

## Journal of Food and Dairy Sciences

Journal homepage: [www.jfds.mans.edu.eg](http://www.jfds.mans.edu.eg)  
Available online at: [www.jfds.journals.ekb.eg](http://www.jfds.journals.ekb.eg)

### Assessment of Nutritional Status and Related Nutrition Habits, and Knowledge among Female Adolescent Girls: A Questionnaire Based Study in Mansoura City Schools, Egypt

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#### ABSTRACT

Proper Nutrition in adolescence is a main factor to healthy and strong adult generation. The transitional biological changes in the period from childhood to adulthood is of specific importance to ensure a healthy development of body leading to healthy adults. The study aims to assess the nutritional status of secondary school students in Mansoura, Dakahlia Governorate, Egypt. A randomized stratified survey design was used for 545 students, aged 15-18 years old. The study was carried out in five governmental schools that were randomly chosen. The girl's students filled out self-administered questionnaire about nutritional knowledge, Diet pattern, eating habits and nutrition assessment. Anthropometric assessment was carried out (height-for age, weight-for age, BMI-for age). The study findings revealed that most of the girls (65%) were in normal weight, nearly a third of them were overweight and obese 20% and 9% respectively. less than half of the girls had correct knowledge about general nutrition. Eating habits showed (64%) ate three meals a day. (58.3%) consumed breakfast daily. (77%) had a habit of consuming snacks. Data collected were statistically analyzed. Although most girls are of normal weight, the results obtained indicate weight gain, unhealthy eating habits, and also average nutritional knowledge, which reflect a lack of knowledge that will negatively affect their overall status as maternity health mothers in the future. Attention should be paid to nutrition at this stage and to reduce the spread of weight gain, and we recommend a nutritional plan designed for this age group in Egyptian schools.

**Keywords:** nutritional status, nutritional assessment, adolescence, female, nutritional knowledge, questionnaire.



#### INTRODUCTION

Adolescence is a stage of life in which there are future patterns of adult health and in which the opportunities for health are great, where health in this stage is affected by the outcome of interactions between prenatal and early childhood development and the biological and social changes that accompany the period of puberty (Sawyer *et al.*, 2012). Adolescence is divided into three periods of development: early adolescence (10-14 years), late adolescence (15-19 years of age), and young adulthood (20-24 years). In this period, physical, psychological and sexual changes occur (Das *et al.*, 2017). Children and adolescents are the groups most vulnerable to the impact of inadequate nutrition. Diet is one of the factors that influence the proper development and growth of youth and the maintenance of good health for the elderly. (Sitko *et al.*, 2012 and Abd El-Kader *et al.*, 2019).

A healthy, well-educated mother highly productive and contribute to the well-being and health of her family and community which is an economic investment for women and their children. The nutritional awareness mothers must be understood in order to promote appropriate health that will meet their needs for health information and health literacy in order to improve maternal and child health outcomes. (Mulauzi and Daka, 2018).

Nutrition is key to unlocking the potential of investing in the health of women, children and adolescents. Ensuring the health and nutritional status of women, in and of themselves, at all stages of life is fundamental to ensuring the health and nutrition of children. In many ways, teenage girls are at the coming mothers. Efforts to improve nutrition should, therefore,

pay special attention to the first 1,000 days of life (from conception to 2 years of age), pregnant and lactating women, women of childbearing age, and adolescent girls. (EWEC, 2015).

Nutritional status is an indication of an individual's distinct health status through the effect of nutrient intake and utilization. Adequate nutrition may be a prerequisite for good health, quality of life and national competence. Although problems related to malnutrition affect the entire population, women is particularly at risk due to their unique physiological, social and economic characteristics. (Bhuiyan *et al.*, 2020).

Adolescent are mostly tending to take on unhealthy dietary habits, like skipping breakfast, and excessive consumption of fast food, goodies, and sugar-sweetened liquids (Hussien Hanan, 2017). Therefore, the objective of the study was to investigate and assessment of knowledge and relevant nutrition habits among school girls in Mansoura.

