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The Assessment of teachers' role in guiding primary school students towards eating breakfast in the city of Tabuk

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Abstract

The goal of this study was to examine the role of primary school teachers in guiding their children to eat breakfast and the variations between them based on specific characteristics (gender, school type, teachers' qualifications, and specialty) in Tabuk City. A series of interviews were organized and conducted with representatives of students from primary schools in Tabuk. Open-ended questions were posed about the food habits and the usual ingredients for breakfast meals. After compiling and analysing the data from students, a constructing survey was administered to 570 teachers to collect data about their role in encouraging their students' nutritional habits in Tabuk primary schools. The community consisted of governmental and private schools in Tabuk City (70 governmental schools and 12 private schools). Participation in the study was voluntary. The results showed that teachers encourage students to eat breakfast before coming to school and explain to them the importance of having breakfast

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early. There were no statistically significant differences between the roles of male and female teachers in guiding their students to have breakfast in general (prior to school, at school). There are statistically significant differences in teachers' role in guiding their students to have breakfast meals in general (prior to school / at school) according to school type. This study stated that most students in Tabuk primary schools, (80.4%) eat breakfast meals. The most increased components consumed for breakfast are milk, egg, and bread while the least components are legumes and fruits. The study provided a deep understanding of the teachers' role on students' nutritional behaviours'. The findings highlighted the positive impact of teachers on encouraging their students' nutritional habits in Tabuk primary schools.

Key words:

Teachers, Students, Breakfast Meal, Primary School, Nutritional Behavior

تقييم دور المعلمين في توجيه طلاب المرحلة الابتدائية نحو تناول الإفطار في مدينة تبوك

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الملخص

الهدف من هذه الدراسة هو تقييم دور معلمي المرحلة الابتدائية في توجيه طلابهم لتناول الإفطار والاختلافات بينهم بناءً على الخصائص المحددة (الجنس ، نوع المدرسة، مؤهلات المعلمين ، والتخصص) في مدينة تبوك. تم تنظيم وإجراء سلسلة من المقابلات مع ممثلين عن طلاب المدارس الابتدائية في تبوك. تم طرح أسئلة مفتوحة حول العادات الغذائية والمكونات المعتادة لوجبات الإفطار. بعد تجميع وتحليل البيانات من الطلاب ، تم إجراء استبياناً على ٥٧٠ معلماً لجمع البيانات حول دورهم في تشجيع العادات الغذائية لطلابهم في مدارس تبوك الابتدائية. يتكون المجتمع من المدارس الحكومية والخاصة في مدينة تبوك (٧٠ مدرسة حكومية و ١٢ مدرسة خاصة). المشاركة في الدراسة كانت تطوعية. وأظهرت النتائج أن المعلمين يشجعون الطلاب على تناول وجبة الإفطار قبل المجيء إلى المدرسة ويشرحون لهم أهمية تناول الإفطار في وقت مبكر. لا توجد فروق ذات دلالة إحصائية بين أدوار المعلمين والمعلمات في توجيه طلابهم لتناول الإفطار بشكل عام (قبل المدرسة ، في المدرسة). توجد فروق ذات دلالة إحصائية في دور المعلمين في توجيه طلابهم لتناول وجبات الإفطار بشكل عام (قبل المدرسة / في المدرسة) حسب نوع المدرسة. أشارت هذه الدراسة إلى أن معظم طلاب مدارس تبوك الابتدائية (٨٠٪) يتناولون وجبات الإفطار. أكثر المكونات التي يتم تناولها في وجبة الإفطار هي الحليب والبيض والخبز بينما أقل المكونات هي البقوليات والفاكهة. قدمت الدراسة فهماً عميقاً لدور المعلمين في السلوكيات الغذائية للطلاب. وسلطت النتائج الضوء على الأثر الإيجابي للمعلمين في تشجيع طلابهم على العادات الغذائية في مدارس تبوك الابتدائية. **الكلمات المفتاحية:** المعلمين ، الطلاب ، وجبة الإفطار ، المرحلة الابتدائية ، السلوك الغذائي

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Introduction

Children are the most important human resources in society, especially in the age of knowledge and information. They are the expected human capital and hope for a promising future. Therefore, all societies seek to invest in them, pay attention to the quality of their lives, provide care for them, and address all psychological and behavioural deficiencies that may negatively affect their growth and educational development. Children's nutrition and students' healthy food in schools is increasingly being explored to prevent obesity and diseases and to promote healthy eating habits and behaviours.

