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Food Intake Pattern And Scholastic Achievement In School Children Of Tripoli – Libya

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Abstract

High scholastic achievement was found among school children who had regular breakfast (45.2%) and (86.3%). Rural school children preferred snacks from outside whereas Urban school children consumed home snacks. Also children from Rural areas consumed more Tuna Sandwich and Urban school children preferred purchased Snacks. Establishments of school food programs/School breakfast and Snacks programs/School mid – day meal program to improve their learning process and for better scholastic achievement. Administrators need to give highest priority objectives so in turn children are fed well and learn enough about nutrition to make healthful food choices.

Introduction

Nutrition status is resulting from the balance between the nutrient intake and the expenditure (McLaren, 1991), and nutrition status of children in one of the most sensitive indicators for sudden changes in healthy status and food availability acting as early warning sign of distress, illnesses and famine (Madean, 1976). Poor nutrition and health during childhood period have long term impact on child's later progress during school (Whitney, *et al.*, 1994). For school age children, nutritional deficiencies are responsible in part of poor class performance (McDonal, 1994). Nutrition and health interventions can result in significant improvement in school performance (Pollitt, 1984). The intervention can be possible by good break – fast and snacks.

With this, aim of the study was conducted to know the scholastic achievement in accordance to their intake of break – fast and snacks during the school hours.

Material And Methods:

The study was conducted among 300 school children comprising of both gender, sample of 150 school children each, from Rural and Urban school of Tripoli – Libya (age group 6 – 11) randomly choosing (every 5th child). Pre designed questionnaire distributed and informations were collected. The socio economic status was assessed by applied scoring system as follow (Zedan, Fatma, 1996)

Score 6 ----- 9 Low social class.

Score 20 ----33 Middle social class.

Score 34 + High social class.

Scholastic achievement was estimated by calculated the mean values of monthly examination scores from children’s school reports classified as (Adel, 1997)

Low < 50% Middle 50 --- 75% High > 75%

Period of study was for 6 months 2009.

RESULTS

Table (1): Percentage distribution of children according to their parent’s social level by area

Social level	Rural		Urban		Total	
	(n=150)	%	(n=150)	%	(n=300)	
High	20	22.2	70	77.7	90	99.9
Moderate	84	58.3	60	41.6	144	99.9
Low	46	69.6	20	30.3	66	99.9

Table (1) showed the majority of children from rural area were within the low (69.6%) and moderate (98.3%) social levels while the majority of children from urban area were within moderate (41.6%) and high (77.7%) social levels.

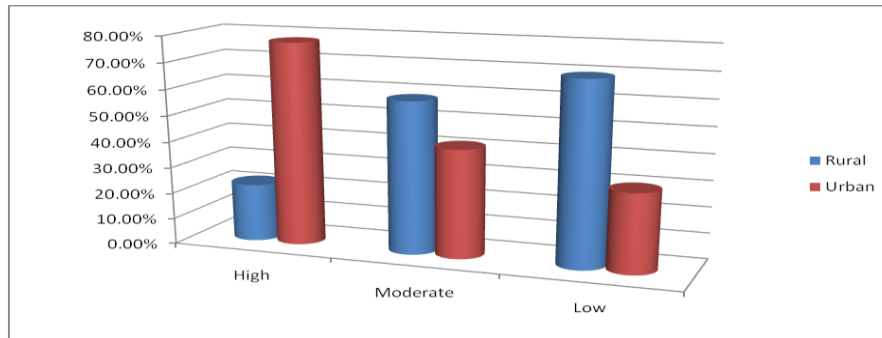


Fig (1): Area wise percentage distribution of children according to their parent's social level

Table (2): percentage distribution of children according to their residence and parent's economic level by area

Economic level	Rural (n=150)		Urban (n=150)		Total (n=300)	
		%		%		%
High	29	36.2	51	63.7	80	99.9
Moderate	74	49.3	76	50.6	150	99.9
Low	47	67.1	23	32.8	70	99.9

Table (2) showed the majority of children from rural were within low (67.1%) and moderate (49.2%) economic level while the majority of children from urban were at the moderate (50.6%) and high (63.7%) economic level.

