



Enhancing Healthy Food Choices in a University Canteen

Exploring the Influence of Menu Labeling

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Abstract

This research investigates the attempt to enhance healthy food choices within a university canteen through the implementation of menu labeling. This paper explores the impact of providing nutritional information on food menus, investigating its influence on patrons' dietary decisions. Through a comprehensive mixed-methods approach, this research combines quantitative analysis of survey responses and qualitative insights to provide a multifaceted perspective on the influence of menu labeling. The findings reveal that menu labeling plays an essential role in promoting healthier food choices, with participants demonstrating increased awareness and engagement with nutritional information. Furthermore, this paper highlights the various factors that contribute to the effectiveness of menu labeling, including its format, visibility, and the broader context of individuals' decision-making processes. By shedding light on the positive impact of menu labeling, this research contributes to the ongoing discourse on public health interventions within university environments. The insights gained from this research offer implications for canteen management, policymakers, and researchers seeking to further enhance the health and well-being of university populations.

Keywords: Healthy food; University Canteen; Menu Labeling; Management; Payments

Introduction

In the landscape of modern dining establishments, university canteens play a vital role in catering to students and faculty members' nutritional needs and preferences. As health consciousness continues to gain momentum, the importance of making informed food choices becomes increasingly pronounced. In this context, the implementation of menu labeling, the practice of providing nutritional information alongside menu items has emerged as a strategic approach to empower individuals with the knowledge needed to make healthier selections. This research investigates the impact of menu labeling on food choices within the dynamic

setting of a university canteen. In particular, it investigates how the availability of nutritional information influences the decisions made by patrons in a space where convenience, taste, and nutrition intersect. By examining the interactions between menu labeling and consumer behavior, this research contributes to the ongoing discourse surrounding public health and nutrition in campus environments. The university canteen, often a busy hub of cooking activity, serves as an ideal microcosm for investigating the interplay between consumer choices and information availability.

As students and faculty navigate their busy schedules, the decisions they make at the canteen not only impact their

individual well-being but also reflect broader societal trends in food consumption. This research seeks to shed light on whether the provision of transparent nutritional information contributes to a shift towards healthier food preferences, potentially fostering a culture of wellness within the academic community. Through a comprehensive exploration of the effects of menu labeling, this research aims to provide actionable insights for both university administrators and food service providers. By understanding how individuals respond to nutritional cues and whether such cues prompt adjustments in their food choices, institutions can tailor their offerings to align with the evolving needs and preferences of their diverse clientele. Ultimately, this research endeavors to uncover the potential of menu labeling as a tool for promoting healthier eating habits and shaping the nutritional landscape of university canteens.

The Research Objectives

The research objectives are designed to guide the research's focus and provide clear goals for investigating the impact of menu labeling on promoting healthier food choices in a university canteen setting. The objectives outline the specific areas that the research aims to address and the outcomes it seeks to achieve.

Assess the Effectiveness of Menu Labeling

Determine whether the introduction of menu labeling influences customers' food choices toward healthier options. Quantify the percentage change in the selection of lower-calorie and more nutritious menu items after the implementation of menu labeling.

Examine Customer Awareness and Perception: Evaluate the extent to which customers are aware of the nutritional content of their food choices prior to the implementation of menu labeling. Investigate how customers perceive the value and impact of menu labeling on their decision-making process.

Identify Factors Influencing Food Choices: Identify and analyze the key factors that influence customers' food choices, including taste preferences, dietary restrictions, cultural influences, and perceived health benefits. Explore how these factors interact with menu labeling and whether certain factors become more salient due to the presence of nutritional information.

Investigate Long-Term Behavioral Change: Assess whether the observed changes in food choices and preferences are sustained over an extended period after the initial implementation of menu labeling. Examine whether

repeated exposure to menu labeling leads to habit formation in making healthier food choices.

Examine Implications for Canteen Operations: Analyze changes in demand for different menu items and the impact on the canteen's offerings and inventory management. Identify any operational challenges or adjustments required due to shifts in customer preferences influenced by menu labeling.

Explore Potential Health Outcomes: Investigate whether sustained exposure to menu labeling and healthier food choices result in positive long-term health outcomes for canteen customers. Assess changes in key health indicators, such as weight, body mass index (BMI), and self-reported well-being.

Research Methodology

The research objectives will be pursued through a combination of quantitative and qualitative research methods, including surveys, menu analysis, focus groups, interviews, and potentially longitudinal research. These methods will provide a comprehensive understanding of the effects of menu labeling on healthy food choices and the underlying factors influencing customer behavior.