Today's children will be the active members of society in the future, so equipping them with the right education and skills to succeed is an important role educators must take advantage of. However, poor nutrition is often a serious barrier to equipping students with the necessary tools and skills to succeed (**Dodsworth, 2010**). As parents and educators, we must educate our children the meaning and necessity of excellent nutrition so that they can develop healthy

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eating habits that will allow them to reach their full potential for the rest of their lives. Children must be taught the importance of appropriate nutrition in schools (**Beredo, 2019**). This is direct evidence of quality of life, and indirect evidence of the extent of social and economic development, because proper nutrition is important for normal growth, optimal mental development, good health, and protection of human life (**Obaid, Ayat, 2002**).

Since the Kingdom of Saudi Arabia (KSA) aspires to increase the quality of life through its Vision 2030, it works and tries to raise a dynamic society dependent on the development of its children's capacities (Saudi National Portal for Government Services, 2022). In accordance with this vision and as part of a national healthy food policy, the Saudi Food and Drug Authority have developed many educational initiatives to promote healthy eating habits. In 2019, several of these campaigns were implemented. The first program was to improve healthy consumption while reducing unhealthy and fatty nutrition in governmental and non-governmental organizations (**Bin Sunaid et al, 2021**). This could be driven by the fact that many scientific studies (**Dani, et al.; 2005; Roofe, 2010; Suhrcke and Paz Nieves, 2011; Malki, 2018 and Suha, 2020**) have confirmed the responsibility of healthy and proper nutrition for not only the formation and building of the body but also its important role in guiding the social, moral, and intellectual behavior of the individual, in addition to protection against chronic diseases, such as obesity, diabetes, heart diseases, and others.

Additionally, considering the importance and significant role of girl students as future mothers, low-cost health education activities as compared to the treatment activities, and existing limited and similar studies regarding the role of education on the amount of junk food consumption and the effect of different educational methods, especially at primary school level, it seems necessary to set and develop the educational programs (**Khalaj and Mohammadi (2006) and Cuco et al., 2006**) .

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School is an appropriate setting for health education, and children require adequate knowledge, attitudes, and values to promote their health. On the other hand, meals consumed during school hours are one of the important items of nutrition education at schools. Many modern studies have stressed the importance of breakfast consumption. It is often referred to as the most significant meal of the day. School meals are essential to students' well-being and readiness to learn. Children who usually have breakfast and lunch at school depend on school meals for half of their daily energy consumption. School meals will be essential for more children than ever before. School meals are healthier than meals brought from home or elsewhere; students who eat school meals consume more fruits, vegetables, and milk besides they are less likely to consume desserts and snacks (Minaya and Rainville 2016, Weber and Chen 2017, and Feeding America 2020). Strictly speaking, regular breakfast consumption makes a significant contribution to a child's physical health and well-being by improving nutrient intake and overall food quality (Sirichakwal, 2015; Ptomey et al., 2016 and Weatherly, 2018). Conversely, breakfast skipping is associated with several negative health effects and worse anthropometrics including higher body mass index (BMI) z-scores, waist circumferences, and overweight/obesity prevalence among children (Kostanjevec, et al., 2011 and Jabri et al., 2021). School nutrition policies and promoting the mentoring role of teachers can assist in boosting the availability and accessibility of healthy food in this regard. These policies could help create healthy school environments by encouraging healthy food practices (Aldubayan and Murimi, 2019) .

Most published studies in Saudi Arabia have been focusing on the prevalence of breakfast skipping and its associations with lifestyle behaviors in general without paying attention to the teachers' role and the disparities in students' gender, school type, teachers' qualifications, or teachers' specialization. Since the topic selection was based on this fact, the purpose of this study was to estimate the

role of primary school teachers in directing students towards the consumption of breakfast in Tabuk, northern Saudi Arabia. The stratification scheme included certain variables (teachers' gender, school type, teachers' qualifications, and teachers' specialization). From this perspective, our study seeks to answer the following questions which we consider important.

Research Questions

The research questions were:

- Do students eat healthy meals for their breakfast at primary schools in Tabuk?
- What role do teachers play at primary schools, to guide their students eat breakfast meals, and be aware of its importance?
- Are there any significant differences in students' willingness to eat breakfast and be aware of its importance based on the variables: (teachers' gender, school type, teachers' educational qualification, teachers' major specialization)?

