RESEARCH ARTICLE

Association among Teenagers' Daily Type of Food, Sleep Pattern and Physical Exercise on Their Eating Disorders Behaviors

Baneen Jaleel Abd Al-ameer[1*], Zaid Wahid Ajil

1. MSc, College of Nursing, University of Baghdad, Iraq. Corresponding Author E-mail: baneen.jaleel1204b@conursing.uobaghdad.edu.iq
2. PhD, College of Nursing, University of Baghdad, Iraq. E-mail: zaid_ahjil@conursing.uobaghdad.edu.iq

Corresponding author: Baneen Jaleel Abd Al-ameer
Email: baneen.jaleel1204b@conursing.uobaghdad.edu.iq

ABSTRACT

Background: Health is a fundamental and active meaning in all people's habitual lives. It is inspired via way of means of behavior, circumstances, attitudes, and beliefs in addition to social and bodily environment. Industrialization, urbanization, monetary development, and marketplace inclusiveness have brought about a way of life alternative for the global population

Objectives: Find out the Association between Teenagers' daily type of food, sleep pattern, and physical exercise on their eating disorders behaviors

Methodology: A descriptive design study that uses comparative design was carried out throughout the present study. The study used Purposive sampling (Comparative Study). The sample size was 500 students (male and female) from all secondary schools in Baghdad at al-karkh sector

Results: There is a significant relationship between eating disorder behaviors and all the student's lifestyles, except with students' duration of physical exercise

Conclusions: There is no significant relationship between eating disorder behaviors and the duration of physical exercise, and there is a significant relationship between eating disorder behaviors with the type of food and sleep pattern

Recommendations: Educational programs should be designed to increase parents knowledge and teenagers' awareness about etiology, types, signs and symptom, treatment of eating disorders and encouraging them to practice healthy eating behaviors by providing scientific booklet, publication and journal about eating disorders,

Keywords: Teenagers; food; sleep pattern; physical exercise ; eating disorders behaviors
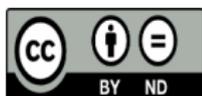
INTRODUCTION

Health is a fundamental and active meaning in all people's habitual lives. It is inspired via way of means of behavior, circumstances, attitudes, believes in addition to social and bodily environment. The industrialization, urbanization, monetary development and marketplace inclusiveness have brought about way of life alternate of the global population. (Mahmoud & Taha, 2017).

Teen age is a completely unique and formative time, Physical, emotional and social changes, inclusive of exposure to poverty, abuse, or violence, could make youngsters susceptible to mental health problems. Teen age is a important period for developing social and emotional behavior essential for mental well-being (WHO, 2021).

An eating disorder (ED) is a mental health illness characterized by abnormal eating styles and behaviors that can affect all people , no matter of their race, age, or habits. Consequences of eating disorder are both catastrophic and widespread, and include altered sleeping patterns, reduced capacity to concentrate, osteoporosis, and diabetes mellitus. In addition, eating disorder have also been linked to psychological issues such as substance abuse, depression, anxiety, and suicidality (Docman, 2019).

Eating disorders include anorexia and bulimia nervosa, usually emerge throughout teenaged and young adulthood. Eating disorders behaviors involve abnormal eating behavior and preoccupation with food, attended in most instances by concerns regarding weight and shape. Anorexia Nervosa (AN) will cause premature death, AN has higher mortality than the other mental illness because of medical complications or suicide (WHO, 2021).

There are many factors that play a significant role in the development of eating disorders in teenagers are the socio-cultural factors. Cultures of abundance that place a great emphasis on appearance and idealize slimness provide the context for body image issues and emerge disordered eating (Koushiou et al., 2020).

METHOD

Study Design

A descriptive design study that use comparative design was carried throughout the present study.

Sampling and Sample Size

The study used a Purposive sampling (Comparative Study). The sample size was 500 students (male and female) from all secondary schools in Baghdad at al-karkh sector. Students were divided into classes according to their age of 18 (male and female) in the age (10-13) year, 380 (male and female) in the age (13-15) year, 100 (male and female) in the age (15-18) year, 2 (male and female) in the age above 18 year. The total number of participants in the study was 667 students, 50 participants were isolated for the pilot study, and 117 participants were excluded because they did not complete the information in the questionnaire.