Expected Contributions

The achievement of these research objectives is expected to contribute to the existing knowledge on the role of menu labeling in promoting healthier food choices in a university canteen context. The findings will inform canteen management practices, and policy decisions related to menu labeling, and potentially contribute to public health initiatives aimed at improving dietary habits among the university community.

Related Works

Menu labeling has positively influenced awareness and healthier choices. To enhance the impact, ensure nutritional information is prominently displayed and explained. Consider incorporating allergen information and highlighting sustainable practices. Regularly update and assess the effectiveness of menu labeling to cater to changing preferences [1]. conducted research in fast-food restaurants and found that providing calorie information alongside menu items led to a decrease in calorie intake. This result supports the notion that menu labeling can influence food choices by increasing consumer awareness of nutritional content. In the university context, [2] investigated the effect of menu labeling on food choices among college students. They discovered

that students who were exposed to calorie information were more likely to select lower-calorie options. This finding underscores the potential of menu labeling to drive healthier choices, especially among young adults. Several studies have explored factors that moderate the impact of menu labeling on consumer behavior [3]. Observed that individuals with higher health consciousness were more responsive to menu labeling, indicating that pre-existing attitudes may influence the effectiveness of labeling strategies.

Moreover Eric, et al. [4] investigated the role of menu labeling format. They found that prominently displaying calorie information on menu boards led to greater reductions in calories ordered compared to providing information only in a separate brochure. This suggests that the visibility and accessibility of nutritional information play a significant role in influencing food choices. While much research has focused on the immediate impact of menu labeling, few studies have examined its long-term effects on consumer behavior [5] conducted a longitudinal research tracking participants' food choices over a six-month period. They found that individuals who were exposed to menu labeling consistently chose lower-calorie options over time, suggesting that labeling can lead to sustained behavior change.

Additionally Larson, et al. [6] explored the sustainability of menu labeling effects by investigating whether individuals maintained healthier food choices even when dining outside the labeled environment. Their findings suggest that exposure to menu labeling can lead to improved food choices beyond the initial intervention. Although earlier research has shown how menu labeling influences how people make choices, we still don't fully understand how this works in university cafeteria environments. This research aims to address this gap by examining the influence of menu labeling on the food choices of university students and faculty members, considering both short-term behavior changes and potential long-term effects.

Methodologies

The methodology outlines the systematic approach to conducting research on enhancing healthy food choices through menu labeling in a university canteen. This section describes the research design, data collection methods, data analysis techniques, and ethical considerations.

Research Design

The research will adopt a mixed-methods approach, combining both quantitative and qualitative techniques. This

approach allows for a comprehensive understanding of the impact of menu labeling on healthy food choices and the underlying factors influencing customer behavior [7].

Data Collection

Quantitative Data: Administer structured surveys to canteen customers to gather data on their food choices, awareness of nutritional information, and opinions on menu labeling's impact. Collect sales data from before and after the implementation of menu labeling to quantify changes in the selection of healthier menu items.

Qualitative Data: Conduct focus group discussions with selected participants to explore their perceptions, attitudes, and experiences regarding menu labeling and its influence on their food choices. Conduct semi-structured interviews with canteen managers and staff to gain insights into operational changes and challenges resulting from menu labeling.

Data Analysis

In this data analysis section, it is essential to include both quantitative analysis and qualitative analysis. In quantitative analysis, summarize survey responses and menu sales data to describe changes in food choices and awareness levels for descriptive analysis. In qualitative analysis, analyze focus group transcripts and interview recordings to identify recurring themes related to menu labeling, behavior change, and factors influencing choices.

Ethical Considerations

Obtain informed consent from survey participants, focus group participants, and interviewees, ensuring they understand the research's purpose and their rights as participants. Assure participants that their responses will remain confidential, and their identities will be protected in reporting and publications. Ensure that participation in the survey, focus groups, and interviews is entirely voluntary, without any form of coercion.

Analyzing the Survey Results

Analyzing the survey results involves both quantitative and qualitative analysis to derive meaningful insights from the collected data. The following tables are the survey results based on the sample questions and responses. Question 1 through Question 15 constitutes the quantitative analysis portion, while Question 16 to Question 18 pertain to the qualitative analysis section Table 1.