Literature Review

A study by **Bracale, et al., (2013)** emphasized the relevance of the sociocultural aspects as modifiable factors affecting diet-related diseases in school-age children. Malnutrition during childhood is of serious importance. Being well nurtured means balancing the food one eats; it also helps individuals grow. **Goon et al., (2011)** and **Al Manfalouty (2016)** stated that food affects the nervous system. Accordingly, she recommends that teachers direct students have healthy food, especially during exams, as it helps them focus and remember easily; hence, it helps them improve their academic achievement. It is widely known that the problems students now face concerning fast and junk food still have a significant negative impact on their health and wellbeing. Here, teachers play an essential role in raising students' nutritional consciousness

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concerning healthy foods such as fish, meat, vegetables, fruits, and nuts. They can also warn against unhealthy foods such as junk foods and soft drinks, which negatively affect their intellectual processes.

Wolfe, et al., (2000) state that appropriate healthy food is essential for the brain to work at its highest possible energy and to enhance learning. They also suggest that it is very simple and clear and would not require any costly food; rather, it works towards healthy nutritional habits acquired at an early age of children's life (childhood), which supports their natural, neurological, and psychological growth. This positively reflects upon their ideal/meaningful learning, which enables them to remember and solve problems. They also stressed the importance of using children's food pyramid guides and pointed out the interconnection between living in a healthy style and academic achievement.

A study by **Prelip, et al. (2006)** indicated that classroom teachers are often responsible for improving their students' knowledge of nutrition and helping them to make healthier food choices. This is consistent with what was reported by **(Rossiter, et al., 2007 and Kubik, et al., 2002)** that teachers can positively influence students' eating habits in various other ways, such as nutritional knowledge and avoiding unhealthy nutritional practices during school hours. It was stated by **Rossiter, et al. (2007)** Students usually observe their teachers' nutritional behaviors/practices and eating habits at school. Consequently, these practices and behaviors can be transferred to students, especially teachers' food quality and quantity. Malnutrition is not necessarily the result of the lack of food and poverty, but it may be the result of bad nutritional practices, lack of knowledge of the basics of nutrition, as well as chronic diseases. There is strong confirmation that the greater the knowledge of nutritional foundations, the greater the child's outcome of a good, balanced diet. It has been stated that improper nutritional habits are common among children at an early

age, and it is one of the negative factors affecting nutritional status (Al-Amiri, et al., 2014).

On the other hand, a study by **Derscheid, (2014)** indicated the impact of preschool teachers' athletic activities, their self-efficiency, and nutritional knowledge of modeling children's healthy behaviors. **Hegazy, (2008)** also stressed the importance of nursery school female teachers' roles and the influence of food on various growth phases, especially early childhood. In addition, a study by **Mafia and Muharraq (2012)** showed the importance of a nutritional program, which is meant to help children acquire food culture, as it is so important for them, especially in their early childhood, and how this is connected to their kinesthetic activities.

In recent years, breakfast has been implicated in weight control, cardio-metabolic risk factors, and cognitive performance; however, at present, the literature remains inconclusive regarding the precise health benefits of breakfast. There are extensive reports of breakfast's contribution to daily food and nutrient intake, as many reports underline the positive role breakfast plays for people in their daily nutritional food. In addition, certain studies have established links between people eating their daily nutritional foods and their achievement levels (**Michael, et al., 2018 and Al Jabriya, 2010**).

Wolf, et al., (2000) and **Rausch (2013)** stated that having breakfast helps students excel in classrooms, and that certain types of food enhance children's learning memory. They also argue that nutritional supplements of vegetables, fruits, and nuts help children act better in the classroom. Parents and teachers' nutritional culture and awareness of healthy food play a significant role in children's health and growth. Hence, there is a need to design functional food products to improve health. **The National Health Service UK (2018)** stated that in certain countries, such as the United States and Mexico, there are detailed guidelines for both food eating and nutrients for school breakfast meals. Such guidelines usually closely

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follow nutritional system guidelines by focusing on food groups and some food elements, regardless of the actual daily servings of breakfast meals. **Bhayat and Ahmed (2014)** emphasized that nutrition education is vital for solving food-related problems. It provides children with basic experience and information about food and feeding, and their impact on children's conduct and habits. With the aim of inculcating good nutritional habits, they change food behavior for the better. It also helps improve the health, culture, and food habits of individuals via various nutritional programs in the comprehensive educational system. UNESCO also plays a key role in spreading food culture by integrating nutrition education and educational processes, and by helping all these education professionals acquire important nutritional knowledge, which reflects upon students' food behavioral practices (**UNESCO, 1984**). The World Health Organization (WHO) issued many criteria and strategies relating to the spread of nutritional culture to protect schoolchildren and focused on the role of teachers and schools (**World Health Organization, 2019**).

