

Knowledge Attitude and Reported Practices toward Optimal Nutrition among Preparatory School Students

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ABSTRACT

Background: Nutrition is a major component and determinant of the quality of life, so intake adequate and balanced nutrition is foundations for good health in adulthood. **The aim of this study:** was to assess the knowledge, attitude and practices toward optimal nutrition among the governmental preparatory school students in Dekerness city at Dakahlia governorate. **Research design:** a descriptive design (cross-section) was used. **Sample:** this study included 303 students who were selected by a simple random sampling method. **The used tool** was a self-reported questionnaire which developed by the researcher and includes socio-demographic characters of the students, assessment of their knowledge, attitudes and practices regarding optimal nutrition. **Results:** the total number of males was (50.2%) while the total number of females was (49.8%). The satisfactory level of all students' knowledge was (61.4%), the satisfactory level of all students' attitudes was (75.6%) and the satisfactory level of all students' reported practices regarding optimal nutrition was (72.6%). **Conclusion:** the majority of all students had a satisfactory level of knowledge, attitudes and practices regarding optimal nutrition. Although there was no statistically significant difference between the knowledge score and attitude score, but there was a statistically significant difference between knowledge score and practice score. At the same time there was statistically significant difference between the attitude score and practice score of the students. **Recommendation:** A health educational program should be implemented for Preparatory School Students about the importance of the proper nutrition and define the health problems resulting from insufficient dietary intake.

Keywords: optimal nutrition, health problem, adolescent.

INTRODUCTION

Nutrition is a basic human need and prerequisite for a healthy life. A proper diet is essential throughout the life cycle, nutritious foods are essential for optimal growth, development and wellbeing of individuals, public health and the environment. Optimum nutrition depends on the quality and quantity of foods and drinks consumed, which has a significant impact on the health. It is essential for physical and cognitive development; improve the quality of life, resistance to infection, protection against the premature death and decreasing the health care costs through prevention of chronic diseases. Poor nutrition is responsible for around 16% of the total burden of disease and is implicated in more than 56% of all deaths which associated with cardiovascular disease, type 2 diabetes and some forms of cancer (*Cleary, 2012*).

The preparatory school stage is a transition phase of the educational process in many countries. It is beginning with the end of primary school stage and ending with the beginning of the secondary school stage. The students usually joined to this stage at twelve years old and spend three years on it. In Egypt the pre-university education system is represented in three stages which are primary school age, preparatory school age and secondary school age. The primary school age in addition to the preparatory school age is considered the basic education which is obligatory for all students. This stage is corresponding to the early adolescence in which the students are transmitted from childhood to adulthood and maturity with physical and psychological changes (*Al-Gamal, 2012*).

Adolescence is a period of life beginning with the gradual appearance of secondary sexual characteristics at about 11 or 12 years of age and ending with cessation of body growth at 18 to 20 years of age as the adolescents are spending many years of transition from childhood to adulthood at the same time there are drastic changes in body size and proportions as in physical, cognitive, psychological, sexual areas develop and reproductive maturity is achieved. It involves three distinct sub phases: early, middle and late adolescence (*Kyle & Carman, 2013*).

Adolescents need to intake optimum nutrition which contains essential nutrients as carbohydrate, protein and fats which needed for providing energy and maintaining good health. They needed vitamins and minerals for treating many various diseases and regulating the important metabolic process. They need water for carrying nutrients and oxygen to cells, eliminate wastes away from the body and regulate temperature (*Rajbhandari & Haydu, 2012*).

The school health nurse plays a vital role in educating students and their parents through improving their knowledge, attitude and beliefs regarding optimal nutrition. She can advocate for better nutritional choices. The Other role includes her ability to detect the signs of eating disorders and identify students at risk. Also, she acts as organizer to assure the presence of adequate time for the school meals. She acts as counselor to determine the importance of intake of the breakfast daily (*Murray et al., 2013*).

Significance of the Study:

The preparatory school age is a stage of the transition from childhood to adulthood and corresponded early adolescence in which the adolescents are passing rapidly on a way to becoming adults and achieving the maturity through exposing to drastic changes in physical, cognitive, psychological and sexual development (*Farrell et al., 2007*)

The world's adolescent's population who their ages from 10 to 19 years are 1.2 billion persons as about 18% of the total population. Nearly 90 % live in developing countries. In Egypt adolescents comprise about 19 % of the total population. The adolescence is considered a vulnerable period of life, so the adolescents need to intake adequate and appropriate nutrition which contains the essential nutrients as carbohydrate, protein, vitamins, minerals and water to improve growth and development, maintain the body tissue and normal functioning (*Kyle &Carman, 2013*).