Data Collection

After taking approvals from the concerned authorities, including school schoolmasters. The researcher collected data from students in secondary school for the current study by using the designed questionnaire and the self-reported technique used in the Arabic version of the questionnaire for those subjects included in the study. Before distributing the questionnaire, the researcher conducted an interview with the students to provide an introduction and describe the study's purpose in a simple manner and obtain verbal consent from them. The questionnaire takes 15-20 minutes to complete, and the process of gathering data has been collected every day from 8.30 a.m to 1.30 p.m.

Setting of the study

The study has been carried out on teenagers in secondary schools at baghdad, in forty schools. It was carried out in al-karkh sector secondary schools, which includes (al-karkh I , al-karkh II, al-karkh III) those schools are already distributed in Baghdad.

Instrumentations

The researcher constructed a Self-administrative questionnaire to accomplish the objective of the study. The researcher used Child Eating Behavior Questionnaire (CEBQ) and worked on it's development and then translated from English to Arabic. The method of forward and backward translation was used to achieve translation validity, after which the translation was sent to experts for analysis.

According to the recommendations and notes of experts and the Ministry of Planning/Central Council of Statistics, amendments were made to different words in the questionnaire. The study instrument is divided into four parts: Students' Demographic Data, Information about the

student's lifestyle, Child Eating Behaviour Questionnaire (CEBQ), and Eating behaviors.

Ethical Considerations

The Ethical Committee of the Faculty of Nursing at the University of Baghdad was grant ethical approval to the researcher. The researcher promised to keep the students' details private and only use it for this study after explaining the study's purpose to each participant. In addition, the informed consent was obtained, the researcher informed each participant that this is a volunteer role and they have the right to refuse participation.

RESULTS

Table 1 : Distribution of socio demographic characteristics for students':

Classes	Groups	Study group	
		Frequency	**percent**
	first	83	16.6
	second	214	42.8
	third	203	40.6
	Total	500	100.0
Gender	Male	239	47.8
	Female	261	52.2
	Total	500	100.0
Age (Years)	10-less than 13	18	3.6
	13-less than 16	380	76.0
	16-less than 18	100	20.0
	18 or more	2	.4
	Total	500	100.0
Years of fail	.00	367	73.4
	1.00	79	15.8
	2.00	45	9.0
	3.00	6	1.2
	4.00	2	.4
	5.00	1	.2
	Total	500	100.0
Residency	Urban	417	83.4
	Rural	83	16.6
	Total	500	100.0
Father's Educational Level:	Can't read and write	28	5.6
	Can read and write	42	8.4
	Elementary school	98	19.6
	Middle school	110	22.0
	Secondary school	62	12.4
	College/ Institute	101	20.2
	Master or above	59	11.8
	Total	500	100.0
Mother's Educational Level:	Can't read and write	23	4.6
	Can read and write	47	9.4
	Elementary school	106	21.2
	Middle school	121	24.2

	Secondary school	85	17.0
	College /Institute	87	17.4
	Master or above	31	6.2
	Total	500	100.0
Family's monthly income	Less than 300 thousand Iraqi Dinar	111	22.2
	Between 301 thousand and 600 thousand Iraqi Dinar	132	26.4
	Between 601thousands and 900 thousand Iraqi Dinar	77	15.4
	Between 901 thousand and more than 1 million Iraqi Dinar	67	13.4
	Between 1,201,000 and 1,500,000 Iraqi Dinar	72	14.4
	More than 1,500,000 million Iraqi Dinar	41	8.2
	Total	500	100.0
Family's members	3-5	173	34.6
	6-8	282	56.4
	9-11	39	7.8
	Above 11	6	1.2
	Total	500	100.0
Type of Family	Nuclear Family (father, mother and their children)	377	75.4
	Extended Family (father, mother, children, and grandparents)	96	19.2
	Single Family (child with one parent)	25	5.0
	Grandparent Family (child with their Grandparent)	2	.4
	Total	500	100.0
Birth order	First born	159	31.8
	Middle born	235	47.0
	Last born	101	20.2
	The only child	5	1.0
	Total	500	100.0
Student's BMI	Below18.5 Underweight	146	29.2
	18.5-24.9 Normal weight	245	49.0
	25-29.9 Overweight	83	16.6
	30-34.9 Obesity class I	19	3.8
	35-39.9 Obesity class II	4	.8
	Above 40 Obesity class iii	3	.6
	Total	500	100.0

