



## Research Article

# Assessment of Teachers' Attitude Towards Nutrition Education in Punjab, Pakistan

Iram Saeed, Gulfam Hassan\*

Faculty of Social Sciences, University of Agriculture, Faisalabad, Pakistan.

\*Correspondence: [g.h.gullz@gmail.com](mailto:g.h.gullz@gmail.com)

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### Abstract

This study evaluates the attitudes of teachers towards nutrition education in Punjab, Pakistan, with a focus on their awareness, readiness, and practices related to promoting healthy eating habits among students. The study was conducted in Faisalabad among 130 private school teachers, selected using a convenience sampling technique from a total of 196 teachers. A quantitative cross-sectional design was employed, using a structured questionnaire developed to assess teachers' knowledge, attitudes, and practices. The questionnaire included multiple-choice, Likert scale, and open-ended questions to gather data on the teachers' perceptions of nutrition education's importance, their preparedness to teach nutrition, and the challenges they face in implementing nutrition-related content in the classroom. The results revealed a generally positive attitude towards nutrition education, with a majority of teachers expressing confidence in their ability to teach nutrition topics. However, despite this, teachers indicated a need for more resources and training to effectively deliver nutrition education. Furthermore, while most teachers were open to integrating nutrition topics across different subjects, the lack of formal training and resources was identified as a major barrier. A significant gap in formal monitoring of food policies within schools was also noted, along with limited school-wide initiatives focused on nutrition. These findings suggest that while teachers are willing to promote nutrition education, institutional support, professional development, and enhanced resources are critical to the success of such programs. This study highlights the importance of strengthening nutrition education frameworks in schools and providing teachers with the necessary tools and support to integrate nutrition more effectively into their teaching.

**Keywords:** Nutrition education; teachers' attitudes; awareness; Punjab; professional development; school policy.



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### Introduction

Nutrition education plays a crucial role in shaping the dietary habits and overall health of students, particularly during their formative years. In schools, teachers are pivotal in imparting knowledge about healthy eating practices, influencing not only students' current habits but also their long-term health behaviors (Wiradnyani et al., 2022). In many regions, including Punjab, Pakistan, however, the integration of nutrition education into the school curriculum remains inconsistent, and teachers' attitudes toward its importance can vary widely (Siddique, 2013). Understanding teachers' attitudes towards nutrition education is essential for evaluating the

effectiveness of current educational strategies and for identifying potential areas of improvement (Cotton et al., 2020).

In Pakistan, where nutrition-related health issues such as malnutrition, obesity, and vitamin deficiencies are prevalent, particularly among children, effective nutrition education is more important than ever (Wang et al., 2025). Teachers, as role models and educators, are in a unique position to influence children's food choices and health behaviors. However, the extent to which teachers feel prepared and supported to teach nutrition topics remains an area that requires further exploration. The attitudes of teachers can significantly impact the success of nutrition education programs, as positive attitudes are often linked to greater enthusiasm and more effective implementation in the classroom (Kupolati et al., 2015).

While some studies in global contexts have assessed teachers' perceptions of nutrition education and the factors that influence their ability to teach these topics, there is limited research focused on the attitudes of teachers in Pakistan, particularly in the province of Punjab. This gap in research calls for an exploration of how teachers in this region perceive nutrition education, their preparedness to teach it, and the challenges they face in delivering such content. In this study, we aim to assess the attitudes of teachers towards nutrition education in Punjab, Pakistan, and explore the factors that may affect their willingness and ability to engage in nutrition-related teaching. This study will contribute valuable insights that could guide future educational policies and professional development initiatives aimed at improving nutrition education in schools. Nutrition education is vital for fostering lifelong healthy eating behaviors, especially in a society where diet-related diseases such as diabetes, cardiovascular diseases, and obesity are on the rise (Pushpa et al., 2024; Cusquisibán-Alcantara et al., 2024). Teachers' engagement in promoting nutrition is integral to the success of these efforts. To effectively promote nutrition education, teachers must not only have adequate knowledge of the subject but also possess the resources, training, and institutional support to deliver such content in an engaging and impactful manner. This study will, therefore, examine the factors influencing teachers' attitudes towards nutrition education, focusing on their perceptions, challenges, and readiness to incorporate nutrition education into their teaching practices.

### Methodology

This study was conducted among private school teachers in Faisalabad, Pakistan, to assess their awareness and application of nutrition education. The total population of teachers in the selected schools was 196, and a sample size of 130 teachers was selected using a convenience sampling technique. The sample size was determined using a 5% margin of error and a 95% confidence level, as calculated via the sample size determination tool available on [www.surveysystem.com](http://www.surveysystem.com). A quantitative cross-sectional research design was employed to collect and analyze data. This design was chosen to allow for the collection of data at a single point in time, providing a snapshot of teachers' awareness and application of nutrition education. A structured questionnaire was developed based on the specific objectives of the study. The questionnaire consisted of multiple-choice, Likert scale, and open-ended questions, designed to capture comprehensive data on teachers' knowledge, attitudes, and practices related to nutrition education.