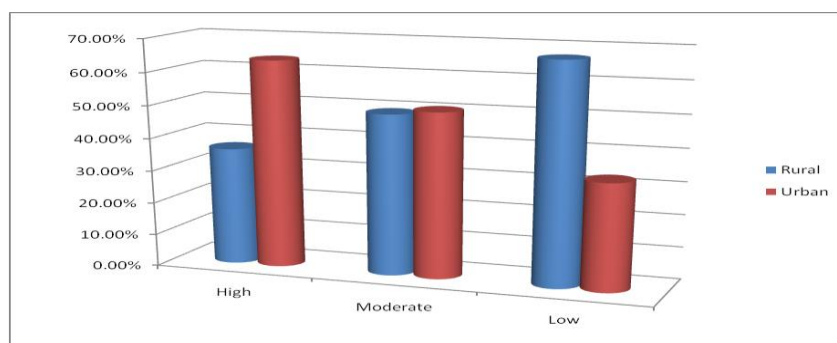


Fig (2): Area wise percentage distribution of children according to their parent's economic level

Table (3): Frequency and percent distribution of parent’s according to educational status

Ed. Status	NO	%	Father’s	%	Mother’s	%
Illiterate	27	4.5	2.0	0.7	25	8.3
Just literate	30	5.0	10	3.3	20	6.7
Primary & Preparatory	180	30	95	31.7	77	25.7
Secondary & Diploma	173	28.8	73	24.3	103	34.3
University & over	190	31.7	120	40.0	75	25.0
Total	600		300		300	

From table(3) it was found that the majority of father’s education status were university and over (40.0%) followed by primary & preparatory education(31.7%) while secondary & diploma was the highest education status for the mothers (34.3%) followed by primary & preparatory (25.7%) and university (25.0).

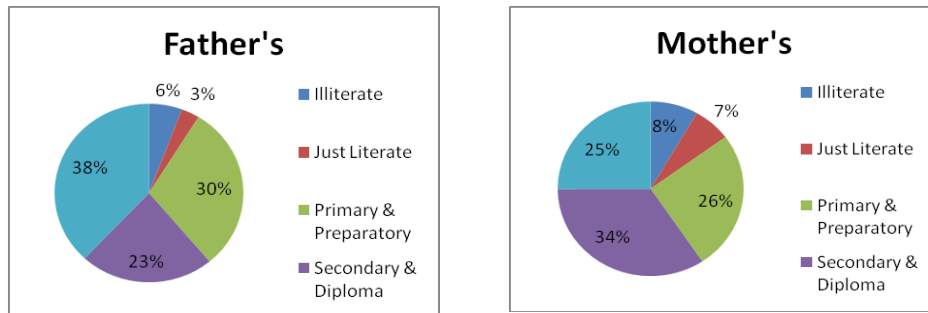


Fig (3): Frequency and percent distribution of father and mother based on literacy status

Table (4): Source of snacks among school children by area

Snacks Source	Rural		Urban	
	No	%	No	%
From Home	15	10	10.5	70
Out Side Home	125	83.3	40	26.6
No Snacks	10	6.6	5	3.3

In relation to area it was found from table(4) that the rural school children rely on outside home snacks(83.3%) while low percentage get their snacks from their home (10%) However most of school children from urban bring their snacks from home (70%) and 26.7%) get their snacks from outside home.

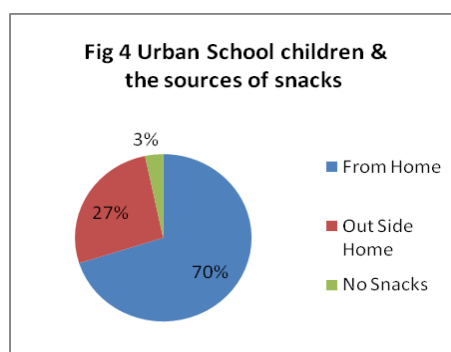
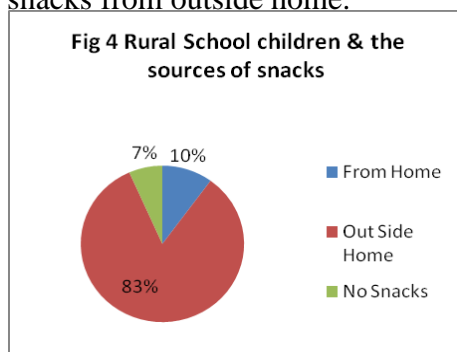


