

## **Assessment of the culinary behavior of puerpera in a university hospital**

### **Avaliação do comportamento culinário de puérperas em um hospital universitário**

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**ABSTRACT**

In the food context, mothers are often associated with the responsibility of transmitting information about food, as well as food practices, from one generation to the next. In addition, children's food preferences can be influenced by parents' food preferences and by the accessibility of food at home, making the family system a determining factor in food education. Considering the scarcity of studies that assess the interference of mothers' cooking skills in the feeding of their children, this study aims to evaluate the knowledge of mothers who were hospitalized at the Lauro Wanderley University Hospital (HULW) about cooking skills, and more specifically, to assess whether postpartum women have culinary skills, to analyze the culinary attitude and the index of culinary skills. This is a cross-sectional study with the participation of 311 postpartum women admitted to a university hospital. Culinary skills were measured in the form of scores. The puerperal women were classified into three strata. According to the scores obtained, three categories were defined, considering the values of the 25th and 75th percentiles as lower limits (low cooking skills) and upper limits (high cooking skills), respectively. The study population showed a high index of culinary skills, as well as a high culinary attitude. The present study advances in the research and deepening of the theme, enabling one of the first approximations with the Brazilian reality, especially with regard to puerperal women. It is believed that, even being a first exploratory study on the culinary skills of puerperal women treated at a university hospital in northeastern Brazil, this study presents findings that can be used as a starting point for future research directions.

**Keywords:** puerperium, cooking, culinary skills.

**RESUMO**

No contexto alimentar, as mães são frequentemente associadas como responsáveis por transmitir informações sobre os alimentos, bem como as práticas alimentares de uma geração para a próxima. Além disso, as preferências alimentares das crianças podem ser influenciadas pelas preferências alimentares dos pais e pela acessibilidade dos alimentos em casa, tornando o sistema familiar um fator determinante na educação alimentar. Levando em consideração a escassez de estudos que avaliem a interferência das habilidades culinária das mães na alimentação de seus filhos, este estudo tem como objetivo avaliar o conhecimento das mães que ficaram internadas no Hospital Universitário Lauro Wanderley (HULW), acerca das habilidades culinárias, e mais especificamente, avaliar se as puérperas apresentam habilidades culinárias, analisar a atitude culinária e o índice de habilidades culinárias. Trata-se de um estudo transversal, que contou com a participação de 311 puérperas internadas em um hospital universitário. As habilidades culinárias foram mensuradas na forma de escores. As puérperas foram classificadas em três estratos, conforme as pontuações obtidas foram definidas três categorias, considerando-se os valores dos percentis 25 e 75 como limites inferior (baixa habilidade culinária) e superior (alta habilidade culinária), respectivamente. A população de estudo apresentou alto índice de habilidades culinárias, bem como alta atitude culinária. O presente estudo avança na pesquisa e aprofundamento da temática, possibilitando uma das primeiras aproximações com a realidade brasileira, sobretudo no

que diz respeito às puérperas. Acredita-se que, mesmo sendo um primeiro estudo exploratório sobre as habilidades culinárias de puérperas atendidas em um hospital universitário do nordeste brasileiro, seus achados podem ser utilizados como ponto de partida para futuros direcionamentos de pesquisas.

**Palavras-chave:** puerpério, culinária, habilidades culinárias.

## 1 INTRODUCTION

According to the Food Guide for the Brazilian Population (2014), culinary skills are defined as techniques involved in the processes of selection, pre-preparation, seasoning, cooking, combination and presentation of food. Therefore, it can be said that culinary skills consist of confidence, attitude and application of individual knowledge, as well as the ability to perform culinary tasks, from menu planning to food preparation (JOMORI, 2018).

In Brazil, the process of transmission of culinary skills has been decreasing, and as a consequence, younger people have less confidence and autonomy to prepare food (BRASIL, 2014). This is due to the fact that, in the current contemporary way of life, in which a good part of the day is taken up by long working hours outside home and the accumulation of work, education, leisure and/or family care activities, a great distance was created between routine and food preparation, making the act of cooking appear complex and time consuming (MENEZES; MALDONADO, 2015).

Based on these facts, it is possible to understand that cooking in people's daily lives may not be easy, since it takes time, planning and investment, but, despite this, it needs to be re-signified (MENEZES; MALDONADO, 2015), because, above all, the rescue of culinary skills will contribute to the development of autonomy, self-care and healthier eating habits for some individuals (UGGIONI et al., 2020).