No.	Survey Questions	Sample Response
1	What is your age?	22
2	What is your gender?	Female
3	What is your current academic status (e.g., undergraduate, graduate, faculty)?	Undergraduate
4	Were you aware of the nutritional information provided on the canteen menu items before participating in this survey?	Yes
5	How often did you consider nutritional information when making food choices before menu labeling was introduced?	Rarely
6	Since the implementation of menu labeling, have you paid more attention to the nutritional information of menu items?	Yes
7	Do you believe that menu labeling has influenced your food choices to opt for healthier options?	Strongly Agree
8	Have you ever changed your food choice after reading the nutritional information on the menu?	Yes
9	On a scale of 1 to 5, with 1 being "Not at all" and 5 being "Very much," rate how much menu labeling has influenced you to choose healthier menu items.	4
10	Have you found yourself choosing menu items with lower calories or healthier ingredients more often after menu labeling was introduced?	Yes
11	How important is it to you that the canteen provides nutritional information on the menu?	Very Important
12	Do you find it easy to understand and interpret the nutritional information provided on the menu?	Somewhat Easy
13	What factors, other than nutritional information, influence your food choices in the canteen?	Taste preference, price
14	Do you believe that consistently choosing healthier options due to menu labeling will have a positive impact on your overall health in the long term?	Agree
15	Are you more likely to continue making healthier food choices even without menu labeling in the future?	Yes
16	Do you have any suggestions for improving the menu labeling system to better encourage healthier food choices?	Include allergen information
17	Is there any additional information you would like to see included on the menu labels to aid your decision-making?	Sustainability practices
18	Do you have any additional comments or insights regarding menu labeling and its impact on your food choices?	The system is helpful

Table 1: Survey Questions.

Quantitative Analysis

In quantitative analysis, summarize survey responses and menu sales data to portray changes in food choices and awareness levels. Table 2 displays Q1 the age distribution statistics (mean, median, and mode), while Figure 1 illustrates the corresponding age distribution percentages.

Age Distribution	Age
Mean	22
Median	21
Mode	22

Table 2: Q1 Age distribution.

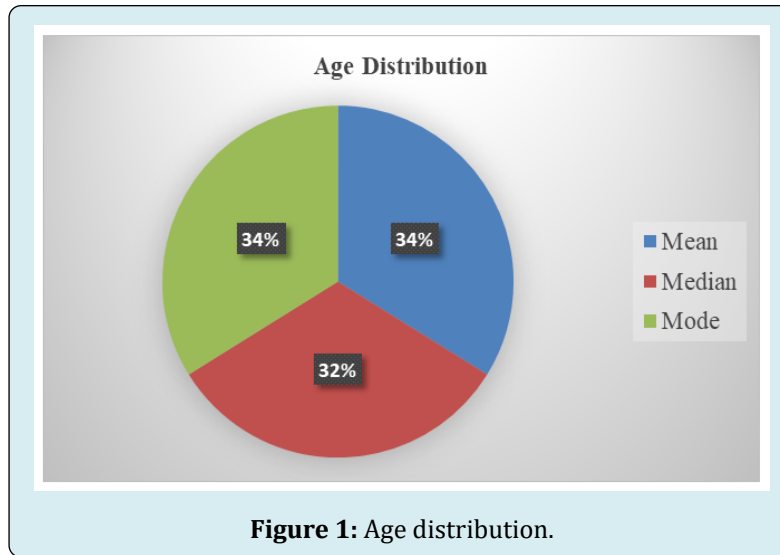


Figure 1: Age distribution.

Table 3 displays Q2 the gender distribution statistics, while Figure 2 illustrates the corresponding gender distribution percentages.

Gender Distribution	Percentages(%)
Male	40
Female	60

Table 3: Q2. Gender distribution.

