A QUALIDADE DA DIETA MATERNA E A ALIMENTAÇÃO INTUITIVA AO LONGO DOS TRIMESTRES GESTACIONAIS

RELACIÓN ENTRE LA CALIDAD DE LA DIETA MATERNA Y LA ALIMENTACIÓN INTUITIVA A LO LARGO DE LOS TRIMESTRES GESTACIONALES

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ABSTRACT

Habits, patterns, and behaviors often change during pregnancy, and food choices play a crucial role in maternal and child health. This study aimed to evaluate the association between diet quality and intuitive eating among pregnant women according to gestational trimester. A cross-sectional study was conducted as part of a broader project assessing nutritional status, eating behavior, and dietary practices during pregnancy and related periods. Intuitive eating was assessed using the Intuitive Eating Scale (IES-2), and diet quality was evaluated using the Healthy Eating Index for Pregnant Women (IQDAG). Gestational trimester was determined based on the interval between the last menstrual period and the date of the interview. The sample comprised 192 pregnant women aged 18 years or older receiving prenatal care in both public and private healthcare settings in Lavras, Brazil. Data were analyzed using descriptive statistics and Pearson's correlation tests. A significant positive correlation was observed between the Body–Food Choice Congruence (B-FCC) subscale and diet quality in the second (r = 0.292) and third trimesters (r = 0.296). These findings suggest that pregnant women who make food choices aligned with physiological needs tend to have better diet quality. The results indicate that incorporating intuitive eating–based strategies into prenatal care may contribute to improving maternal dietary patterns and reducing adverse outcomes associated with inadequate nutrition during pregnancy.

KEYWORDS: *Eating behavior. Food intake. Gestational age. Intuitive eating.*

RESUMO

Hábitos, padrões e comportamentos frequentemente se modificam durante a gestação, e as escolhas alimentares exercem papel fundamental na saúde materna e infantil. Este estudo teve como objetivo avaliar a associação entre a qualidade da dieta e a alimentação intuitiva em gestantes, de acordo com o trimestre gestacional. Trata-se de um estudo transversal, derivado de um projeto mais amplo sobre estado nutricional, comportamento alimentar e práticas alimentares durante a gestação e períodos relacionados. A alimentação intuitiva foi avaliada por meio *da Intuitive Eating Scale* (IES-2), e a qualidade da dieta pelo Índice de Qualidade da Dieta para Gestantes (IQDAG). O trimestre gestacional

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foi determinado com base no intervalo entre a data da última menstruação e a data da entrevista. A amostra foi composta por 192 gestantes com idade igual ou superior a 18 anos, atendidas em serviços públicos e privados de saúde em Lavras, Brasil. Foram realizadas análises descritivas e testes de correlação de Pearson. Observou-se correlação positiva significativa, de magnitude fraca a moderada, entre a subescala *Body–Food Choice Congruence* (B-FCC) e a qualidade da dieta no segundo (r = 0,292) e terceiro trimestres (r = 0,296). Os resultados indicam que gestantes que realizam escolhas alimentares alinhadas às necessidades fisiológicas apresentam melhor qualidade da dieta. Esses achados sugerem que a incorporação de estratégias baseadas na alimentação intuitiva no pré-natal pode contribuir para a melhoria dos padrões alimentares maternos e para a redução de desfechos adversos associados à nutrição inadequada.

PALAVRAS-CHAVE: Comportamento alimentar. Consumo alimentar. Idade gestacional. Alimentação intuitiva.