The above table (1), we found that the highest percent of the total sample were second class by(42.8%), and females by (52.2%), while males were (47.8%). About age, they were (13-less than 16) by (76%). And (73.4%) of students did not fail during their school years. Most of the students reside in urban with a rate of (83.4%). About education level, the highest percent was for (middle school) by (22%) for fathers, and (24.2%) for mothers. About monthly income of a family, the highest percent was for (301-600) thousand Iraqi Dinar by (26.4%). About family members, the highest percent was for (6-8) member by (56.4%). About the type of family, the highest percent was for (Nuclear Family) by (75.4%). About the birth order, the highest percent was for (Middle born) by (47%). About the Students' BMI, the highest percent was for (Normal weight) by (49%).

Table 2 : Distribution of Information about the student's lifestyle.

Classes	Groups	Study group	
		Frequency	percent
How often do you exercise	1-2 times per week	266	53.2
	3-4 times per week	130	26.0
	5-6 times per week	47	9.4
	7 or more times per week	57	11.4
	Total	500	100.0
Duration of exercise	Less than 1 hour	247	49.4
	1-2 hours	214	42.8
	3-4 hours	32	6.4
	5-6 hours	7	1.4
	Total	500	100.0
Sitting time to watch TV or mobile during the day	1-2 hours	191	38.2
	3-4 hours	157	31.4
	5-6 hours	74	14.8
	Above 6 hours	78	15.6
	Total	500	100.0
hours Number of sleep	1-4 hours	31	6.2
	5-8 hours	295	59.0
	Above 8 hours	174	34.8
	Total	500	100.0
Bedtime	At 7 to 9	17	3.4
	At 10 to 12	309	61.8
	At 1 to 3	174	34.8
	Total	500	100.0
The type of food you eat a lot	sweets	105	21.0
	Healthy food and fruits	140	28.0
	Fast & Ready Food	98	19.6
	citrus (chips, salty fingers, popcorn, etc..)	67	13.4
	Noodles	90	18.0
	Total	500	100.0

The above table (2), we found that the highest percent of exercise times was (1-2) per week by (53.2%), while the duration of exercise was (Less than one hour) by (49.4%). About the sitting time to watch TV or mobile was (1 -2) hours during the day by (38.2%). About the hours of sleep was (5 -8) hours

by (59%), while the bed time was at (10PM – 12AM) by (61.8%). About the type of food they eat a lot, was (Healthy food and fruits) by (28%).

Table 3 : Descriptive Statistics for Child Eating Behavior Questionnaire (CEBQ).