Therefore, it is important to encourage learning, as well as sharing culinary skills with the people the individuals live with, especially children and young people, as this is an excellent opportunity for them to acquire good eating habits and value the importance of regular and appropriate meals (BRAZIL, 2014).

As children's food preferences seems to be influenced by parents' food preferences and the accessibility of food at home, the family system plays an important role and should be considered as a determining factor in food education (FIESE; BOST, 2016).

Given the correlation of cooking skills with healthy eating and the influence of mothers on their children's diet, and taking into account that there are few studies that

assess the interference of mothers' cooking skills with their children's diet, this study aims to evaluate the knowledge of mothers who were hospitalized at University Hospital Lauro Wanderley (HULW), about cooking skills, and more specifically, to assess whether postpartum women have cooking skills, to analyze the culinary attitude and the index of cooking skills.

## 2 METHODOLOGY

### 2.1 DESENHO DE ESTUDO

This is a cross-sectional study, whose target audience was puerperal women admitted to the Obstetrics Unit of the Lauro Wanderley University Hospital, located at the Federal University of Paraíba, João Pessoa Campus. All postpartum women admitted to the Lauro Wanderley University Hospital during the data collection period were invited to participate; this was the inclusion criterion in the research. Women in a convalescent state and unable to answer the questionnaire and those in a depressive state were excluded. The present study evaluated 311 postpartum women.

### 2.2 DATA COLECT

The interview was carried out with the application of a questionnaire, through the *Google forms* app, and the analysis of the medical records, to collect the pre-gestational weight and current weight of the puerperal women assisted by the hospital.

Data were only collected after approval by the HULW Research Ethics Committee (CAAE: 28644919.0.0000.5183) and after signing the Free and Informed Consent Form (IC) by the postpartum women. Additionally, the research authors committed to the ethical conduct of the research and its subsequent dissemination of results.

### 2.3 INSTRUMENT

The instrument adopted in the present study was created based on two other instruments previously consolidated in the literature: the Brazilian questionnaire for the assessment of culinary skills and healthy eating (QBHC) and the Cooking Skills Index (CSI). The QBHC was originally developed, validated and improved at Clemson University, USA, and used as an evaluation instrument for the Cooking with Chefs Program (CWC), being adapted and validated in Brazil later (JOMORI et al., 2017). It has 64 items divided into 8 scales. In this study, two of these scales were used: 1) Culinary Attitude (CA): Seven items that analyze the attitude of individuals in relation to cooking;

2) Self-efficacy for the use of basic cooking techniques (SBCT): 12 items that reflect the level of confidence in performing basic cooking techniques.

The Cooking Skills Index was developed based on the belief of self-efficacy and having as theoretical reference the Food Guide for the Brazilian Population.

It measures, with a scale between zero and 100, the degree of confidence of people regarding the performance of ten culinary skills considered facilitators of the implementation of the Brazilian Food Guide recommendations (MARTINS et al., 2020).

## 2.4 DATA ANALYSIS

Culinary skills were measured with scores, through the degree of confidence indicated by the interviewed for each item studied. Subsequently, the scores were transformed into scales, and the higher the value, the greater the cooking skill compared to the studied group.

A free 5-point scale was used to assess Culinary Attitude (grouped into 7 questions), the score ranged from 0 to 35. For Self-efficacy in the use of Basic Techniques, grouped into 12 questions, the score ranged from 0 to 60 for this, the free scale of 5 points was also used. As for the evaluation of the Cooking Skills Index, grouped into 10 questions, the free scale of 3 points was used, with a score ranging from 0 to 30.

The puerperal women were classified into three strata. According to the scores obtained, three categories were defined, considering the values of the 25th and 75th percentiles as lower limits (low cooking skills) and upper limits (high cooking skills), respectively.

For Culinary Attitude: low cooking skill ( $\leq 80$  points), medium cooking skill (from 80.1 to 94.29 points) and high cooking skill ( $\geq 94.30$  points). For the analysis of self-efficacy for the use of basic cooking techniques, low cooking skill ( $\leq 78.33$  points), medium cooking skill (from 78.34 to 93.33 points) and high cooking skill ( $\geq 93.34$  points). As for the Cooking Skills Index (CSI), low cooking skill ( $\leq 73.33$  points), medium cooking skill (from 73.34 to 99.9) and high cooking skill ( $=100$ ).