The validity of the questionnaire was ensured by submitting it to a supervisory committee consisting of experts in the fields of nutrition education and research methodology. The

committee provided feedback on the clarity, relevance, and comprehensiveness of the questions, leading to the final version of the questionnaire. To confirm the reliability of the instrument, a pre-test was conducted with 10 teachers who were not part of the main study sample. Reliability was assessed using Cronbach's alpha, which yielded an acceptable value of 0.82, indicating high internal consistency and reliability of the questionnaire.

Data collection was carried out by the researcher in person, ensuring that participants fully understood the purpose of the study, their role, and the confidentiality of their responses. Informed consent was obtained from each participant before data collection, and ethical considerations were strictly followed throughout the study. Data analysis was performed using SPSS (Statistical Package for Social Sciences) version 27. Descriptive statistics were used to summarize the data, including frequency, percentages, means, standard deviations, weighted scores, and rank order. These statistical techniques allowed for a detailed analysis of the teachers' awareness, attitudes, and practices regarding nutrition education, as well as their overall perceptions of its effectiveness in promoting a healthy lifestyle. The results were presented in tabular and graphical formats to facilitate easy interpretation and comparison

## Results

The results are tabulated below:

Table 1. Demographic Characteristics of Respondents.

Demographic Variable	Category	Frequency (n)	Percentage (%)
Age	Below 25 Years	7	5.4
	26–35 Years	28	21.5
	36–45 Years	68	52.3
	Above 45 Years	27	20.8
Teaching Experience	Less than 5 Years	32	24.6
	5–10 Years	54	41.5
	More than 10 Years	44	33.8
Type of School	Government	130	100.0
	Private	0	0.0
Highest Qualification	Bachelor	41	31.5
	Master	75	57.7
	MPhil/PhD	14	10.8
School Provides Training on Non-Academic Developmental Topics	Yes, regularly	1	0.76
	Occasionally	76	58.46
	Not sure	53	40.76
Who Monitors Food Policies in School	Teachers	21	16.15
	Principal	40	30.7
	No formal monitoring	43	33.08
	Not applicable	26	20.0
Students Bringing Packaged/Junk Food to School	Every day	11	8.5
	Often	2	1.5
	Sometimes	35	26.9
	Rarely	82	63.1
School Celebrates Events like 'Health Week' or 'Nutrition Day'	Yes, regularly	51	39.2
	Never	57	43.8
	I don't know	22	16.9

Table 1 presents the demographic characteristics of the respondents, detailing various categories and their frequencies. In terms of age, the largest group falls within the 36–45 years range, comprising 52.3% (68 respondents) of the sample, followed by those in the 26–35 years category at 21.5% (28 respondents), and the 45+ years category at 20.8% (27 respondents). Only 5.4% (7 respondents) are below 25 years of age. Regarding teaching experience, most respondents have between 5 and 10 years of teaching experience, making up 41.5% (54 respondents), followed by those with more than 10 years of experience (33.8%, 44 respondents), and 24.6% (32 respondents) have less than 5 years of experience.

All respondents (100%) work at government schools, with no respondents from private institutions. In terms of academic qualifications, the majority hold a Master's degree (57.7%, 75 respondents), followed by 31.5% (41 respondents) with a Bachelor's degree, and 10.8% (14 respondents) holding an MPhil or PhD. When it comes to non-academic developmental training, 58.46% (76 respondents) report that their school occasionally provides such training, while 40.76% (53 respondents) are unsure. Only 0.76% (1 respondent) indicated regular training. As for food policy monitoring in schools, 33.08% (43 respondents) indicated that there is no formal monitoring, while 30.7% (40 respondents) said the principal is responsible, and 16.15% (21 respondents) stated that teachers monitor food policies. Notably, 20% (26 respondents) reported that food policy monitoring is not applicable. Regarding students bringing packaged or junk food to school, the majority (63.1%, 82 respondents) reported that it occurs rarely, followed by 26.9% (35 respondents) indicating that it happens sometimes. Only 8.5% (11 respondents) said students bring junk food every day, and 1.5% (2 respondents) stated that it happens often.

Lastly, in terms of school events focused on health or nutrition, 39.2% (51 respondents) said their school regularly celebrates events like 'Health Week' or 'Nutrition Day', while 43.8% (57 respondents) stated that such events never occur, and 16.9% (22 respondents) were unsure.

Table 2. Teachers' Attitude about Nutrition Education (n=130).