No.	Questions	Descriptive Statistics					MS	SD	RII	Ass.
		Frequency								
		Never	Some times	Often	Very Often	Always				
1	I love and care about food.	31	142	105	69	153	3.3420	1.33439	0.67	Moderate
		6.2	28.4	21.0	13.8	30.6				
2	I eat more when I'm anxious.	228	115	59	27	71	2.1960	1.42606	0.43	Low
		45.6	23.0	11.8	5.4	14.2				
3	I have a big appetite.	109	152	115	46	78	2.6640	1.33517	0.53	Moderate
		21.8	30.4	23.0	9.2	15.6				
4	I finish my meal quickly.	96	164	98	50	92	2.7560	1.36975	0.55	Moderate
		19.2	32.8	19.6	10.0	18.4				
5	I like to drink water all the time constantly	57	123	98	72	150	3.2700	1.40608	0.65	Moderate
		11.4	24.6	19.6	14.4	30.0				
6	I refuse new foods at first	168	172	74	32	53	2.3420	2.26170	0.47	Moderate
		33.6	34.4	14.8	6.6	10.6				
7	I eat less when I'm angry	173	101	73	40	113	2.6380	1.56328	0.53	Moderate
		34.6	20.2	14.6	8.0	22.6				
8	I enjoy tasting new foods.	45	125	83	67	180	3.4240	1.41712	0.68	Moderate
		9.0	25.0	16.6	13.4	36.0				
9	I eat less when I am upset.	250	115	44	28	63	2.0780	1.39420	0.42	Low
		50.0	23.0	8.8	5.6	12.6				
1o	I enjoy a wide variety of foods (sweets, healthy food, citrus fruits, fast food, etc.)	34	62	81	69	254	3.8940	1.33053	0.78	High
		6.8	12.4	16.2	13.8	50.8				
11	I leave some food on my plate at the end of the meal	100	132	82	54	132	2.9720	1.49388	0.59	Moderate
		20.0	26.4	16.4	10.8	26.4				
12	I take over 30 minutes to finish my meal	175	146	71	43	65	2.3540	1.37275	0.47	Moderate
		35.0	29.2	14.2	8.6	13.0				
13	I feel full quickly even before I finish my meal	94	133	81	66	126	2.9940	1.47047	0.60	Moderate
		18.8	26.6	16.2	13.2	25.2				
14	I enjoy eating	36	87	80	93	204	3.6840	1.34751	0.74	High
		7.2	17.4	16.0	18.6	40.8				
15	I eat more when I'm happy	105	107	81	67	140	3.0600	1.51955	0.61	Moderate
		21.0	21.4	16.2	13.4	28.0				
16	I eat more when I have nothing else to do.	146	127	68	61	98	2.6760	1.49247	0.54	Moderate
		29.2	25.4	13.6	12.2	19.6				
17	Even if I feel full, I find space to eat my	205	99	72	37	87	2.4040	1.50243	0.48	Moderate
		41.0	19.8	14.4	7.4	17.4				

							MS.	Sd	RII	Ass.
	favorite food									
18	I eat less when I'm tired	149	120	60	50	121	2.7480	1.56249	0.55	Moderate
		29.8	24.0	12.0	10.0	24.2				
19	I eat more when I'm anxious.	251	102	67	24	56	2.0640	1.35483	0.41	Low
		50.2	20.4	13.4	4.8	11.2				
20	I eat less when I'm upset (annoyed)	158	122	69	49	102	2.6300	1.51317	0.53	Moderate
		31.6	24.4	13.8	9.8	20.4				
21	I can't eat a meal if I've eaten a snack before	136	128	83	70	83	2.6720	1.42986	0.53	Moderate
		27.2	25.6	16.6	14.0	16.6				
22	I'm interested in tasting food I've never tasted before	82	109	78	79	152	3.2200	1.48459	0.64	Moderate
		16.4	21.8	15.6	15.8	30.4				
23	I eat more slowly during a meal	115	122	82	61	120	2.8980	1.49669	0.58	Moderate
		23.0	24.4	16.4	12.2	24.0				
Weighted mean= 2.8252			Std. Deviation= .55420							

MS.: Mean of Scores (weighted mean); Sd: Standard Deviation, RII.: Relative Importance Index, Ass.: Assessment, Low: (1.0-2.33), Moderate (2.34-3.66), High (3.67-5.0).

From above table (3), shows (Descriptive statistics for Child Eating Behavior Questionnaire), from which we find that the highest Relative Importance Index (= 0.78) was awarded to the question 10: (I enjoy a wide variety of foods (sweets, healthy food, citrus fruits, fast food, etc.)) with mean (=3.8940) and std. deviation (=1.33053), followed by the questions Q14: (I enjoy eating) with mean (=3.6840) and std. deviation (=1.34751), and their values shown in the above table. while the lowest Relative Importance Index (= 0.41) was awarded to the question 19: (I eat more when I'm anxious.) with mean (=2.0640) and std. deviation (=1.35483).