#### MATERIALS AND METHODS

##### Methods:

##### Study Design:

A stratified randomized study has been carried out on girls in five governmental secondary schools in Mansoura city, Dakahlia governorate, Egypt. Aged (15-18) years. started for the academic year (2017/ 2018).

##### Participants and study location:

**Sample size:** Around 10% of total students enrolled in five governmental schools were enrolled as a sample in the study to apply questionnaire investigation. Total of 608 female students were selected randomly to fill the questioner. 63 skipped the study, so the final number of participants was

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DOI: 10.21608/jfds.2021.212206

545 distributed as follow in 5 schools Sindoub secondary school 77girls, Am almuninin secondary school 82girls, Al-Shennawi secondary school 90 girls, Jihan secondary school 118girls and Secondary 241girls .

**Informed consent:** An informed consent was assigned by students before participation.

#### Data Collection Tools and Materials

##### Study Questionnaire:

The questionnaire was designed based on relevant previous questionnaires and from literatures was modified to suit Egyptian food culture and customs. (Parmenter and Wardle, 1999) (Kinyua, 2013) (Hong Kong Department of Health, 2009). Then, revised by a professional committee to approve it from scientific side.

The questionnaire composed of four main parts. first part demographic data anthropometric measurement, second part nutrition knowledge , third part nutritional attitude, fourth part dietary practices nutrition assessment. After obtaining the approval of the managers and girls, the data were collected using the following tools:

##### Pre-testing of Questionnaire:

A pilot study of the questionnaire was conducted on a sample of 10 girls from the studied schools and the time required to fill out the questionnaire was determined, and unnecessary questions were excluded and developed before starting the study (Kharde *et al.*, 2013)

##### Anthropometric measurement:

Anthropometric parameters, including measurements of BMI-for age, weight-for age, and height-for age, were assessed according to CDC growth charts (CDC, 2018).

##### Measurements were classified into:-

- (1) stature – for-age percentile (age range: 2-20 years)classified into (stunted-short-normal-compared with BMI)
- (2) (2)Weight-for-age percentile (age range: 2-20 years) classified into (under weight -normal- over weight- obesity)
- (3) (3)BMI for age percentile ( age range :2-20) classified into (under weight -normal- over weight- obesity)

Anthropometric measurements were provided by the students themselves (Genena and Salama, 2017). BMI was calculated using the following formula

$$\text{BMI} = [\text{Weight (kg)} / \text{Height (m)}^2].$$

BMI criteria were based on the sex-specific growth charts of the Centers for Disease Control and Prevention 2000 BMI for age in the United States. (CDC, 2018)

##### Table 1. These categories are:

Classification	Percentile Ranking
Underweight	BMI < 5th percentile
Normal weight	BMI 5th to < 85th percentiles
Overweight	BMI 85th to < 95th percentiles
Obese	BMI ≥ 95th percentile

**Table 3. Stature Measurements for Sample Girls under Study.**

Indicator	Cut off value	15		16		17		18		Total	
		N	%	n	%	n	%	n	%	N	%
Stunted	>10 <sup>th</sup> percentile	28	5.13	18	3.30	33	6.055	8	1.46	87	15.96
Short	>25 <sup>th</sup> Percentile	44	8.07	50	9.17	107	19.63	25	4.58	226	41.46
Normal	25 <sup>th</sup> to 75 <sup>th</sup> percentile	40	7.33	45	8.25	96	17.61	23	4.22	204	37.43
Compared with BMI	>75 <sup>th</sup> percentile	5	0.91	6	1.10	15	2.75	1	0.18	27	4.95

CDC: Center for Disease Control, BMI: body mass index- N: number of students

##### Weight for age

The current weight-for-age study showed that the prevalence of underweight in the overall study was 14.86%, followed by the prevalence of obesity at 17.61% followed by

##### Statistical analysis:

After collecting the data, the collected data were all coded before entering them on the computer as variables. To calculate the mass index, the data was entered in Excel and then entered on SPSS .Data was analyzed using the statistical package of social science (SPSS) version 20. (Ozgen, 2016)

## RESULTS AND DISCUSSION

##### Demographic characteristics of school girls:

##### Socio-demographic distribution of school girls (n =545)

Table (2) shows socio-demographic data as The total of participants 608 but 63 girls skipped the study accordingly, the final sample becomes 545 girls (response rate of 90%)with average age 16.5±1.29 years .the most of girls were science majors and most were in their first and second of class. These results are aligned with those of similar study that found that 32 participants were excluded (Fatima, *et al.*, 2019 ).