Poor nutrition and unhealthy diet during this period can lead to decreasing learning abilities and school performance, poor concentration, increasing the risk and incidence of chronic diseases. In addition to they are responsible for 112,000 adolescent deaths annually and 190 million dollars in annual health care expenditures (*Ramont &Niedringhaus, 2008*). For these reasons this study will evaluate the extent of awareness and knowledge of adolescents about optimal nutrition and determine their level of understanding of the importance and impact of nutrition deficiency on their health.

AIM OF STUDY:

Assess the preparatory school students' knowledge, attitude and practices toward optimal nutrition and its management through research objectives:

- 1- Identify the importance of optimal nutrition.
- 2- Identify the effects of nutrition deficiency.
- 3- Identify the components of optimal nutrition.
- 4- Determine the dietary habits of the students.

SUBJECT AND METHODS:

A descriptive cross-section design was used. The total sample size estimated for this study was 303 students from three governmental preparatory schools in Dekerness city, at Dakahlia governorate; Al-Hadetha school for girls, Ali Mubarak School for boys and Ahmed Megahed co- education (mixed School). Exclusion criteria were the students who suffer from chronic diseases and the students who suffer from malignant diseases and cancer. The data collection took a period of approximately six months started from October 2014 and extended to April 2014.

TOOLS:

Three tools were developed by the researcher and used for the study. The first tool: included two parts: *part one*; socio- demographic data as: age, gender, family income, residency, parents' occupation and educational level. *Part two*; students' knowledge regarding optimal nutrition included questions related to the basic components of optimal nutrition, importance, main sources of healthy diet and the problems which may result from inadequate intake of healthy diet. A score from 0 to 2 degrees was assigned to each question. Maximum knowledge score was 58 (100%). A score equal to or greater than 60% indicated satisfactory knowledge level. The second tool: students' attitude toward optimal nutrition included questions related to students' food and drink preference, food intake between meals, eating snacks, consumption of soft drink and fast food. A score from 0 to 2 was assigned to each question. Maximum attitude score was 38 (100%). A score equal to or greater than 60% indicated a satisfactory attitude level. The third tool: students' reported practices toward optimal nutrition included questions related to food and drink consumption, consumption of fruits and vegetables and consumption of fried foods. A score from 0 to 4 was assigned to each question. Maximum score for reported practice was 24 (100%). A score equal to or greater than 60% indicated a satisfactory practice level.

Validity & reliability:

Alpha Cronbach's coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Cronbach's alpha was 0.86, 0.80 and 0.74 for knowledge, attitude and reported practice respectively.

Pilot study:

The pilot study was carried out on 10% of the total sample to test clarity and feasibility of the tools and to estimate the needed time to complete the tools. It included 30 students and they were excluded from the study, since major changes were required.

Ethical Considerations:

An official letter was taken from the Dean of the Faculty of Nursing, Port Said University directed to the Central Agency for public Mobilization and Statistics and the Ministry of Education at Dakahlia Governorate to inform them about the purpose of the study to obtain their permission to conduct this study. Student participants were given complete information about study objectives before seeking their voluntary consent to participate in the study.

RESULTS:

The current study included 303 students (152 males and 151 females), more than half of the students (50.2%) were males and their ages ranged from 12 to 15 years. Regarding residence, the majority of them (79.2%) were living in urban areas and about 99.3% of them were non-smokers. Fathers of 37.6% of students had had secondary school education and 43.9% were businessmen. More than half (58.7%) of the students' families were living on more than enough monthly income. On the other hand, the majority of mothers (81.9%) were housewives and 44.6% had secondary school education.

