

The Situation Regarding School Canteen and Physical Activities among a Sample of Primary and Preparatory School Children in Egypt

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ABSTRACT:

Non-communicable diseases (NCDs) come via (unhealthy diet, /physical inactivity, tobacco use and harmful use of alcohol); all increase the risk of dying from NCDs. Children consume approximately half of their total daily amount of energy at school. This work designed to get a baseline data on the condition with reference to school canteen and physical activities between primary and preparatory schools. The study was conducted among 1361 school children age (6 y- 13 y) randomly selected from schools in four governorates: Cairo, Qalyobia, Menofia and Giza. Two types of questionnaire were done during the study; which interview was conducted to the school children, and qualitative type (focus group discussion) for school children and teachers responsible for nutrition in the school. **Results** revealed that the majority of the sample used to buy from school canteens (1294). Food from canteen was Low nutritious value high energy. However, these recommendations were achieved by only (37.1%) of study sample, nearly two thirds (63.9%) of the sample didn't practice any physical activities, while 14% and 10.7% of them practice physical activity once and twice weekly respectively. One quarter of the sample (25.4%) stay in front of TV or computer less than 1 hour daily, and 58% of them stay 2 hours daily. **Conclusion:** The present study shows that low nutritious value high energy density food items represent the commonly consumed food brought from school canteens. The practice of physical activity is very little, and in case of practicing, it is practiced infrequently.

Key words: *School – canteen – physical activity – NCDs*

INTRODUCTION:

Non - communicable diseases (NCDs) are also known as chronic diseases. There are four main types of NCDs: cardiovascular diseases (e.g., heart attack and stroke); chronic respiratory diseases (e.g., chronic obstructive pulmonary disease and asthma); diabetes; and cancers (WHO, 2018). In 2018 Non communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally. Tobacco use, physical inactivity, the harmful use of alcohol and unhealthy diets all increase the risk of dying (WHO, 2018). Risk factors of these NCDs are smoking tobacco; nutrition; physical activity; alcohol consumption; and poor hygiene (Parry et al., 2011). Children are not immune to this burden of NCD. Overweight children, and obesity and type 2 diabetes in children and adolescents are increasing problems. Globally, nearly 22 million children under 5 years of age are overweight. Overweight and obese children are likely to stay obese in adulthood and more likely to develop NCDs like diabetes and cardiovascular diseases in Adulthood (Alberto et

al., 2018). In response to the growing burden of NCDs and to reduce the impact of major risk factors such as unhealthy diet and physical inactivity, the World Health Assembly adopted the "Global Strategy on Diet, Physical Activity and Health, which Stated that "School policies and programs should support the adoption of healthy diets and physical activity (WHO, 2015).

Schools are a prime location for NCDs prevention through life skills education and providing a supportive healthy environment for children to support the development and application of a healthy lifestyle (WHO, 2017). Schools are encouraged to provide students with daily physical education and should be equipped with appropriate facilities and equipment. WHO recommends that children and adolescents aged 5–17 years require at least 60 minutes of moderate or vigorous physical activity daily, (WHO, 2018). Governments are encouraged to adopt policies that support healthy diets at school and limit the availability of products high in salt, sugar and fats (WHO, 2005). To avoid unhealthy weight gain, total dietary fat should not

exceed 30% of total energy intake ((**Food and Agriculture Organization, 2010**). Sugar intake should be less than 10% of total energy intake, keeping salt intake to less than 5g per day is also recommended to prevent hypertension and reduce the risk of heart disease and stroke in adults and young people (**WHO, 2012 and 2015**). As alcohol consumption is one of the risk factors of NCDs, WHO states that alcohol use begins in adolescence and that 25% of 13–15-year-old report having an alcoholic drink (**WHO, 2015**). Starting an effective school policy to promote healthy eating and physical activity requires national strategic leadership). Enabling young people to become aware of these guidelines, through life skills education, is a crucial preventative measure against the onset of NCD-related conditions and concerns.

AIM OF THE STUDY

This work was designed to get a baseline data on the situation regarding school canteen and physical activities among primary and preparatory school age children (6 y- 13 y). Help to develop a national guideline for

school feeding canteens and to develop physical activity policy in schools.