**Table 2. Socio-demographic distribution of school girls:**

Characteristics	Number	%
Class		
First year	238	43.7
Second year	265	48.4
Third year	42	7.7
Total (N)	545	100
Major of study		
Social Science	188	34.5
Science	357	65.5
Age		
15	87	16.0
16	226	41.5
17	205	37.6
18	27	4.9
Mean ± SD	16.5±1.29	

SD: standard deviation , N: number of students

##### Anthropometric measurements:

##### Height for age:

In this study growth was measured as height for age Table (3) shows that eighty seven (15.96%) out of the 545 girls were considered stunted (low height for age). 226 (41.46%) were short, 204 (37.43%) had normal. Only 27 (4.95%) girls was compared with BMI as they fall higher than 75th percentile on curve.(CDC, 2000). Based upon percentile value on CDC curve. Our results revealed that female adolescents in Egypt suffer from stunting and short stature 15.96% and 41.46%, respectively. This result was consistent with (Otuneye *et al.*, 2017 )which finding revealed that(11.2%) of the study group were Stunting .Another study found a prevalence of Stunting (12.8%)Among Primary School Students in Assiut City(Salehet *et al.*, 2020).On the other hand these findings were different from (Abd El-Kader *et al.*, 2019) which showed that(36.3%)of the study were stunting. Our results present noticeable short stature prevalence between secondary school girls.

the prevalence of overweight at 24.40% and the prevalence of normal weight was highest at 43.11%. The 16 and 17 age had the highest normal weight. Table (4)

**Table 4. Weight measurements for sample girls understudy.**

Indicator	Cut off value	15		16		17		18		Total	
		N	%	N	%	n	%	n	%	N	%
Under weight	5 <sup>th</sup> to 25 <sup>th</sup> percentile	21	3.85	33	6.05	22	4.03	5	0.91	81	14.86
Normal weight	25 <sup>th</sup> to 75 <sup>th</sup> percentile	23	4.22	103	18.89	98	17.98	11	2.018	235	43.11
Over weight	75 <sup>th</sup> to 90 <sup>th</sup> percentile	30	5.5	43	7.88	52	9.54	8	1.46	133	24.40
Obesity	>90 <sup>th</sup> percentile	13	2.38	47	8.62	33	6.5	3	0.55	96	17.61

CDC: Center for Disease Control- N: number of students

#### BMI for age

Results from BMI calculation in table (5) showed that, almost tow-thirds of sample were normal (65.13%) and only 5.13% were underweight. While, overweight detected in

20.36% girls and only showed 9.35% had presence of obesity according to BMI classification (WHO, 2004). These results were coordinated with the findings of similar studies (Abd El-Rahman *et al.*, 2013, Omar *et al.*, 2017 and Zeinab *et al.*, 2009)

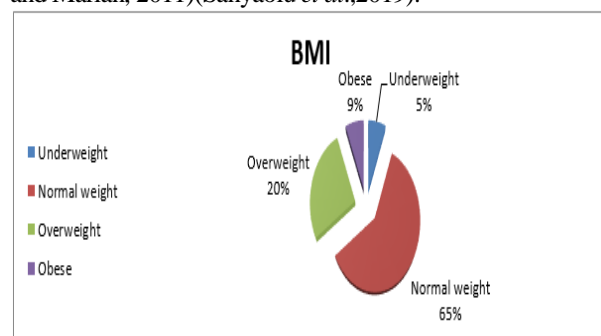
**Table 5. BMI Measurements for Sample Girls under Study.**