Consistent with that, the Kingdom of Saudi Arabia sought to implement the recommendations of the plan of the World Organization for Food in 2019-2020. Strategies were set up for smart nutritional partnerships between the ministries of health, education, social development and others regarding healthy food programs in education. Accordingly, many plans and programs have been prepared to achieve a food culture in schools to help spread healthy food consciousness among students and underline teachers' roles in guiding students. It has all this done together with its fundamental programs in dedicating its resources and capabilities to securing and providing healthy food (**Fliya and Al-Zaki 2004**).

Al-Muayyad, (2010) designed a working guide to help teachers inculcate healthy eating habits and lifestyles in children, including all that ensures a sound eating conduct required by food education. Moreover, **Saleh, (2002)** used a program in nutrition education, which proved to be effective in helping spread health,

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culture and upgrading students' nutritional awareness, and positively changing their daily food/health conduct. In addition, **Rashid, (2003)** mentioned the importance of the major role of teachers in implementing health education programs that greatly spread nutritional culture and health education. His most important study recommendation was to encourage teachers to apply to the health and food programs of primary schools. **Al-Ashqar, (2015)** introduced a program that depends on blended learning for developing students' and teachers' nutritional awareness. **Al-Falih, (2003)** stressed the role of teachers in guiding their students to have good healthy food. He also underlined the important role played by schools in improving students' health awareness from the viewpoint of science teachers in both the primary and intermediate stages in Riyadh city. In addition, **Al-Qurani, (2008)** highlighted the importance of the teachers' role in guiding their students to health and nutritional behaviors, as they positively influence their physical and cognitive life. He also emphasized the role of school administration in implementing health education objectives for primary school students in Altaeif City. **Faddah, (2012)** pointed out the role of school administration in activating health education in the basic stage in Gaza Governorate, especially the way teachers help achieve nutritional awareness among students. **Kupolati, et al., (2015), Ogada, (2015), Parker, et al., (2020) and McKeon, et al., (2021)** discussed the positive impact of teachers' knowledge and nutritional practices on preschool students in Kenya. He argued that teachers who have sound nutritional knowledge and culture are more influential in directing their students toward healthy attitudes. **Al Ziyad,(2018)** stated that science teachers in health-promoting schools in Asir Region (KSA) play a significant role in the prevalence of food culture among students, and that teachers' role is the key to promoting students' health in the school environment.

Despite numerous studies that have emphasized the great importance of the teachers' role in guiding their students to get

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healthy food, there are still many obstacles and difficulties that hinder teachers practicing their positive role in guiding students to eat healthy food. Among these basic obstacles is the lack of time to produce a food culture; there are no teachers directly responsible for nutrition education, and they do not have the required time or appropriate curriculum. Besides, there are challenges that confront teachers' roles, such as blending/ integrating nutritional awareness processes with class activities and curriculum. Accordingly, primary schools must ensure a proper milieu, capability, curriculum, and teachers' awareness to ensure nutritional education in schools and make it available to the community at large (Michael, et al., 2006).

This study is grounded upon the vision of the Kingdom 2030, which aims in one of its axes to make Tabuk a more developed region, by means of building a healthy society. The Kingdom's vision (2030) supports all programs for children and everything related to caring for them and achieving their quality of life, in which a healthy food culture is considered an educational reference for all areas of cognitive, emotional, motor, and physical development. Indeed, it is imperative that teachers play a strong role in such a vision, especially as they are responsible for implementing the rules and instructions of this vision in schools, and they can guide students and encourage them to maintain sound-balanced nutritional habits free from malnutrition.

Methods

A series of interviews organized and completed with (735) representatives of students at primary schools in Tabuk, (478) of them from governmental schools and (257) from Private schools. Open – ended questions were posed about the food habits and the usual ingredients for breakfast meals. All interviews were compiled and decoded. After and analyzing the data from students, the research team developed a questionnaire that was selected as the best strategy to gather comprehensive information from teachers. After it was pre-tested at schools not included in the final sample, the questionnaire was administered to teachers to collect data about

their role in guiding students' nutritional habits in Tabuk primary schools. The community consisted of all governmental and private primary schools in Tabuk City (70 governmental schools and 12 private schools, as stated by the General Authority for Statistics in Tabuk). Data was collected from 570 teachers. Participation in the study was voluntary. The participants were selected randomly from a total of (2350) male and female teachers working in primary, private, and governmental schools in Tabuk. Teachers received the study questionnaires via electronic mail and cell phone after obtaining permission from the Educational Administration in Tabuk. Table (1) presents the study variables and the sample characteristics.