Table (5): Frequency consumption of snack kinds by school children according to area

Snack Types	Rural %	Urban %
Tuna Sandwich	82.3	90.2
School Biscuit	85.7	4.2
Purchased Biscuit	3.1	40.3
Purchased Snack	10	43.5
Sweets	7.3	46.5
Fruits	37.6	7.2
Beverage	12.4	4.3

Table (5) show the majority of children from both rural and urban area were consumed tuna sandwich regularly (82.3%), (90.2%) followed by school biscuit which highly consumed by rural school children (85.7%). On the other hand purchased biscuit and purchased

snack (40.3%) and (43.5%) were regularly consumed by urban school children, sweets also were highly consumed by urban school children (46.5%) compared to rural children (7.3%). Both fruits and beverage were more consumed by rural school children (37.6%), (12.4%) than by urban school children (7.2%), (4.3%).

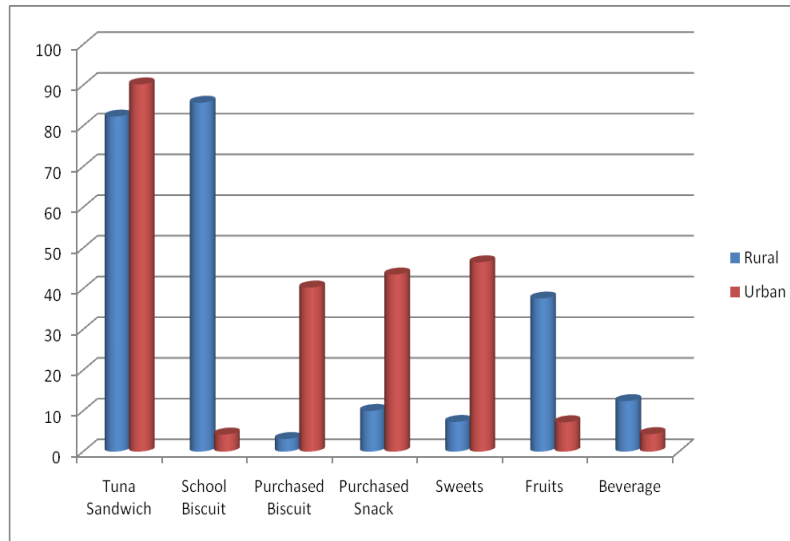


Fig (5): Frequency of consumption of snack kinds by school children according to area.

Table (6): Breakfast consumption among school children and scholastic achievement

Scholastic Achievement level	Regular Breakfast		Irregular Breakfast		No Breakfast	
	No	%	No	%	No	%
HIGH	80	45.2	15	22.1	10	18.2
MODERATE	61	34.5	26	38.2	20	36.4
LOW	36	20.3	27	39.7	25	45.4
TOTAL	177	100	68	100	55	100

Table (6) presented the number of school children towards breakfast consumption for 177 respondents (59%) of total sample. Irregular breakfast was shown among 68 schoolchildren accounted for

(22.6%) of total sample, while no breakfast was recorded among 55 school children were (18.3%) of total sample. However children who consumed regular breakfast showed high scholastic achievement (45.2%), compared to those who had irregular breakfast (22.1%) of total sample, or no breakfast (18.1%). Irregular low breakfast was revealed low illolastic achievement (39.7%), while the high percentage (45.4%), was shown among children who had no breakfast showing low scholastic achievement level.

