International Journal of Molecular and Physical Gastronomy

Edible Ideas/Recipes

Reformulation of a traditional Slovenian dessert for older adults with type 2 diabetes: an exploratory study of the walnut potica

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Abstract

This article describes the development and exploratory evaluation of a nutritionally adapted Slovenian walnut potica for older adults with type 2 diabetes. Older adults with chronic diseases are often partially excluded from traditional festive meals, which may negatively affect their emotional well-being. The reformulation aimed to reduce the content in sugars, increase the content in dietary fibre, and enrich the product with proteins, with the intention of improving its compositional suitability for this population group. Sucrose was replaced with erythritol, and the walnut filling was enriched with whey proteins isolate and inulin. The nutritional composition of the final product was calculated, and its sensory attributes were assessed using an exploratory sensory approach. Compared with the traditional formulation, the adapted potica showed a 55.6 % reduction in sugar content, a 75 % increase in dietary fibre, and a 36.8 % increase in protein content at the compositional level. The sensory evaluation indicated no major perceived differences in sweetness or moistness between products, while reduced browning and diminished caramel notes were observed, consistent with reduced sucrose-driven amino-

ISSN 2431-0859

carbonyl reactions. Overall, the findings suggest that traditional foods may be re-engineered through targeted ingredient reformulation to better align with the dietary considerations of older adults with chronic diseases, while maintaining key sensory characteristics and cultural relevance.

Keywords
food reformulation, older adults, potica, type 2 diabetes, sensory evaluation

1. Introduction

Traditional foods play an important role in cultural identity, emotional well-being, and dietary satisfaction (Lindsey, 2024). One of the traditional Slovenian dishes is potica, a classic festive dessert made from rolled yeast fermented dough with various fillings (EC, 2021). As our ancestors knew how to prepare this dessert long ago, potica holds the European Union's "Traditional Speciality Guaranteed" (TSG) designation (EC, 2021). This designation protects five types of potica, based on their filling composition: walnut (*Juglans regia*), walnut with raisins, raisin, tarragon (*Artemisia dracunculus*), or tarragon with cottage cheese. Slovenian potica is typically baked in a special baking pan called a *potičnik*. Its characteristic shape is round with a hole in the middle, and it is often sprinkled with powdered sugar. The oldest known recipe for potica was published by Janez Vajkard Valvasor, a Slovenian polymath and nobleman, in his work *The Glory of the Duchy of Carniola* in 1689 (Ministry of Agriculture, Forestry and Food, 2025).

Traditional foods, such as potica, are particularly important for older adults. Familiarity, cultural identity, and nostalgia strongly influence food preferences and acceptance in later life, with traditional and well-known dishes consistently rated more favourably than unfamiliar foods (Laureati *et al.*, 2006). Evolving demographic characteristics and age-related health and sensory changes highlight the need to apply food reformulation strategies to traditional products, to improve their nutritional suitability for older adults while maintaining product acceptability and cultural authenticity (Onyeaka *et al.*, 2023; Geny *et al.*, 2023). This need is especially pronounced in nursing homes, where residents largely depend on institutionally provided meals that affect not only nutritional status but also autonomy, identity, and overall well-being, and where familiar, recognisable foods play a crucial role in meal satisfaction, appetite, and quality of life (Avraham *et al.*, 2025; Harstäde *et al*., 2025). This underscores the importance of nutritionally appropriate yet acceptable reformulated traditional foods.

According to the Organisation for Economic Co-operation and Development (OECD), older adults are defined as persons aged 65 and over (OECD, 2022). This age group is characterised by a decline in sensory perception, meaning that foods intended for older adults must have a more intense flavour to achieve the same level of satisfaction as earlier in life (Alves *et al.*, 2024). They also typically experience numerous diseases that have developed over their lifetime, rapidly increasing the number of health issues.

Among these diseases is diabetes mellitus, a group of metabolic disorders that cause elevated blood glucose levels due to defects in insulin secretion, insulin action, or both. The prevalence of diabetes has increased globally, representing a major public health concern (WHO, 2024; ADA, 2026). Based on aetiology, diabetes is mainly classified into type 1 diabetes, caused by autoimmune destruction of pancreatic β-cells, and type 2 diabetes, characterised by insulin resistance and a relative impairment of insulin secretion. Nutritional management plays a central role in the control of diabetes.