Table 1: Demographic characteristics of the sample

Variable	Number	Ratio
1- Gender		
Male	395	69.3
Female	175	30.7
Total	570	100
2- Type of school		
Governmental schools teachers	328	57.5
Private Schools teachers	242	42.5
Total	570	100
3- Teachers' educational qualification		
Bachelor's degree	497	87.2
Postgraduate Studies	73	12.8
Total	570	100
Specialization		
scientific specializations	216	37.9
Literary specializations	354	62.1
Total	570	100

Most of the respondents were male teachers as they were more welcome to participate than female ones, and they were much more. The majority of teachers belonged to governmental primary schools,

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while others came from private schools, as they are fewer in Tabuk city. The study group consisted of a higher number of teachers who teach theoretical specializations than those who teach practical subjects, as there are already fewer in primary education in Tabuk.

The study tool (questionnaire), developed by the research team, started with an acceptance letter directed to the participants to have their approval, and then an introduction about the purpose of the study. The next part contained questions about the demographic characteristics of the participants, such as gender, occupational experience, specialization, and education. The third section consisted of two parts. The first part contained (7) questions describing teachers' role in guiding students to eat breakfast meals before the start of the school day. The second part contained (11) questions describing teachers' role in guiding students to have a breakfast meal in their classes after the start of a school day. The questionnaire was based on a 5-degree Likert scale of always, often, sometimes, rarely, and never.

The content validity of the questionnaire was approved by expert judgment. First, it was presented to eight faculty members who specialize in related fields and seven expert teachers at the primary stage for review and criticism. Participants were asked to assess the questionnaire items. After receiving their suggestions, the final copy of the questionnaire was adapted by the authors. The construct validity of the questionnaire was calculated using the Pearson's correlation coefficient. The results showed construct validity for both sections (the teacher's role in guiding his students to have breakfast prior to the school day) and the second section (the teacher's role in guiding his students to have breakfast in their class after the start of the school day) with Pearson correlation coefficients of 0.940 and 0.975 respectively. To determine the reliability of the questionnaire, Cronbach's alpha was calculated. The results for (the teacher's role in guiding his students to have breakfast in their class after the start of the school day) ranged from 0.776 to 0.881. The Cronbach's alpha coefficient for (teacher's role

in guiding his students to have breakfast in their class after the start of the school day) ranged from 0.768 to 0.876. SPSS software (version 20.0) was used for data analysis. The collected data were analyzed by applying frequencies, percentages, weighted arithmetic means, standard deviation, coefficient of variation, and independent samples t-test. Statistical significance was set at $p < 0.05$.

Results and Discussion

Results:

The study results are arranged thematically to address the questions posed at the beginning of this paper. Considering the questions and the statistical analysis, the following findings were drawn. To answer the first question and find out if students at the primary schools in Tabuk eat healthy meals for their breakfast, open-ended questions were posed to them:

- Do you eat breakfast? (Yes - No)
- Where do you eat breakfast (Home - school - home and school)?
- What are the components of breakfast that you usually eat?
- What breakfast do you like to eat?

Of the 725 recruited and interviewed students in Tabuk primary schools, only 144 (19.6%) expressed their denial of breakfast consumption at all, while the majority of students, 591 (80.4%), responded positively. Of these students, 133 (18.1%) eat their breakfast meals at home, while 455 (61.9%) of students eat their breakfast meals at home and school.

The components of breakfast that children usually eat are displayed on table 2. The analysis of the student responses proved that (20%) of the sample eat breakfast at home, (18.1%) eat breakfast at school, and (61.9%) of the sample eat breakfast at home and school.

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Table 2: Components of breakfast that children usually eat

variables	Students' No.	weight
cornflakes	97	14.8
milk	131	20
egg	109	16.6
cheese	62	9.5
sandwich	49	7.5
bread and pies	100	15.3
fruits	23	3.5
biscuits/ toast/ rusk	42	6.4
legumes	19	2.9
other	23	3.5
Total No. of students who consume breakfast	655	100%

The most increased components consumed for breakfast are milk, egg, bread, and pies, while the least components are legumes and fruits as evidenced by surveyed by children.

Tables 3 and 4 illustrate the role of teachers in directing primary school students to have breakfast meals and become aware of their importance. Teachers' response rates were calculated. The items were ranked from highest to lowest based on the comparison of percentages, averages, standard deviations, and the coefficient of variation for each item based on teachers' responses to each item.

