

**University "St. Kliment Ohridski" - Bitola, Republic of North Macedonia
Faculty of Technology and Technical Sciences - Veles**



**Book of proceedings of the 1st International Scientific Conference -
Food Science, Nutrition, Innovative Technologies
and Sustainability**

**Veles, North Macedonia
February 2026**

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Publication Title: Book of Proceedings of the 1st International Scientific Conference - Food Science, Nutrition, Innovative Technologies and Sustainability

Publisher: University "St. Kliment Ohridski" - Bitola, Faculty of Technology and Technical Sciences - Veles

Editor-in-chief: Assoc. Prof. Dr. Sc Vezirka Jankuloska, Faculty of Technology and Technical Sciences - Veles, University "St. Kliment Ohridski" – Bitola, Republic of North Macedonia

Editor: Prof. Dr. Sc Vesna Knights, Faculty of Technology and Technical Sciences- Veles, University "St. Kliment Ohridski" – Bitola, Republic of North Macedonia

Technical Editor and Graphic Design: Tanja Stojanovska, Jordan Martinovski, Faculty of Technology and Technical Sciences - Veles, University "St. Kliment Ohridski" - Bitola, Republic of North Macedonia

All papers included in this volume were peer-reviewed by members of the Scientific Committee and Reviewers from a relevant scientific field.

Edition: e-edition

Year of publication: 2026

CIP - Каталогизација во публикација

Национална и универзитетска библиотека "Св. Климент Охридски", Скопје

613.2(062)

616-083.2(062)

606:663/664(062)

INTERNATIONAL Scientific Conference - Food Science, Nutrition,
Innovative Technologies and Sustainability (1 ; 2025 ; [Veles])

Book of proceedings of the 1st International Scientific Conference -
Food Science, Nutrition, Innovative Technologies and Sustainability
[Електронски извор] / [editor-in-chief Vezirka Jankuloska]. - Veles :
University "St. Kliment Ohridski" - Bitola, Faculty of Technology and
Technical Sciences, 2026

Начин на пристапување (URL): <https://ttfv.uklo.edu.mk/2026/02/20/book-of-proceedings-of-the-1st-international-scientific-conference-food-science-nutrition-innovative-technologies-and-sustainability/>.

- Текст во ПДФ формат, содржи 193 стр., илустр. - Наслов преземен од екранот. - Опис на изворот на ден 09.03.2026. - Фусноти кон текстот. - Библиографија кон трудовите

ISBN 978-608-67527-0-5

а) Храна -- Квалитет -- Собири б) Исхрана -- Здравствени аспекти -- Собири в) Храна -- Биотехнологија -- Собири

COBISS.MK-ID 68355333

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PERCEPTION OF THE ROLE OF NUTRITIONISTS AMONG PREGNANT WOMEN AND WOMEN PLANNING PREGNANCY

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Abstract

The role of nutritionists in supporting women during their reproductive period is gaining increasing significance within modern preventive and personalized medicine on a global scale. Nutrition before and during pregnancy plays a critical role in maternal and infant health, yet little is known about the extent to which women actively seek professional nutritional guidance. The aim of this study is to analyze the perception and frequency of consultations with nutritionists among pregnant women and those planning a pregnancy. The research was conducted using an electronic survey completed by 161 respondents aged 18 to over 44 years. The analysis focused on the relationship between reproductive status, age group, and the frequency of seeking nutritional counseling. The results reveal that only 17.2% of pregnant women and 11.7% of women planning pregnancy had consulted a nutritionist, indicating a low prevalence of professional nutritional support and limited awareness of its importance, while this difference did not reach statistical significance ($p = 0.321$). Similarly, no significant association was observed between age group and seeking nutritional guidance ($p = 0.260$). Among those women who sought consultation ($n = 22$), the largest proportion were aged 25-29 years (40.9%), followed by smaller distributions across other age groups. The findings highlight the need for greater accessibility and promotion of nutrition services within primary healthcare. It is recommended that nutritionists be integrated as part of a multidisciplinary care team, to ensure early and appropriate nutrition education, effective prevention, and improved health outcomes related to reproductive health.

Keywords: nutritional support, diet, pregnancy, fertility

1. Introduction

Nutrition during the preconception and pregnancy periods plays a pivotal role in maternal well-being, fetal growth, and the prevention of complications such as gestational diabetes, preeclampsia, and low birth weight. The preconception and prenatal periods are recognized as critical windows during which dietary habits, nutrient intake, and lifestyle choices can significantly influence fetal growth, maternal well-being, and the prevention of pregnancy-related complications (Marshall et al., 2021). Maintaining optimal nutritional status before, during, and after pregnancy is crucial for women's health and well-being, as it not only reduces the risk of malnutrition-related complications and supports a healthy pregnancy, but also ensures that infants are born with adequate birth weight, achieve their full growth and developmental potential in early childhood (UNICEF). Nutritional deficiencies during pregnancy can have serious consequences for both maternal health and fetal development, including anemia, preterm birth, low birth weight, and neural tube defects. Despite this, research shows that many pregnant

women fail to meet recommended intakes for essential vitamins and minerals, highlighting the need for targeted nutritional guidance before and during pregnancy (ter Borg et al., 2023). Appropriate nutritional intervention, grounded in precise scientific analysis, enables the optimization of these processes with the aim of improving health outcomes and reducing the risk of nutrition-induced pathological conditions (Dimitrovska et al., 2006).