SUBJECT AND METHODS

A cross section of study was conducted among 1361 as total schoolchildren randomly selected from a sample of primary and preparatory schools selected from urban and rural sites in different governorates while the majority of the sample used to buy from school canteens (1294). Cairo as a capital (5 schools; 4 primary and one school for special need children). Qalyobia (5 schools; all are primary schools), and Menofia (4 schools; 3 primary and one preparatory school) as a Lower Egypt. While Giza as an Upper Egypt (6 schools; 5 primary and 1 preparatory school). All the primary schools received fortified biscuits with iron as school feeding program, while none of the preparatory schools had school feeding program for their children.

Two types of questionnaire were done during this study; quantitative type in which interview was conducted to the schoolchildren by investigators, and qualitative type (focus group discussion) for schoolchildren and

for teachers responsible for nutrition in the school.

Statistical analysis

Statistical analysis of the results by using computer program (SPSS), Independent descriptive statistics in the form of frequencies and percentages for qualitative variables, F-test and one-way analysis of variance (ANOVA) were used, the difference was considered significant at (P -value < 0.05) (Zar, 1984)

RESULTS

Results in the table (1) revealed that the majority of the sample (91.1%) bought food items from school canteens. Cairo is the highest percent bought food from school cafeterias, while Qalubeya is the lowest governorate. There was a significant difference between all governorates ($P < 0.05$).

Many reasons in the table (2) as they stated 27.8% of them bought following their peers with no significant difference in all governorates. 62.2% of them bought from canteen as they have money. 15% of them bought because they did not like home food, 2.9% of them bought as they did not like home sandwiches, and

0.7% of them bought according to TV advertisement.

In the table (3) about one-third of the sample bought daily from canteen (38.6%), one-third of the sample bought three times a week from canteen (35.6%), and around one-fourth of the sample (25.8%) bought twice weekly.

Table (4) represented that the chips most commonly consumed by nearly two-thirds of the school children (63.9%) followed by biscuits 57.9%, cakes 46.4%, fresh juice 36.2%, pancakes 6.5%, chocolate 20.2%, puff corn 21.6%, soft drinks 17.1%, sandwiches 3.4%, milk 3.4%, candies 6.1%, and peanuts 2.4% with significant difference between governorates for all item except cake and candy.

Results in table (5) showed that only 8.3% of the surveyed schoolchildren did not buy food from the school canteen: (5.7%) came from food home and 2.6% did not have money to buy. There was a significant difference between all governorates for both items in the table.

The distribution of school feeding program (biscuits) in the table (6) affected that the percent

or the pattern of buying from canteens as 66.9% of the sample did not buy from the canteen on the day the biscuits were versus 33.1% were bought.

About 28.6% of the samples know their weight and 8.3% know their height. 42.6% of the sample did not know their body picture, 28.2% know their body form were good, 21.2% know their body style were thin and 8% know their body image were overweight in a table (7).

Table (8) results showed that 65.7% of sample did not practice physical activity not once for more than 60 min a day a week. 13.4% practiced physical activity once a week, 8.3% practiced physical activity twice a week. 5.3% practiced physical activity three times a week, 3.6% practiced physical activity five times a week, 1.5% practiced physical activity four times a week, 1.4% practiced physical activity seven times a week's and 0.9% of sample practiced physical activity six times a week.

Results in table (9) demonstrated that 34.9% of children of school did not walk to school in the past 7 days. 49.8%

walk five day for the week, 4.4% walk three day for the week, 4.1% walk one day for the week, 2.6% walk two day for the week, 1.8% walk four day for the week, 1.6% walk six day for the week and 0.8% walk seven day for the week.

Table (10) showed that 77.3 % of a sample practiced physical activity class one time per week, while 17.5% did not practice physical activity class one time per week and 4.1% of a sample practiced physical activity class two time per week.

Table (11) showed that 44 % of students did not learn the benefits of physical activity at school, while 35.4% learn the benefits. There are a significant difference between all samples of governorates ($P < 0.000$).

Results in table (12) demonstrated that 57.7% of sample practiced physical activity for 1-2 hours, 25.9% practiced physical activity less than 1 hour, 13.8% practiced physical activity for 3-4 hours, and 2.2% practiced physical activity for 5-6 hours with significant difference between all specimen ($P < 0.000$).