**Table 3: Teachers' a role in directing their students
to eat breakfast prior to the school day**

N	phrases	Never		Rarely		Sometim es		Often		Always		Average	St. deviation	Coefficient of variation	Arrangement
		No .	%	No .	%	No.	%	No.	%	no	%				
1	I ask students if they had breakfast before the school day	33	5.8	49	8.6	148	26	170	29.8	170	29.8	3.69	1.154	31.27	3
2	I explain to them the healthy importance of eating breakfast before school day	27	4.7	33	5.8	131	23	146	25.6	233	40.9	3.92	1.137	29.01	2
3	I invite students who have not eaten their breakfast to take out their meals and eat them before they start classes	90	15.8	81	14.2	159	27.9	119	20.9	121	21.2	3.18	1.343	42.23	5
4	I encourage students to have their breakfast before going to school	22	3.9	29	5.1	112	19.6	138	24.2	269	47.2	4.06	1.104	27.19	1
5	I reward students who have their breakfast before school	106	18.6	95	16.7	155	27.2	114	20	100	17.5	3.01	1.347	44.75	7
6	I ask about the reasons why students do not eat their breakfast before school	73	12.8	70	12.3	190	33.3	130	22.8	107	18.8	3.22	1.252	38.88	4
7	I inform the families of students who did not eat breakfast before going to school	104	18.2	86	15.1	150	26.3	110	19.3	120	21.1	3.1	1.382	44.58	6
The total average for dimension " Teachers' role in directing their students to eat breakfast before the school day												3.45	1.046	30.3	-

From the previous table, there is a general approval orientation on (the teacher's role in directing their students to eat breakfast prior to school.) with an average of 3.45, a difference coefficient of 30.30%, and a teacher's role in directing their students

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to eat breakfast at school with an average of 3.53, and a difference coefficient of 29.27%.

Table 4: Teachers 'a role in directing their students to eat breakfast at school

N	phrases	Never		Rarely		Sometimes		Often		Always		Average	standard deviation	Coefficient of variation	Arrangement
		No.	%	No.	%	No.	%	No.	%	No.	%				
1	I observe students eating their meals at school	56	9.8	76	13.3	141	24.7	151	26.5	146	25.6	3.45	1.272	36.87	6
2	I ask about the type of meals students eat at breakfast	57	10	78	13.7	148	26	148	26	139	24.4	3.41	1.267	37.16	7
3	I urge students to complete their meals	40	7	47	8.2	143	25.1	126	22.1	214	37.5	3.75	1.236	32.96	5
4	Prevent students from eating unhealthy meals	31	5.4	61	10.7	128	22.5	136	23.9	214	37.5	3.77	1.212	32.15	3
5	I encourage students to eat healthy meals	22	3.9	23	4	87	15.3	135	23.7	303	53.2	4.18	1.078	25.79	1
6	I keep washing their hands before they take the meal	76	13.3	73	12.8	129	22.6	128	22.5	164	28.8	3.41	1.37	40.18	8
7	I direct students to ensure that the food and eating utensils are clean	49	8.6	36	6.3	112	19.6	153	26.8	220	38.6	3.81	1.254	32.91	4
8	I invite students to eat their meals in the designated places.	25	4.4	31	5.4	100	17.5	152	26.7	262	46	4.04	1.117	27.65	2
9	Write down the names of students who did not eat their meals	139	24.4	94	16.5	147	25.8	108	18.9	82	14.4	2.82	1.37	48.58	11

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10	I take notes on students engaging in improper eating behavior	112	19.6	96	16.8	144	25.3	119	20.9	99	17.4	2.99	1.364	45.62	10
11	I work with the students' families to help them encourage their children to eat breakfast	106	18.6	69	12.1	129	22.6	128	22.5	138	24.2	3.22	1.419	44.07	9
Average for a year for total dimension "Teachers' role in directing their students towards at school breakfast - meals												3.53	1.034	28.54	-

The answers to the items shown in both tables (3 and 4) reveal that teachers in Tabuk primary school encourage their students to eat breakfast before going to school. They explain to them the importance of the health of doing this, even though they rarely use the reward/enhancement style with the students who do this. Many teachers agree that they encourage their students to have healthy meals.

In Table 5, an independent sample t-test was conducted to determine if there are any significant differences in students' willingness to have a breakfast meal and be aware of its importance based on the variable (teachers' gender, " male/ female").

Table 5: T results for teachers' role in directing their students to eat breakfast prior to or inside the school according to teachers' gender (male and female).

Variables	gender	The number	Average	Standard deviation	T. value	Level of significant*
The role of teachers in guiding their students to eat breakfast before school	Males	395	3.40	1.095	1.889	0.059
	Females	175	3.58	0.919		
The role of teachers in guiding their students to eat breakfast at school	Males	395	3.53	1.077	0.166	0.868
	Females	175	3.54	0.932		
The role of teachers in guiding their students to eat breakfast	Males	395	3.48	1.049	0.873	0.383
	Females	175	3.56	0.875		

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Note. The questionnaire was 5-point rating scale, with a scale value of 5.0 indicating "always" and 1.0 indicating "never *p value < .05".

