ORIGINAL RESEARCH PAPER

Nursing

BREAKFAST EATING HABITS AND NUTRITIONAL STATUS OF PRIMARY SCHOOL CHILDREN AT THE SELECTED PRIMARY SCHOOLS IN MANGALURU

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ABSTRACT

Breakfast is regarded by many as "the most important meal of the day", because an adequate food intake at the beginning of the day helps to ensure that nutrient needs of the body for the remainder of the day are likely to be met (Magpily, M.P. Mercado, J., 2014).

Materials and methods A descriptive exploratory approach was used for the present study which consisted of 200 primary school children, selected by simple random sampling technique. Tools used were self reported questionnaire on breakfast eating habits and Body mass index and clinical assessment was done to assess the nutritional status of primary school children. The data was analyzed using both descriptive statistics and inferential statistics.

Results Majority 104(52%) of subjects had good breakfast eating habits, 94(47%) fair breakfast eating habits and 2(1%) poor breakfast eating habits.

Among boys majority 76(58.5%) had normal Body mass index, 30(23%) thinness, 19(14.6%) severe thinness and 5(3.9%) were overweight. Among girls majority 43(61.4%) had normal Body mass index, 17(24.3%) thinness, 9(12.9%) severe thinness and 1(1.4%) were overweight.

There was significant association of nutritional status with selected baseline variables such as age (0.01) and class (0.002).

Conclusion The results showed that a majority of participants had good breakfast eating habits and nutritional status.

Introduction
Childhood is the best time to learn the healthy habits that can last a lifetime. Healthy breakfast eating habits can help children feel good, attain a healthy weight and have lots of energy for study and play. The future of the society depends on the quality of life of the children.

School Children who do not consume adequate breakfast are engaged in consumption of junk foods, high fat and carbonic foods during mid morning (Adolphus, K., 2013). In this context the researcher felt the need to assess breakfast eating habits and nutritional status of primary school children.

Objectives of the study
1. To assess the breakfast eating habits of primary school children.
2. To assess the nutritional status of primary school children.
3. To find the relationship of breakfast eating habits and nutritional status of primary school children.
4. To find the association of nutritional status of primary school children and selected baseline variables.

Materials and methods
1. Setting: Selected primary schools of Mangaluru city, Dakshina Kannada District.
2. Research approach: Quantitative approach was used
3. Research design: Descriptive exploratory design
4. Sample: 200 primary school children
5. Sampling technique: Simple random sampling technique

6. Inclusion criteria:
- Primary school children (4th, 5th and 6th standard)
- Primary school children who are able to read and write Kannada or English

7. Exclusion criteria
- Children with illness
- Children who are mentally or physically challenged

8. Data collection instruments:
Tool I: Section A:Baseline proforma

It consists of 13 items regarding age, gender, type of family, number of siblings, religion, area of residence, place of accommodation, occupation of father, occupation of mother, Monthly income of the family, Class (standard), type of diet and breakfast consumption on the day of data collection which was administered to the parents.

Tool I: Section B: Self reported questionnaire on breakfast eating habits
The section consisted of 14 items comprising of the 6 areas, i.e., type of breakfast, time of breakfast, place of breakfast consumption, breakfast consumption style, effect of breakfast consumption and importance of breakfast consumption.

Tool II: Clinical assessment checklist on signs and symptoms of malnutrition
Assessment of nutritional status was done through clinical assessment checklist to identify signs and symptoms of malnutrition which consisted of 32 items such as signs -22 items, symptoms -7 items, Height- measurement-1 item, Weight-measurement-1 item and Body mass index-1 item

MAJOR FINDINGS OF THE STUDY
The data was analysed and presented under the following headings:

Section 1 : Description of baseline characteristics
Section 2 : Assessment of the breakfast eating habits of primary school children
Section 3 : Assessment of the nutritional status of primary school children
Section 4 : Relationship between breakfast eating habits and nutritional status of Primary school children
Section 5 : Association of nutritional status of primary school children and selected baseline variables
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Section 1 : Description of baseline characteristics Among 200 participants, 74(37%) were of eleven years of age, 64 (32%) of the participants were of the age group of nine years and 62(31%) were of ten years of age.