Correlation between socio-demographic characteristics of the students and their knowledge level regarding optimal nutrition. More than half of male students (58.1%) had unsatisfactory level of knowledge; while more than half of female students (54.8%) had a satisfactory level of knowledge. The majority of all students (82.9%) who had unsatisfactory level of knowledge came from urban areas. Nearly half of all students who had a satisfactory level of knowledge (45.1% and 43.0%) their fathers were businessmen and had a university level of education. On the other hand, the majority of students who had unsatisfactory level of knowledge (88.9%), their mothers were housewives and 44.1% had secondary education. About three quarters of students (70.4%) who had a satisfactory level of knowledge toward optimal nutrition were living on more than enough monthly income. There was a statistically significant difference between students' knowledge level with sex, parents' occupation, educational level and monthly income ($p < 0.05$).

Table (3): illustrates the **correlation between socio-demographic characteristics of the studied students and their attitudes regarding optimal nutrition.** More than half of male students (52.7%) had unsatisfactory level of attitude towards optimal nutrition, while more than half of female students (50.7%) had a satisfactory level of attitude. At the same time the majority of students (81.1%) who had unsatisfactory level of attitude towards optimal nutrition came from urban areas, whereas, 51.4% and 44.6% of students who had unsatisfactory level of attitudes towards optimal nutrition, their fathers were businessmen and had secondary level of education respectively. On the other hand, the majority of all students (86.5%) who had unsatisfactory level of attitudes towards optimal nutrition, their mothers were housewives and 42.4% had secondary education. There was no a statistically significant difference ($p > 0.05$).

Table (4): illustrates the **correlation between the socio-demographic characteristics of the studied students and their reported practices regarding optimal nutrition.** More than half of male students (54.2%) had unsatisfactory level of reported practices toward optimal nutrition, while more than half of female students (51.4%) had satisfactory level. At the same time the majority of all students (83.1%) who had unsatisfactory level of reported practices toward optimal nutrition came from urban areas. More than one third of all students (44.5% and 37.7%) who had a satisfactory level of reported practices; their fathers were businessmen and had a secondary level of education respectively. On the other hand, 90.4% and 47.0% of students who had unsatisfactory level of reported practices; their mothers were housewife and 43.6% had secondary level of education. More than half of students (58.2%) who had a satisfactory level of reported practices toward optimal nutrition were living on more than enough monthly income. There was a statistically significant difference between students' reported practice level with parents' occupation and monthly income ($P < 0.0001$).

Figure (1): Distribution of the students according to their knowledge level regarding optimal nutrition (n=303)

