

Parental Knowledge and Children's Breakfast Practices: A Study Among Primary School Children at Rathnapura Royal College, Sri Lanka

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PARENTAL KNOWLEDGE AND CHILDREN'S BREAKFAST PRACTICES: A STUDY AMONG PRIMARY SCHOOL CHILDREN AT RATHNAPURA ROYAL COLLEGE, SRI LANKA

Breakfast is considered the most vital meal of the day, supplying essential nutrients and energy required for children's growth, learning, and cognitive performance. In Sri Lanka, changing lifestyles and economic transitions have influenced breakfast habits, often leading to nutritionally imbalanced meals. Understanding current breakfast practices and their determinants is crucial for improving child nutrition and supporting national school-feeding initiatives. To assess parental knowledge and children's breakfast practices among primary school children at Rathnapura Royal College, Sri Lanka. A quantitative descriptive cross-sectional study was conducted among 253 primary school children (Grades 4 and 5) selected using a convenience sampling method. Data were collected from parents or guardians using a validated self-administered questionnaire that assessed sociodemographic characteristics, parental knowledge, and children's breakfast practices through a Food Frequency Questionnaire (FFQ). The tool demonstrated high validity (CVI = 0.92) and reliability (Cronbach's $\alpha = 0.82$). Data were analyzed using SPSS version 26 with descriptive and chi-square statistics, and $p < 0.05$ was considered statistically significant. Ethical approval was obtained from the KIU Ethics Review Committee (KIU/ERC/24/314). Among the participants, 152 (60.1%) were females and 101 (39.9%) were males, with a mean age of 9.5 years (SD = 0.5). Nearly all children ($n = 244$; 96.4%) consumed breakfast regularly, but 220 (87%) primarily ate rice or rice-based meals, while only 69 (27.3%) consumed fruits and 104 (41.0%) consumed milk or dairy daily. Parental knowledge was high, with 189 (74.7%) demonstrating good knowledge ($M = 2.8 \pm 0.4$). Significant associations were observed between breakfast practices and mother's education level ($\chi^2 (3, n = 253) = 12.37, p = .030$) and gender ($\chi^2 (1, n = 253) = 8.56, p = .035$), while age, religion, ethnicity, and father's education showed no significant relationships ($p > .05$). Although most children in Rathnapura consume breakfast regularly, meal diversity remains limited. Enhancing maternal nutrition education and implementing culturally tailored, school-based breakfast programs are essential to promote balanced and nutrient-rich breakfast habits among Sri Lankan schoolchildren.

Keywords: breakfast practices, parental knowledge, Sri Lanka

Introduction

Breakfast is widely recognized as the most critical meal of the day, providing essential nutrients and energy required to support children's physical growth, metabolic regulation, and cognitive performance (Adolphus, Lawton, & Dye, 2015). Regular breakfast consumption contributes to improved memory, attention span, and learning outcomes, while breakfast omission has been consistently linked to poor scholastic performance and unhealthy dietary habits (Chen *et al.*, 2020; Hoyland, Dye, & Lawton, 2009). Despite these well-established benefits, breakfast consumption

patterns differ considerably across populations, reflecting variations in socioeconomic conditions, cultural norms, and household food security.

In Sri Lanka, exploring breakfast practices among children is particularly relevant given the country's ongoing nutrition transition. National health statistics indicate a coexistence of undernutrition and overnutrition, demonstrating a double burden of malnutrition. Among Sri Lankan children, stunting and wasting remain public health concerns, while childhood overweight and obesity have increased in urban and semi-urban regions (Jayatissa, Gunathilaka, & Fernando, 2014). Dietary intake surveys reveal that although rice continues to be the staple food, the inclusion of fruits, vegetables, and dairy remains inadequate across most age groups (Sirasa, Wijesinghe, & Dissanayake, 2020). This shift toward energy-dense, low-nutrient foods highlights the need for interventions focused on improving meal quality—especially breakfast, which plays a decisive role in daily nutrient balance.

Sri Lanka's policy framework provides an institutional foundation for promoting child nutrition through the *National School Meals Programme* and the *School Milk Initiative*. These programmes collectively reach millions of children in primary and secondary schools and aim to improve dietary intake and learning performance (Ministry of Health, 2023). However, despite this coverage, disparities persist in household-level food practices. Many children either skip breakfast or consume nutritionally imbalanced meals before attending school (Gunawardena, Nanayakkara, & Perera, 2020). Understanding these household behaviors, therefore, becomes essential for aligning national policies with actual practices in communities such as Rathnapura, where economic and dietary transitions are rapidly occurring.