RESUMEN
Los hábitos, patrones y comportamientos suelen modificarse durante el embarazo, y las elecciones alimentarias desempeñan un papel fundamental en la salud materna e infantil. Este estudio tuvo como objetivo evaluar la asociación entre la calidad de la dieta y la alimentación intuitiva en gestantes, según el trimestre gestacional. Se trata de un estudio transversal, derivado de un proyecto más amplio sobre estado nutricional, comportamiento alimentario y prácticas alimentarias durante el embarazo y períodos relacionados. La alimentación intuitiva fue evaluada mediante la Intuitive Eating Scale (IES-2), y la calidad de la dieta mediante el Índice de Calidad de la Dieta para Gestantes (IQDAG). El trimestre gestacional se determinó con base en el intervalo entre la fecha de la última menstruación y la fecha de la entrevista. La muestra estuvo compuesta por 192 gestantes de 18 años o más, atendidas en servicios de salud públicos y privados en Lavras, Brasil. Se realizaron análisis descriptivos y pruebas de correlación de Pearson. Se observó una correlación positiva significativa, de magnitud débil a moderada, entre la subescala Body–Food Choice Congruence (B-FCC) y la calidad de la dieta en el segundo (r = 0,292) y tercer trimestres (r = 0,296). Los resultados indican que las gestantes que realizan elecciones alimentarias alineadas con sus necesidades fisiológicas presentan una mejor calidad de la dieta. Estos hallazgos sugieren que la incorporación de estrategias basadas en la alimentación intuitiva en la atención prenatal puede contribuir a mejorar los patrones alimentarios maternos y a reducir los resultados adversos asociados con una nutrición inadecuada.

***PALABRAS CLAVE**: Comportamiento alimentario. Consumo de alimentos. Edad gestacional. Alimentación intuitiva.*

1. INTRODUCTION

Food and eating behaviors are multidimensional, encompassing biological, psychological, social, economic, and cultural factors, and directly influencing overall well-being and lifestyle habits (Steel, 2021). This complexity becomes particularly evident during pregnancy, a period marked by significant physiological and behavioral changes that affect both nutritional requirements and dietary patterns across gestational trimesters (Forbes *et al.*, 2018; Hillier & Olander, 2017; Volp *et al.*, 2010). During this period, adopting higher-quality diets is a key adaptive response, as nutritional demands increase to support maternal health and fetal development (Volp *et al.*, 2010). Healthier dietary patterns during pregnancy have been consistently associated with a reduced risk of obstetric complications and

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improved maternal and neonatal outcomes (L.-W. Chen *et al.,* 2016; Gete *et al.*, 2020; Hu *et al.*, 2020; Northstone *et al.*, 2008; Zhu *et al.*, 2023).

The assessment of diet during pregnancy should extend beyond the isolated analysis of nutrients or foods, emphasizing overall dietary patterns to better capture habitual intake (X. Chen *et al.*, 2016). Dietary indices are widely used to evaluate adherence to nutritional recommendations and healthy eating patterns (Zazpe *et al.*, 2025). In Brazil, such indices have been adapted from the Healthy Eating Index (HEI), including the Diet Quality Index (IQD) (Fisberg *et al.*, 2004) and the Revised Diet Quality Index (IQD-R) (Previdelli *et al.*, 2011). For pregnant women, specific instruments have been developed, such as the Healthy Eating Index for Pregnant Brazilian Women (HEIP-B) (Melere *et al.*, 2013) and the Diet Quality Index for Pregnant Women (IQDAG) (Crivellenti *et al.*, 2018). The IQDAG was developed based on the current nutritional recommendations of the Brazilian Dietary Guidelines (2014), incorporating the consumption of ultra-processed foods and including omega-3 as a component, while also emphasizing the intake of fresh fruits, fiber-rich foods, calcium, folate, iron, and unprocessed or minimally processed foods, given their relevance to maternal and fetal health (Crivellenti *et al.*, 2018).

Beyond dietary assessment, eating behaviors play a central role in shaping food choices. Instruments that assess these behaviors provide insight into psychosocial and behavioral factors influencing diet quality during pregnancy, including constructs such as mindful eating (Hutchinson *et al.*, 2017; Most *et al.*, 2019) and intuitive eating (Plante *et al.*, 2019). Intuitive eating, in particular, has gained attention as an evidence-based approach that promotes a healthier relationship with food by encouraging responsiveness to internal hunger and satiety cues while reducing restrictive practices (Tribole & Resch, 2020). It is commonly assessed using the Intuitive Eating Scale–2 (IES-2), developed by Tylka and Van Diest (2013) and validated for use among pregnant women (Daundasekara *et al.*, 2017; Paterson *et al.*, 2018).