Indicator	Cut off value	15		16		17		18		Total	
		N	%	n	%	N	%	N	%	N	%
Under weight	<5 <sup>th</sup> percentile	7	1.28	14	2.56	7	1.28	0	0	28	5.13
Normal weight	5 <sup>th</sup> to 85 <sup>th</sup> percentile	45	8.25	149	27.33	142	26.05	19	3.48	355	65.13
Over weight	85 <sup>th</sup> to 95 <sup>th</sup> percentile	21	3.85	38	6.97	46	8.44	6	1.10	111	20.36
Obesity	>95 <sup>th</sup> percentile	14	2.56	25	4.58	10	1.83	2	0.36	51	9.35

CDC: Center for Disease Control, BMI: body mass index -N: number of students

#### BMI Classification for Secondary School Girls Sample:

Regarding BMI Measurement, Most of girls(65.13%) were normal body weight (BMI=18.5-24.9 Kg/m<sup>2</sup>) while , (5.13%) of sample expressed underweight girls, unexpectedly almost a quarter of sample (20%) showed overweight class according to their BMI(25-30kg/m<sup>2</sup>).A limited minor group of(9.35%)of sample expressed obesity (30-35 kg/m<sup>2</sup>).Our findings show normal body weight tendency in adolescent females with 65% majority, while reflects normal health status as overall. Also, minor existence of both underweight and obese girls is considered positive sign of overall health among secondary school adolescent females. Unfortunately, the presence of the second almost one third of their community, exhibit an obvious tendency of having extra weight that explains an due to their dietary habits that attitude of being overweight and obese mothers in the future, latter. similar findings were reached by (Mahfouz *et al.*, 2018) among adolescent Egyptian girls, the results showed that 3.3% of the participants were underweight, 68% were normal, 18.2% were overweight, and 10.5% were obese. Egypt is not the only North African country with the overweight and obesity problem, In another study conducted by (Manyanaga *et al.*, 2014) in seven African countries, the results showed that the rates of overweight and obesity among adolescents in Egypt were 31.4%, and 9.3% respectively. However, most girls are at a normal weight, the results show weight gain .Obesity has a strong negative impact on children and adolescents in the future; it risk of including metabolic syndrome, CVD (Cardio Vascular Disease), Type 2 diabetes, hypertension, osteoarthritis ,psychological health (Schaub and Marian, 2011)(Sanyaolu *et al.*, 2019).



**Figure 1. Distribution of obesity among adolescent school girls according to body mass index (BMI).**

#### General Nutritional Knowledge level about food groups among Secondary School Girls in Mansoura:

Nutritional knowledge was measured using self-filled questionnaire covering essential nutritional knowledge and dietary habits. through group of question under main concepts. As shown in table (6)

##### Balanced diet:

Balanced diet was obviously considered in the right way by 72.8% of students. while ,almost 25.1% of them considered carbs and vitamins only presenting balanced diet. Thus, nutritional background about balanced diet could be considered very good among school girls. In agreement with these was (Abd El –Rahman *et al.*, 2013).

##### Vitamins and minerals:

Surprisingly, knowledge regarding vitamins and minerals relevant to bones health viewed a noticeable misconception .As almost one third of sample (29.4%) linked between (vitamin K,Ca)and bore health ,while, another third (34.3%) didn't know fundamentally the relationship between Ca and vitaminD and bone health. Meanwhile, the last third (36.3%) has given the right knowledge in linking Ca, vitamin D and bone health. Unfortunately , this reflects a serious lack of knowledge in a critical life stage when the most growth of bone an skeleton is taking place in women' s life which affect their adult stature. vitamin D has been implicated in bone health by promoting calcium absorption in the gut and maintenance of serum calcium and phosphate concentrations, as well as by its action on bone growth(Gila *et al.*, 2018) vitamin D deficiency results in osteomalacia (soft bones) which enhances the risk of bones fractures(Akram *et al.*, 2020).

##### Fruits:

As regard to fruit, about (42.8%) of them considered that at any time they could eat the fruit and nearly half (54.7%) of the sample considered eating fruit just before the meal. These options indicate that they did not know exactly when to eat the fruit.

Moreover, the quarter (25.1%) of girls believe that fresh juice cannot be replaced with whole fruits, which is still true answer. This indicates the lack of awareness of the benefits of fresh fruits.