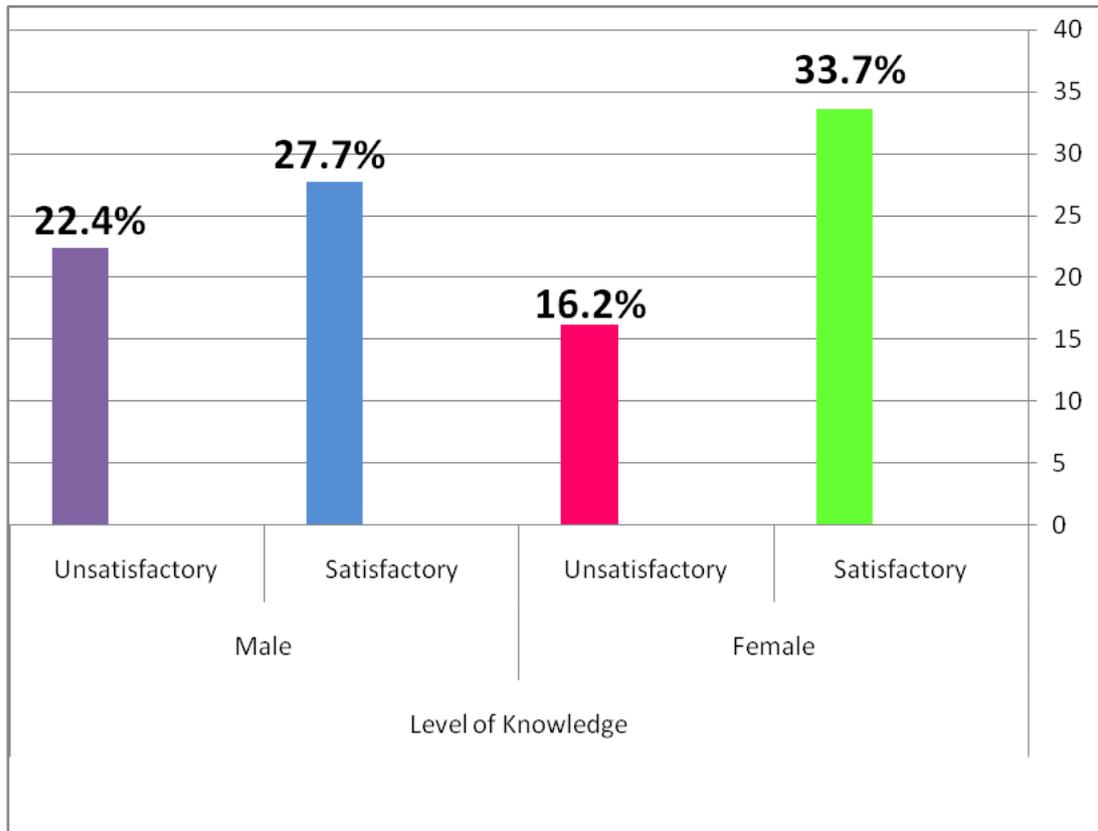


Figure (2): Distribution of the students according to their attitudes level regarding optimal nutrition (n=303)

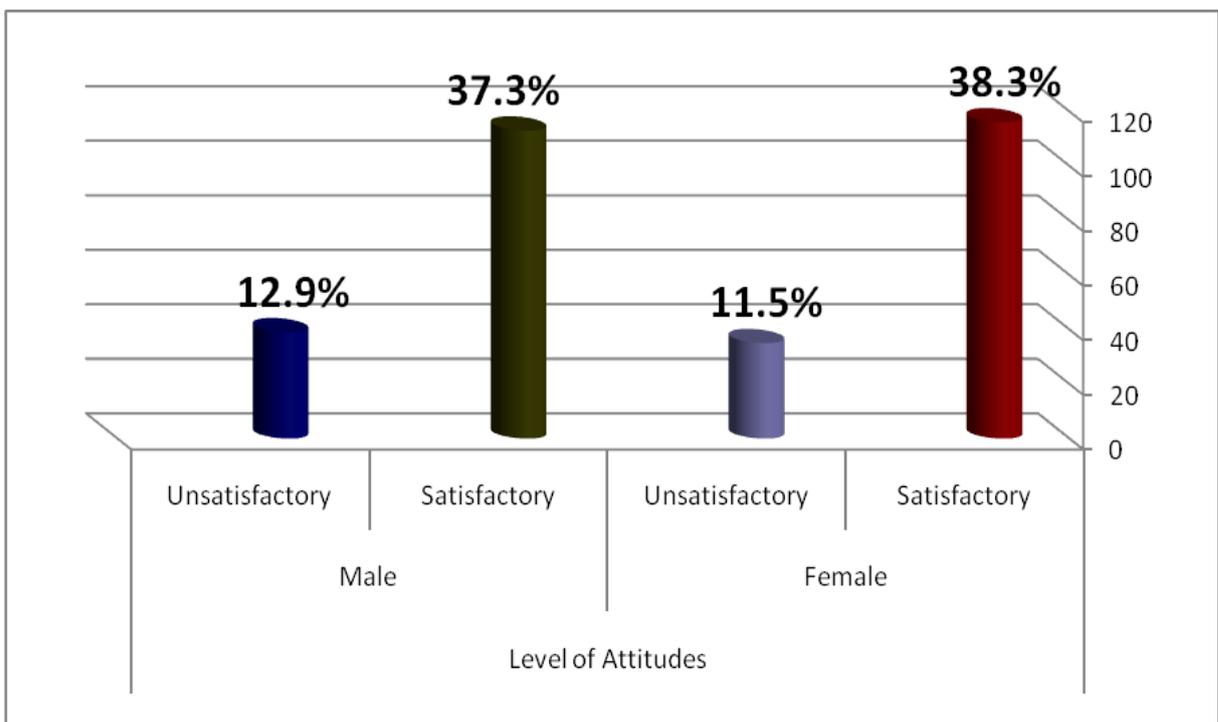


Figure (3): Distribution of the students according to their reported practices level regarding optimal nutrition (n=303)