Older adults also experience a decline in body mass due to the loss of skeletal muscle. This compromises their independence and longevity, placing a burden on them and their families (Larsson *et al*., 2019). Sarcopenia is a skeletal muscle disorder primarily characterised by the loss of muscle mass and strength. The onset of

ISSN 2431-0859

sarcopenia increases the likelihood of falls and fractures, and is also associated with reduced physical performance and higher mortality. It most commonly occurs in older adults, which is why consuming enough highly bioavailable protein is crucial. According to the recommendations of the German Nutrition Society (DGE), individuals aged 65 and over should consume 1 g of protein per kg of body mass per day (DGE, 2017).

The observed age group commonly reports symptoms of constipation, which often reduces their quality of life. Constipation is a common functional gastrointestinal disorder, with incidence increasing sharply with age. Factors leading to constipation include reduced physical activity and the use of various medications. In addition to these factors, insufficient dietary fibre intake plays a key role (Cheever *et al.*, 2025). According to the recommendations of the DGE (2021), individuals over 65 years of age should consume 30 g of dietary fibre per day.

Given the high prevalence of chronic conditions among older adults, such as type 2 diabetes, sarcopenia, and constipation (Ai *et al.*, 2021; Cheever *et al.*, 2025), there is a clear need for targeted reformulation approaches that address glycaemic control, adequate protein intake, and dietary fibre provision. In this context, combining erythritol, whey protein, and inulin in potica represents a strategic nutritional intervention that preserves the traditional character of the product while improving its suitability for the specific metabolic and physiological needs of the older population.

Erythritol ($C_4H_{10}O_4$) is considered a suitable sucrose substitute in traditional bakery products such as walnut potica, as it enables substantial sugar reduction while preserving sweetness, technological functionality, and sensory acceptability. With approximately 60–70 % of the sweetness of sucrose and negligible energy value, it does not elicit a significant glycaemic response and is generally well tolerated due to its near-complete absorption and excretion in unchanged form (Mazi and Stanhope, 2023). Technologically, erythritol provides bulk and textural support, allowing partial sucrose replacement without markedly impairing product structure, which is particularly relevant in fat-rich fillings where sugar contributes to viscosity and matrix stability (Lin *et al.*, 2006; Martínez-Cervera *et al.*, 2012). Other sweeteners were not considered due to their known technological limitations. Stevia lacks bulking properties and may introduce bitter off flavours; xylitol may cause gastrointestinal discomfort in older adults; and fruit purées can substantially alter moisture balance and flavour, potentially compromising the traditional sensory identity of walnut potica (Schiatti-Sisó *et al.*, 2022; Peris *et al.*, 2019; Dana and Sonia, 2024). Sugar replacement was deliberately limited to the walnut filling, while the dough formulation remained unchanged to preserve yeast fermentation and structural development.

To increase the protein content of the product without compromising its sustainability, adding whey proteins appears to be a good option. Whey proteins are a by-product of cheese production. They are considered a high-quality food as they contain residues of all nine essential amino acids (Figueroa Pires *et al.*, 2021). Whey proteins are known to improve moisture retention, and browning, while increasing the protein content of baked goods. These make them particularly suitable for product reformulation and nutritional enhancement (Komeroski and de Oliveira, 2023).

Inulin was incorporated into potica as a functional ingredient to improve its fibre content, while maintaining desirable technical and sensory properties. Inulin is a group of soluble dietary fibres, composed of fructooligosaccharides (FOS) with varying degrees of polymerisation (DP 2–60), widely used in bakery products for its ability to bind water, increase moisture retention, and contribute to a softer texture, thereby partially mimicking the technological role of sugar and fat (Mohammadi *et al.*, 2022).

The aim of this exploratory study was to develop and evaluate a nutritionally reformulated walnut potica with reduced sugar content and increased

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dietary fibre and proteins, specifically adapted for older adults with type 2 diabetes, while preserving key sensory attributes and cultural acceptability. This reformulation represents a targeted re-engineering of a traditional food matrix, in which ingredients were modified to alter sweetness perception, water binding, and macronutrient distribution without disrupting the characteristic laminated dough–filling structure. Rather than focusing solely on nutritional targets, the reformulation strategy considered the functional roles of sugar, proteins, and soluble fibre within the complex fat- and moisture-rich walnut filling, including their influence on viscosity, moisture retention, and browning reactions during baking.