##### Water:

The right knowledge about daily water requirement was given by quarter of the respondents considered that the requirement daily estimate of water is 3.0 liters. This indicates a

lack of good knowledge in the daily estimate of water among school girls. Water is an essential nutrient for all known forms of life. According (WHO, 2004) recommendation 3.7 l per day for teenage Boys, and from 2.7 l per day for teenage Girls for water. The draft (EFSA, 2010) recommendations (2.5 l per day for boys, 2.0 l per day for girls).

#### Sugar:

As regard sugar, there was a difference of opinion on brown sugar if it could be replaced with white sugar ,or not about half of the girls 57.1% disagree with the replacement of brown sugar with white sugar and about of them 42.9% agreed .This shows different perspectives in terms of sugar because they were unaware of the difference between white and brown sugar from nutritional aspect.

#### Dairies:

Regarding dairy products, the right knowledge of dairy products was given by 17.1% of respondents which skim milk was less than whole milk in protein .This a results disappointing in the nutritional knowledge of dairy products as whole milk and skim milk are equal in protein content.

#### Bakery products:

With regard to bread, a quarter of the sample considered brown bread to be the best nutritionally (40.2%). While 38.7% of them are considered whole bread the best nutritionally. Both breads are nutritious superior, but whole bread is more nutritious, while bran bread is used in the specific cases for nutrition.

Total general nutrition knowledge showed 38% of this sample and this percentage reflects a lack of awareness among adolescents with regard to general knowledge of nutrition

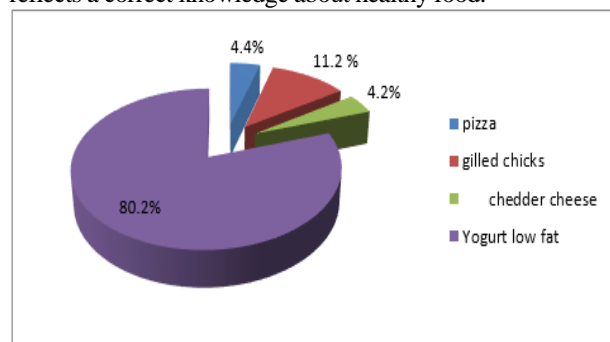
**Table 6. General Nutritional Knowledge level about food groups among Secondary School Girls in Mansoura**

Nutritional knowledge	Right answers Percent %
Balanced diet components (Carbohydrates, vitamins, water Proteins, mineral salts and fats).	72.8 %
Minerals and vitamins are good for bone (vitamine D and calcium)	29.4%
Time to eat fruit (Any time).	42.8%
Juice is an alternative to fruits (Disagree).	
Daily recommendations for intake water (3.0 Liters)	25.3%
Brown sugar is an alternative to white sugar (Agree).	42.9%
Skimmed milk is low in protein( Disagree).	17.1%
The best types of bread diet (Whole bread).	38.7%

#### Consideration of Healthy Food Choices:

##### The suitable choice for diet:

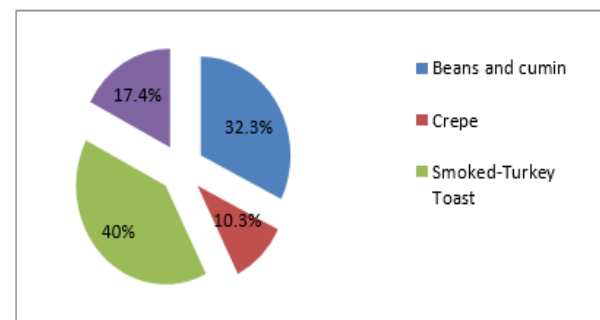
As shown in figure (2) the majority of girls considered that the best choice for healthy diet was low yogurt fat (80%) and also less fat cheese in fat was low fat cheese (97.4%). This reflects a correct knowledge about healthy food.