DISCUSSION:

Non-communicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally. The increase in the mortality burden from NCDs can be due to the rise in the risk factors (**WHO, 2018**). Tobacco use, physical inactivity, the harmful use of alcohol, and unhealthy diets all increase NCDs (**Matthews, 2018**). The school canteens play a crucial role in ensuring the nutritional well-being of children. Regular consumption of unhealthy food items purchased from the school canteens may add to the existing burden of childhood obesity and its complication NCDs (**Puva, 2019**). Several studies have already highlighted the influence of school canteens on children's dietary habits and body weight. The present results revealed that the majority of the children bought from school canteens either primary school or preparatory school children because of many reasons as buying following their peers or they have and some did not bring food from home. Different low nutritious value food items found in the school canteen in different four governorates in Egypt (Cairo, Qalyobia, Menofia,

and Giza). The commonly consumed food items in school canteens; was chips represent the most commonly consumed being bought by nearly two thirds of the school children (63.9%) followed by biscuits 57.9%, cakes 46.4%, fresh juice 36.2%, chocolate 20.2%, corn 21.6%, soft drinks 17.1%, sandwiches 3.4%, milk 2.5%, and peanuts 2.2%. Only 8.3% of the surveyed schoolchildren did not buy food from the school canteen. The present results consistent with (**Khalid, 2018**) who revealed that the most commonly food items sold in the canteen were energy-dense snacks such as cakes and muffins (98.7%), confectionaries (96%), biscuits and cookies (93.4%), and chips (52.6%). **Condon et al., (2009)** found that 44%, 23%, and 20% of 494 high schools offered doughnuts, biscuits, and muffins, respectively. Children consume on average, 40% of the total amount of energy during school hours (**Bell and Swinburn., 2004**) and often the types of foods consumed are high in saturated fat, added sugar and salt (e.g., waffles, chocolate milk, iced teas, cakes and sausages) (**Chortatos et al.,: 2018**).

Togoo et al., (2012) found that 87% of the food items available in the school canteens were energy-dense foods such as confectionaries, chips, cakes, cookies, pudding, and ice cream. The present study found that most of the food items in the school canteen foods did not follow the recommendation of the **(WHO, 2015)**. The results showed that the compliance score of most of the selected schools in Riyadh with the requirements of the Saudi policy regarding “Meals and beverages offered in school canteens” ranged from 25% to 75 a similar trend was found in the Gulf region. According to the World Cancer Research Fund., the compliance of Kuwaiti public schools with banned foods monitored by the Kuwaiti Ministry of Education was not high **(WCR, 2015)**. The present study found that none of the selected schools in the study follows the recommendations for the percentage of total energy, fat, and saturated fat in foods offered in school canteens. Results showed that foods available in the selected schools in Riyadh **(Khalid, 2018)** contain more energy, fat, and saturated fat than what is recommended by IOM standards.

These results concur with a study conducted in the United States that 73.8%, 36.2%, and 71.2% of students aged 5–13 years selected foods that exceeded the upper limit of the IOM recommendations with total energy, fat, and saturated fat, respectively **(Martin et al: 2010)**.

In France, a study on school meals concluded that lunchtime food intake differed between the school canteen and other locations. Some intakes at school canteens were more by the regulations (more fruit and vegetables, fish and dairy products, and fewer sandwiches, soft drinks, chocolate and confectionery), whereas others highlighted improvement needs (more sweet biscuits and pastries, ice cream and dairy desserts, pizzas and salty pastries) **(Carine et al., 2015)**. These findings found great supportive evidence from previous studies of school meals **(Prynne et al., 2013)** and **(Fahlman et al., 2008)**. The present study revealed that school meals affect the buying capacity from the canteen.

Regular physical activity helps children and adolescents develop healthy behaviors, which they can sustain throughout their

lives. Furthermore, participating in regular physical activity increases muscle and bone strength and maintains a healthy weight. It also improves psychological well-being and reduces symptoms of depression and anxiety (**Landry, 2012**). World Health Organization (WHO) has set recommendations for children aged 5-17 years to practice moderate to vigorous physical activity at least 60 min per day (**WHO, 2008**).