DISCUSSION

Discussion of socio demographic characteristics for students

The percentage of female students is almost equal to that of males, were in grade second, and their failure rate was zero, which means that the majority of the sample did not fail in their grade, and were most of them resid in an urban area. The highest sample age students was between 13 and less than 16 years. Findings are consistent with findings of Saleh and Maʾala, (2015), in a research to determine the influence of fast meals and snacks on adolescents' BMI at secondary schools in Baghdad city, their findings indicate that more than half of the teenagers were female, and half of them were under the age of 16.

Regarding the educational level of fathers, the educational level of mothers, the highest rate were have middle school. In addition, the study results indicated that the majority of students within poor family's economic status, due to the highest rate of family monthly income was between 301-600 thousand Iraqi dinar. This finding supported with Iraqi study conducted by Kareem and ali, (2017), To determine the influence of social media use on the mental health of adolescent students at preparatory schools in Al-Diwanyah city, their findings revealed that the research sample came from families with a moderate economic position.

Throughout the course of the present study in the table (4-1), indicates that three quarters of the adolescent living with their parents included nuclear family type were accounted three hundred and seventy seven (75.4%). Findings supported with Habsi and Ahjil, (2021), to compare the self-esteem of children who living with their parents in secondary schools in al-Rusafa to children living in orphanages in Rusafa, Baghdad, indicates that (85.5%)of the children living within nuclear family type.

However, the study results are similar to a study in Gonabad (Iran), a cross-sectional research was performed on high school students, done by Alami, Khosravan, Moghadam, Pakravan, and Hosseni (2014), to assessed self-esteem of adolescents in single-parent and nuclear families. They reported that the majority of study sample within family type is two-parent nuclear families. The results also agree with Banstola, Ogino, and Inoue, (2020). In their study effect of parents' knowledge of their adolescent self-Esteem development and practice in parenting on adolescent self-esteem. Indicated that more than half participants from nuclear family living together that consist of parents and their children.

Concerning the birth order for students, the highest percentage of student who born in middle sequence and were their families members at the category (6-8) persons. This finding inconsistant with Habsi and Ahjil, (2021) study to compare the self-esteem of children who living with their parents in secondary

schools in al-Rusafa to children living in orphanages in Rusafa, Baghdad. The study results indicated that the majority of the studied sample assigned at the first sequence and according to number of family members are focusing at the class (5 – 6) persons. In point of my view, families give the first-born and the last child more attention than the rest of the children, and this neglect or lack of attention to middle-born children has a significant impact on their lifestyle such as eating behavior, sleep pattren and psychological state.

The study showed the students' BMI ranged within normal weight are the highest percent, followed by underweight. The study results are agree with study of Al-Muammar, El-Shafie and Feroze (2014), for researching the relationship between eating habits and body mass index of teenage females in intermediate schools in Riyadh, Saudi Arabia, since half of the students were normal weight and followed of them within underweight.

**Discussion The Information about Students' Lifestyle*

The study findings indicated that more than half of students are doing exercise about 1-2 times per week, while the duration of exercise is less than one hour. This results supported with study done by Hassan and Ma'ala, (2012), to assess adolescents' daily physical activity & it's relationship to obesity in secondary schools At AL-Najaf AL- Ashraf city, their results show that the majority of study participants have low daily physical activity.

According to the sitting time to watch TV or mobile, the study result showed the highest rate of time to use mobile or watch TV was 1 – 2 hours during the day in rate 38.2% and followed by 3-4 houres with rate 31%. Findings supported with study conducted by Kareem and ali, (2017), daily to determine the influence of using social media on the mental health of teenage students of preparatory schools in Al-Diwanyah city. The study results show that the majority of the study participants use the mobile and network for enjoyment for 1-4 hours.

The present study showed that the highest range in the hours number of sleep between 5 to 8 hours and bedtime from 10 pm to 12 am, we considered this percentage among healthy sleep habits. Findings inconsistant with Singh and Misra, (2012), their research of teenages' lifestyle in India to identify the incidence of risk and promoter factors of health, revealed irregular sleep habits and the prevalence of unhealthy behaviors.