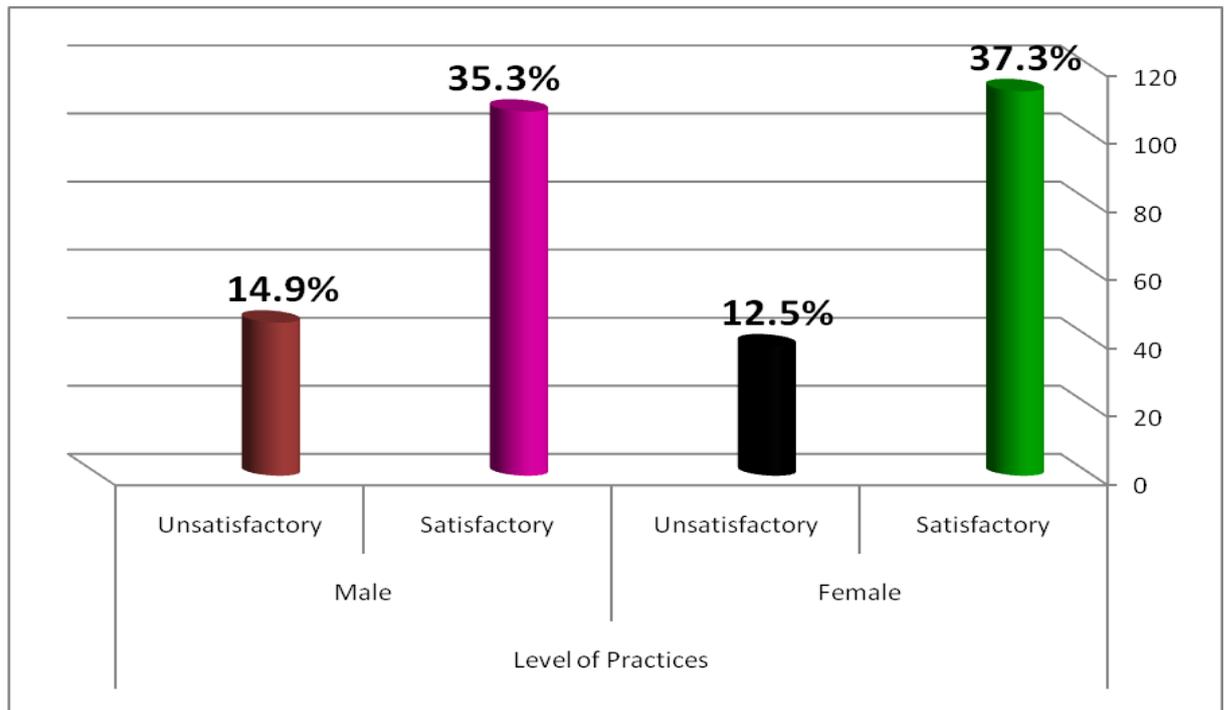


Table (1): Distribution of the students regarding their Reported Practices about optimal nutrition (n=303).

Student's Reported Practices toward optimal nutrition	No.	%
Number of meals eaten during school days		
One meal	29	9.6
2 meals	91	30.0
3 meals	160	52.8
More than 3	23	7.6
Number of meals eaten during holidays		
One meal	1	0.3
2 meals	21	6.9
3 meals	214	70.6
More than 3	67	22.1
Frequency of eating fruits/vegetables weekly		
None	10	3.3
Once	33	10.9
Twice	49	16.2
Three times	75	24.8
Four times	73	24.1
More than four	63	20.8
Frequency of eating fast food weekly		
None	87	28.7
Once	86	28.4
Twice	65	21.5
Three times	32	10.6
Four times	21	6.9
More than four	12	4.0
Frequency of eating sweets/cakes weekly		
None	15	5.0
Once	56	18.5
Twice	57	18.8
Three times	44	14.5
Four times	38	12.5
More than four	93	30.7

Table (2): Correlation between the Socio-demographic characteristics of the students and their knowledge level regarding optimal nutrition (n=303).