However, these recommendations were achieved by only (37.1%) of our study sample. The majority of the sample (77%) regularly attended the physical activity class, while 14.2% of them did not attend the class without reason. Only 35% of the schoolchildren know the benefits of practicing physical activity. Nearly two-thirds (63.9%) of the sample did not practice any physical activities, while 14% and 10.7% of them practice physical activity once and twice weekly respectively. However, 34.2% of the sample did not walk and 52.5% of them walk and/or ride bicycles for 5 days every week. One-quarter of the sample (25.4%) stay in front of a TV or computer

for less than 1 hour daily, and 58% of them stay 2 hours daily.

These results were in agreement with a previous Egyptian study, about 43% practiced physical activity less than three times per week (less than the recommended by WHO). On the other hand, sedentary behaviors were much commoner and for prolonged periods. The majority of students (68.4%) watched TV for at least 3 hours daily and about 53.5% of the students reported playing computer games at least one hour daily (**El-Gilany and EL-Masry., 2011**).

Similarity found among Saudi Arabian, nearly 63% of them did not meet the daily physical activity guidelines (**Al-Hazzaa, 2011**).

The present result was supported by another USA study in the period from 1999–2009 showed that the adolescence increased their average amount of time spent viewing TV from 3 hours 45 minutes to 4 hours 30 minutes per day. Moreover, daily computer use also increased in the same period from 27 minutes to 1 hour 29 minutes (**Rideout. 2010**).

Reports suggest that children who spend too much time at the computer or watch more than ten hours of TV per week are missing important activities like playing with friends, reading or going outside (Strasburger, 2013). These children are at increased risk for social isolation, bad academic performance, aggressive behavior (Manz, 2014)

CONCLUSION

Low nutritious value high energy density food items represented the commonly consumed food bought from school canteens. The practice of physical activity was very low and practiced infrequently. WHO has set recommendations for children aged 5-17 years to practice moderate to vigorous physical activity at least 60 min per day. However, these recommendations were achieved by only (37.1%) of our study sample nearly two-thirds (63.9%) of the sample did not practice any physical activities, while 14% and 10.7% of them practiced physical activity once and twice weekly respectively. One-quarter of the sample, (25.4%) stayed in front of the TV or computer less than 1

hour daily, and 58% of them stayed 2 hours daily.

RECOMMENDATION

Setting National Guidelines for school canteens in Egypt is an essential step for better and healthier feeding in the schools encouraging physical activity.

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Table (1): Number and percent of students buying from the canteen

Sample number	Qalubeya (320)		Giza (390)		Cairo (258)		Monofeya (326)		Total (1294)		P value
	No	%	No	%	NO	%	No	%	No	%	
Number and percent of students buying food item from school canteen	272	(85)	356	(91.3)	247	(95.7)	311	(95.3)	1186	(91.6)	0.004

Table (2): Causes of buying from canteen

	Qalubeya		Giza		Cairo		Monofeya		Total		P value
	No	%	No	%	No	%	No	%	No	%	
As my friend	74	25.1	106	29.7	65	26.1	95	29.5	340	27.8	0.468
Have money got many from home	179	60.7	183	51.3	163	65.5	236	73.3	761	62.2	0.000
Don't like home food	38	12.9	63	17.6	21	8.4	61	18.9	183	15	0.002
Don't like home sandwiches	14	4.7	15	4.2	3	1.2	4	1.2	36	2.9	0.011
TV advertisements	2	0.7	7	2	0	0	0	0	9	0.7	0.009
Others	41	13.9	48	13.4	36	14.5	21	6.5	146	11.9	0.006

Table (3): Frequency of buying from the canteen per week

	Qalubeya		Giza		Cairo		Monofeya		Total		P value
	No	%	No	%	No	%	No	%	No	%	
Daily	106	35.9	118	33.1	108	43.5	140	43.5	472	38.6	0.002
Three or more	120	40.7	122	34.2	90	36.3	103	32	435	35.6	
Once or twice	69	23.4	117	32.8	50	20.2	79	14.5	315	25.8	

Table (4): Type of snacks they buy from the canteen

Food	Qalubeya (320)		Giza (390)		Cairo (258)		Monofeya (326)		Total		P value
	No	%	No	%	No	%	No	%	No	%	
Biscuit	163	50.9	176	45.1	125	48.4	285	87.4	249	57.9	0.000
Cake	152	47.5	176	45.1	105	40.7	167	51.2	600	46.4	0.077
Pie	18	5.6	62	15.9	7	2.7	12	3.7	99	7.7	0.000
Chocolate	76	23.8	66	16.9	27	10.5	92	28.2	261	20.2	0.000
Chips	223	69.7	268	68.7	170	65.9	166	50.9	827	63.9	0.000
Pop corn	104	32.5	71	18.2	38	14.7	67	20.6	280	21.6	0.000