The result about the type of food they eat a lot, was Healthy food and fruits by (28%), and The percentage of unhealthy foods that eaten by teens such as (sweets, fast and ready foods, and citrus like a chips and noodles) combined together was not small, an estimated 72%. The study results supported with Singh and Misra, (2012), In a study of Indian teenagers lifestyle to identify the incidence of risk and promotive

factors of health, their study revealed a conspicuous prevalence of unhealthy habits and a lesser prevalence of healthy lifestyle-related factors such as consuming healthy food items such as fruits, vegetables, milk, and daily routine practices such as Yoga and physical exercise. In my opinion, the students have neutral eating habits, which indicates they practiced healthy eating behaviors alongside unhealthy eating behaviors.

**Discussion Descriptive Statistics for Child Eating Behavior Questionnaire (CEBQ)*

The study results showed that the highest Relative Importance Index was awarded to the item 10 and followed by the item 14 while the lowest Relative Importance Index was awarded to the item 2. This results supported with study done by Saleh and Ma´ala, (2015), in order to test adolescents' fast foods and snacks, as well as the relationship between fast food, snacks, and adolescents' demographic information (gender and BMI) at secondary schools in Baghdad City, their findings revealed that nearly half to more than one-third of the participants consume a variety of snacks.

The study find that the highest Relative Importance Index was awarded to the question 4, while the lowest Relative Importance Index was awarded to the question 5. In point of my view, due to the majority of students are within a normal BMI, the question that indicates the students' satisfaction with their body shape and weight got the highest rate and the answer was always choice, and this explains why the question that indicates unhealthy weight control behavior question 5 got the lowest rate and the answer was never choice.

This findings supported with study conducted by saleh and ma'ala , (2015), to determine the influence of teenagers' family meal eating habits on their weight control behaviors in Baghdad secondary schools. Their study findings showed that half and the majority of adolescents' not having unhealthy weight control behaviors like not taking diet pills, use laxative & diuretics pills, using the binge eating such as made themselves vomit for weight control.

**Discussion The Results for The Relationship between The Information about The Student's Lifestyle and Child Eating Behavior Questionnaire and Eating Behaviors*

There is a significant relationship between eating disorder behaviors and all the student's lifestyles, except with students' duration of physical exercise. The study result showed that the physical exercise and sitting time to watch TV or to use mobile have significant association with eating behaviors. This finding agree with study conducted by Salameh etal, (2014), to assess of dietary intake patterns and their relationship among students in Lebanon. Their study observed a significant association between physical activity and eating pattern.

Also study results agree with another study in Iraq by Musaiger et al., (2014), to explore

teenage eating habits, physical activity, and sedentary behaviors as risk factors for noncommunicable illnesses in Mosul, Iraq. This research found that screen time, such as watching television, playing video games, and using the Internet, is another factor that may lead to obesity and maybe other metabolic diseases among Iraqi adolescents. The majority of the teenagers in this study spent more than two hours per day on these activities, and the study found that sleep patterns such as number of hours sleep and bedtime have a significant relationship with eating disorder behaviors.

Study findings are consistant with study conducted by Narciso et al., (2019), to find and evaluate peer-reviewed scientific literature on the behavioral, environmental, and biological aspects related with teenage obesity. The study also revealed that sleep deprivation is a possible risk factor for the development of obesity. Furthermore, there appears to be a gender difference in the association between sleep and obesity throughout adolescence, which is thought to be associated with eating disorder behaviors.

The study showed that the healty food have a significant relationship with eating disorder behaviors. The study showed that the eating disorder behaviors have a significant relationship with item (the type of food you eat a lot) and the majority of student was select healthy food and fruits at rate 28%. This results agree with another study in Iraq by Musaiger et al., (2014), to discover the eating habits, physical activity, and sedentary behaviors of adolescents in Mosul, Iraq, as risk factors for noncommunicable diseases, this study discovered that the intake of fruits and vegetables was higher among girls than boys, that the low frequency of intake of fruits and vegetables may play an important role in increasing the risk of chronic noncommunicable diseases, and that evidence suggests that an appropriate intake of fruits and vegetables helps reduce the risk of chronic noncommunicable diseases.