Data are expressed using descriptive statistics, with categorical variables presented in frequency tables and continuous variables described by measures of central tendency and dispersion (mean  $\pm$  standard deviation).

To assess cooking skills, averages were compared using the chi-square test and Fisher's exact test, when applicable. Quadratic weighting is indicated for the analysis of ordinal variables because it considers the hierarchical nature of the responses and because

it treats minor and major disagreements differently. A p-value  $<0.05$  and a confidence interval of 95% were considered indicative of statistical significance.

### 3 RESULTS AND DISCUSSION

The women participating in this study had a mean age of 27.17 years  $\pm 6.86$ . The pre-pregnancy BMI showed a mean of 25.88  $\text{kg/m}^2 \pm 5.94$ , which is considered a high value. The mean weight gain during pregnancy 10.38  $\pm 7.56$ , which is considered adequate (Table1).

Table 1: Characterization of postpartum women admitted to a University Hospital. João Pessoa, 2021

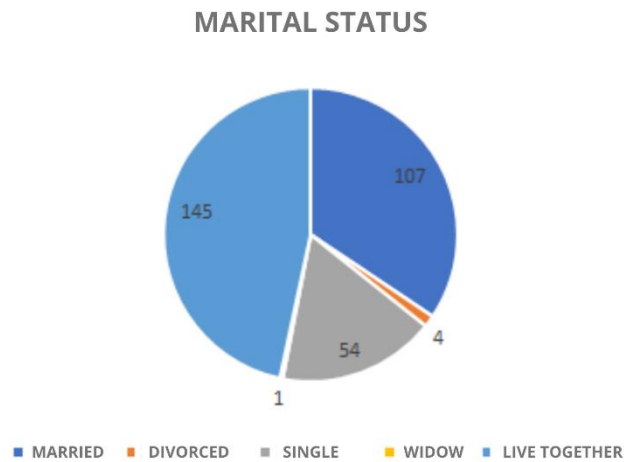
Variables	Average	SD
Age	27.17	6.86
Pre-pregnancy weight	66.61	16.17
Height	1.60	0.07
Pre-pregnancy BMI	25.88	5.94
Current weight	77.00	16.65
Weight gain	10.38	7.56

According to the initial nutritional status of the pregnant woman (underweight, adequate, overweight or obesity) there is a recommended weight gain range per trimester, however, about 2/3 of women gain more weight than recommended.

Maternal weight is a risk factor, as obese pregnant women have a higher risk of miscarriage, development of gestational diabetes mellitus (GDM), risk of post-term birth and urinary tract infections during pregnancy.

Regarding marital status, most women in the study live with a partner, 107 of them are married (34.4%) and 145 (46.6%) in a stable relationship (Graph 1).

Graph 1. Marital status of postpartum women admitted to a University Hospital. João Pessoa, 2021.

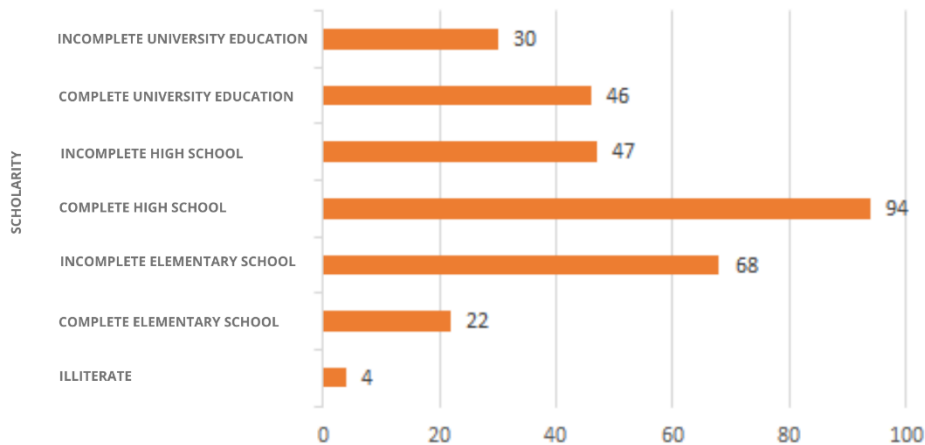


With regard to schooling evidenced more frequently in the study, it is observed that complete and incomplete secondary education was reported by only 45.3% of the sample, followed by complete and incomplete elementary education (29%), representative data of a low schooling (Graph 2).