2. Materials and methods

2.1 Contextual qualitative interviews

To obtain contextual insights into institutional practices related to the preparation of potica for older adults with type 2 diabetes, brief semi-structured interviews were conducted with three food service managers from long-term care institutions. The participating institutions were selected through purposive sampling. Selection criteria included in-house preparation of traditional potica, regular provision of diets for older adults with type 2 diabetes, and the availability of food system managers directly involved in menu planning and recipe modification.

The interviews were conducted by telephone using a short interview guide covering key thematic areas, including: (1) types of potica prepared in institutional settings, (2) ingredient modifications for residents with diabetes, (3) observed acceptance of modified versus traditional versions, and (4) practical constraints related to cost, preparation, and portioning. Example guiding questions included: “How is potica typically adapted for residents with diabetes?” and “What feedback do residents give regarding sweetness and filling type?”.

Each interview lasted approximately 15–20 minutes. Detailed notes were taken during the interviews. The analysis followed a simple thematic grouping approach, whereby recurring observations were identified across interviews and discussed among the authors until consensus was reached. Given the small and purposive sample, the interviews were not intended to generate generalisable qualitative findings but to provide practical contextual input informing the subsequent reformulation strategy.

2.2 Recipe formulation

In the following section the recipe for reformulated potica is described.

2.2.1 Dough preparation

List of ingredients for dough preparation:
- 100 mL full-fat milk (3.5 % milk fat)
- 10 g granulated table sugar
- 10 g fresh yeast
- 100 g unsalted soft butter
- 34 g egg yolks
- 250 g white wheat flour (type 500; 0.46 – 0.6 % ash content)

Process:
1. In a cup, warm the milk (around 35–40 °C), add the sugar and fresh yeast, and stir gently. Let it sit for 5–10 minutes until the yeast activates and becomes foamy.
2. In a small saucepan, melt the butter over low heat. Remove from the heat and let it cool slightly.
3. Separate the egg yolks from the whites (set the whites aside for the filling).
4. Place the flour in a large mixing bowl and make a well in the centre.
5. Pour the melted butter, egg yolks, and activated yeast mixture into the well.
6. Knead the dough by hand or with a stand mixer for about 15–20 minutes, or until the dough is smooth, elastic, and soft.
7. Cover the bowl with a clean kitchen towel and let the dough rise in a warm place until it doubles

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in volume (this usually takes 1–2 hours, depending on the room temperature).

2.2.2 Reformulated walnut filling preparation

List of ingredients for reformulated walnut filling:
• 200 g finely crushed walnuts
• 200 g heavy cream (> 30 % milk fat)
• 10 mL dry rum (Fructal, 40 % ABV)
• 25 g inulin (Naturmind)
• 50 g erythritol (Dr. Oetker)
• 60 g unflavoured powdered whey protein isolate (High protein, Spar)
• 68 g egg whites

Process:
1. Place the crushed walnuts in a heatproof bowl.
2. In a small saucepan, bring the cream almost to a boil over medium heat.
3. Pour the hot cream over the crushed walnuts and stir well until combined.
4. Add the rum, erythritol, inulin, and whey protein to the walnut mixture and stir until all ingredients are thoroughly incorporated.
5. In a separate clean bowl, whisk the reserved egg whites with an electric mixer until they form firm peaks.
6. Gently fold the whisked egg whites into the walnut mixture using a spatula, being careful not to deflate the whites, until just combined.

2.2.3 Assembling the reformulated potica

The assembly procedure of the reformulated potica follows the procedure described for the original potica (EC, 2021).

List of ingredients for final composition:
• As needed for greasing - unsalted butter
• As needed for egg wash - eggs

