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Nutritional Awareness and its Effect on Weight Gain For a Sample of Tikrit City Community

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ABSTRACT

The study aimed to identify the level of nutritional awareness and the extent of its impact on weight gain in people in particular. The study was twofold, the first is to know the body mass index (BMI) by knowing the height and weight, and the second is to know the nutritional habits followed by people through the food eaten and nutritional culture. This was done through a questionnaire that was distributed to the sample, which included (160) people, 76 males and 84 females, who were randomly selected from the city of Tikrit. The results showed that there were significant differences at the significance level ($P < 0.05$) in the (BMI) rate. The results also showed the presence of significant differences at the level ($P < 0.01$) in the eaten foods by males and females, as well as the presence of significant differences at the level ($P < 0.05$) and ($P < 0.01$) in the level of nutritional culture in males and females. As for the relationship between gender, age and body mass index with the level of nutritional awareness, it was noted that there were significant differences at the level of significance ($P < 0.05$) between age and the level of nutritional awareness. The researcher recommended some recommendations, which are to spread food culture among all segments of society and to focus and urge awareness and nutritional education by institutions and the media in order to raise food awareness, and urge the Ministry of Education to include nutritional education within school curricula.

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INTRODUCTION

Obesity is a global problem and a manifestation through the age (Al-Ani,2004) It is also a precursor to many chronic diseases and their psychological and social consequences, and to treat obesity requires dietary interventions and modification in dietary behavior and exercise (Al-Qaddoumi,2009 ; Sajjadi,2008) The lack of nutritional awareness is one of the reasons that lead to weight gain (obesity) (Al-Hazzaa,2005) and that the increase in weight may be due to foods that are easy to obtain with a lack of physical activity (Jame,2008)Also, among the factors that contribute to weight gain are the new patterns of high-calorie, high-fat, sugar-sweetened, and poor-vegetable and fruit-rich foods (Sajjadi,2008 ; W.H.O., 2000) Where food habits and food culture play an important role in human health and life (Abdul-Majid and Al-Marassi,2010). What a person should know the components of the meal he eats daily because of this important impact on his health, activity and mental abilities (Owaida,2015) It was noted in some studies to identify eating habits, the results were irregular meals, and most of them ignore eating breakfast while eating dinner, as well as eating light and fast meals, and this is one of the most important habits that lead to weight gain and obesity (Azza,1995) And that a person's possession of a part of the food culture is like having awareness and understanding of the importance of nutrition and the foundations upon which the habits, behaviors and needs of the body are based on nutrients according to gender, weight,

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height, type of work, environmental conditions enjoyed by societies, and the physiological and health status. According to the four food groups (Mazahreh, 2008) In addition, access to and follow-up of food awareness and guidance programs raises the level of nutritional awareness. Therefore, Arab countries need educational programs that deal with food-related matters in order to raise the level of nutritional awareness of community members (An-Najah, 2012) Where food awareness can be spread through study materials and audio-visual aids such as magazines, awareness programs and nutritional guidance (Sobhi, 2004) Because of the importance of nutritional awareness in a person's life by organizing his meals in a correct and healthy way and to prevent weight gain and obesity and its negative role in the occurrence of many diseases, so the study aimed to study nutritional awareness and its effect on weight gain for a sample of Tikrit city community.

MATERIALS AND METHODS

The research sample

The sample included (160) people from the city of Tikrit, the ages of 18-50 were randomly selected. The sample was divided into two groups on the basis of gender and age, as shown in Table (1):

Table (1) Distribution of samples on the basis of gender and age group

gender	the number	age group (range)	(%) percentage
male	76	18 - 50	47.50
female	84	18 - 50	52.50
Total	160		100
Chi-square value (χ^2)	---	---	1.094 NS
NS:insignificant			

Questionnaire form

A questionnaire was prepared by the researcher, which included a number of paragraphs, including:

1-Body measurements:

The lengths and weights of the research sample were taken to calculate the body mass index (B.M.I.) resulting from Divide the weight (kg) by the square of the height (meter).

sample was also classified according to the body mass index, which was referred to (NIN, 2011) as in Table (2)

Table (2) Classification of the sample by body mass index (BMI)

Degree	the body mass index (B.M.I.)
low weight	and below 18.5
normal weight	18.5 – 24.9
Overweight	25 – 29.9
excessive weight	30 or more

2- Measuring the level nutrition habits:

Data were collected by filling out a questionnaire that included two sets of questions:

The first group: Some of the foods and foods that are eaten on a daily basis and the frequency of eating them were selected, as the frequency of eating them was divided into three sections (always, sometimes, never).

the second group: Some questions that indicate the habits, practices and nutritional culture of the sample were selected, and their answers were in the form of (always, sometimes, never).

statistical analysis:

The statistical program Statistical Analysis System (SAS) was used in data analysis to study the effect of different factors on the studied variables, and the significant differences between the

means were compared with the least significant difference (LSD) test and chi-square test (χ^2) between percentages (SAS, 2012).