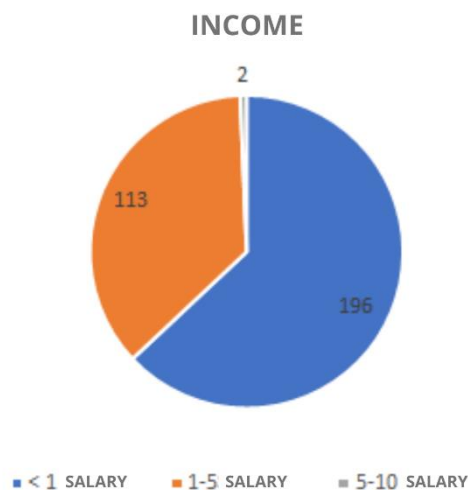
This low level of education can be an aggravating factor for women's health and is considered by the Ministry of Health as an obstetric risk factor. It can be considered an indicator of social status, given that greater education facilitates access to employment and, consequently, to more favorable socioeconomic conditions.

Regarding the socioeconomic level, it was identified that 196 women (63%) reported having a monthly income of less than 1 minimum wage, 113 (36.3%) between 1 and 5 minimum wages and 2 (0.6%) more than 5 wages (Graph 3).

Graph 2. Level of education of postpartum women admitted to a University Hospital. João Pessoa, 2021.



Graph 3. Income level in terms of minimum salary of postpartum women admitted to a University Hospital. João Pessoa, 2021.

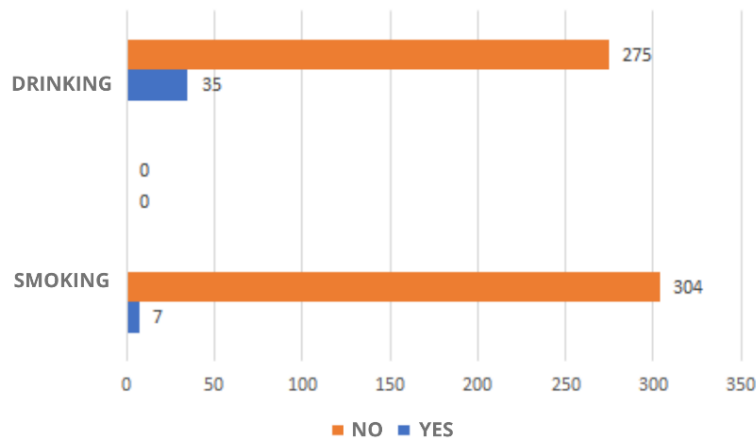


In view of these data, it can be said that most of the interviewees have low income, which is characterized as a risk factor, as it directly influence the health of the mother-baby dyad, since mothers who have low income are exposed to inadequate food and housing conditions. With regard to race/color, 58.5% of the population studied considered themselves brown.

Regarding alcoholism and smoking (Graph 4), respectively 88.4% and 97.7% of the interviewees said they did not have the habit of consuming such products and all reported that they did not drink or smoke during pregnancy.

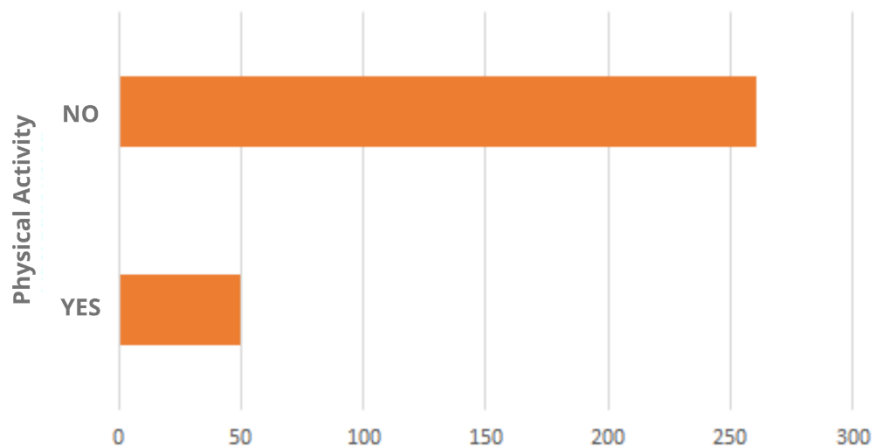


Graph 4. Consumption of alcohol and tobacco in postpartum women admitted to a University Hospital. João Pessoa, 2021



In the present study, 83.9% of postpartum women did not practice any type of physical activity (Graph 5).