Table 5 states that no significant difference in the mean scores of the responses of male and female teachers at Tabuk primary school regarding the role of teachers assisting their students eat breakfast prior to the school day, the role of teachers in directing their students to eat a breakfast meal at school, and the role of teachers in guiding their students to eat breakfast in general (before and after school) according to gender. The T-values were 0.873, 0.1889, and 0.166, respectively, with a significant level higher than 0.05. In Table 6 an independent sample t-test was conducted to determine if there were any significant differences in students' willingness to eat a breakfast meal and be aware of its importance based on the type of school.

Table 6: Test results for teachers' role in directing their students to eat breakfast before or inside the school according to school type: (governmental and private schools).

Variables	School type	No.	Average	Standard deviation	t value	Level of significant*
The role of teachers in guiding their students to eat breakfast before school	governmental	328	3.31	1.071	3.802	0.001 **
	Private	242	3.65	0.983		
The role of teachers in guiding their students to eat breakfast at school	governmental	328	3.32	1.058	5.724	0.001 **
	Private	242	3.81	0.932		
The role of teachers in guiding their students to eat breakfast	governmental	328	3.32	1.020	5.169	0.001 **
	Private	242	3.75	0.916		

Note. The questionnaire was 5-point rating scale, with a scale value of 5.0 indicating "always" and 1.0 indicating "never *p-value < .05.

The statistics in Table 6 indicate that some functional differences in teachers' roles in directing their students to have breakfast in general (before and at school) are based on school

type. The T. values were 5.169, 3.802, and 5.724 with p values less than 0.05.

3. In Table 7 an independent sample t-test was conducted to determine if there were any significant differences in students' willingness to eat the breakfast meal and be aware of its importance based on the variable teachers' educational qualifications.

Table 7: T-test results for teachers' role in directing their students to eat breakfast before or inside the school according to teachers' educational qualifications (teachers with bachelor's degrees and teachers with postgraduate studies).

Variables	Teachers' Education Qualification	No.	Average	Standard deviation	T value	Level of significant*
Bachelor's degree Postgraduate Studies	Bachelor's degree	497	3.47	1.055	0.878	0.380
	Postgraduate Studies	73	3.35	0.988		
Bachelor's degree Postgraduate Studies	Bachelor's degree	497	3.53	1.052	0.185	0.854
	Postgraduate Studies	73	3.55	0.905		
Bachelor's degree Postgraduate Studies	Bachelor's degree	497	3.51	1.013	0.241	0.810
	Postgraduate Studies	73	3.48	0.904		

Note. The questionnaire was a 5-point rating scale, with a scale value of 5.0 indicating "always" and 1.0 indicating "never." *p value < .05.

Table 7 displays no statistical variations regarding teachers' role in guiding their students toward having breakfast (in general), either prior to or during the school day, in accordance with the level of education, as T values are 0.241, 0.878 and 0.185, respectively, with p values greater than 0.05.

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In Table 8, an independent sample t-test was conducted to determine if there were any significant differences in students' willingness to eat the breakfast meal and be aware of its importance based on the variable: teachers' major specialization (scientific/literary).

Table 8: T-test results for teachers' role in directing their students to eat breakfast before or inside the school according to teachers' specialization (scientific/literary).

Variables	Teachers' Education Qualification	No.	Ave rage	Standard deviation	T value	Level of significant*
The role of teachers in guiding their students to eat breakfast before school	scientific	216	3.54	1.026	1.600	0.110
	literary	354	3.40	1.057		
The role of teachers in guiding their students to eat breakfast at school	scientific	216	3.65	1.064	2.162	0.031 *
	literary	354	3.46	1.010		
The role of teachers in guiding their students to eat breakfast	scientific	216	3.61	1.009	2.20	0.044 *
	literary	354	3.44	0.988		

Note. The questionnaire was a 5-point rating scale, with a scale value of 5.0 indicating "always" and 1.0 indicating "never." *p value < .05.

Table 8 showed that statistical differences regarding teachers' role in guiding their students towards having breakfast (in general) and during the school day, in accordance with specialization, in favor of scientific ones, as T. values are 2.20, 2.162 and P. values 0.044 and 0.031 respectively, while there is no effect of specialization on teachers' role in guiding their students to eat breakfast prior to school as T. value is 1.600, and P. value more than 0.05.