Socio-demographic characteristics of the students	Level of Knowledge				Significance
	Unsatisfactory (< 60)		Satisfactory (≥ 60)		
	No.	%	No.	%	
Gender					
Male	68	58.1	84	45.2	$X^2=4.824$ $P=0.028^*$
Female	49	41.9	102	54.8	
Residence					
Rural	20	17.1	43	23.1	$X^2=1.583$ $P=0.208$
Urban	97	82.9	143	76.9	
Father's Occupation					
Manual Worker	19	16.2	23	12.4	$X^2=15.713$ ^{MC} $P < 0.0001^*$
Employee and retired	49	41.9	79	42.5	
Businessman	49	41.9	84	45.1	
Father's Educational level					
Illiterate/ cannot read or write	16	13.7	10	5.4	$X^2=22.467$ $P < 0.0001^*$
Basic education (primary/preparatory)	32	27.3	27	14.5	
Secondary education	45	38.5	69	37.1	
University education	24	20.5	80	43.0	
Monthly income					
More than enough	47	40.2	131	70.4	$X^2=28.537$ $P < 0.0001^*$
Enough	36	30.8	34	18.3	
Not enough	34	29.0	21	11.3	
Mother's Occupation					
House wife	104	88.9	144	77.4	$X^2=6.36$ $P=0.012^*$
Work	13	11.1	42	22.6	
Mother's Educational level					
Illiterate/ cannot read or write	14	12.0	8	4.2	$X^2=17.958$ $P < 0.0001^*$
Basic education (primary/preparatory)	24	20.5	20	10.8	
Secondary education	53	45.3	82	44.1	
University education	26	22.2	76	40.9	

X^2 : Chi-Square test ^{MC}P: Monte Carlo corrected P-value *significant at $P \leq 0.05$

Table (3): Correlation between the Socio-demographic characteristics of the students and their Attitudes level toward optimal nutrition (n=303).

Socio-demographic characteristics of the students	Level of Attitudes				Significance
	Unsatisfactory (< 60)		Satisfactory (\geq 60)		
	No.	%	No.	%	
Gender					
Male	39	52.7	113	49.3	X²=0.252 P=0.616
Female	35	47.3	116	50.7	
Residence					
Rural	14	18.9	49	21.4	X²=0.209 P=0.648
Urban	60	81.1	180	78.6	
Father's Occupation					
Manual Worker	12	16.2	30	13.1	X²=4.65 ^{MC}P =0.188
Employee and retired	24	32.4	104	45.4	
Businessman	38	51.4	95	41.5	
Father's Educational level					
Illiterate and Basic education	20	27.0	65	28.4	X²=4.891 P=0.870
Secondary education	33	44.6	81	35.4	
University education	21	28.4	83	36.2	
Monthly income					
More than enough	42	56.8	136	59.4	X²=0.808 P=0.668
Enough	16	21.6	54	23.6	
Not enough	16	21.6	39	17.0	
Mother's Occupation					
House wife	64	86.5	184	80.3	X²=1.42 P=0.234
Work	10	13.5	45	19.7	
Mother's Educational level					
Illiterate/ cannot read or write	7	9.5	15	6.6	X²=3.591 P=0.309
Basic education (primary/preparatory)	10	13.5	34	14.8	
Secondary education	38	51.3	97	42.4	
University education	19	25.7	83	36.2	

X²: Chi-Square test ^{MC}P: Monte Carlo corrected P-value *significant at P \leq 0.05

Table (4): Correlation between the Socio-demographic characteristics of the students and their Reported Practices level toward optimal nutrition (n=303).

Socio-demographic characteristics of the students	Level of Practices				Significance
	Unsatisfactory (< 60)		Satisfactory (≥ 60)		
	No.	%	No.	%	
Gender					
Male	45	54.2	107	48.6	X²=0.751 P=0.386
Female	38	45.8	113	51.4	
Residence					
Rural	14	16.9	49	22.3	X²=1.069 P=0.301
Urban	69	83.1	171	77.7	
Father's Occupation					
Manual Worker	19	22.9	27	12.3	X²=4.53 MCP <0.0001*
Employee and retired	29	34.9	95	43.2	
Businessman	35	42.2	98	44.5	
Father's Educational level					
Illiterate/ cannot read or write	9	10.8	17	7.7	X²=3.396 P=0.332
Basic education (primary/preparatory)	20	24.2	39	17.8	
Secondary education	31	37.3	83	37.7	
University education	23	27.7	81	36.8	
Monthly income					
More than enough	29	34.9	149	67.8	X²=26.983 P<0.0001*
Enough	29	34.9	41	18.6	
Not enough	25	30.2	30	13.6	
Mother's Occupation					
House wife	75	90.4	173	78.6	X²=5.58 P<0.0001*
Work	8	9.6	47	21.4	
Mother's Educational level					
Illiterate/ cannot read or write	8	9.6	14	6.4	X²=4.409 P=0.221
Basic education (primary/preparatory)	15	18.1	29	13.2	
Secondary education	39	47.0	96	43.6	
University education	21	25.3	81	36.8	

X²: Chi-Square test MCP: Monte Carlo corrected P-value *significant at P \leq 0.05

DISCUSSION:

The present study was conducted to assess adolescent students' knowledge, attitudes and reported practice regarding optimal nutrition. This study included 303 students from preparatory schools, their age ranged from 12 to 15 years. Regarding their residence, the majority of the students were living in urban areas. The highest percentage of the student's parents had secondary school education and living on more than enough monthly income.