Statement	Mean	Std. Dev.	WS	Rank
If asked to teach a nutrition module in class next week, I would feel prepared	4.70	0.678	611	1
I would like more resources/materials to support nutrition teaching in classrooms	4.59	0.794	596	2
I describe my attitude toward nutrition education	4.58	0.702	595	3
I enjoy teaching topics related to health and nutrition	4.51	0.673	586	4
I often integrate nutrition topics into non-science subjects (e.g., language, art, and math)	4.51	0.729	586	4
Nutrition education is a shared responsibility between teachers and parents	4.49	0.770	583	6
Training/workshops would most encourage teaching nutrition actively	4.49	0.685	583	6
I am willing to participate in nutrition education training programs	4.02	1.308	522	8
Conducting surveys to assess student habits... what would you suggest first	4.27	0.887	555	9
I believe nutrition education should be taught at all school levels	3.47	1.469	451	10

Scale 1=Not Effective,2=Slightly Effective,3=Moderately Effective,4=Very Effective,5 = Extremely Effective

The results from Table 2, which outlines teachers' attitudes towards nutrition education, show a generally positive outlook towards integrating nutrition into the classroom. The first statement, "If asked to teach a nutrition module in class next week, I would feel prepared," received the highest mean score of 4.70 with a standard deviation of 0.678, indicating that teachers feel well-prepared to teach nutrition if required. This statement also had the highest weighted score of 611, ranking it as the most favorable attitude.

Following closely, I would like more resources/materials to support nutrition teaching in classrooms and I describe my attitude toward nutrition education both scored highly with mean values of 4.59 and 4.58, respectively. These responses highlight that teachers not only recognize the importance of nutrition education but also feel the need for additional resources and support in the classroom to teach nutrition more effectively. These statements were ranked second and third with weighted scores of 596 and 595, respectively.

In terms of enjoyment, teachers also expressed a strong liking for teaching health-related topics. Both I enjoy teaching topics related to health and nutrition and I often integrate nutrition topics into non-science subjects (e.g., language, art, and math) received a mean score of 4.51, indicating that nutrition topics are often integrated into various subjects, suggesting an eagerness to include them in a broader educational context. These statements were ranked fourth, with identical weighted scores of 586.

Statements regarding the shared responsibility for nutrition education, such as Nutrition education is a shared responsibility between teachers and parents, and the impact of training, like Training/workshops would most encourage teaching nutrition actively, both garnered mean scores of 4.49, reinforcing the importance of collaboration between educators and parents and the positive impact of professional development on teaching effectiveness. These statements were ranked sixth with weighted scores of 583.

However, there were lower scores for some statements. I am willing to participate in nutrition education training programs received a mean of 4.02, and Conducting surveys to assess student habits was slightly higher at 4.27, both indicating a moderate interest in further engagement with nutrition education through training and student assessments. These items were ranked eighth and ninth, with weighted scores of 522 and 555, respectively.

Finally, the statement I believe nutrition education should be taught at all school levels received the lowest mean score of 3.47, reflecting some reservations about the universal integration of nutrition education across all school levels. This statement was ranked tenth with a weighted score of 451.

In summary, the data suggests that while teachers are generally positive about their preparedness and interest in nutrition education, they also see the need for more resources and professional development to improve their teaching effectiveness. The lower scores for certain areas, such as willingness to participate in training and universal inclusion of nutrition education, indicate areas where further engagement and policy support may be necessary to enhance the overall impact of nutrition education in schools.

## Discussion

The demographic characteristics of the respondents, as shown in Table 1, provide important insights into the age, teaching experience, and qualifications of the teachers. The majority of respondents (52.3%) were aged 36–45 years, followed by those in the 26–35 years group (21.5%). This age distribution is consistent with other studies that suggest the average teacher in this area of education is likely to be in mid-career (Booth et al., 2021). With 41.5% of respondents having 5–10 years of teaching experience, this sample represents a moderately experienced group of educators. Research by Metos et al. (2019) suggests that teachers with such levels of experience tend to be more confident in their teaching abilities, which is reflected in the respondents' positive attitude towards teaching nutrition education.

In terms of qualifications, the majority of respondents held a Master's degree (57.7%), which suggests that teachers in this sample are highly educated. However, only 0.76% reported receiving regular training on non-academic developmental topics, indicating a significant gap in professional development. This finding aligns with the work of Badri et al. (2016), who highlighted that despite the high educational qualifications of teachers, there is often a lack of professional development opportunities for teaching subjects like nutrition. This gap in training underscores the need for better resources and training programs that focus on nutrition education.