Process:
1. Grease a "potičnik" mould (a traditional Bundt-like pan with a central tube) or a 24-26 cm round cake pan with a hole in the middle, using the 10 g of butter.
2. On a lightly floured surface, roll out the risen dough into a large rectangle, approximately 0.5 cm thick.
3. Evenly spread the walnut filling over the entire surface of the rolled-out dough, leaving about 3 cm uncovered at the top long edge.
4. Starting from the bottom long edge, tightly roll the dough towards the top edge. Ensure each wrap is as tight as possible to prevent air pockets.
5. Carefully transfer the rolled reformulated potica into the greased mould, gently connecting the ends to form a circle.
6. Using a toothpick or wooden skewer, pierce the reformulated potica from top to bottom along its entire length at several points. This allows steam to escape during baking and prevents cracking.
7. Cover the mould with a clean kitchen towel and let the reformulated potica rise again in a warm place until it doubles in volume (approximately 30-60 minutes).
8. Preheat the oven to 200 °C.
9. Beat the egg in a small bowl to create an egg wash.
10. Brush the risen reformulated potica generously with the egg wash.
11. Once again, pierce the reformulated potica in the same holes as before, as the egg wash may have closed them.
12. Bake the reformulated potica in the preheated oven at 200 °C for the first 10 minutes.
13. After 10 minutes, lower the oven temperature to 180 °C and continue baking for another 30-40 minutes, or until the reformulated potica is golden brown and a wooden skewer inserted into the centre comes out clean.
14. Once baked, remove the reformulated potica from the oven and let it cool in the mould for 10 minutes.
15. Carefully invert the mould onto a clean kitchen towel or wire rack, removing the reformulated potica. Wrap the warm potica in a clean kitchen towel.
16. Allow it to cool completely before slicing and

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Table 1. Contextual insights from interviews with nursing home food service managers and their implications for walnut potica reformulation.

Interview theme	Observed practices in nursing homes	Formulation implications (author-derived)
Sugar management	Potica is sometimes prepared without added sucrose using sweeteners; sweetness is generally accepted by residents with diabetes.	Sweetness should be preserved despite sugar reduction, supporting the use of non-nutritive sweeteners.
Alternative fillings	Walnut filling is occasionally replaced with tarragon filling; acceptance is moderate, with a clear preference for walnut potica.	Maintaining the walnut filling is important; reformulation should focus on composition rather than filling replacement.
Serving without modification	In one institution, traditional potica is served in small portions due to its infrequent availability.	Moderation-based approaches exist, but adapted versions may provide greater inclusivity.
Compensatory eating behaviour	Residents may compensate for reduced-sugar meals by adding sugar to drinks or purchasing sweets.	Reformulated potica should offer sufficient perceived sweetness to limit compensatory intake.
Cost constraints	Sweeteners are perceived as more expensive than sucrose.	Ingredient selection should balance technological function and cost feasibility.
Sensory changes	Medication-related taste alterations are common among residents	Pronounced flavour intensity is needed to ensure sensory satisfaction.
Protein and fibre adequacy	Achieving adequate protein and fibre intake is challenging in institutional diets.	Enrichment with whey protein and inulin aligns with observed nutritional gaps.

Note: Reported practices reflect participants' descriptions, while implications represent author-derived interpretations used to inform formulation decisions.

2.3 Nutritional composition

The nutritional composition of traditional and reformulated poticas was calculated based on the quantities of individual raw ingredients used in the recipe. Data on the nutritional composition of each ingredient were obtained from the Slovenian reference food composition database available within the NutriBase web-based tool (Valenčič *et al.*, 2025). The calculation was performed using the ingredient-based recipe approach (Vásquez-

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Caicedo *et al.*, 2008). The nutrient content of the product was determined as the sum of all individual ingredients, weighted according to their respective amounts in the formulation. Nutritional values were expressed per 100 g of baked product, with a yield factor of 0.9 applied (Bognar, 2002). This approach enabled a standardized comparison of the nutritional composition between traditional and reformulated potica.

2.4 Sensory analysis

The sensory profile of the traditional and reformulated potica was evaluated using an adapted rapid sensory profiling approach, incorporating elements from free attribute elicitation and intensity rating methods. This has been shown to be suitable for exploratory and comparative product evaluation. particularly in reformulation studies where the aim is to identify the main perceptible sensory differences rather than to establish a full descriptive profile (Lawless and Heymann, 2010). The procedure is methodologically closest to Flash Profile-type approaches, although simplified and adapted for small-panel exploratory use rather than formal descriptive analysis (Delarue *et al.,* 2015).

A panel of 10 untrained assessors, all regular consumers of potica, participated in the evaluation. Assessors were recruited on a voluntary basis and represented a mixed adult population. During the evaluation, assessors independently generated sensory attributes while directly comparing the two samples. Attributes consistently identified across assessors were selected for further evaluation. Each selected attribute was rated for both samples using a 5-point intensity scale (0 = undetectable, 1 = very low intensity, 5 = very high intensity).