Regarding the assessment of the students' knowledge toward the optimal nutrition, this study revealed that the majority of all students had satisfactory level of knowledge; female students were more knowledgeable than male students (**Figure 1**). This result was similar to the study of *Abd El-Rahman et al., (2013)* which was done in Dakahlia governorate, Egypt and the study of *Hossain et al., (2013)* which was done in Bangladesh, who found that most of the studied students who had a good dietary knowledge belonged to high social class, live in urban areas and their parents had secondary school education. Also, the nutritional awareness developed through different kinds of mass media as television, radio, journals, and internet help the students to know more about healthy diet. This result may be due to high economic status, living in urban areas, the reasonable educational level of parents and the availability of different kinds of mass media.

In relation to the students' attitudes regarding optimal nutrition; the majority of them had a satisfactory level of attitudes, female students had more satisfactory attitude level than male students (**Figure 2**). This result was in agreement with the survey which was done in Iran by *Ahadi et al., (2014)*, who found that the majority of participants had positive and acceptable attitudes toward nutrition. But this result was in disagreement with the study of *EL-Hassan et al., (2013)* which was done in Omdorman in Sudan. They reported that the youth attitudes towards consuming healthy and unhealthy foods were mixed. This result may be due to most youths reported that they were learning what foods were healthy and unhealthy from their parents or from their school, in addition to living in high economic status, living in urban areas and the availability of different kinds of mass media.

Concerning the assessment of students' reported practices toward optimal nutrition; the majority of all students had satisfactory level of practices; female students' had more satisfactory level of reported practices than male students (**Figure 3**). This result comes in agreement with the study of *Abd El-Rahman et al., (2013)* which was done in Dakahlia governorate, Egypt. They founded that only one quarter of the subjects who practice unhealthy dietary habits belonged to low and middle social class, came from rural areas, their mothers were illiterate and were housewives. Also, the study of *Shariff et al., (2008)* which was done in Malaysia reported that food consumption depended on adequate nutritional knowledge and positive attitude towards healthy nutrition. This result may be due to high economic status, living in urban areas and reasonable parents' education and occupation.

The results of this study revealed that the majority of the students intake three meals daily during the school days and during the holidays. Also, this result showed that although about one quarter of the students were eating fruits and vegetables three times per week, but the highest percentage of them eating sweets and cake more than 4 times per week (**Table 1**). This result come in agreement with the study of **Adeel et al., (2012)** which done in Islamabad University, Pakistan. They showed that more than three quarters of students eat three meals during the day regularly and no difference was found between men and women. Also this study was similar to the study of **Abdel-Hady et al., (2007)** which done in Mansoura University. They found that less than one third of the student consumed vegetables and fruits three times or more per week and the study of **Majeed et al., (2003)** which done in Baghdad, who reported that more than three quarters of the adolescent consumed sweets, cakes and chocolates daily and chosen it as snack between meals .

The current study indicated that female students were more knowledgeable than male students. There was a statistically significant difference between students' gender and their knowledge toward optimal nutrition (**Table 2**). This result was supported by the study of **Hendrie et al., (2008)** which was done in Australia; they found that female students had a significantly higher nutritional knowledge than male students as they achieved better scores. In contrast, the study of **Webb and Beckford (2014)** which was done in India, reported that male students had higher knowledge of optimal nutrition than female students.

The finding of this study indicated that female students had more satisfactory level of attitudes toward optimal nutrition than male students. There was no statistically significant difference between students' attitudes and their gender (**Table 3**). This finding goes in the same line with the study of **Azizi et al., (2011)** which was done in Iran, who mentioned that female students had a better nutrition attitude toward optimal nutrition than male students. In contrast, the study of **Barzegari et al., (2011)** which was done in Iran, reported that male students had a higher positive attitude towards optimal nutrition than female students. Also, there was a positive and statistically significant correlation between diet attitudes of both female and male students.