The Sri Lankan context also presents distinctive cultural and socioeconomic influences on breakfast consumption. Traditional breakfast choices are predominantly rice-based, such as *Kiri bath* (milk rice), *string hoppers*, and *roti*, which are often accompanied by coconut-based side dishes. However, recent studies have observed a gradual increase in children's preference for processed, convenience foods, particularly in urban areas (Sirasa *et al.*, 2021). Similar trends have been documented in India and Bangladesh, where urbanization and parental work patterns have contributed to higher rates of breakfast skipping and increased consumption of refined or fast food.

(Rao, Shetty, & Prakash, 2021; Khan *et al.*, 2024). These regional parallels highlight a shared need across South Asia for culturally appropriate strategies to promote consistent and nutritious breakfast habits among school-aged children.

The present study was conducted in Rathnapura, a semi-urban district in Sri Lanka, to assess the breakfast practices of primary school children and evaluate the relationship between parental knowledge and children's breakfast behavior. This context is particularly important as Rathnapura represents a blend of traditional dietary practices and modern lifestyle influences, mirroring national-level nutrition dynamics. By examining the gap between parental awareness and children's actual breakfast practices, this study seeks to generate evidence that can inform future school-based nutrition interventions and strengthen existing national nutrition policies. Ultimately, addressing breakfast consumption among Sri Lankan children can serve as a cost-effective and culturally sustainable strategy for enhancing both nutritional well-being and academic performance.

Objectives General Objective

- To assess the parental knowledge and children's breakfast practices among primary school children at Rathnapura Royal College, Sri Lanka.

Specific Objectives

- To assess the level of parental knowledge regarding children's breakfast practices among the parents of primary school children at Rathnapura Royal College, Sri Lanka.
- To identify the breakfast consumption patterns and dietary diversity among primary school children at Rathnapura Royal College, Sri Lanka.
- To determine the associations between children's breakfast practices and selected sociodemographic variables among primary school children at Rathnapura Royal College, Sri Lanka.

Methodology

A quantitative descriptive cross-sectional study was carried out to assess breakfast practices among primary school children at Rathnapura Royal College, Sri Lanka. The study population included students from Grades 4 and 5, representing an age group where independent eating habits begin to form. Of the 540 eligible children, a sample of 253 participants was selected using a convenience sampling method, as access to students was limited to regular school hours.

Data were collected using a structured, self-administered questionnaire completed by parents or guardians. A pilot study among 25 parents from another school demonstrated satisfactory reliability, with a Cronbach's alpha value of 0.82.

The final questionnaire consisted of three sections: (1) socio-demographic data, (2) parental knowledge regarding children's breakfast practices, and (3) children's breakfast practices. Parental knowledge was assessed using a validated three-item scale addressing the importance, timing, and nutritional quality of breakfast. Each correct response received one point, and the total score (0–3) was categorized as good (3), moderate (2), or poor (0–1).

Breakfast consumption patterns were further evaluated using a Food Frequency Questionnaire (FFQ) adapted from validated South Asian tools and modified for Sri Lankan dietary habits. Food frequency was rated on a 4-point Likert scale: 4 = Daily, 3 = Often, 2 = Occasionally, and 1 = Rarely/Never. Mean scores reflected consumption frequency, with higher values indicating more regular intake. Data were analyzed using SPSS version 26, applying descriptive and chi-square statistics, with $p < 0.05$ considered statistically significant. Ethical approval was obtained from the KIU Ethics Review Committee (KIU/ERC/24/314).

Results

Sociodemographic Factors

Of the participants, 60.1% ($n = 152$) were female students. The mean age was 9.5 years ($SD = 0.50$), with nearly equal representation of 9-year-olds (49.4%) and 10-year-olds (50.6%). Many mothers (39.5%) and fathers (43.1%) had completed GCE Ordinary Level education. These characteristics are detailed in Table 1.