**Figure 2. Best choice for healthy diet**

#### Meal sandwiches

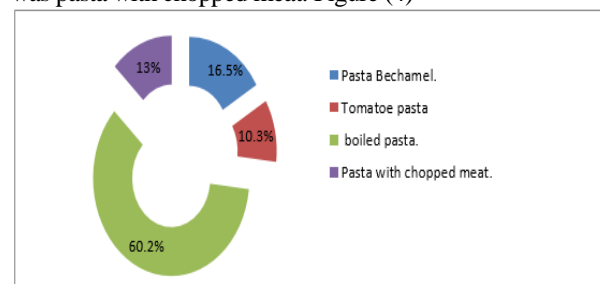
Figure (3) showed types of sandwiches to compare between them. (40%) considered that smoked turkey was the healthiest one. But nutritionally, the best type of healthy sandwiches was shawarma.



**Figure 3. Sandwiches meals evaluation form healthy aspects by school girls**

#### Pasta dishes:

As for the right way to eat pasta the girls considered that boiled pasta was the right way to eat it (60.2%). This reflects the complete lack of knowledge of eating pasta and the way they are made nutritionally .the right way to eat pasta was pasta with chopped meat. Figure (4)



**Figure 4. Pasta dishes evaluation by school girls**

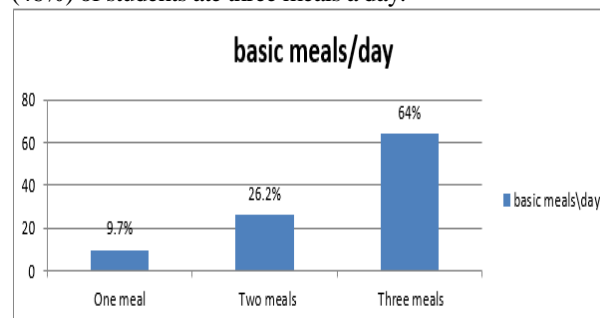
Total knowledge for healthy choosing foods showed 46.8% of this sample and this percentage reflects a of awareness among adolescents with regard to general knowledge of nutrition.

#### Dietary Practices:

The findings shown in this part represent dietary practices in terms of meal intake patterns, snacks consumed, frequency of consumption of diverse foods.

##### Basic meals /day:

In Table (7) and Figure (5),Most of the girls 64.0% reported consuming three meals a day while the rest reported only two meals (26.2%) a day. These results were coordinated with the result of similar study (Salim,. 2016) which declared that the most of the students (61.1%) ate three meals a day. On the other hand these findings were different with (El-Gilany and Elkhawaga, 2012) which showed that about (46%) of students ate three meals a day.



**Figure 5. Meal consumption ratio par day**

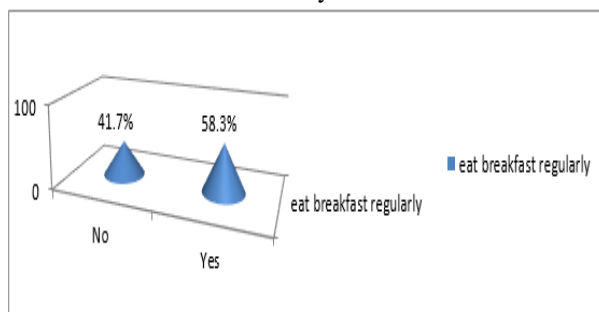


**Table 7. Girls response to questions related to their nutritional practices:**

Statement	Response	Total %
How many the basic meals do you eat every day?	One.	9.7
	Two.	26.2
	Three.	64.0
Do you eat breakfast regularly?	No.	41.7
	Yes.	58.3
Give reasons for not eating breakfast.	There is not enough time to eat breakfast.	47.1
	I follow a diet.	1.3
	Lake of time.	0.4
	I am not accustomed to eating breakfast.	53.3
Do you have the habit of eating snacks?	No.	22.9
	Yes.	77.1
Your snacks are mainly from.	Take from home.	27.3
	Buy from canteen.	53.6
	Other places.	19.1

#### Intake of the usual breakfast:

As shown in table (7) and Figure (6) the majority of adolescent girls (58.3%) reported that they took breakfast regularly, while (41.7%) of girls reported that skipped it. And Some of the main reasons for skipping meal were (53.3%) did not usual eat breakfast, about (47.1%) did not have enough time to eat breakfast. In a Survey conducted on Young People in Egypt (SYPE 2011), about more than half of participants (57.2%) reported that they are accustomed to eating breakfast on a daily basis and only, (3.5%) reported never getting breakfast. These results were coordinated with the result of a similar study (E. Elzaki *et al.*, 2019) which showed that almost half (45.3%) of students eat breakfast daily Another study found (Hoque *et al.*, 2016) which showed that 67% had consumed breakfast on the day.



