


# Perception of chefs and the restaurants' management involved in menu planning on health and nutrition in Hungary

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## ABSTRACT

Our study aims to examine the perceptions of chefs and restaurants' management in Hungary regarding the importance of health and nutrition in menu planning in today's catering businesses. We assessed 190 complete responses from chefs/cooks and managers/owners of restaurants and catering businesses in Hungary between February 2021 and February 2022 via email on four aspects; health, nutrition, nutrition practice, and consumers' concerns. This study shows an overall improvement in chefs' and restaurants' management's nutritional knowledge compared with similar studies in the past. However, most chefs still believe that the customers ignore the nutrition and nutrient content of the meals when dining away from

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home. In addition, experienced chefs do not perceive that the preparation of low-fat foods requires additional work and that low fat-foods can taste great. This study found no significant differences related to nutrition in menu planning based on chefs' and managers' backgrounds (i.e., gender, age, position, educational level, work experience, and type and location of establishment).

## KEYWORDS

culinary, chefs, menu planning, restaurants, nutrition, Hungary

## 1. INTRODUCTION

Chefs play a crucial role in shaping consumer eating habits (FAO & UNESCO, 2019). Restaurant consumer demand for healthier options has increased, emphasising the importance of chefs' knowledge and attitudes towards nutrition (Vandana and Kusuma, 2017). Additionally, food and beverage (F&B) managers have influence in promoting healthy eating through factors like food availability and marketing (Raine, 2005).

Cooks and chefs have the potential to influence consumers' food choices by offering reduced-calorie options and appealing vegetable presentations (Reinders et al., 2020). However, concerns about profitability and customers' prioritisation of taste over nutrition pose challenges (Wenzel, 1994; Hamm et al., 1995; Reichler and Dalton, 1998; Johnson et al., 2002). Despite these challenges, chefs are becoming more nutrition-aware and responsive to customer preferences for healthier choices (Rouslin and Vieira, 1998).

In the context of restaurants as significant sources of food and nutrition, well-trained chefs and cooks are crucial (Vandana and Kusuma, 2017). Therefore, this study aims to examine the perceptions of the chefs and restaurants' management in Hungary regarding the importance of health and nutrition in menu planning in today's catering businesses.

## 2. MATERIALS AND METHODS

A 5-point Likert scale - A survey rating scale that allows respondents to express their level of agreement or disagreement with statements, typically ranging from "strongly disagree" to "strongly agree", providing a quantifiable measure of their opinions or attitudes - questionnaire was developed to assess the perception of chefs and restaurants' management regarding nutrition and health, based on a previous survey by Palmer and Leontos (1995). The catering establishments were located in the capital of Hungary and in two large cities with a population over 100,000, Debrecen and Szeged, but the sampling was not representative. We analysed 190 complete responses in Hungary between February 2021 and February 2022. The demographic profile of the respondents is presented in Table 1. The questionnaire consisted of two sections: demographic questions and statements/questions assessing the chefs' perceptions of health and nutrition. The Likert scale allowed the chefs to indicate their agreement or disagreement with each statement. We relied on the ESCO Classification for occupations to define the terms 'chefs' and 'cooks'. Cooks are culinary operatives, who are able to prepare and present food normally in



Table 1. Demographic profile of the respondents ( $n = 190$ )

Question	Answers	Percentage
Position	Chef/Cook	54
	Owner/Manager	46
Gender	Male	67
	Female	33
Age	<25 year	6
	$\geq 25$ years to $\leq 40$ year	35
	>40 year	59
Education	Cooking education	46
	Non-cooking education (university or high school)	54
Work experience	<15 years	39
	>15 years	61

domestic and institutional environments, whereas chefs manage the kitchen to oversee the preparation, cooking, and service of food (European Commission, 2020).

Mann–Whitney U test and the Kruskal–Wallis test were used to compare groups and for descriptive analyses to display the survey results. We performed all statistical analyses using SPSS v 28 software (IBM Corp., 2021).