Majority of the participants 130 (65%) were males and only 70(35%) were females.
- Majority of the participants 113 (56.5%) were from nuclear family, 72 (36%) were from joint family and 15(7.5%) were from extended family.
- 98(49%) of the participants had one sibling, 47 (23.5%) had two siblings, 17 (8.5%) had three siblings, 15 (7.5%) had more than three siblings and 23 (11.5%) had no siblings.
- 90(45%) of the participants were following Hinduism, 74 (37%) were following Islam and 36(18%) were following Christianity.
- Majority of the participants 158(79%) were from urban area and about 42(21%) were from the rural area.
- Majority of the participants 198 (99%) lived at home and only 2 (1%) lived in hostel. 114(57%) participants, monthly income of the family was less than Rs.10,000, 73(36.5%) Rs.10,001-50,000, 8(4%)Rs.50,001-1,00,000 and 5(2.5%) was more than Rs.1,00,000.
- 67(33.5%) belonged to class 5, 67(33.5%) class 6 and 66(33%) belonged to class 4.
- Majority of the mothers 127(63.5%) were homemakers, 33 (16.5%) were unskilled, 30(15%) were professional and 10(5%) were skilled workers.
- Majority of the pzarticipants 187(93.5%) had breakfast on the day of data collection and 13(6.5%) did not have breakfast on the day of data collection.

Section 2 : Assessment of the breakfast eating habits of primary school children

Table 1: Frequency and percentage distribution of the participants according to their breakfast eating habits.

n=200

Range	Grading	Frequency (f)	Percentage (%)
Below 15	Poor	2	1
15-20	Fair	94	47
Above 21	Good	104	52

Maximum score =27

The data in the table 1 shows that majority 52% of the participants had good breakfast eating habits, 47% had fair breakfast eating habits and 1% had poor breakfast eating habits.

Majority 171(85.5%) of the participants eat bread/butter/Jam, chapathi, dosa, rice, Fruits any other, 11(5.5%) eat pasta/burger/noodles/pizza,12(6%) drink only milk, milk with biscuit, only bournvita, only complan, only horlicks and 6(3%) drink only sips of milk, only tea, only coffee, only water.

Most of the participants 110(55%) were consuming coffee /tea / black tea, 72(36%) were consuming beverages like horlicks /complan / bournvita/ milk / chocolate / fruit juice / any other, and 18(9%) were consuming water, carbonated drinks (coca-cola, pepsi etc).

45% of the participants consumed breakfast within less than 5minutes, 41% took 6-10 minutes, 8.5% took more than 20 minutes and 5.5% took 10-20 minutes.

Majority of the participants 178 (89%) have breakfast at home, 14(7%) Food brought from home at school, 3(1.5%) School canteen, 2(1%) Hotels and 3(1.5%) did not have breakfast.

Majority of the participants 144 (72%) had breakfast more than 5 days and 56(28%) had breakfast less than 5 days in a week.

Majority of the participants 183(91.5%) consumed breakfast before going to school and 17(8.5%) did not consume breakfast before going to school.

Majority of the participants 96.5% feel breakfast gives energy, 72% feel breakfast helps them to be in better mood, 72% feel breakfast helps them to pay attention and 94% feel breakfast

helps them to be healthy.

Section 3 : Assessment of the nutritional status of primary school children

Table 3: Frequency and percentage distribution of the participants according to nutritional status based on BMI grading.

n=200

BMI Grading (WHO)	Z Scores	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
		Boys	Boys	Girls	Girls
Overweight	>+1SD	5	3.9	1	1.4
Obesity	>+2SD	–	–	–	–
Normal	-2SD to+ 2SD	76	58.5	43	61.4
Thinness	<-2SD	30	23	17	24.3
Severe thinness	<-3SD	19	14.6	9	12.9

The data in the table 3 revealed that among boys majority 58.5% had normal Body mass index, 23% had thinness, 14.6% had severe thinness and 3.9% were overweight. Among girls majority 61.4% had normal Body mass index, 24.3% had thinness, 12.9% had severe thinness and (1.4%) were overweight.