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Sandwiches	6	1.9	9	2.3	5	1.9	24	7.4	44	3.4	0.000
Soda	25	7.8	72	18.5	47	18.2	77	23.6	221	17.1	0.000
Juice	76	23.8	127	32.6	86	33.3	180	55.2	469	36.2	0.000
Yogurt	0	0	3	0.8	1	0.4	4	1.2	8	0.6	0.228
Milk	5	1.6	35	9	4	1.6	0	0	44	3.4	0.000
Candy	22	6.9	27	6.9	8	3.1	22	6.7	79	6.1	0.166
Cotton candy	2	0.6	7	1.8	1	0.4	1	0.3	11	0.9	0.106
Benut	1	0.3	21	5.4	9	3.5	0	0	31	2.4	0.000
Chick peas	3	0.9	8	2.1	3	1.2	0	0	14	1.1	0.07
Others	70	21.9	39	10	50	19.4	64	19.6	223	17.2	0.000

Table (5): Causes of not buying from canteen

	Qalubeya		Giza		Cairo		Monofya		Total		Total did not buy food	P value
	No	%	No	%	No	%	No	%	No	%	%	
Got food from home	28	8.8	27	7	9	3.4	10	3.6	74	5.7	8.3	0.000
No pocket money	20	6.2	7	1.7	2	0.8	5	1.1	34	2.6		

Table (6) Do you buy from the canteen on biscuit distribution day?

	Qalyobya		Giza		Cairo		Monofya		Total	
	No	%								
Yes	120	37.5	164	42.1	96	37.2	48	14.7	428	33.1
no	200	62.5	226	57.9	162	62.8	278	85.3	866	66.9

Table (7): Body perception

	Qalyobya		Giza		Cairo		Monofya		Total		P value
	No	%	No	%	No	%	No	%	No	%	
Know your wt.	91	28.4	117	30	62	24.2	99	30.6	369	28.6	0.335
Know your ht.	14	4.4	34	8.8	15	5.9	42	13.5	105	8.3	0.000
Body image											
Good	74	23.3	94	24.1	60	23.3	135	42.2	363	28.2	0.000
Thin	80	25.1	59	15.1	52	20.2	81	25.3	272	21.2	
Overweight	25	7.8	332	8.5	18	7	27	8.4	103	8	
Don't know	140	43.9	204	52.3	127	49.4	77	24.1	548	42.6	

Table (8): Days of physical activity for more than 60 min a day in the past 7 days

	Qalyobyia		Giza		Cairo		Monofya		Total		P value
	No	%									
None	230	71.9	276	70.8	181	70.2	163	50	850	65.7	0.000
One	27	8.4	44	11.3	49	19	53	16.3	173	13.4	
Two	20	6.3	34	8.7	19	7.4	35	10.7	108	8.3	
Three	16	5	16	4.1	7	2.7	30	9.2	69	5.3	
Four	7	2.2	3	0.8	0	0	9	2.8	19	1.5	
Five	9	2.8	11	2.8	2	0.8	24	7.4	46	3.6	
Six	4	1.3	3	0.8	0	0	4	1.2	11	0.9	
Seven	7	2.2	3	0.8	0	0	8	2.5	18	1.4	

Table (9): Numbers of days you walk to and from School in past 7 days

	Qalyobya		Giza		Cairo		Monofya		Total		P value
	No	%									
None	114	35.6	179	45.9	135	52.3	23	7.1	451	34.9	0.000
One	11	3.4	11	2.8	7	2.7	24	7.4	54	4.1	
Two	11	3.4	9	2.3	5	1.9	9	2.8	34	2.6	
Three	12	3.8	24	6.2	5	1.9	16	4.9	57	4.4	
Four	4	1.3	13	3.3	3	1.2	3	0.9	23	1.8	
Five	149	46.6	150	38.5	150	38.5	245	75.2	645	49.8	
Six	11	3.4	3	0.8	3	0.8	5	1.5	21	1.6	
Seven	8	2.5	1	0.3	1	0	1	0.3	10	0.8	