Discussion

In this study, the overall diet quality of students in our sample was relatively high. Most interviewed students in Tabuk primary schools confirmed their breakfast consumption. Tabuk

is a large, primarily very conservative region where the main occupation of the people is agriculture. It is not surprising to find out that the most increased components consumed for breakfast are milk, eggs, bread, and pies. However, the least components they eat for their breakfast meals are legumes and fruits. In the study conducted by **Heidari et al., (2003)**, eating education was applied using educational materials like newsletters, special for kids, parents, and teachers, in order to increase the kids' knowledge and attitude towards fruits and vegetables. Nine months after the intervention, the researchers observed a significant increase in the participant's knowledge and attitude towards the fruit intake.

Our study demonstrated that students' nutrition-related behaviours and their consumption of breakfast had a significant relationship with teachers' guiding role. Teachers in Tabuk primary schools encourage students to eat healthy meals. They invite their students to eat their meals in the designated places. This may be due to the ethical, religious, and cultural factors attached to the nutritional culture which characterize the society. These findings are in agreement with that of **Kupolati, et al., (2015)**, **Ogada, (2015)**. **Parker, et al., (2020)** and **McKeon, et al., (2021)** that teachers play important role position to support healthy behaviors of students and create environments more conducive to eat healthy meals.

In respect of teachers' roles in guiding their students to eat a breakfast meal, there are no significant differences between male and female teachers at Tabuk primary school. These findings could be fascinating, as they might be due to the transformation of community in this conservative region that made women work out and carry out missions previously assigned only to males. Accordingly, children's nutrition has become a mutual duty that men and women must carry out in general and on a large scale. The results of the current study

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agree with those of **Babekr (2013)** and **Sultan (2017)**, who stressed teachers' role in enhancing health awareness and nutritional behaviour of primary and preparatory school students, regardless of the teachers' Gender.

There is an interesting finding that indicates the guiding role of teachers regarding student's breakfast consumption in private schools is much more effective than that in governmental schools. This may be due to the eagerness and great attention that private schools offer to attract numerous students. Private schools usually impose strict rules for teachers to take care of their students, which may not be offered by teachers in most governmental schools.

The current study underlines the lack of a remarkable effect of teachers' specialization or level of educational preparation on their role regarding students' tendency to have breakfast meals outside or inside school. Actually, this proved not essential for teacher preparation programs. These results are in accordance with **Babekr (2013)**, which revealed that variations in educational qualifications and job status of teachers had no effect on their role in attaining school health awareness, with all its nutritional and psychological aspects. On the other hand, the results of the study disagree with **Sultan (2017)** who suggested that teachers' performance in sustaining health awareness and nutrition attitudes of primary and preparatory school students varies according to teachers' educational qualifications.

Conclusion

In summary, to our knowledge, this is novel in that it assessed teachers' nutritional guiding role in Tabuk Primary schools in association with students' breakfast consumption and food-specific behaviors. According to results, it can be said that teachers provided excellent nutritional guidance to students, which influenced their eating habits as many of them eat breakfast at school. This significant finding imposes an urgent

need to provide teachers with more nutritional culture and knowledge to improve their role in nutritional education at school. Primary school teachers may need more experience with general health and food issues. This may have practical implications for the teachers' guiding role and the nutrition habitual behaviors of students.

It is also highly recommended to provide students in Tabuk primary schools with educational programs about healthy meals especially breakfast, and the benefits of fruits as a healthy food. Schools can also announce certain administrative measures for students who do not eat breakfast.

Developing more future studies to discover the mechanisms by which teachers' practices may impact student health behaviors.

Limitations of the study:

The study was conducted in school settings that may not be representative of all elementary schools in the KSA. Tabuk is a large, primarily very conservative region; the main occupation of people there is agriculture, which limits our ability to generalize results to urban and modern places in KSA. Teachers were asked about their guiding roles in students' nutrition and breakfast consumption, which are their personal assessments and may not represent the experiences of all teachers in KSA.

Despite these impediments, the current study provides a valuable insight into the perceptions of primary school teachers about their own role in guiding the habitual behaviors of students' nourishment and breakfast meals.

Ethical clearance:

Ethical approval for the study was secured from the Educational Administration in Tabuk. Confidentiality of the candidate's information was maintained. Permission from the education administration in Tabuk, KSA was obtained before the commencement of the study. Informed consent was obtained from

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the head teachers of the selected schools prior to the study. This consent form was also used to obtain information about the sociodemographic characteristics of the participating teachers.

ACKNOWLEDGMENTS

The authors would like to extend their appreciation to the Deanship of Scientific Research at the University of Tabuk for funding this work through research group number **S-1440-0247**.

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