RESULTS AND DISCUSSION

Table (3) shows the average height, weight and body mass index of the research sample through the questionnaire form, The results showed that there were no significant differences with respect to the average height and weight for both groups of males and females, and this is identical to the findings of Al-Ani (2017), as there were (54) males within the age group (18-30) and (22) males. of the age group from (31-50), and the average height for the two age groups of males was (160.7) (175.6) respectively. As for the average weight, it reached (60) and (78) respectively, while the number of females was (62)) within the age group (18-30) and (22) within the age group (31-50), where the average height for the two age groups for females was (167.4) and the average weight was (64.5) and (62) respectively in When there were significant differences ($P < 0.05$) for the body mass index (BMI) for the research sample, the highest percentage of the age group (31-50) for males was recorded, and it reached (28.7) and this corresponds to what was found in Al-Tamimi *et al.*, (2014) ; Beltifa,(2004) Where the highest degree of overweight reached between the age group (31-50) and the lowest percentage for the age group (18-30) among females, amounting to (23.7) and this corresponds to what the researcher mentioned Ali, (2012), and the reason for this may be due to the fact that the older the age There is an increase in weight due to lack of energy value expended by an adult against food consumption Al-Issawi, (2000) ; Beltifa,(2004).

Table (3) average height, weight and body mass index (BMI) for the research sample

gender/age group	the number	Height/cm	Weight / kg	BMI rate kg/m ²
males (18-30)	54	160.7	60	23.8 b
Males (31-50)	22	175.6	78	28.7 a
Female(18-30)	62	167.4	64.5	23.7 b
Female(31-50)	22	167.4	62	24.6 b
LSD value				2.814 *

*($p < 0.05$)

Figure (4) shows the distribution of the research sample according to body mass index (B.M.I) Where it is observed that males within the age group (18-30) within the limits of normal weight, as well as females within the age group (18-30) and (31-50), the level of (BMI) reached (23.8) (23.7) (24.6), respectively, and these results correspond With what was reached by Saleh, (2009); Sobhi,(2004) they found that most of the weights are close to the normal weights.

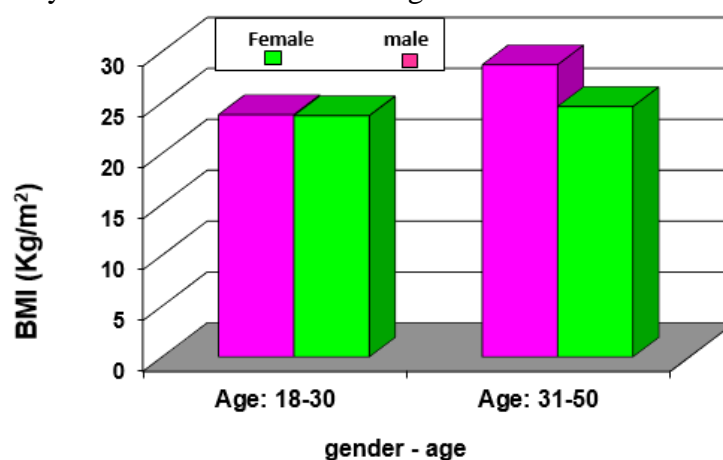


Figure (4) Distribution of samples by body mass index by gender and age group

As for the males in the age group (31-50), they are within the overweight limits, which amounted to (BMI) (28.7) and these results were identical to what I observed Azza, (1995) During

its study, the weights of males were higher than females in the same age group, and the reason for this may be due to some physiological reasons, including the presence of an imbalance in hormones and metabolism, in addition to genetic factors, psychological problems, energy imbalance and imbalance between hunger and satiety Al-Hazzaa, (2005).