In point of my view, this rate due to that the Iraq manufactures some of its foods, such as fruits and vegetables, which are thus more available at low cost. However, the rate of unhealthy foods that eaten by teens such as sweets, fast and ready foods, and citrus like a chips and noodles combined together was not small, an estimated 72%.

CONCLUSION

There is no significant relationship between eating disorder behaviors and the duration of physical exercise. There is a significant relationship between eating disorder behaviors with the type of food and sleep pattern. The majority of teenagers in secondary schools have low physical activities and exercise.

RECOMMENDATIONS

Educational programs should be designed to increase parents' knowledge and teenagers'

awareness about the etiology, types, signs and symptoms, and treatment of eating disorders, and encouraging them to practice healthy eating behaviors by providing scientific booklet, publication, and journal about eating disorders.

We recommend school administrations, especially girls' schools, to allocate a certain time every day to exercise appropriate for them. The need for more studies that look at eating disorders more precisely, the correct behaviors to reduce or gain weight, and the relationship between eating behavior and academic achievement among students.

ETHICAL CONSIDERATIONS COMPLIANCE WITH ETHICAL GUIDELINES

This study was completed following obtaining consent from the University of Baghdad.

AUTHOR'S CONTRIBUTIONS

Study concept, Writing, Reviewing the final edition by all authors.

DISCLOSURE STATEMENT:

The authors report no conflict of interest.

REFERENCES

1- Andreea-Elena, M. (2015). The Risk of Eating Disorders in Adolescence and its Association with the Value of the Body Mass Index, Level of Anxiety and Level of Depression. Procedia - Social and Behavioral Sciences, 187, 141–146. https://doi.org/10.1016/j.sbspro.2015.03.027

2- Cheah, W. L., Hazmi, H., & Chang, C. T. (2015). Disordered eating and body image issues and their associated factors among adolescents in urban secondary schools in Sarawak, Malaysia. International Journal of Adolescent Medicine and Health, 2015. https://doi.org/10.1515/ijamh-2015-0044

3- Docman, K. (2019). Screening for adolescent eating disorders in a school-based health center using the Scoff Questionnaire. January.

4- Habsi, R., & Ahjil, Z. (2021). Self-esteem of Children Living with their Parents for Secondary Schools in AL-Rusafa: Comparative Study to the Children Living in Orphanage (p. 117).

5- Hourani, H. Al, Ababneh, R., Khawaja, N., Khader, Y., & Ajlouni, K. (2020). Eating disorders among Jordanian adolescents with and without dysglycaemia : a comparative study. 26(12).

6- Kareem, H. N., & Ali, E. G. (2017). Impact of Using Social Media upon the Mental Health of Adolescent Students of preparatory Schools in Al-Diwanyah City. 27(1), 23–31

7- Koushiou, M., Nikolaou, P., & Karekla, M. (2020). Prevalence and correlates of eating disorders in greek-cypriot adolescents and young adults. The European Journal of Counselling Psychology, 8(1), 3–18. https://doi.org/10.5964/ejcop.v8i1.170

8- Pedram, P., Patten, S. B., Bulloch, A. G. M., Williams, J. V. A., & Dimitropoulos, G. (2021). Self-reported lifetime history of eating disorders and mortality in the general population: A Canadian population survey with record linkage. Nutrients, 13(10), 1–12. https://doi.org/10.3390/nu13103333

9-Richardson, B. (2020). Pediatric Primary Care: Practice Guidelines for Nurses. In The American Journal of Nursing.

10-Saleh, B. B., & Ma´ala, E. G. (2015a). Impact of Adolescents' Family Meal Eating Patterns upon their Weight Control Behaviors at Secondary Schools in Baghdad City. 28(2), 1–7.

11- Sarrar, L., Vilalta, M., Schneider, N., & Correll, C. U. (2020). Body mass index and self-reported body image in German adolescents. Journal of Eating Disorders, 8(1), 1–10. https://doi.org/10.1186/s40337-020-00330-3

12- World Health Organization. (2021). Adolescent mental health: https://www.eatingrecoverycenter.com/blog/eating-disorders-history