The results were interpreted qualitatively and comparatively, focusing on relative differences rather than absolute intensity values. Mean scores were visualised descriptively using a radar chart (Figure 1) without inferential statistical analysis, in line with the exploratory character of the study. Given the exploratory nature of the sensory evaluation and the limited panel size, the findings are intended to indicate major perceptible differences rather than to be statistically generalisable or predictive of broader consumer acceptance.

3. Results and Discussion

The original potica recipe was reformulated based on requirements identified through qualitative interviews. Key contextual insights derived from the semi-structured interviews and subsequent thematic grouping are summarised in Table 1. These insights informed reformulation priorities, linking institutional practices and resident behaviour to specific nutritional and technological considerations.

Based on these contextual insights and the literature on the nutritional needs of older adults, achieving comparable sweetness, preserving the traditional walnut filling, and increasing protein and dietary fibre content were identified as the main reformulation objectives. To address these goals, sucrose in the walnut filling (50 g) was reduced and replaced with erythritol (50 g), while inulin (25 g) and whey protein isolate (60 g) were incorporated to increase dietary fibre and protein content. The dough formulation remained unchanged in order to preserve yeast fermentation dynamics, dough extensibility, and the characteristic laminated dough–filling structure of potica.

Due to changes in the compositional profile, structural modifications occurred in the walnut filling, which in turn affected its physicochemical behaviour and functionality within the system. The incorporation of inulin increased water binding capacity and structural cohesion, resulting in higher filling viscosity prior to baking (Kheto *et al.,* 2023). This affected processing behaviour, requiring more time for the incorporation of whipped egg whites and for uniform spreading across the dough sheet, and it

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Table 2. The nutritional composition (per 100 g) of a traditional and reformulated potica.

NUTRITIONAL COMPOSITION (per 100 g)				
Nutrients	**unit**	**Traditional potica**	**Reformulated potica**	**Change in nutritional composition [%]**
Energy	kJ	1904	1787	- 6.2 %
Fat	g	33.1	30.6	- 7.6 %
of which saturated	g	11.6	10.7	- 7.8 %
Carbohydrates	g	29.6	24.0	- 18.9 %
of which sugars	g	9.0	4.0	- 55.6 %
Fibre	g	2.4	4.2	+ 75 %
Proteins	g	8.7	11.9	+ 36.8 %
Salt	g	0.1	0.1	0 %

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likely contributed to improved moisture retention in the baked product.

The addition of whey protein isolate further modified the internal structure of the filling through protein–water and protein–lipid interactions (Komeroski and de Oliveira, 2023), resulting in a more cohesive filling matrix. Preliminary formulation trials in which whey protein was incorporated into the dough phase, led to reduced dough extensibility and increased dryness after baking. These observations highlighted the sensitivity of the laminated dough structure to protein-induced network formation and supported the decision to add whey protein exclusively to the filling.

These formulation- and structure-related changes provide the functional basis for the nutritional composition of the reformulated potica. Nutritional values were calculated using the Nutribase web-based tool (Valenčič *et al.*, 2025) and considering yield factor for baking (Bognar, 2002). All nutritional implications discussed in this section are based on calculated compositional data and do not represent direct physiological or metabolic outcomes.

The results of the recipes' nutritional calculations (Table 2) indicate that reformulating potica led to several compositional changes. From a formulation perspective, these changes suggest a potentially more favourable nutrient profile for individuals with type 2 diabetes, although no physiological outcomes were assessed.

Results are reported per 100 g to enable standardised comparison between formulations. A typical slice of potica weighs approximately 80–100 g, meaning that the reported values broadly correspond to a realistic single serving. In institutional settings, potica is generally served as one slice per portion, making the per 100 g values directly relevant. In domestic settings, especially during festive occasions, multiple slices may be consumed. This can substantially increase energy and macronutrient intake per eating occasion, highlighting the importance of portion size and consumption context when interpreting the nutritional relevance of reformulated traditional pastries.