Table 1. Sociodemographic Characteristics of Participants (n = 253)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	9 years	125	49.4
	10 years	128	50.6
Gender	Female	152	60.1
	Male	101	39.9
Religion	Buddhist	247	97.6
	Islam	4	1.6
	Hindu	2	0.8
Ethnicity	Sinhala	247	97.6
	Tamil	2	0.8
	Muslim	4	1.6
Mother's Education Level	No formal education	4	1.6
	Grade 1–5	8	3.2
	Grade 6–10	37	14.6
	GCE O/L	100	39.5
	GCE A/L	74	29.2
	Higher education	38	15.0
Father's Education Level	No formal education	2	0.8
	Grade 1–5	8	3.2
	Grade 6–10	41	16.2
	GCE O/L	109	43.1
	GCE A/L	64	25.3
	Higher education	28	11.1

Parental Knowledge of Children's Breakfast Practices

As presented in Table 2, 189 (74.7%) parents demonstrated good knowledge, 58 (22.9%) moderate knowledge, and 6 (2.4%) poor knowledge. The mean knowledge score was 2.8 ± 0.4 , indicating a generally strong understanding of breakfast importance, though gaps remained in recognizing the need for balanced and diverse meal composition.

Table 2. Distribution of Parental Knowledge Levels (n = 253)

Knowledge Level	Score Range	Frequency (n)	Percentage (%)	Mean $\pm$ SD
Good	3	189	74.7	2.8 $\pm$ 0.4
Moderate	2	58	22.9	
Poor	0–1	6	2.4	

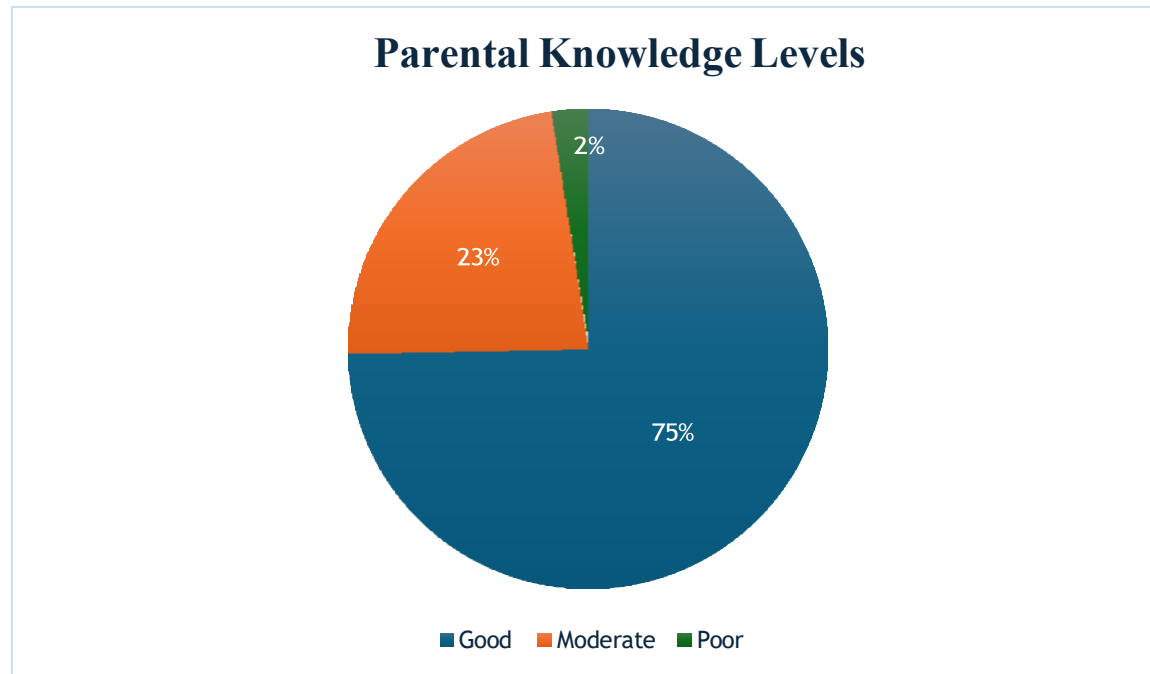


Figure 1. Parental Knowledge Levels (n = 253)

Children's Breakfast Practices

As shown in Table 3, most children (63.6%, n = 161) consumed breakfast between 7:00 and 9:00 a.m., while 29.2% (n = 74) ate before 7:00 a.m., and 7.1% (n = 18) after 9:00 a.m. Most students (53.0%) ate breakfast at home before leaving for school, 24.5% before school started, 17.0% during the school interval, and only 3.6% skipped breakfast entirely.