Emerging evidence indicates that intuitive eating is associated with healthier dietary patterns and improved well-being across different populations, including pregnant and postpartum women (Christoph *et al.*, 2021; Gao *et al.,* 2024; Grider *et al.*, 2021; Jackson *et al.*, 2022; Plante *et al.*, 2019; Schwedhelm *et al.*, 2022). Specifically, Plante *et al.* (2019) found that, during the first trimester, unconditional permission to eat was associated with lower diet quality, whereas alignment between food choices and body signals was positively associated with diet quality in later trimesters.

Despite these advances, few studies have examined the association between intuitive eating and diet quality across different gestational trimesters, particularly in the Brazilian context, where evidence remains limited. Given this gap, the present study aimed to evaluate the association between intuitive eating and maternal diet quality according to gestational trimester. We hypothesized that higher levels of intuitive eating would be positively associated with better maternal diet quality. Additionally, gestational trimester was considered a potential moderating factor in this relationship, as both dietary intake and diet quality are known to vary throughout pregnancy.

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2. METHODS

The present research is part of a larger project entitled “Assessment of Nutritional Status, Eating Behavior, and Dietary Practices during Pregnancy, Breastfeeding, and Infant Feeding,” developed at the Federal University of Lavras (UFLA) and approved by the Research Ethics Committee for Human Studies at UFLA (CEAAE: 3.362.629).

The sample size calculation originally carried out for the main project was based on the average number of live births in Lavras from 2013 to 2017, which, according to the most recent DATASUS data (accessed on March 29, 2019), was 1,396 live births. Accordingly, a 95% confidence level, a 5% sampling error, and a prevalence of pregnant women with excessive concern about body weight of 5.5% were adopted, resulting in a required sample size of n = 76 pregnant women (Soares *et al.*, 2009). Considering potential sample losses, an additional 40% was added, leading to a minimum sample size of 107 participants (de Castro *et al.*, 2022; Luiz & Magnanini, 2000). For the present study, the sample size was recalculated, adopting a 95% confidence interval, a 5% margin of error, a prevalence of poor diet quality among pregnant women of 9.2%, and a 40% increase to account for possible losses, resulting in a minimum required sample of 165 participants (de Castro *et al.*, 2022; FUNASA, 2001).

Data were collected between July 2019 and February 2020 in the waiting rooms of prenatal consultations at Family Health Strategy (FHS) units and in private gynecology/obstetrics practices in the municipality of Lavras, Minas Gerais, Brazil. Participation was contingent upon signing the Informed Consent Form.

Pregnant women aged 18 years or older who were receiving prenatal care in the public or private health sectors of the municipality during the data collection period were eligible for inclusion. Pregnant women who did not complete the Intuitive Eating Scale or did not provide dietary intake information for diet quality assessment were considered sample losses.

Sociodemographic and obstetric data were collected, including age, sex, marital status, education, income, housing status, current occupation, pre-pregnancy weight (obtained from the prenatal care card, or self-reported if unavailable), and date of last menstrual period (LMP). Gestational trimesters were self-reported and subsequently calculated according to the interval between the LMP and the date of the interview, and classified as follows: first trimester, from LMP to 13 weeks; second trimester, 12 to 26 weeks; and third trimester, 27 to 40 weeks (Brasil, 2018).

Dietary intake was estimated through the report of a typical day of habitual diet. The adoption of this method was driven by logistical constraints of the study. Prenatal care visits were more frequent on Mondays, which could compromise the representativeness of habitual dietary intake if a 24-hour dietary recall referring to the previous day were applied. Therefore, an alternative approach was implemented to assess usual food consumption. Similarly to the 24-hour dietary recall (24HR), a structured questionnaire was used to collect detailed information on foods and preparations consumed,

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including food type, portion sizes, and frequency of intake. Participants were instructed to report all foods and beverages typically consumed on a usual day. Data collection was supported by a photographic atlas and three-dimensional household utensil models to improve portion size estimation and enhance data accuracy. The assessment followed a multiple-pass approach adapted from the 24HR methodology, consisting of three steps: (1) an initial listing of consumed foods, (2) detailed probing of reported items, and (3) a final review of the collected information (Johnson, Soultanakis, and Matthews, 1998).

To minimize potential reporting bias associated with the use of a single typical day, basal metabolic rate (BMR) was estimated using predictive equations, and the method proposed by Goldberg *et al.* (1991) was applied to identify potential underreporting of energy intake. Additionally, it is noteworthy that instruments based on habitual dietary intake have been widely used in epidemiological studies focused on overall diet quality, and are considered appropriate for this purpose (Gotine *et al.*, 2023).