### 3. RESULTS AND DISCUSSION

Table 2 shows the descriptive statistics regarding chefs' perceptions on the role and importance of nutrition in their personal lives and the restaurant environment. In general, the respondents revealed homogenous attitudes about nutrition.

In terms of perception of health, the chefs showed moderate agreement with statements such as the benefits of low-fat meals for maintaining body weight and health, the negative impact of high-fat meals on cholesterol levels and heart diseases, and the importance of vegetable consumption for diabetic consumers. However, they expressed lower agreement with the statement that milk and milk products are always good for health and growth. On the other hand, they strongly agreed that fish, prawns, and seafood are healthier options compared to meat products. They also recognised the role of nutrition in the development of diabetes, cancer, and heart diseases.

When it comes to the perception of nutrition, the chefs generally agreed that eggs, chicken, and meat provide quality protein and iron, and salads offer essential vitamins and fibre. They also acknowledged that combining cereals and legumes enhances the nutritional value of a meal, and the germination and fermentation of foods increase their nutritive value. However, they disagreed that traditional Hungarian dishes like Gulyás soup, stuffed cabbage, and Hungarian stew from pork knuckle are nutritious and good for health.

In terms of nutrition practices, the chefs showed moderate agreement that nutrition principles are followed in their work, nutritious food selection is important in menu planning, suitable cooking methods and nutritive values are considered, and quality standards are



Table 2. Chefs' perceptions about the role and importance of nutrition in their personal and professional lives

Statement	Mean (SD)
<b>Perception of health</b>	
Low-fat meals are good for maintaining body weight and health	3.85 (1.20)
High-fat meals increase bad blood cholesterol and the risk of heart diseases	3.91 (1.15)
Diabetic consumers need more vegetables and less fat and energy-dense foods	3.99 (1.18)
Milk and milk products are a good source of quality proteins and calcium and are always good for health and growth	3.41 (1.15)
Fish, prawns, and seafood are better for health than meat products	4.03 (1.06)
Wrong nutrition plays an important role in the development of diabetes, cancer, and heart diseases	4.46 (0.94)
In my own diet, I try to cut down my fat intake	3.57 (1.15)
<b>Perception of nutrition</b>	
Eggs, chicken, and meat provide a high amount of quality protein and iron	3.89 (1.03)
Salads provide essential vitamins and fibre	4.62 (0.79)
A combination of cereals and legumes enhances the nutritive value of a meal	4.22 (1.00)
Germination and fermentation of foods increase the nutritive value in terms of protein and vitamin C	4.05 (1.09)
Dishes like Gulyás soup, stuffed cabbage, and Hungarian stew from pork knuckle are nutritious and good for health	2.51 (1.06)
<b>Perception of nutrition practices</b>	
In my work, nutrition principles are followed every day in food selection and menu planning	3.69 (0.99)
In my work, selecting nutritious food is important in menu planning	3.9 (1.05)
In my work, preparing low-fat meals is a challenging task	2.74 (1.27)
Suitable cooking methods are considered in the selection of recipes and menus	4.51 (0.82)
A suitable color combination is considered in the selection of recipes and menus	4.41 (0.93)
Suitable nutritive values are considered in the selection of recipes and menus	3.61 (1.15)
Quality standards are followed in the preparation and serving of meals	4.57 (0.84)
I like the challenge of making a low-fat meal delicious	3.42 (1.22)
In my opinion, cooking a low-fat meal is more work than it is worth	2.18 (1.20)
A low-fat meal does not taste as good as a high-fat one	2.4 (1.36)

followed. However, they expressed that preparing low-fat meals is a challenging task, and there was a mixed response to the statements regarding the taste and worthiness of low-fat meals.