Table 3. Children's Breakfast Practices (n = 253)

Variable	Category	Frequency	Percentage (%)
Breakfast Time	Before 7 a.m.	74	29.2

	7–9 a.m.	161	63.6
	9–11 a.m.	18	7.1
Breakfast Venue	Before leaving home	134	53.0
	Before school starts	62	24.5
	At school interval	43	17.0
	Skipped breakfast	9	3.6

Further assessment of dietary diversity through the validated FFQ findings indicated that although almost all children consumed breakfast regularly, their meal composition lacked diversity. Rice or rice-based meals were the predominant breakfast choice (87%), while only 27% consumed fruits daily and 41% consumed milk or dairy products daily. Fast food consumption was common, with nearly half of the participants reporting intake at least 3–5 days per week. The mean frequency scores emphasized a high intake of staple foods but lower consumption of nutrient-dense items such as fruits, eggs, and pulses.

Table 4. Food Frequency of Common Breakfast Items Among Primary School Children (n = 253)

Food Category	Food Item	Daily (6–7 days/week) n (%)	Often (3–5 days/week) n (%)	Occasionally (1–2 days/week) n (%)	Rarely/Neve rn (%)	Mean Frequency Score (Mean ± SD)
Staple foods	Rice-based meals (Kiri bath, string hoppers,	220 (87.0)	24 (9.5)	5 (2.0)	4 (1.5)	3.82 ± 0.51

	<i>rice with curry)</i>					
Protein- rich foods	Eggs	53 (21.0)	74 (29.2)	80 (31.6)	46 (18.2)	2.53 ± 0.98
	Dhal or other pulses	69 (27.3)	88 (34.8)	58 (22.9)	38 (15.0)	2.75 ± 0.87
Dairy and beverage s	Full-cream milk or milk-based drinks	104 (41.0)	73 (28.9)	50 (19.7)	26 (10.4)	3.01 ± 0.91
	Tea (With or without milk)	119 (47.0)	81 (32.0)	37 (14.6)	16 (6.4)	3.20 ± 0.88
Fruits and vegetable es	Fresh fruits (Banana, papaya, mango, etc.)	69 (27.3)	84 (33.1)	56 (22.1)	44 (17.5)	2.70 ± 0.97
	Cooked vegetable es (in curry or side dish)	92 (36.4)	78 (30.8)	51 (20.2)	32 (12.6)	2.91 ± 0.90

Cereal and wheat-based items	Bread, roti, or pittu	48 (19.0)	87 (34.4)	73 (28.9)	45 (17.8)	2.55 ± 0.96
	Snacks					
	Fast food (buns, pastries, kottu, etc.)	15 (6.0)	110 (43.3)	85 (33.6)	43 (17.1)	2.38 ± 0.84
Processed foods	Sugary beverage					
	s (soft drinks, sweetened juices)	46 (18.0)	68 (26.8)	86 (34.0)	53 (21.2)	2.41 ± 0.95

Association Between Sociodemographic Variables and Breakfast Practices

As shown in Table 5, the analysis revealed a statistically meaningful association between mother's education level and children's breakfast practices, $\chi^2 (3, n = 253) = 12.37, p = .030$. Children whose mothers had completed secondary or higher education were more likely to consume breakfast regularly and include nutritionally diverse foods such as milk, eggs, and fruits. A second significant association was observed between gender and breakfast practice, $\chi^2 (1, n = 253) = 8.56, p = .035$, indicating that female children reported slightly higher rates of regular and nutritionally balanced breakfast intake compared to males.

No statistically significant relationships were observed between breakfast practice and other variables such as age, religion, ethnicity, or father's education level ($p > .05$). These results suggest that maternal education and gender are more influential determinants of breakfast behavior than other demographic factors within this population.

Table 5. Association Between Sociodemographic Variables and Children's Breakfast Practices (n = 253)

Variable	χ^2 Value	df	p-value
Age (years)	0.84	1	.358
Gender	8.56	1	.035
Religion	1.02	1	.312
Ethnicity	0.94	1	.329
Mother's Education Level	12.37	3	.030
Father's Education Level	2.18	3	.336

Note. Values are from Pearson's Chi-square test. p values are two-tailed.