Graph 5. Practice of physical activity by postpartum women admitted to a University Hospital. João Pessoa, 2021.



The literature points out that physical inactivity is more frequent in people with lower incomes when compared to people from higher socioeconomic classes. It should be highlighted that the predominant class in this study was the C one (less than one minimum wage). The data released by IBGE (2015) support the present findings, given that they showed that the practice of physical activity was more common in classes with higher monthly household income per capita. They also showed that the higher the level of education, and more years of study, the greater the percentage of people who exercised.

Among the 311 postpartum women interviewed, 208 (66.9%) had no comorbidity, 38 (12.2%) had systemic arterial hypertension (SAH), 36 (11.6%) had gestational diabetes, 13 (4.2%) had gestational diabetes and gestational systemic arterial hypertension, 11 (3.5%) had other diseases, 3 (1%) had diabetes mellitus and 2 (0.6%) had diabetes and SAH.

According to the Ministry of Health, excess weight is already present in more than half of the adults living in the country's capitals, which is a cause for concern, since many women already begin the gestational period overweight, as verified in this study (BRASIL, 2017).

The literature makes clear the association of excess weight in the pre-gestational period and at the beginning of pregnancy to hypertensive diseases, gestational diabetes, thromboembolism, prolonged pregnancy, discontinuation of breastfeeding, cesarean section and puerperal infection. Considering the high and growing prevalence of overweight, as well as the risk it represents for a series of diseases, it is possible to consider this nutritional status as one of the most important obstetric risk factors today (CIDADE et al., 2011).

Table 2 presents data on self-efficacy in the use of basic cooking techniques according to clinical and sociodemographic characteristics.

With regard to marital status, 81% of the women interviewed claimed to have partners (Graph 1). This was a variable that presented statistical significance, demonstrating that puerperal women who are married or in a stable union have greater cooking skills than those who are single, as well as was found by Rosa and Delgado (2017) in a study that aimed to verify maternal knowledge about breastfeeding and food introduction. This factor is of great relevance, since the presence of the partner already offers emotional support to the woman during this period.

In a study carried out by Mazzoneto et. al (2020), who sought to assess the perceptions of individuals about the act of cooking in the domestic environment, it was observed that, in many cases, the motivations for cooking involve affective and emotional issues, which promotes cooking as a form of leisure and experimentation.

Table 2. Culinary attitude according to sociodemographic characteristics. João Pessoa, 2021.

Variables	Low*		Medium*		High*		p value
	n	%	n	%	n	%	
<b>Income***</b>	-	-	-	-	-	-	-
<1 salary	56	28,6	100	51,0	40	20,4	0,08
1-5 salaries	35	31,0	46	40,7	32	28,3	0,08
5-10 salaries	2	100,0	0	0	0	0	0,08
<b>Schooling***</b>	-	-	-	-	-	-	-
Illiterate	2	50,0	2	50,0	0	0	0,15
Elementary school	31	34,4	42	46,7	17	18,9	0,15
High school	46	32,6	60	42,6	35	24,8	0,15
University Education	14	18,4	42	55,3	20	26,3	0,15
<b>Marital Status**</b>	-	-	-	-	-	-	-
With partner	67	26,6	123	48,8	62	24,6	0,03
Without partner	26	44,1	23	39,0	10	16,9	0,03
<b>Race / Color***</b>	-	-	-	-	-	-	-
White	18	21,4	41	48,8	25	29,8	0,19
Black	15	40,5	14	37,8	8	21,6	0,19
Brown	59	32,4	85	46,7	38	20,9	0,19
Others	1	12,5	6	75,0	1	12,5	0,19
<b>Age**</b>	-	-	-	-	-	-	-
Up to 21 years old	31	41,9	33	44,6	10	13,5	0,11
22 - 25 years old	21	28,0	36	48,0	18	24,0	0,11
26 - 32 years old	18	22,2	42	51,9	21	25,9	0,11
≥ 33 years old	23	28,4	35	43,2	23	28,4	0,11

\*Level of self-efficacy in the use of basic cooking techniques. \*\* Pearson's chi-frame. \*\*\* Fisher's Exact Test

This can also be explained by the significant and gradual occurrence of changes in male behavior, from which the father becomes more active in the family scenario, becoming more involved, available and responsible, as well as in the domestic scenario, performing tasks that were once intended exclusively for women (MENEZES et al., 2019).