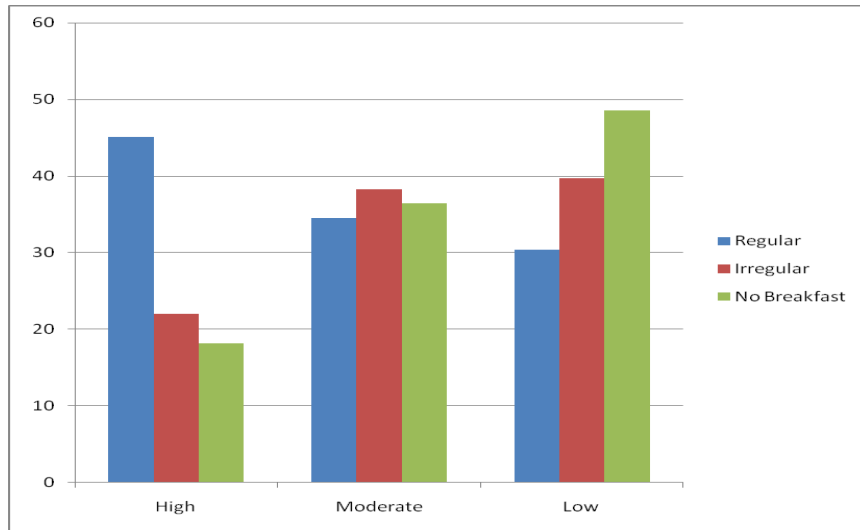


Fig (6): Scholastic achievement breakfast intake pattern among school children

Table (7): Snacks during school day among school children and scholastic achievement

Scholastic Achievement Level	Regular Snack		Irregular Snacks		No Snacks	
	No	%	No	%	No	%
HIGH	195	86.3	12	22.2	3	15.0
MODERATE	23	10.2	20	37.0	7	35.0
LOW	8	3.5	22	40.7	10	50.0
TOTAL	226	100	54	99.9	20	100

From Table (7) the number of children having regular snacks were 226 which represented (75.3%) of school children, irregular snacks was shown among 54 child accounted for (18%) while no snacks was

recorded among 20 children represented only (6.6%) of total sample. However with the respect to snacks consumed during school day high scholastic achievement was found among school children who had regular snacks (86.2%) followed by irregular ones (22.2%) and the least (15.0%) for children who had no snacks. Also more of low scholastic achievement children were observed among those who had no snacks at school (50.0%). While the percentage dropped to (40.7%) and (3.5%) among those who had irregular and regular snacks at school respectively.

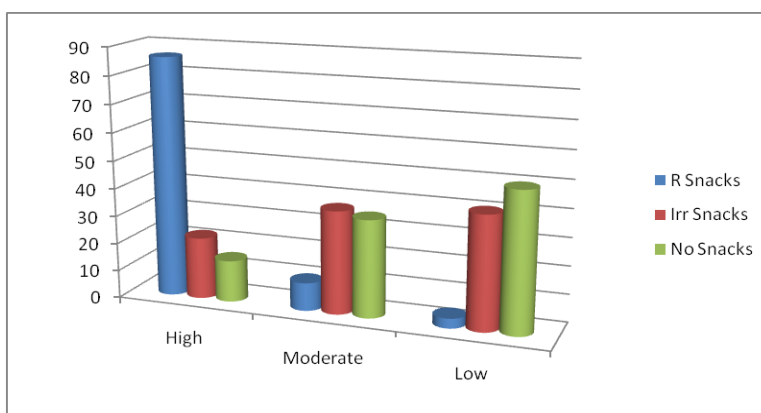


Fig (7): Scholastic achievement snack intake pattern among school children

DISCUSSION

Several studies have been reported to show that breakfast and snacks affect student performance and scholastic achievement, it breaks the fast of sleep hours prepares the child for problem solving while increasing memory span in learning period at school (Anon, 2000). The present study has also shown the same result (tables, 6, 7), the school children with high scholastic achievement had regular breakfast (45.2) and also same level of high scholastic achievement was found in children who were having regular snack intake in the school (86.3%). Therefor both breakfast and snacks during school hours have similar trend, mid morning snacks seems to have greater effect on scholastic achievement than breakfast and improves classroom performance all the way to the lunch time (Vera, 1990). The importance to have breakfast has been emphasized as it has direct effect on behaviors and the scholastic achievement (Farman and Noil, 1983 and Bourne, 1979). Although various studies have explained that children who do not eat breakfast or snacks perform poorly in tasks of concentration, their

attention spans are shorter and they show lower IQ on testing than their well fed peers (El-Marasi, and Abd El-Megeid, 2006). The children need to eat every four to six hours to maintain a blood glucose concentration high enough to support the activity of brain and nervous system (El-Banna, 2005). Also (El-Banna, 2005) The children who has not had breakfast the morning's lessons may be lost altogether (Pollitt, 1995; Anon, 2003 and Carol *et al.*, 2004). Who explained that immediate recall is better; when breakfast is omitted problem solving is poorer.

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