Discussion

This study explored breakfast practices among primary school children in Rathnapura, Sri Lanka, and their association with selected sociodemographic factors. The findings revealed that while most children (96.4%) regularly consumed breakfast, the nutritional diversity of their meals was limited. The majority (87%) consumed rice or rice-based foods daily, whereas the inclusion of nutrient-dense items such as fruits (27.3%) and milk or dairy (41%) was comparatively low. The mean frequency score for rice-based meals (3.82 ± 0.51) was considerably higher than for fruits (2.70 ± 0.97) or eggs (2.53 ± 0.98), indicating a predominant reliance on carbohydrate-rich staples. These findings align with studies in Sri Lanka and other South Asian countries that report similar dietary patterns, where breakfast commonly consists of rice and tea with minimal protein or vitamins (Gunawardena *et al.*, 2020; Rao, Shetty, & Prakash, 2021).

Although 74.7% of parents demonstrated good knowledge of breakfast importance ($M = 2.8 \pm 0.4$), this understanding did not consistently translate into nutritionally balanced practices. This gap

between knowledge and behavior parallels findings from Ethiopia and Bangladesh, where economic and time constraints, as well as cultural food preferences, were shown to limit dietary diversity despite adequate awareness (Abebe *et al.*, 2022; Hossain, Rahman, & Nahar, 2020). The persistence of rice-dominant meals in this study suggests that household practicality, affordability, and convenience outweigh nutritional intent in shaping morning meal choices.

Statistical analysis demonstrated a significant association between mother's education level and breakfast practice, $\chi^2 (3, n = 253) = 12.37, p = .030$. Children of mothers with secondary or higher education were more likely to consume breakfast regularly and to include milk, eggs, and fruits. This supports prior evidence that maternal education strongly influences child feeding quality through improved nutrition literacy and decision-making capacity (Chen *et al.*, 2020). A gender-based difference was also observed, $\chi^2 (1, n = 253) = 8.56, p = .035$, with female children showing slightly higher rates of regular and balanced breakfast consumption. This may reflect differential parental supervision or behavioral tendencies among girls, consistent with regional findings (Rao *et al.*, 2021).

No significant associations were identified for age, religion, ethnicity, or father's education ($p > .05$). Overall, these findings suggest that while breakfast frequency is adequate, the limited dietary diversity underscores a need for culturally adapted interventions that focus on improving breakfast quality through maternal engagement and practical community-based nutrition initiatives.

Conclusion and Recommendation

The findings of this study highlight that breakfast consumption among primary school children in Rathnapura, Sri Lanka, is generally consistent, with 96.4% of children reporting regular breakfast intake. However, the nutritional quality of these meals remains suboptimal, as the majority rely heavily on rice and rice-based foods (87%), while nutrient-rich items such as fruits (27%) and milk or dairy products (41%) are less frequently included. Despite 74.7% of parents demonstrating good knowledge about the importance of breakfast, this understanding was not always reflected in children's meal diversity, indicating a persistent knowledge-practice gap.

Statistical analysis identified significant associations between children's breakfast practices and both the mother's education level ($\chi^2 (3, n = 253) = 12.37, p = .030$) and gender ($\chi^2 (1, n = 253) = 8.56, p = .035$). These results emphasize the central role of maternal education in shaping healthy dietary behaviors and suggest that girls may benefit slightly more from structured feeding routines compared to boys. Other sociodemographic variables such as age, ethnicity, religion, and father's education were not significantly related to breakfast practices.

The study concludes that while meal frequency is commendable, the limited nutritional diversity of breakfasts represents an important public health concern. Interventions should therefore move beyond general awareness campaigns to address practical barriers such as affordability, time management, and food availability. It is recommended that schools and health authorities collaborate to implement structured breakfast programs emphasizing balanced meal composition, incorporating locally available fruits, vegetables, and protein sources. Maternal nutrition education should be strengthened through community-based programs that focus on practical meal planning within household constraints. Further research using larger and more diverse samples across Sri Lanka is recommended to examine regional variations and to evaluate the effectiveness of targeted interventions in improving the nutritional adequacy of children's breakfasts.

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