Diet quality was assessed using the Diet Quality Index Adapted for Pregnant Women (IQDAG) (Crivellenti *et al.*, 2018). This process of evaluating and quantifying food consumption has already been described in detail in the previous study, as well as the evaluation of diet quality according to the IQDAG (de Castro *et al.*, 2022).

Intuitive eating was assessed using the Intuitive Eating Scale-2 (IES-2), validated for pregnant women (Daundasekara *et al.*, 2017; Paterson *et al.*, 2018). The scale is subdivided into four domains that reflect the core principles of intuitive eating: UPE, which includes items assessing the permission to eat foods without restrictions by group or classification (e.g., “healthy” or “unhealthy” foods); Eating for Physical Rather Than Emotional Reasons (EPRER), which evaluates whether eating is driven by hunger and satiety rather than emotional triggers; Reliance on Hunger and Satiety Cues (RHSC), which reflects the extent to which individuals trust their internal signals of hunger and satiety when making food choices; and Body–Food Choice Congruence (B-FCC), which assesses whether food choices are based on supporting bodily function, also described as “gentle nutrition” (Tylka & Kroon Van Diest, 2013). Items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher total and subscale scores indicating greater intuitive eating. The IES-2 was translated, adapted to Portuguese, and validated for use with pregnant women (da Silva *et al.*, 2020; Paterson *et al.*, 2018).

After data collection, information was double-entered and validated using Epi Info software version 7.2. Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 20.0. The Shapiro–Wilk test was applied to assess sample normality and distribution. Sociodemographic, obstetric, and anthropometric characteristics were described according to gestational trimester. Comparisons across trimesters were performed using the Kruskal–Wallis test for continuous variables not normally distributed (results presented as medians, minimum, and maximum

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values) and the chi-square test for categorical variables (expressed as frequencies and percentages). Analysis of variance (ANOVA) was used to compare intuitive eating scores (total and domain-specific) across trimesters when normality assumptions were met, while Pearson's correlation test was applied to evaluate the relationship between intuitive eating (total and domain-specific scores) and diet quality (IQDAG) within each trimester under the same assumptions.

3. RESULTS

The final sample consisted of 192 pregnant women. Maternal age ranged from 18 to 42 years, and pre-pregnancy BMI (kg/m²) ranged from 16.41 to 42.08. Most participants reported having a partner, a household income between one and two minimum wages, self-identified as Black or Brown, had not planned the pregnancy, and were classified as overweight according to pre-pregnancy BMI. Educational level varied across gestational trimesters, although without statistically significant differences. It was observed that 40.6% of women in the first trimester had completed elementary school, whereas 61.5% and 47.9% of those in the second and third trimesters, respectively, had completed high school. When comparing sociodemographic and obstetric characteristics across gestational trimesters, only self-reported race and household income showed statistically significant differences (Table 1).

Table 1. Sociodemographic and obstetric characteristics of pregnant women living in the municipality of Lavras, Minas Gerais, according to gestational trimester

Variables	First trimester	Second trimester	Third trimester	P-value*
Age – years (192)	27.36 (18; 39)	28.35 (18; 42)	27.29 (18; 40)	0.613
Marital Status (192)				
Without partner	7 (19.4%)	28 (35.5%)	33 (42.9%)	0.056
With partner	29 (80.6%)	51 (64.6%)	44 (57.1%)	
Education Level (192)				
Completed elementary school	13 (40.6%)	14 (17.9%)	17 (23.9%)	
Completed high school	12 (37.2%)	48 (61.5%)	34 (47.9%)	0.068
Completed higher education	7 (21.9%)	16 (20.5%)	20 (28.2%)	
Race/Skin Color (192)				
White	15 (41.7%)	16 (20.3%)	29 (37.7%)	**0.021****
Non White	21 (58.3%)	63 (79.7%)	48 (62.3%)	
Household Income (192)				
< 1 minimum wage (BRL 998.00)	5 (13.9%)	9 (11.4%)	20 (26%)	**0.009****
1–2 minimum wages	24 (66.7%)	35 (44.3%)	33 (42.9%)	
2 minimum wages	7 (19.4%)	35 (44.3%)	24 (31.2%)	
Number of Pregnancies (191)				
First pregnancy	14 (38.9%)	36 (45.6%)	36 (47.4%)	0.669
Two or more pregnancies	22 (61.1%)	43 (54.4%)	40 (52.6%)	
Number of People in Household (192)	23 (63.9%)	57 (72.2%)	53 (68.8%)	
Up to 2 people	4 (11.1%)	9 (11.4%)	13 (16.9%)	0.566