**Figure 6. Eat breakfast regularly**

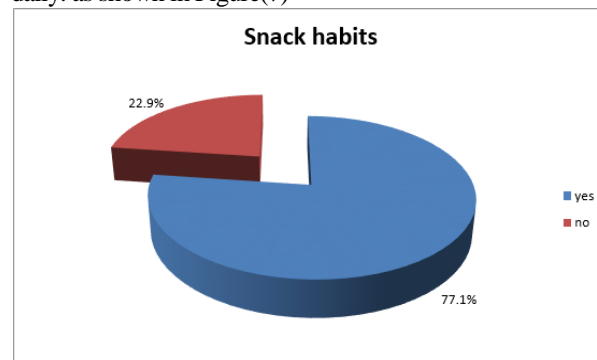
On the other hand these findings were different with (Ali, 2018) which showed that 63.3% of students skipped breakfast.

Breakfast is the main meal at the beginning of the day and it is very important and cannot be replaced by any other meals. Eating breakfast is an opportunity to consume the energy we need to perform the daily activity. It is also regulated from the energy input during other meals by reducing the total daily intake of calories and fats and increasing the intake of fiber, vitamins and minerals. Which affects positively the prevention of chronic diseases such as obesity and type 2 diabetes (Affinita *et al.*, 2013). The American Heart Association stated in a report that people who eat breakfast tend to have lower rates of heart disease, high blood pressure and high cholesterol (Mohiuddin, 2019)

Skipping breakfast has become one of the wrong dietary habits that are common among children and adolescents, as the wrong dietary habits during the adolescence period negatively affect health, especially in and after puberty. Some studies have shown that skipping breakfast may lead to obesity (Daradkeh, 2016 and Monzani *et al.*, 2019).

#### Snacking habits:

More than two-thirds of the girls had the habits of consuming snacks (77.1%). (53.6%) of the girls would buy snacks from canteen and this is the most common source of their snacks and 27.3% of girls get from their home. This result comes in agreement with the study Swede by (Hoque *et al.*, 2016) who reported that The majority of students (73.3%) had the habit of snacking. On the other hand These findings were different with (El-Gilany and Elkhawaga, 2012) which showed that 34.1% of students were eat snacks daily. as shown in Figure(7)



**Figure 7. Snacking habits**

#### Food frequency record for one week:

Food frequency records findings in Table (8) declare that girls consume a variety of foods. Showed that the height domain consumption of food from school girls come from starchy food (68.1%) followed by fresh fruits, meat, vegetables and dairy products which recorded more than twice /week consumption rate (67.5%, 58.5%, 58%, 50.3%) recently while fried and salty food were less in the consumption record form girls (49.2% and 43.1%) cooked vegetables were less (35%) consumed compared to all food groups which indicate a deficiency in this food nutrition content due to that diet pattern. Rice and whole meal bread are popular foods in most regions and cultures in Egypt, thus this may be attributed to the students' choice as staples to be eaten regularly. A similar study of conducted on adolescents in Mansoura, the results showed that About 89.6%, 58.9% and 71% of the students consumed bread / rice, vegetables and vegetable protein on a daily basis; Respectively. Excess salt and excess sugar / sweet intake were consumed by 67.4% and 54% of the students; Respectively (Abdel-Hady *et al.*, 2014). According to the World Health Organization, an integrated diet that has a positive effect on health includes eating a variety of foods, vegetables, whole grains, fruits, lean dairy products, lean meats, poultry, fish, legumes and nuts. WHO 2015. The results showed that the predominant dietary habits are eating starchy, salted and fried foods more than eating cooked vegetables.