Despite the existence of other studies demonstrating a significant association between cooking skills and/or healthy eating with income and education (DIEZ-GARCIA; CASTRO 2011), race and age (DURANTE et al., 2017), in the present study, such sociodemographic variables were not associated with the index of culinary skills, as well as with the culinary attitude of the puerperal women.

Table 3. Culinary Attitude according to clinical characteristics. João Pessoa, 2021.

Variables	<Low* n	%	Medium*n	%	High* n	%	p value
<b>Comorbidities***</b> Does	- 67	- 32,2	- 95	- 45,7	- 46	- 22,1	- 0,51
not have Diabetes Mellitus SAH	13	33,3	15	38,5	11	28,2	0,51
DM + SAH	7	18,4	24	63,2	7	18,4	0,51
Others	3	20,0	7	46,7	5	33,3	0,51
<b>Number of children**</b>	3	27,3	5	45,5	3	27,3	0,51
1	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-
≥ 3	39	29,5	59	44,7	34	25,8	0,91
<b>Weight Gain**</b>	30	30,6	48	49,0	20	20,4	0,91
< 6,9	24	29,6	39	48,1	18	22,2	0,91
7 - 18	- 25	- 30,1	- 36	- 43,4	- 22	- 26,5	- 0,27
>18,1	55	28,1	100	51,0	41	20,9	0,27
<b>Physical Activity**</b>	13	40,6	10	31,3	9	28,1	0,27
Yes	- 11	- 22,0	- 26	- 52,0	- 13	- 26,0	- 0,41
No	82	31,4	120	46,0	59	22,6	0,41
<b>BMI**</b>	- 13	- 43,3	- 14	- 46,7	- 3	- 10,0	- 0,13
Low weight	36	31,0	57	49,1	23	19,8	0,13
Eutrophy	44	26,7	75	45,5	46	27,9	0,13
Overweight / obesity							

\*Level of self-efficacy in the use of basic cooking techniques. \*\* Pearson's chi-frame. \*\*\* Fisher's Exact Test.

Of the clinical characteristics evaluated (Table 3), no variable was associated with cooking skills. These data can be explained through the observations of the study by Brito et al. (2017), which identified behaviors that make it difficult to control the clinical conditions present in comorbidities, such as long periods of fasting, the habit of snacking, high frequency of meals away from home, replacement of meals (especially dinner) with a caloric snack, excess consumption of processed foods, excess of sweetened coffee with sugar. Such behaviors may be associated with the difficulty of adhering to nutritional guidelines, due to the eating habits and routine of the family, working hours and lack of commitment.

Comorbidities can also be associated with the fact that 83.9% of the sample (Graph 5) do not practice any type of physical activity, since, according to what was evaluated in the study by Ribeiro (2013), individuals who has an active lifestyle, are encouraged to also maintain a healthy diet, therefore cooking their own meals and thus improving their culinary skills.

Studies on the topic of culinary skills are scarce, and for this reason, in conjunction with the results found, this study highlights the importance and need for studies that generate more scientific evidence on culinary skills and their impact on adequate and

healthy eating.

#### **4 CONCLUSION**

Through the results of this research, it is considered that there is a high rate of culinary skills among the puerperal women in the sample, as well as a high culinary attitude towards the use of basic cooking techniques. This fact attributes numerous benefits not only to mothers, but also their partners and children, since culinary skills are associated with healthy eating and a consequent better quality of life.

The food guide emphasizes that culinary techniques are determinant elements of the nutritional quality of food, as well as the importance of homemade preparations for the implementation of healthy eating practices, becoming a strategy that aims to reduce the consumption of ultra-processed foods. This way, the guide considers that culinary skills need to be promoted and preserved, not limited only to their impact on the nutritional quality of food, or on the morbidity profile of the population.

The present study advances in the research and deepening of the theme, enabling one of the first approximations with the Brazilian reality, especially with regard to puerperal women. It is believed that, even being a first exploratory study on the culinary skills of puerperal women treated at a university hospital in northeastern Brazil, its findings can be used as a starting point for future research directions.

In this scenario, the development of further research and discussions about culinary skills is suggested, so that it will facilitate strategies focused on developing them.

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