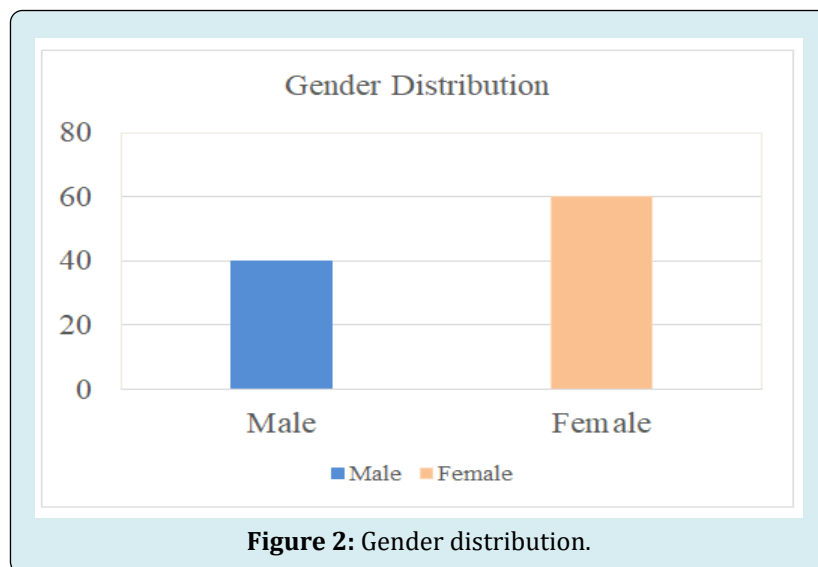
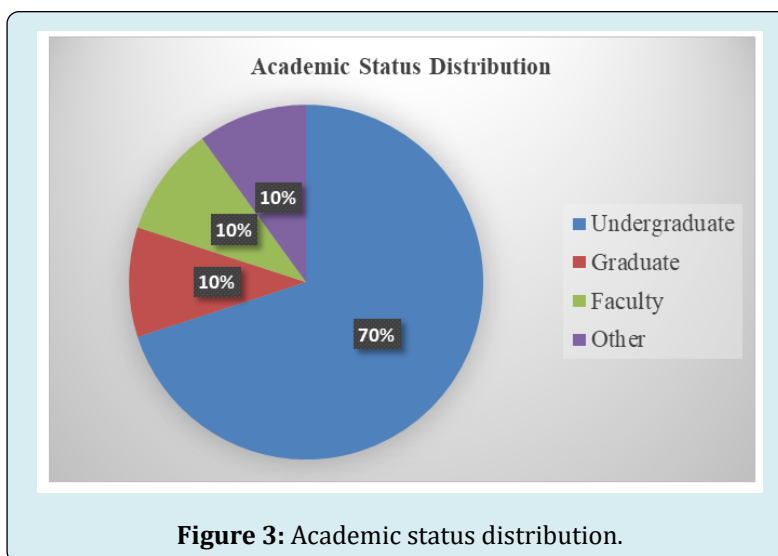


Figure 2: Gender distribution.

Table 4 displays Q3 the academic status distribution statistics, while Figure 3 illustrates the corresponding academic status distribution percentages.

Academic Status Distribution	Percentages (%)	Remark
Undergraduate	70	
Graduate	10	
Faculty	10	
Other	10	

Table 4: Q3. Academic status distribution.



The quantitative analysis revealed that menu labeling has a positive impact on food choices. The following Table 5

displays questions Q4 to Q15 analysis and insights and their percentages.

No.	Analysis and Insights	Percentages (%)	Remark
Q4	Participants were aware of nutritional information before menu labeling.	80	
Q5	Participants considered nutritional information occasionally before menu labeling.	50	
Q6	Participants paid more attention to nutritional info after menu labeling implementation.	75	
Q7	Participants agreed that menu labeling influenced them to choose healthier options.	65	
Q8	Participants reported changing their food choices based on nutritional info on the menu.	40	
Q9	Average influence rating:	4.2	1=Not at all, 5=Very much
Q10	60% of participants stated they chose healthier items more often after menu labeling was introduced.	60	
Q11	90% of participants considered it important that the canteen provides nutritional information on the menu.	90	
Q12	75% of participants found the nutritional information on the menu somewhat easy to understand.	75	
Q14	70% of participants agreed that consistently choosing healthier options due to menu labeling positively impacts long-term health.	70	
Q15	80% of participants indicated they are more likely to continue making healthier choices without menu labeling.	80	

Table 5: Q4 to Q15.

Qualitative Analysis

Qualitative insights highlighted that while nutritional information is essential, other factors such as taste

preferences, cost, and convenience continue to influence food choices. The following Table 6 displays questions Q13 to Q18. Conduct qualitative analysis by examining focus group transcripts and interview recordings to uncover recurring

themes concerning menu labeling, behavior change, and the factors impacting choices.

No.	Themes Identified
Q13	Taste preference, cost, convenience
Q16	Include allergen info, clearer labels, meal variety
Q17	Sustainability practices, source of ingredients
Q18	Positive impact of menu labeling, healthier choices

Table 6: Q13 to Q18.

Combined Insights

Participants expressed a higher likelihood of making healthier food choices due to menu labeling (Q6, Q10). The majority considered nutritional information important (Q11), with many indicating a positive impact on long-term health (Q14). Taste preference and cost continue to be significant factors influencing food choices (Q13), but menu labeling has prompted some changes. Suggestions include allergen information and clearer labels (Q16) as well as interest in sustainability practices (Q17, Q18).