A large number of researches testify to the positive influence of professional nutritional counseling on improving maternal and infant health outcomes (Dewidar et al., 2023; Nabi et al., 2025). Notably, interventions delivered directly by nutrition professionals and those incorporating group sessions yield greater improvements in dietary quality during pregnancy compared to interventions led by other health professionals or delivered via digital platforms (O'Connor et al., 2025). Additionally, evidence from Canada and the United States suggests that the involvement of registered dietitians (RDs) during prenatal care is associated with lower rates of adverse birth outcomes such as low birth weight and preterm birth, emphasizing the value of professional nutritional guidance in improving perinatal health (Hanifi et al., 2024).

The role of nutritionists in supporting pregnant women and those planning pregnancy has been increasingly emphasized in recent literature. Several studies have explored how these women perceive the importance and impact of professional nutritional guidance on maternal and fetal health outcomes. Recent studies demonstrate that personalized nutritional counseling positively influences dietary behaviors and pregnancy outcomes (Dewidar et al., 2023; Yu et al., 2024).

An individualized approach to nutritional counseling, which considers a woman's access to food, socioeconomic status, race-ethnicity, cultural food preferences, and body mass index (BMI), is essential, with modifications applied in cases of pregnancy complications such as gestational diabetes. When delivered by a nutritionist or registered dietitian, this counseling forms a cornerstone of both prenatal and lactation care, requiring clinicians to account for the physiological adaptations that occur during pregnancy and breastfeeding, and emphasizing the need for research on diet and physical activity to effectively support women in meeting their nutritional requirements and achieving optimal gestational weight gain (Kominiarek & Rajan, 2016). The perception that information provided during pregnancy follow-up visits is often too general, impractical, and insufficient, combined with evidence from successful nutritional education programs in other countries, emphasizes the urgent need for well-structured, formal guidance, as current knowledge gaps are likely the result of inadequately planned education by healthcare providers (Olloqui-Mundet et al., 2024).

In the context of the Republic of North Macedonia, there is limited evidence on how pregnant women and women planning pregnancy perceive the role of nutritionists in their care. The motivation for this research stems from the observed gap between the recognized importance of nutritional counseling and the low frequency of its utilization during the reproductive period. The aim of this study is to assess and compare the perception of the role of nutritionists among pregnant women and women planning pregnancy. The research specifically investigates the proportion of women who have consulted a nutritionist during the preconception or pregnancy period, as well as potential differences between the two groups. It is hypothesized that pregnant women will be more likely to consult a nutritionist compared to women in the preconception phase.

2. Methods and Materials

This study employed a cross-sectional design using an online survey. A total of 161 women participated, including 58 pregnant women and 103 women planning pregnancy within a period longer than one year. Inclusion criteria were: being of reproductive age, belonging to one of the two target groups, and providing informed consent for participation.

Descriptive statistics (frequencies and percentages) were calculated to summarize responses. Differences between pregnant women and women planning pregnancy in terms of consultation

with a nutritionist were analyzed using the Chi-square test for association. A p-value of <0.05 was considered statistically significant.

3. Results and Discussion

Only 17.2% of pregnant women and 11.7% of women planning pregnancy reported having consulted a nutritionist during the respective period (Figure. 1). The difference between groups was not statistically significant ($\chi^2 = 6.983$; $df = 1$; $p = 0.321$) although the data suggest a slightly higher consultation rate among pregnant women.

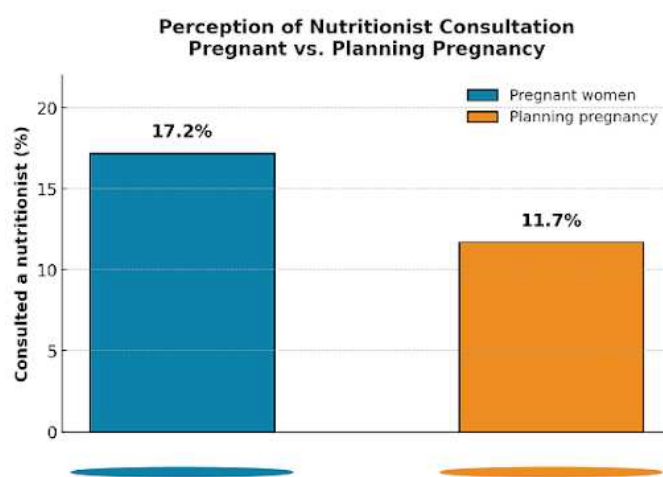


Figure. 1: Nutritionist consultation between groups

The findings of this study indicate that only a small proportion of women, 17.2% of pregnant women and 11.7% of women planning pregnancy had consulted a nutritionist during the respective period. Although no statistically significant association was found between reproductive status and consulting a nutritionist ($p = 0.321$), the observed trend may indicate greater awareness or perceived need for nutritional guidance among pregnant women.