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Up to 3 people	9 (25.0%)	13 (16.5%)	11 (14.3%)	
More than 3 people				
Planned Pregnancy (189)	21 (58.3%)	47 (60.3%)	50 (66.7%)	
No	15 (41.7%)	31 (39.7%)	25 (33.3%)	0.630
Yes				
Pre-pregnancy BMI (Kg/m²) (181)	24.47 (16.41; 42.96)	26.95 (16.22; 49.95)	24.59 (17.37; 42.08)	0.088
Pre-pregnancy BMI Classification (180)				
Underweight	8 (25.0%)	10 (13.5%)	12 (16.2%)	
Normal weight	11 (34.4%)	23 (31.1%)	24 (32.4%)	0.594
Overweight	13 (40.6%)	41 (55.4%)	38 (51.4%)	

BMI: Body Mass Index. * P-values were obtained using the Kruskal-Wallis test for continuous variables with non-normal distribution and the Chi-square test for categorical variables.
** $p < 0.05$

When comparing intuitive eating and diet quality among pregnant women according to gestational trimester, the mean (SD) diet quality scores in the first, second, and third trimesters were 61.12 (13.21), 63.64 (14.56), and 62.00 (13.75), respectively. The mean (SD) global intuitive eating score was 3.27 (0.50) in the first trimester, 3.46 (0.52) in the second, and 3.47 (0.52) in the third. No statistically significant differences were observed in the mean values of intuitive eating and its subscales across the gestational trimesters (Table 2).

Table 2. Comparison of mean IQDAG total scores and mean global IES-2 scores, including its domains, across different gestational trimesters. Lavras, Minas Gerais, Brazil, 2022 (n = 192)

Variables	First trimester (n=36)	Second trimester (n=79)	Third trimester (n=77)	P-value*
	Mean and Standard Deviation			
IQDAG	61.12±13.21	63.64 ± 14.56	62.00 ± 13.75	0.609
Global IES-2 Score	3.27 ±0.50	3.46 ± 0.52	3.47 ± 0.52	0.132
UPE	3.48 ±0.63	3.59 ± 0.68	3.51 ± 0.73	0.653
EPRER	3.38 ± 0.80	3.69 ± 0.84	3.69 ± 0.86	0.197
RHSC	2.99 ± 0.89	3.18 ± 0.99	3.31 ± 0.78	0.202
B-FCC	3.12 ±1.08	3.22 ± 1.05	3.33 ± 1.10	0.592

IQDAG: Diet Quality Index for Pregnant Women; IES-2: Intuitive Eating Scale; UPE: Unconditional Permission to Eat; EPRER: Eating for Physical Rather than Emotional Reasons; RHSC: Reliance on Hunger and Satiety Cues; B-FCC: Body–Food Choice Congruence.
P-values (Sig) were obtained using one-way ANOVA.

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Table 3 shows the correlation between intuitive eating and diet quality according to gestational trimester. The IES-2 domain Body–Food Choice Congruence (B-FCC) was positively correlated with diet quality in the second (r = 0.292) and third trimesters (r = 0.296) (Table 3).

Table 3. Correlation between the IQDAG total score and intuitive eating (IES-2) scores, including its domains, across different gestational trimesters (n = 192)

Global IQDAG Score	First trimester (n=36)	Second trimester (n=79)	Third trimester (n=77)
Global IES-2 Score	0.067	0.110	0.081
UPE	-0.175	-0.229	-0.139
EPRER	0.05	0.080	0.065
RHSC	0.159	0.124	0.019
B-FCC	0.143	**0.292***	**0.296***

IQDAG: Diet Quality Index for Pregnant Women; IES-2: Intuitive Eating Scale; UPE: Unconditional Permission to Eat; EPRER: Eating for Physical Rather than Emotional Reasons; RHSC: Reliance on Hunger and Satiety Cues; B-FCC: Body–Food Choice Congruence.
*Correlation is significant at the 0.01 level. P values were obtained using Pearson's correlation test.