The most significant compositional change was the reduction in sugar content (− 55.6 %), accompanied by a decrease in total carbohydrates (− 18.9 %). Given the established association between high free sugar intake and impaired glycaemic control (Della Corte *et al.*,

ISSN 2431-0859

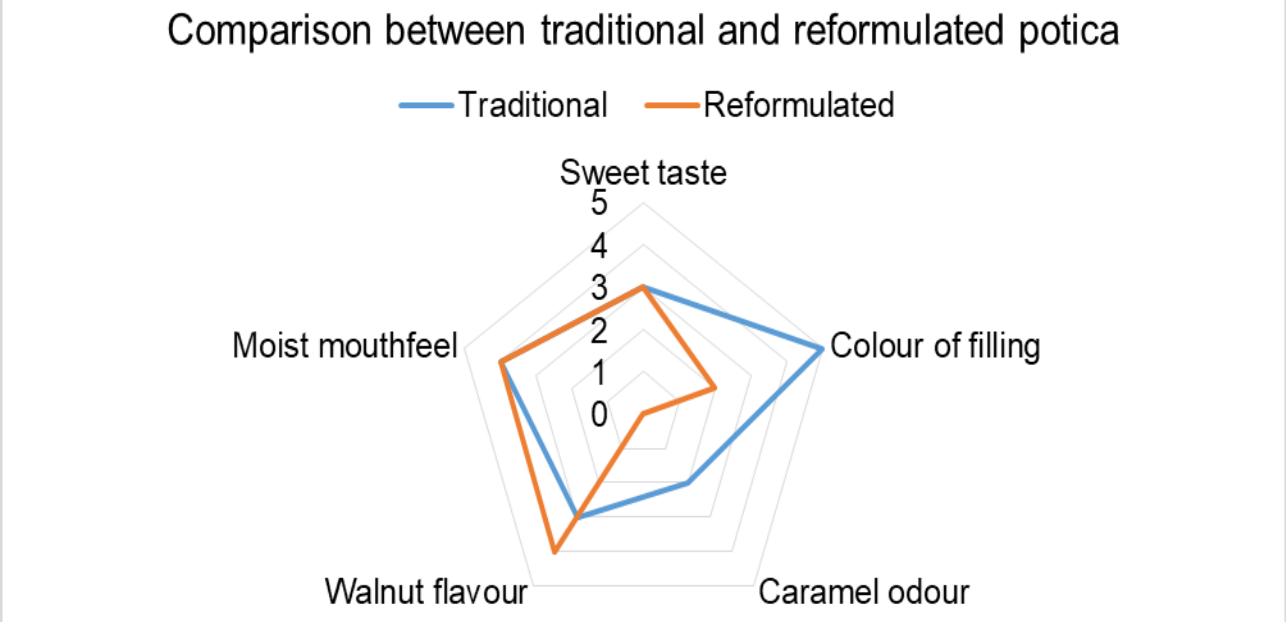

Figure 1. Radar chart illustrating mean intensity scores (0 – undetectable; 1 – very low intensity, 5 – very high intensity) of five selected sensory attributes of traditional and reformulated potica.

2025), replacing sucrose with erythritol results in a composition that may be more suitable for individuals with type 2 diabetes.

Dietary fibre content increased by 75 % due to the addition of inulin. Although the absolute fibre content remains low relative to daily recommendations (DGE, 2021), this increase is nutritionally meaningful within the context of traditional pastries, which are typically characterised by very low fibre content (Lin, 2022). The reformulated potica therefore represents a relative enhancement rather than a primary source of dietary fibre.

Protein content increased by 36.8 %, primarily due to whey protein enrichment of the filling. This change improves the relative proportion of protein compared with readily digestible carbohydrates. It may be relevant in institutional settings where total protein intake is often insufficient (Coelho-Junior *et al.*, 2022), although the contribution of a single serving to daily protein requirements remains limited.

Total fat and saturated fat contents were moderately reduced (− 7.6 % and − 7.8 %, respectively). These reductions contributed only marginally to the decrease in energy value, reflecting the fat-rich nature of walnut potica. Butter, walnuts, and cream remain the main contributors to energy density and were largely retained to preserve traditional structure and sensory characteristics EC, 2021). Partial replacement of saturated fats was not explored, as it could substantially alter dough handling and flavour development. Further investigation of this aspect remains a topic for future research.

Salt (NaCl) content remained low in both formulations and is unlikely to contribute meaningfully to cardiometabolic risk.

Although sugar content was substantially reduced, overall energy value decreased only moderately (− 6.2 %). This reflects the retained fat-rich composition of the product. The reformulated potica is not intended to function as a health or functional food, but rather as a less metabolically challenging version of a traditional festive dessert, adapted to better align with dietary considerations for older adults.