Tables (5) and (6) show the percentage of food consumed by the male and female research sample, which includes (always, sometimes, never) for all questions. The results showed that there were significant statistically significant differences ($P < 0.01$), where the highest percentage in eating fruits and vegetables sometimes reached (48.68%) and the lowest never (5.26%) in favor of males, while the highest percentage of females always reached (55.95 %) and the lowest percentage ever (4.76%), and these results are consistent with the study Al-Ani, (2017) ; Al-Tamimi et al.,(2014) and this is good as fruits and vegetables are a good source of vitamins and minerals that the body needs. As for eating meat, the percentages converged, as it was eaten in a fluctuating manner (sometimes) by males and females, and its percentages were (61.84%) for males and (67.85%) for females, and this does not coincide with what was reached by each of Al-Ani, (2017) ; Ali,(2012). The reason may be due to the economic level as well as the high prices of meat. As for the intake of starchy foods, the highest percentage has always reached (50%) in favor of males and females, and the lowest percentage ever (3.94%) for males and (3.57%) for females, These results are not identical with what was found Al-Ani, (2004). to weight gain As for the consumption of foods with a lot of sweetness and sweets Abdel Qader, (2004), it was fluctuating (sometimes) by both males and females, as its percentage reached (56.57%) for males and (46.42%) in favor of females. These results are not identical with what was found Al-Qaddoumi, (2009) in her study.

Table (5) shows the foods eaten by the male sample

question number	question	Always	%	Sometimes	%	never	%	morale level
1	Eat fresh fruits and vegetables daily	35	46.05	37	48.68	4	5.26	**
2	Eat meat daily	20	26.31	47	61.84	9	11.84	**
3	Eating a lot of starchy foods	38	50.00	35	46.05	3	3.94	**
4	I eat a lot of sweet and sweet foods	20	26.31	43	56.75	13	17.15	**
5	Eat more cooked than fried food	41	53.94	30	39.47	5	6.57	**
6	Eat fast food	11	14.47	40	52.63	25	32.89	**
7	Drink mineral daily	10	13.15	57	75.00	9	11.84	**
.($P < 0.01$) **								

Eating cooked food more than fried food was always higher (53.94%) in favor of males and the lowest at never (6.57%). As for females, the intake was fluctuating, as it reached the highest percentage sometimes (50%) and the lowest percentage ever (5.95%) and this corresponds to what was found by Ali, (2012) in her study. While eating fast food, the percentages were the same for males and females, with the highest percentage sometimes reaching (52.62%) and (52.38%), respectively, and the lowest always, reaching (14.47%) for males and (15.47%) for females, These results are not identical with what was found Ahmed, (2008) ; Al-Ani ,(2017). A person may resort to eating fast food, such as sandwiches and potato chips, as it breaks the daily routine and responds to hunger Sadiq,(2011). As well as the consumption of drink mineral was fluctuating by males and females, where the highest percentage sometimes reached (75%) for males and (82.14%) for females, and the lowest percentage ever (11.84%) for males and always (7.14%) for females, and this The percentages are high and have a significant impact on weight gain, because drink mineral

contains high calories. The reason for the volatile consumption of drink mineral may be due to the hot weather in Iraq, their cheapness and availability in large quantities in the market.

Table (6) shows the foods eaten by the female sample

question number	question	Always	%	Sometimes	%	never	%	morale level
1	Eat fresh fruits and vegetables daily	47	55.95	33	39.08	4	4.76	**
2	Eat meat daily	10	11.90	57	67.85	17	20.23	**
3	Eating a lot of starchy foods	42	50.00	39	46.42	3	3.57	**
4	I eat a lot of sweet and sweet foods	28	33.33	39	46.42	17	20.23	**
5	Eat more cooked than fried food	37	44.04	42	50.00	5	5.95	**
6	Eat fast food	13	15.47	44	52.38	27	32.14	**
7	Drink mineral daily	6	7.14	69	82.14	9	10.71	**
(P<0.01) **								