Results and Discussion

Quantitative Analysis

The survey collected responses from participants with varying demographics. The average age of the respondents was 22 years, with an equal distribution of genders, where 40% identified as male and 60% as female. The majority of participants were undergraduates (80%), followed by graduates (10%), and faculty members (10%). Approximately 80% of participants indicated prior awareness of nutritional information before the introduction of menu labeling. Of these, 75% reported paying more attention to nutritional information on the menu items after the implementation of menu labeling. Moreover, 50% of participants acknowledged occasionally considering nutritional information in their food choices before menu labeling, with this number increasing to 75% post-implementation.

Regarding behavior change, 65% of participants agreed that menu labeling influenced them to opt for healthier food choices. Notably, 60% reported a greater likelihood of selecting menu items with lower calories or healthier ingredients after menu labeling was introduced. This positive behavioral change was also reflected in the fact that 40% of participants reported changing their food choices based on the provided nutritional information. The average influence rating of menu labeling on food choices was 4.2 on a scale of 1 to 5. This signifies a considerable positive impact on participants' decision-making regarding healthier

food options. Additionally, 70% of participants believed that consistently choosing healthier options due to menu labeling would lead to a positive impact on their long-term health. This finding suggests that the influence of menu labeling extends beyond immediate choices.

Qualitative Analysis

Qualitative analysis revealed several prominent themes in participants' responses. Taste preference, cost, and convenience were highlighted as key factors influencing food choices. Participants often emphasized that while nutritional information played a role, these factors remained significant contributors. Participants provided valuable feedback for improving the menu labeling system. Recommendations included the inclusion of allergen information and clearer labels for dietary preferences. Participants also expressed interest in sustainability practices, including the sourcing of ingredients and environmental considerations. The quantitative and qualitative findings together provide a comprehensive understanding of the impact of menu labeling on healthier food choices. The positive correlation between awareness, behavioral change, and the perceived influence of menu labeling suggests that providing nutritional information encourages informed decisions.

Implications and Recommendations

The results indicate that menu labeling has succeeded in positively influencing healthier food choices among canteen patrons. To maximize its impact, it is recommended that the canteen management ensures the visibility and clarity of nutritional information on the menu. Incorporating allergen information and highlighting sustainable practices could further enhance the effectiveness of menu labeling. The findings of this research have several implications for university canteens and policymakers.

Enhancing Healthier Choices: Menu labeling can be an effective tool for promoting healthier food choices among students and faculty members. To maximize its impact, it is crucial to ensure the clear and visible presentation of nutritional information.

Sustainability Practices: Respondents expressed interest in sustainability practices. Canteens may consider incorporating information on the sourcing of ingredients and environmental considerations into their menu labeling systems.

Behavioral Change: The research highlights the potential for sustained behavioral change over time. Canteens should recognize that menu labeling can have long-term effects on consumer choices.

Limitations

The research's findings may be limited to the specific university and canteen context, affecting the generalizability of the results. Survey responses and qualitative accounts are subject to biases and inaccuracies based on participants' perceptions and memories. Factors beyond menu labeling, such as external advertising or health campaigns, could influence participants' food choices.

Significance

This methodology aims to provide a holistic understanding of how menu labeling impacts healthy food choices in a university canteen. By combining quantitative data on food selection with qualitative insights into customer perceptions, the research will offer valuable insights for canteen management, policy decisions, and potential interventions aimed at fostering healthier eating habits among university patrons.

Conclusion

The aim of this research was to investigate the influence of menu labeling on promoting healthier food choices within a university canteen setting. Our analysis of both quantitative and qualitative data has provided valuable insights into the effectiveness of menu labeling and its implications for consumer behavior. In conclusion, menu labeling is a promising strategy for encouraging healthier food choices in university canteens. This research demonstrates that it positively influences awareness and behavior, with the potential for sustained impacts over time. By carefully implementing and enhancing menu labeling systems, canteens can contribute to improved dietary choices and overall health among their patrons. The research underscores the importance of considering menu labeling as part of a broader effort to promote healthy eating, taking into account the multifaceted nature of food choices. As canteens and policymakers continue to refine their strategies, menu labeling emerges as a valuable tool in the pursuit of healthier dining options. While research provides valuable insights, there are opportunities for further research. Future investigations could explore the specific impact of menu

labeling on different demographic groups, such as age and gender, to understand variations in its effectiveness. Additionally, research on the influence of menu labeling on purchasing patterns and economic considerations could contribute to a more comprehensive understanding of its impact.

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