The results regarding food policy monitoring in schools reveal that a significant number of schools (33.08%) have no formal mechanism for monitoring food policies, while 16.15% indicated that teachers were responsible. These findings align with a report by the World Health Organization (2019), which found that in many school systems worldwide, formal monitoring of food policies is either non-existent or inadequately implemented. This lack of formal monitoring is concerning as it may contribute to poor dietary habits among students, which are closely linked to the rising rates of childhood obesity (Grace et al., 2021). The findings from this study emphasize the importance of establishing more robust food policy monitoring in schools to ensure that students are exposed to healthy eating practices.

Regarding the frequency of students bringing packaged or junk food to school, 63.1% of respondents reported that this happens rarely. This is in line with a study by Datar and Nicosia (2012), which suggested that while many students may occasionally bring unhealthy foods to school, it is often not a daily occurrence. However, the fact that 36.9% of respondents noted that junk food is brought to school frequently or occasionally indicates that there are still significant opportunities to improve the food environment in schools. This is consistent with findings from other studies, which argue that healthier school food policies and practices are essential in reducing the prevalence of unhealthy food consumption among children (Grigsby-Duffy et al., 2022).

The lack of school-wide events focused on nutrition, such as 'Health Week' or 'Nutrition Day', was also a concern, with 43.8% of respondents stating that these events never occur. Research by Mahmood & Shaikh (2025) emphasized that school-based nutrition education programs, including events like these, play a critical role in improving children's dietary habits. The absence of such events in a substantial number of schools

may contribute to the lack of focus on nutrition education in the broader school environment. In contrast, schools that regularly celebrate nutrition-focused events are better able to integrate healthy eating habits into their school culture, which can positively influence both students' attitudes toward nutrition and their eating behaviors (Lee et al., 2019).

In terms of teacher attitudes towards nutrition education, the results indicated that the majority of respondents felt prepared to teach a nutrition module, with a mean score of 4.70. This is consistent with findings by Gupta et al. (2017), who reported that teachers generally feel confident in teaching nutrition topics if they have received some form of training or preparation. However, the desire for more resources to support nutrition teaching (mean score of 4.59) highlights a gap in the availability of materials that could enhance teachers' ability to deliver effective nutrition education. According to a study by Brown and Green (2019), a lack of appropriate teaching resources is a major barrier to successful nutrition education in schools.

Furthermore, while teachers expressed a willingness to participate in nutrition education training programs, the lower score (4.02) for the statement "I am willing to participate in nutrition education training programs" suggests that there may be barriers to engagement, such as time constraints or lack of incentives for professional development. This finding echoes the conclusions of Hayes et al. (2018), who found that while teachers generally understand the importance of nutrition education, they are often reluctant to participate in training unless it is directly aligned with their teaching needs or provides immediate, practical benefits.

The results regarding the integration of nutrition education into non-science subjects (mean score of 4.51) reflect a growing trend towards interdisciplinary teaching. Research by Pérez-Rodrigo and Aranceta (2001) supports this approach, suggesting that integrating nutrition education across various subjects, such as language, art, and mathematics, is an effective strategy for reinforcing healthy eating habits and making nutrition education more relevant and accessible to students.

In conclusion, the findings from this study suggest that while there is a general willingness among teachers to engage in nutrition education, significant barriers remain, including insufficient training, limited resources, and a lack of school-wide support for food policy monitoring and nutrition-focused events. To address these issues, schools should consider implementing regular professional development programs, providing teachers with the necessary resources, and establishing clear policies for nutrition education and food monitoring. These changes will not only empower teachers but also foster a school environment that promotes healthy eating habits and supports students' overall well-being.

### Conclusion

This study highlights the significant role that teachers play in shaping students' understanding of nutrition, as well as the challenges they face in effectively delivering nutrition education. While the majority of teachers in the study expressed a strong willingness to engage in nutrition education and integrate it across various subjects, they identified several key barriers, including the lack of resources, inadequate professional

development, and the absence of formal food policy monitoring in schools. These challenges indicate that, despite positive attitudes towards nutrition education, teachers require better support in the form of targeted training, comprehensive resources, and school-wide initiatives to effectively address nutrition in the classroom.

The findings underscore the need for a more structured approach to nutrition education, involving not only teacher training but also enhanced policy implementation at the school level. Schools must prioritize nutrition education through regular events, clear food policies, and greater collaboration between teachers and parents. By doing so, they can create a more conducive environment for fostering healthy eating habits among students, which will have long-term benefits for their health and well-being.

For future research, it would be beneficial to explore the impact of comprehensive nutrition education programs on students' dietary habits and academic performance. Additionally, understanding the challenges faced by teachers in different regions and educational settings could provide valuable insights into how to best support them in delivering effective nutrition education. Ultimately, the goal is to build a sustainable framework for promoting nutrition education in schools, equipping both teachers and students with the knowledge and tools needed to make informed, healthy choices.

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