**Table 8. Frequency of Food Consumption**

	More than twice	Twice	Once	Less than once	Never	Do not know
Fresh Vegetables	58.0	15.8	12.8	4.6	5.3	3.5
Vegetables cooked	34.9	20.6	18.2	11.9	10.1	4.4
Fresh fruits	67.5	16.3	10.3	2.6	1.5	1.8
Dairy Products (Milk-Cheese-Yogurt)	50.3	14.3	16.7	8.6	7.9	2.2
Meat, fish, eggs, and beans	58.5	17.1	12.8	5.5	3.9	2.2
Cereals (rice, bread)	68.1	14.5	11.4	2.4	2.4	1.3
Fried and deep-fried food (french fries)	49.2	19.4	18.3	7.2	3.3	2.6
Drinks with add sugar Different juices	39.8	20.7	19.4	10.3	5.1	4.2
Sugary Food high in sugar (sweets)	20.7	16.0	28.6	20.0	10.5	4.2
Salty Food high in Salt (pickles)	43.1	15.8	15.6	11.4	10.5	3.7

## CONCLUSION AND RECOMMENDATIONS

Our findings show that, the prevalence of stunting in school girls is 15%. Also, a quarter of school girls are overweight. This is related to wrong eating habits and practices such as high consumption of bread and rice, as well as skipping breakfast. The level of nutritional knowledge is low, which indicates the importance of raising awareness of healthy eating habits that are related to public and general health. Our findings and recommendations are consistent with the government's massive plan for public health Sustainability Program which started recently, The (100 Million Healthy) Presidential Initiative, which aims to ensure a good maternity health among females and detect risk factors for non-communicable diseases such as hypertension and obesity.

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### تقييم الحالة التغذوية والعادات الغذائية، المعرفة بين الفتيات المراهقات:

#### دراسة قائمه على الاسبيان في مدارس بمدينة المنصورة، مصر

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التغذية السليمة في مرحلة المراهقة هي العامل الرئيسي لتكوين جيل بالغ يتمتع بالصحة والقوة. تعتبر التغيرات البيولوجية الانتقالية في الفترة من الطفولة إلى البلوغ ذات أهمية خاصة لضمان التطور الصحي للجسم مما يؤدي إلى البالغين الأصحاء. تهدف الدراسة إلى تقييم الحالة التغذوية لطلاب المرحلة الثانوية بالمنصورة بمحافظة الدقهلية بمصر، تم استخدام تصميم مسح طبقي عشوائي لعدد 545 طالباً تتراوح أعمارهم بين 15 و 18 عاماً. أجريت الدراسة في خمس مدارس حكومية. التي تم اختيارها عشوائياً. قامت الطالبات بملء استبيان ذاتي حول المعرفة التغذوية ونمط النظام الغذائي وعادات الأكل وتقييم التغذية. تم إجراء تقييم القياسات البشرية (الطول بالنسبة للعمر، الوزن بالنسبة للعمر، مؤشر كتلة الجسم بالنسبة للعمر). وكشفت نتائج الدراسة أن معظم الفتيات كان أوزنهن طبيعياً و ما يقارب من الثلث يعانون من زيادة الوزن والسمنة 20 و 9 على التوالي. أقل من نصف الفتيات لديهن معرفة صحيحة بالتغذية العامة. وأظهرت عادات الأكل أن 64٪ يأكلن ثلاث وجبات في اليوم، و 58.3٪ يتناولن الفطور يومياً. 77٪ لديهم عادة تناول الوجبات الخفيفة. تم تحليل البيانات التي تم جمعها إحصائياً. بالرغم من أن معظم الفتيات يتمتعن بوزن طبيعي، إلا أن النتائج التي تم الحصول عليها تشير إلى زيادة الوزن، وعادات الأكل غير الصحية، وكذلك متوسط المعرفة التغذوية، مما يعكس نقص المعرفة التي ستؤثر سلباً على تغذيتهم بشكل عام كمهات صحة الأمومة في المستقبل. يجب الاهتمام بالتغذية في هذه المرحلة وللد من انتشار زيادة الوزن، ونوصي بخطة غذائية مصممة لهذه الفئة العمرية في المدارس المصرية.

الكلمات الدالة: الحالة التغذوية، التقييم الغذائي، المراهقة، المعرفة الغذائية، استبيان، إناث.