Table (10): Numbers of physical activity class per week

	Qalyobya		Giza		Cairo		Monofya		Total		P value
	No	%	No	%	No	%	No	%	No	%	
None	37	11.6	85	21.8	51	19.8	53	16.3	226	17.5	0.000
One	266	83.1	277	71	200	77.5	257	78.8	1000	77.3	
Two	7	2.2	24	6.2	7	2.7	15	4.6	53	4.1	
Three	3	0.9	2	0.5	0	0	1	0.3	6	0.5	
Five or more	7	2.2	2	0.5	0	0	0	0	9	0.7	

Table (11): Is the benefits of physical activity at school?

	Qalyobya		Giza		Cairo		Monofya		Total		P value
	No	%	No	%	No	%	No	%	No	%	
yes	72	22.5	148	38	87	33.7	150	46.2	457	35.4	0.000
No	165	51.6	167	42.9	111	43	126	38.8	569	44	
I don't know	83	25.9	74	19	60	23.3	49	15.1	266	20.6	

Table (12): Duration of physical activity

	Qalyobya		Giza		Cairo		Monofya		Total		P value
	No	%									
<1 hour	101	31.6	125	32.2	37	14.5	71	21.8	334	25.9	0.000
1-2 hours	193	60.3	197	50.8	146	57	208	64	744	57.7	
3-4 hours	23	7.2	53	13.7	56	21.9	46	14.2	178	13.8	
5-6 hours	3	0.9	11	2.8	14	5.5	0	0	28	2.2	
7-8 hours	0	0	1	0.3	2	0.8	0	0	3	0.2	
>8 hours	0	0	1	0.3	1	0.4	0	0	2	0.2	

الوضع المتعلق بالمقصف المدرسي والأنشطة البدنية لدى عينة من أطفال المدارس الابتدائية والإعدادية في مصر

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الملخص العربي

تأتي الأمراض غير المعدية عن طريق (نظام غذائي غير صحي ، وقلة النشاط البدني ، وتعاطي التبغ والكحول على نحو ضار) فتزيد من خطر الوفاة. يستهلك الأطفال ما يقرب من نصف إجمالي طاقتهم اليومية في المدرسة. غالبًا ما تكون الأطعمة المستهلكة عالية الطاقة وقليلة التغذية. تم تصميم هذا العمل للحصول على بيانات أساسية عن الوضع فيما يتعلق بمقصف المدرسة والأنشطة البدنية بين تلاميذ المدارس الابتدائية والإعدادية. أجريت الدراسة على ١٣٦١ تلميذ من سن (٦ - ١٣ سنة) اختيروا عشوائيًا من مدارس في أربع محافظات: القاهرة ، القليوبية ، المنوفية ، الجيزة. تم عمل نوعين من الاستبيان خلال الدراسة ؛ التي أجريت المقابلة مع تلاميذ المدارس ، وأخر (مناقشة جماعية مركزة) للأطفال المدارس والمعلمين المسؤولين عن التغذية في المدرسة. أظهرت النتائج أن غالبية العينة كانت تشتري من مقاصف المدارس (١٢٩٤). طعام المقصف ذات قيمة غذائية منخفضة وطاقة عالية. إلا أن هذه التوصيات تحققت بنسبة (٣٧,١٪) فقط من عينة الدراسة ، وحوالي ثلثي العينة (٦٣,٩٪) لم يمارسوا أي نشاط بدني ، بينما ١٤٪ و ١٠,٧٪ منهم يمارسون النشاط البدني مرة ومرتين أسبوعياً على التوالي. ربع العينة (٢٥,٤٪) يمكنهم أمام التلفاز أو الكمبيوتر أقل من ساعة واحدة يوميًا ، و ٥٨٪ منهم يمكنهم ساعتين يوميًا. الخلاصة: تُظهر الدراسة الحالية أن المواد الغذائية منخفضة القيمة الغذائية عالية الطاقة تمثل الطعام الشائع الاستهلاك الذي يتم إحضاره من مقاصف المدارس. ممارسة النشاط البدني قليلة جدًا ، وفي حالة ممارستها ، فإنها تمارس بشكل غير منظم.

الكلمات المفتاحية: المدارس- المقصف - النشاط البدني- الأمراض الغير معدية