The association between age group and whether participants sought nutritional consultation before or during pregnancy was not statistically significant ($\chi^2 = 6.51$; $df = 5$; $p = 0.260$), indicating that age did not significantly influence the likelihood of consulting a nutritionist (Figure. 2).

% of participants who sought nutritional consultation	
Age group (years)	% (n = 22)
18-24	18.2%
25-29	40.9%
30-34	13.6%
35-39	13.6%
40-44	9.1%
>44	4.5%

Figure. 2: Association between age group and seeking nutritional consultation before or during pregnancy

Among participants who sought nutritional consultation ($n = 22$), the largest proportion was in the 25-29 age group (40.9%), followed by 18-24 years (18.2%) and both the 30-34 and 35-39 age groups (13.6% each). Smaller proportions were observed in the 40-44 (9.1%) and over 44 years (4.5%) age groups. These findings indicate that younger adults, particularly those aged 25-29, represented the largest share of participants seeking nutritional advice, although the overall consultation rate was low.

The absence of a statistically significant association in this study does not diminish the potential public health relevance of the observed trend. On the contrary, the results highlight a critical window of opportunity in the preconception period, where targeted interventions and public health campaigns could encourage women to engage with nutritionists earlier. Preconception nutritional counseling has been shown to improve maternal macronutrient and micronutrient status, reduce the risk of pregnancy complications, and support optimal fetal development (Mattson et al., 2025).

In a qualitative study involving 25 pregnant women, conducted through focus groups and individual interviews, participants shared their expectations, needs, and preferences regarding nutritional guidance during pregnancy. The findings revealed a marked gap in coordinated, expert support in the field of maternal nutrition. Respondents emphasized the importance of receiving clear, continuous, and personalized recommendations, delivered collaboratively by multiple healthcare professionals, including midwives, gynecologists, and nutritionists (Ebinghaus et al., 2024). These findings are in line with qualitative research conducted among pregnant women, which identified unmet expectations, needs, and preferences for nutritional guidance during pregnancy.

Despite the recognized importance of nutrition education, pregnant women, particularly in developed countries, often do not receive adequate nutrition advice from qualified healthcare professionals. Studies also show that consultation with a nutritionist is not a routine part of maternal healthcare in many regions, and women may instead rely solely on advice from gynecologists or general practitioners (Lucas et al., 2014). In another study, it was shown that a significant proportion of pregnant women in the United States (over 50%) reported not receiving any nutrition counseling during pregnancy, although 73% of those who did receive guidance reported positive behavioral changes. This finding highlights a gap between the provision and the actual effectiveness of nutritional advice (Jackson et al., 2023). Our findings therefore align with previous research, confirming that nutritional counseling remains underutilized despite its proven benefits.

The findings suggest that despite high awareness of the importance of nutrition, there is a gap in translating this awareness into action through professional guidance. Misconceptions that nutritionists are only necessary in cases of disease or complications limit early and preventive engagement. Integration of nutrition counseling into preconception and prenatal care pathways, could normalize its role as part of routine maternal care. Educational campaigns targeting women of reproductive age may further increase service uptake.

4. Conclusion

This study reveals an important gap in maternal health care: few women seek professional nutrition advice before or during pregnancy. While no strong statistical link was found between a woman's reproductive status and consulting a nutritionist, the results suggest that pregnant women tend to look for nutritional support more than those planning pregnancy. This points to missed opportunities for early, preventive care. Although the association between age and seeking nutritional consultation before or during pregnancy was not statistically significant, younger adults, particularly those aged 25-29, represented the largest proportion of women who sought professional nutritional guidance, reflecting age-related trends in health-seeking behavior despite the overall low consultation rate.

Enhancing the visibility and perceived value of nutritionists among pregnant women and women planning pregnancy is essential for improving dietary behaviors and health outcomes. Integrating nutrition counseling into routine preconception and prenatal care, supported by clear communication and multidisciplinary collaboration, can bridge this gap. Ultimately, prioritizing nutrition counseling before and during pregnancy will empower women to make informed choices that lay the foundation for healthier generations.

Further research is encouraged to explore the perceptions and expectations of pregnant women and women planning pregnancy regarding the role of nutritionists, in order to optimize nutrition guidance and improve maternal and fetal health outcomes. In this way, maternal nutrition care can be transformed from a reactive practice into a proactive strategy that ensures long term benefits for both mothers and future generations. Understanding these perceptions is essential for developing targeted interventions, public health strategies, and interdisciplinary models of care that address women's specific expectations and needs.

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