4. DISCUSSION

Given the behavioral and physiological changes that occur in each gestational trimester and the importance of an adequate diet for the mother–child dyad, the present study aimed to evaluate intuitive eating throughout pregnancy and its association with diet quality, in order to determine whether the intuitive eating approach could represent a relevant behavioral construct to be further investigated in maternal and child health promotion (Forbes *et al.*, 2018; Hillier & Olander, 2017). The mean intuitive eating scores obtained in each trimester were lower than those reported by Plante *et al.* (2019), but higher than those found in the study conducted with women by Jackson *et al.* (2022). Plante *et al.* (2019) reported mean scores ranging from 3.4 to 3.9 in the first trimester, 3.5 to 3.8 in the second trimester, and 3.5 to 3.9 in the third trimester.

The present study identified a positive association between the B-FCC subscale and diet quality among pregnant women in the second and third trimesters. However, no significant associations were found between intuitive eating and diet quality in the first trimester. During early pregnancy, nausea, vomiting, and food cravings are common, which may affect maternal diet quality by reducing the consumption of vegetables and citrus fruits while increasing the intake of carbohydrates and added sugars (Chortatos *et al.*, 2013; Crozier *et al.*, 2016). Another study found that women who reported vomiting in the first trimester had lower diet quality compared to women without these symptoms (Savard *et al.*, 2019). These changes may be explained by pregnancy-related food cravings and concerns

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regarding fetal health (Rifas-Shiman *et al.*, 2009). Plante *et al.* (2019) also demonstrated that women in the first trimester who experienced cravings and had higher scores on the UPE subscale exhibited poorer diet quality, likely due to symptoms characteristic of early pregnancy. In contrast, the present study did not find any significant associations between the first trimester, the IQDAG, and the IES-2. A possible explanation for this finding may lie in the symptoms commonly experienced in the first trimester, which can interfere with eating patterns and dietary behaviors. Studies suggest that during the third trimester pregnant women may have higher diet quality (Fernández-Gómez *et al.*, 2020; St-Laurent *et al.*, 2025), while dietary restraint scores tend to decrease (Plante *et al.*, 2019).

The relationship between intuitive eating and diet quality remains controversial in the literature. A systematic review conducted by Grider *et al.* (2021) demonstrated that there is still limited evidence from intervention studies on intuitive eating and mindful eating in relation to diet quality. However, several other studies have reported an association between intuitive eating and better diet quality (Barad *et al.*, 2019; Christoph *et al.*, 2021; Jackson *et al.*, 2022; Plante *et al.*, 2019). Findings on diet quality across gestational trimesters differ from those of the present study; for example, HEIP-B sub-scores for fruits and vegetables, unsaturated fats, and saturated fats have been reported to decrease throughout pregnancy (Savard *et al.*, 2019).

The B-FCC subscale corresponds to the tenth principle of intuitive eating, “Honor your health with gentle nutrition,” which emphasizes making food choices based on health, taste, and well-being. However, associating B-FCC with diet quality requires high sensitivity and awareness on the part of individuals to identify well-being signals linked to food, as opposed to hunger and satiety cues, which are more easily recognized. This makes it more challenging to establish a direct relationship between this subscale and diet quality (Horwath *et al.*, 2019). This positive association between B-FCC and diet quality was also found by others (Jackson *et al.*, 2022; Sire *et al.*, 2025). According to Jackson *et al.* (2022), higher B-FCC score was associated with greater intake of whole grains, vegetables, and lower consumption of sugar.

The findings of the present study suggest that women in the second and third trimesters with higher scores on the B-FCC subscale also had higher IQDAG scores , indicating that pregnant women in mid-to-late gestation who display greater congruence in making food choices that support optimal body functioning tend to have better diet quality. As the B-FCC subscale reflects intrinsic motivation to choose more nutritious foods, as exemplified by the item “Most of the time, I desire to eat nutritious foods,” it is expected that women with higher scores on this subscale would also achieve higher IQDAG scores. Furthermore, we hypothesize that women in the first trimester are still undergoing physiological adaptations and experiencing common early pregnancy symptoms, and that as pregnancy progresses, they feel more capable and motivated to make healthier dietary choices.