Figure 1: Cylindrical diagram showing distribution of participants based on signs and symptoms of malnutrition
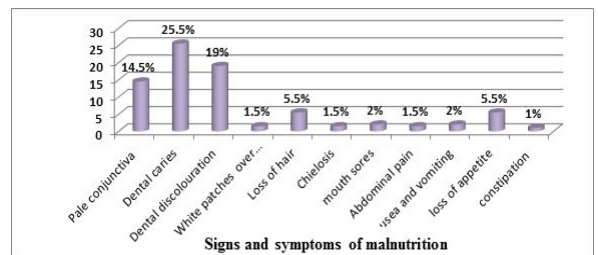
The data in the figure1 shows that among the participants 29(14.5%) had pale conjunctiva, Dental caries 51(25.5%), dental discolouration 38(19%) and white patches over extremities 3(1.5%), loss of hair 11(5.5%), chielosis 3(1.5%),Mouth sores 4(2%), Abdominal pain 3(1.5%), Nausea and vomiting 4(2%), loss of appetite 11(5.5%) and constipation 2(1%).

Section 4 : Relationship between breakfast eating habits and nutritional status of Primary school children

Figure 2: Scattered diagram showing relationship between breakfast eating habits and nutritional status
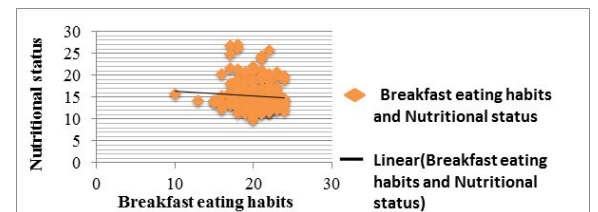
The figure 2 shows that there is no correlation (r = -0.07, p=0.272) between breakfast eating habits and nutritional status at 0.05 level of significance (the p value is more than 0.05).

Section 5 : Association of nutritional status of primary school children and selected baseline variables

There was significant association of nutritional status with selected baseline variables like age (0.01) and class (0.002) the P value is less than the 0.05 (p<0.05).

DISCUSSION

Majority (85.5%) of the participants consumed cereals of all kinds for breakfast and these ranged from bread/butter/jam, chapathi, (6%) only bournvita, only complan, only horlicks and (5.5%) milk with biscuit. Majority of the participants (55%) consumed beverages in the form of coffee /tea / black tea, (36%) horlicks /complan / bournvita/ milk / chocolate / fruit juice) and (9%) Water, carbonated drinks (coca-cola, pepsi etc).

Majority of the participants (72%) ate breakfast more than 5 days and (28%) less than 5 days in a week. The majority of the participants (91.5 %) ate breakfast before going to school and (8.5%) skipped breakfast before going to school.

This study is supported by the findings of a descriptive cross sectional survey which was conducted on breakfast eating habits and nutritional status involving 358 primary school children aged 6-11 years old randomly selected from 5 public primary schools in Anambra State in 2015 which showed that breakfast was usually consumed at home by 90.6%, while 5.4% ate on their way to school. Foods in the bread/cereal group and tea/cocoa beverages were commonly consumed for breakfast. 71.2% reported eating breakfast ≥5 times per week and 28.8% ate breakfast < 5 times per week. 48.8% skipped breakfast (Ukegbu, P.O., 2015).

Among boys majority (58.5%) had normal Body Mass Index, (23%) had thinness, (14.6%) had severe thinness and (3.9%) were overweight. Among girls majority (61.4%) had normal Body mass index, (24.3%) had thinness, (12.9%) had severe thinness and (1.4%) were overweight.

This study is supported by a descriptive cross sectional survey conducted on breakfast eating habits and nutritional status involving 358 primary school children aged 6-11 years old randomly selected from 5 public primary schools in Anambra State in 2015. The results showed the average age of the children was 8.2±0.7 years. 16% were underweight, 27.4% were stunted and 20.6% were wasted (Ukegbu, P.O., 2015).

Conclusion

Breakfast is the brain's first shot of fuel for the day. It is a central component of nutritional well-being, contributing to total daily energy and nutrient intake (Wurtz, R. 1999). Hence the parents and their children must be encouraged to practice healthy breakfast eating habits.

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