Results of the exploratory sensory evaluation are

ISSN 2431-0859

Figure 2. Cross-sections of traditional (A) and reformulated (B) potica.

shown in Figure 1. Given the small panel of untrained assessors and the absence of target-group testing, findings should be interpreted as indicative rather than definitive. The evaluation primarily served to identify salient perceptible differences between formulations. Consumers identified five main attributes for comparative evaluation: sweet taste, moist mouthfeel, colour of filling, caramel odour, and walnut flavour intensity.

Sweetness was not identified as a differentiating attribute between samples, and perceived moistness was comparable. The most pronounced difference was in the colour of the filling, with the adapted potica having a markedly paler filling. This effect can be attributed to the absence of sucrose and the use of erythritol, which does not participate in amino-carbony or caramelisation reactions (Martínez-Cervera *et al.*, 2012). Reduced browning also explains the diminished caramel-like odour, while allowing intrinsic walnut flavours to be perceived more prominently. The difference in colour is shown in Figure 2.

Although the colour difference could be mitigated by using food colourants, this option may not be suitable for institutional settings due to potential concerns among residents (Avraham *et al.*, 2025). Instead, a small amount of liquid caramel could be added, taking care not to increase the total sugar content excessively. Alternatively, a small amount of carob flour, instant coffee, black tea extract, or cocoa powder could be incorporated to darken the filling. However, their effect on overall flavour would need to be carefully evaluated.

This study has several limitations that should be acknowledged. First, the qualitative interviews were conducted with a small and purposively selected group of food service managers, which provided valuable contextual insights but does not allow for broad generalisation of institutional practices. Second, the sensory evaluation was exploratory in nature, relying on a small group of adult non-trained assessors who were familiar with potica; no sensory testing was conducted with the target population of older adults with type 2 diabetes, which may limit the external validity of the sensory findings.

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Third, instrumental analyses of texture and colour, as well as laboratory-based nutritional analyses, were not performed, and nutritional values were calculated using food composition databases rather than analytically determined. Finally, the study did not assess postprandial glycaemic responses or clinical outcomes, and therefore the potential metabolic benefits of the reformulated potica can only be inferred from its nutritional composition. Future studies should address these limitations through target-group sensory evaluation, instrumental and analytical measurements, and clinical or glycaemic response testing.

4. Conclusion

This exploratory case study demonstrates how a traditional Slovenian walnut potica can be reformulated to better align with the dietary needs of older adults with type 2 diabetes, while preserving key sensory and cultural characteristics. Contextual insights from institutional nutrition managers suggest that nutritionally adapted versions of traditional foods may support dietary inclusion in long-term care settings, where familiarity and acceptance are important. The partial replacement of sucrose with erythritol and the enrichment of the filling with whey protein and inulin resulted in substantially lower sugar content and higher dietary fibre and protein content at the compositional level. The exploratory sensory evaluation indicated no major perceived differences in sweetness or moistness between the traditional and reformulated potica within the tested panel, although reduced browning led to a paler filling colour and diminished caramel odour. Overall, the reformulated potica does not aim to meet nutritional recommendations on its own, nor to function as a health or functional food. Rather, it represents a relative improvement over the traditional formulation. The study demonstrates how ingredient functionality and food reformulation principles can be applied to re-engineer traditional desserts into nutritionally better options for specific population groups, without compromising their cultural significance.

This work was supported by Tradinnovations: An advanced interdisciplinary educational approach to support innovation within food heritage, adapted to specific needs population 2023-1-FR01-KA220-HED-000166321

Authors declare no conflict of interests.

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ISSN 2431-0859

International Journal of Molecular and Physical Gastronomy

Edible Ideas/Recipes

Edited by:
Bruno Leite, NOVA School of Science and Technology, University NOVA FCT, Portugal

Reviewers:
1. Anonymous
2. Anonymous

Received:
11 December 2025

Accepted :
3 June 2026

Published:
12 June 2026

Section:
This article was published in the “Edibles Ideas (Recipes)” section of the International Journal of Molecular and Physical Gastronomy

Citation:
Anja Bolha, Lazar Mojca, Šalamija Nuša, Žerjal Hana, Čok Nives, Kmecl Martin, Mojca Korošec. 2026. Reformulation of a traditional Slovenian dessert for older adults with type 2 diabetes: an exploratory study of the walnut potica, *International Journal of Molecular and Physical Gastronomy,* 12(1), 3, 1-14.
DOI: 10.17180/ijmpg-2026-art03.

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ISSN 2431-0859