Self-reported race and income differed across gestational trimesters, although these differences cannot be attributed to the gestational period itself. Although the evidence remains inconsistent, some

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studies suggest that race may be associated with diet quality (Bodnar *et al.*, 2017; Deierlein *et al.*, 2021; Rifas-Shiman *et al.*, 2009; Shin *et al.*, 2016) with non-White women presenting lower HEIP-B scores (Bodnar *et al.*, 2017; Deierlein *et al.*, 2021; Shin *et al.*, 2016). Income may also be negatively associated with maternal diet quality (Deierlein *et al.*, 2021). In this sense, these variables may act as potential confounders and should be considered when interpreting the findings.

The originality of this study lies in its evaluation of maternal diet quality in relation to behavioral factors, particularly intuitive eating. Additionally, for comparative and detailed purposes, this relationship was assessed among pregnant women across different gestational trimesters. The scientific literature recognizes the importance of assessing diet beyond quantitative nutritional criteria, emphasizing the analysis of diet quality through specific dietary indices tailored to different populations. When comparing diet quality with behavioral determinants, a more comprehensive understanding of eating and the act of eating emerges. Our research group has generated evidence on sociodemographic and nutritional factors associated with macro- and micronutrient intake as well as diet quality among pregnant women (de Castro *et al.*, 2022; de Paula *et al.*, 2023; Silva *et al.*, 2025). In addition, we have investigated the determinants of eating behavior during pregnancy (Ferreira Fróis *et al.*, 2025; Sant'Anna *et al.*, 2024). However, a gap remains regarding the relationship between diet quality and intuitive eating among pregnant women across different gestational trimesters. To date, we have not identified any studies addressing this relationship in Brazilian pregnant women.

The findings should also be interpreted within a broader context, as eating behavior and diet quality during pregnancy are influenced by multiple interrelated factors beyond those assessed in this study. Body image may vary across gestational trimesters, reflecting the physical and weight changes experienced during pregnancy (Wu *et al.*, 2024). Moreover, body image has been associated with both diet quality and eating behaviors. Evidence suggests that the B-FCC component of intuitive eating is positively associated with both diet quality and body satisfaction, indicating that greater alignment between food choices and bodily needs may be linked to healthier dietary patterns and a more positive body image (Jackson *et al.*, 2022). Maternal mental health represents an additional dimension that may interact with these factors. A study demonstrated that intuitive eating components (RHSC and B-FCC), may mediate the relationship between depressive symptoms and diet quality, while depressive symptoms may also exert a direct influence on dietary outcomes (Jin *et al.*, 2024).

Nonetheless, some limitations should be acknowledged. Due to the cross-sectional design, it was not possible to collect longitudinal data across trimesters, as performed by Plante *et al.* (2019), which limited the comparison of trimesters within the same participants. Additionally, this design precludes any inference of temporality or causality between intuitive eating and diet quality. Moreover, as most interviews were conducted on Mondays, the 24-hour dietary recall could not be applied, as it would reflect an atypical eating day (Sunday). The usual intake recording method was adopted, although not the most recommended, and was applied appropriately. Evidence indicates that this instrument is

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valid for estimating usual dietary intake in the study population (Marchioni *et al.*, 2019) and was also used in another study with pregnant women to assess dietary quality.

This study is innovative in assessing diet quality using the IQDAG, a questionnaire specifically validated for Brazilian pregnant women that incorporates the dietary recommendations of the current national food guide, particularly regarding the consumption of ultra-processed foods. Considering these aspects, the study provides novelty by examining the association between intuitive eating and diet quality across gestational trimesters among pregnant women living in Brazil.

5. CONCLUSION

In conclusion, this study demonstrated that pregnant women in the second and third trimesters who reported food choices consistent with supporting optimal body functioning presented better diet quality. These findings suggest that eating behavior factors may be associated with maternal diet quality. Considering the importance of adequate nutrition for maternal and child health, the assessment of eating behaviors during pregnancy may contribute to a better understanding of dietary patterns in this population.

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