The responses to the survey suggest that customers prioritise taste over health when selecting restaurants and ordering from the menu, which aligns with previous studies (Johnson et al., 2002). Despite expressing a desire for healthier menu options, customers do not consistently request them from restaurants (Vandana and Kusuma, 2017). The profitability of offering healthier options is a concern for catering businesses, as customers tend to prefer food that appeals to their senses and tastes good (Rouslin and Vieira, 1998). Factors such as menu design and the provision of precise nutrition information can influence consumer choices (Fernandes et al., 2015; Krešić et al., 2019).

According to the Mann–Whitney U test and the Kruskal–Wallis test to compare groups, we found no significant differences related to nutrition in menu planning based on chefs' and



managers' backgrounds (i.e., gender, age, position, educational level, work experience, and type and location of establishment),  $P$ -value  $>0.05$ . However, managers and owners showed a higher consideration for health compared to chefs and cooks. Chefs and cooks with more than 15 years of experience also demonstrated a greater focus on health aspects. This suggests a need for increased nutritional training among chefs in Hungary (Friesen et al., 2002; Gillis et al., 2020).

There are no studies that were done in this field in Hungary. However, the survey results are consistent with previous studies that have examined chefs' attitudes and practices related to nutrition globally. For example, Obbagy et al. (2011) found that certified executive chefs in the United States believed they could reduce the calorie content of menu items without customers noticing. Similarly, Condrasky et al. (2007) revealed that chefs considered portion sizes and the amount of food served as influential factors in patrons' consumption, recognising that large portions can be problematic for weight control.

Furthermore, Gillis et al. (2020) showed that culinary students recognise the importance of nutrition in their future professions, with the majority expressing a desire to learn more about healthy cooking techniques. However, Reichler and Dalton (1998) found that some chefs and student chefs had misconceptions about fat and cholesterol in food and the body, indicating a need for improved knowledge and understanding.

These previous studies support the findings of the current survey, emphasising the challenges faced by chefs and catering establishments in balancing taste, profitability, and nutrition. The results also underscore the importance of ongoing nutrition training for chefs to enhance their knowledge and skills in menu planning and food preparation (Friesen et al., 2002; Gillis et al., 2020).

## 4. CONCLUSIONS

In conclusion, this study sheds light on the perceptions of chefs in Hungary regarding health and nutrition in menu planning. The findings align with previous studies, highlighting the challenges faced by chefs in balancing taste, profitability, and nutrition. While chefs recognise the importance of nutrition and express a willingness to reduce the fat and calorie content of menus, there are still obstacles and mixed attitudes regarding the taste and worthiness of low-fat meals. Consumers prioritise taste over health when selecting restaurants and menu items, which poses a challenge for catering establishments aiming to offer healthier options. Factors such as menu design and the provision of precise nutrition information can influence consumer choices.

The survey results also underscore the need for ongoing nutritional training for chefs in Hungary. Although culinary students show awareness of the importance of nutrition in their future professions, there are misconceptions and gaps in knowledge that need to be addressed. Additionally, chefs and cooks with more experience demonstrate a greater focus on health aspects, suggesting the importance of continuous professional development and knowledge updates.

Further research is recommended to delve deeper into specific strategies and interventions that can effectively promote the integration of nutrition in menu planning. Exploring innovative approaches to enhance the taste and appeal of healthier options can help overcome the perception that nutritious food is less appealing. Additionally, investigating the impact of different menu design elements, such as the placement and presentation of healthier items, can provide



insights into encouraging healthier choices by consumers. Furthermore, examining the effectiveness of different methods for delivering nutrition education and training to culinary professionals can inform the development of comprehensive and tailored programs that address knowledge gaps and misconceptions.

This study highlights the complexity of incorporating nutrition in menu planning, considering the preferences of chefs and consumers, as well as the challenges faced by catering establishments. By addressing these challenges through ongoing training and innovative approaches, the culinary industry in Hungary can play a pivotal role in promoting healthier eating habits and improving public health outcomes.

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