This study mentioned that female students had a satisfactory level of practices than male students. There was no statistically significant difference between students' reported practices with their gender and residence (**Table 4**). This result was similar to the study of **Shakkour et al., (2007)** which was done in Liberty University. They reported that girls tended to have healthy eating behavior than boys. Also, there was no statistically significant difference in eating behavior among the sixth graders based on gender. But, this result was in disagreement with the study of **Rosenbloom et al., (2002)** which was done in Georgia State University, Atlanta, who indicated that males are more concerned about the healthy food habits than females, and the study of **Huang et al., (2013)** which was done in Taiwan. They suggested that there was no significant effect of the student's gender and residence on their nutritional behaviors.

CONCLUSION:

Based on the finding of the present study, it is concluded that the majority of all studied students had a satisfactory level of knowledge, attitudes and reported practices regarding optimal nutrition. Female students had more satisfactory level of knowledge, attitudes and practices than male students. Although there was no statistically significant difference between the knowledge scores and attitudes scores of the students, there was a statistically significant difference between the knowledge scores and reported practice scores. At the same time there was a statistically significant difference between the attitude scores and reported practice scores.

RECOMMENDATIONS:

Based on the finding of the present study, the following recommendations were made:

- Initiate with the school media programs (as the wall magazine and the school radio) which display the basic guidelines of nutrition, importance, the main components and the effects of inadequate intake of optimal nutrition.
- A health educational program should be implemented for Preparatory School Students about the importance of the proper nutrition and define the health problems resulting from insufficient dietary intake.
- Schools should promote the student's awareness regarding optimal nutrition through providing guideline booklets and pamphlets about optimal nutrition components and how to choose the balanced diet.
- The school should encourage the students to intake healthy, balanced diet and screening the student's periodically for the early detection of any nutritional problems.

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معلومات وإتجاهات وممارسات طلاب المدارس الإعدادية تجاه التغذية المثالية

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الخلاصة

تعتبر التغذية هي المكون الرئيسى لتحديد جودة الحياة، لذلك فان تناول التغذية المتوازنة والكافية هي أساس الصحة الجيدة أثناء مرحلة البلوغ. الهدف من هذه الدراسة : هو تقييم المعلومات والإتجاهات والممارسات الخاصة بالتغذية المثالية بين طلاب المدارس الإعدادية الحكومية بمدينة دكرنس، فى محافظة الدقهلية. الدراسة المستخدمة : هي الدراسة الوصفية. عينة الدراسة : بلغ عدد العينة الكلى فى هذه الدراسة ٣٠٣ طالب وطالبة تم إختيارهم بالطريقة العشوائية البسيطة. الأداة المستخدمة : نم استخدام استمارة الاستبيان الذاتي التي أعدت من قبل الباحث حيث يقوم الطلاب بملئها لتجميع البيانات الخاصة بهم وتشمل على البيانات الشخصية والاجتماعية وكذلك تقييم المعلومات والإتجاهات والممارسات الخاصة بالتغذية المثالية. النتائج : كشفت النتائج ان عدد الذكور (٥٠,٢٪)، في حين بلغ عدد الإناث (٤٩,٨٪). وكان المستوى المرضى لمعرفة جميع الطلاب يعادل (٦١,٤٪)، والمستوى المرضى للإتجاهات يعادل (٧٥,٦٪) والمستوى المرضى للممارسات يعادل (٧٢,٦٪). الخلاصة: أغلبية الطلاب لديهم مستوى مرضى من المعرفة والإتجاهات والممارسات الخاصة بالتغذية المثالية. بالرغم من عدم وجود فروق ذات دلالة إحصائية بين معرفة الطلاب وإتجاهاتهم، ولكن هناك فروق ذات دلالة إحصائية بين كل من معرفة الطلاب وممارستهم وكذلك إتجاهات الطلاب وممارستهم نحو التغذية المثالية. التوصيات : توصى هذه الدراسة بأنه يجب على المدارس تطبيق برامج التغذية لتحسين معرفة وممارسات الطلاب الخاصة بالتغذية

الكلمات المرشدة : التغذية المثالية، المشكلات الصحية، المراهقين