Tables (7) and (8) show the percentages of the nutritional culture level for the male and female research sample, which includes (always, sometimes, never) for all questions, The results showed that there were significant statistically significant differences, as the highest percentage of reading instructions related to calories ever reached (61.80%) in favor of males and (50%) in favor of females, while the lowest percentage always reached (17%) for males and (23%). For females, this is a major factor in the occurrence of obesity, which is the lack of attention to the calories they eat. As for making sure to follow the correct nutritional approach, it was fluctuating among males and females, where the highest percentage sometimes reached (39.47%) and (40.47%), respectively, and this is consistent with the study Al-Ani, (2017) ; Al-Humairi,(2015) ; Al-Qaddoumi,(2009). While she was keen to drink water, the highest percentage was always (80.26%) in favor of males and (79.76%) in favor of females, and this is a good percentage because water is one of the important elements that the body needs in large quantities. And the lowest percentage ever was (9.21%) and (8.33%), respectively, for males and females. Also, be sure to eat daily meals, as the highest percentage was always (55.26%) and (45.23%) in favor of males and females, respectively, while the lowest percentage was never (17.10%) and (27.38%) on the respectively, for males and females, and this corresponds to the study Al-Ani, (2017). As for research and knowledge of nutrition, the highest percentage was ever (44.73%) and the lowest always (19.73%) in favor of males, while the highest percentage was sometimes (36.90) The percentage is never lower (30.95%) in favor of females, and the reason for this may be due to the reality of women and their interest in the home and family to be more informed than men in the field of nutrition and food. As for maintaining the correct eating habits, it fluctuated (sometimes) in males and females, where the percentages reached (48.68%) and (41.66%) in favor of males and females, respectively, while the lowest percentage was ever (22.36%) and (22.61%) respectively in males and females, and these results are in agreement with the findings of Al-Ani, (2017); Al-Humairi,(2015) ; Al-Qaddoumi,(2009). While I kept exercising the highest percentage (never), as the percentages were similar for males and females (40.87%) and (41.66%), respectively, while the lowest percentage was always (26.31%)and (21.42). %), respectively, and this is consistent with what was found by Al-Ani, (2018) in her study. As well as maintaining the appropriate weight for me, the percentages were close, as the highest percentage sometimes reached (35.52%) and (34.52%) respectively for males and females, while the lowest percentage was always (30.6 %) and (32.14 %) respectively in males and females.

Table (7) shows the nutritional culture of the male sample

question number	question	Always	%	Sometimes	%	never	%	morale level
1	Read the instructions for calories	13	17.00	16	21.00	47	61.80	**
2	Make sure you follow the correct diet	23	30.26	30	39.47	23	30.26	*
3	Make sure to drink water daily	61	80.26	8	10.52	7	9.21	**
4	Make sure to eat your daily meals	42	55.26	21	27.63	13	17.10	**
5	Be sure to research and learn about nutrition	15	19.73	27	35.52	34	44.73	**
6	Maintain the right eating habits	22	28.94	37	48.68	17	22.36	**
7	Keep exercise	20	26.31	25	32.89	31	40.87	*
8	Maintain the right weight for me	23	30.06	27	35.52	26	34.21	NS

.(P<0.01) **, (P<0.05) *

Table (8) shows the nutritional culture of the female sample

question number	question	Always	%	Sometimes	%	never	%	Moral level
1	Read the instructions for calories	20	23.80	22	26.19	43	50.00	**
2	Make sure you follow the correct diet	25	29.76	34	40.47	25	29.71	*
3	Make sure to drink water daily	17	79.76	10	11.90	7	8.33	**
4	Make sure to eat your daily meals	38	45.23	23	27.38	23	27.38	**
5	Be sure to research and learn about nutrition	27	32.14	31	36.90	26	30.95	NS
6	Maintain the right eating habits	30	35.71	35	41.66	19	22.61	**
7	Keep exercise	18	21.42	31	36.90	35	41.66	**
8	Maintain the right weight for me	27	32.14	29	34.52	28	33.33	NS

.(P<0.01) **, (P<0.05) *

Table (9) shows the relationship between gender, age and body mass index with the level of nutritional awareness, We note from the results that there were significant differences between age and the level of nutritional awareness with a statistical significance ($P < 0.05$), while there were no significant differences with a statistical significance between gender and body mass index with the level of nutritional awareness, and this is identical to what was reached by Al-Qaddoumi, (2009) in his study, But it does not coincide with what was reached by Ibrahim, (2018), where there is a relationship between nutritional education and body composition, and Al-Nader, (2019) and there are significant statistically significant differences between gender and the level of nutritional awareness.

Table (9) The relationship of gender, age and body mass index to the level of nutritional awareness of the research sample

Factors	Correlation coefficient with the level of nutritional awareness	morale level
gender	0,02	NS
Age	0.48	*
Body Mass Index	0.11	NS
(P<0.05) * , NS:insignificant		

CONCLUSIONS

We conclude from the study that the body mass index is higher in males than in females, as well as the frequent consumption of starchy foods and fluctuations (sometimes) in eating foods that are rich in sweetness, sweets, fast food and soft drinks. These foods are high in calories, which leads to weight gain, and There are significant statistically significant differences between age and level of nutritional awareness.

RECOMMENDATIONS

- 1 - Spreading food culture among all segments of society.
- 2 - Focusing and urging food awareness and education by institutions and the media in order to raise food awareness.
- 3 -Urging the Ministry of Education to include nutrition education in school curricula.

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الوعي الغذائي وتأثيره في زيادة الوزن لعينة من مجتمع مدينة تكريت

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الخلاصة

هدفت الدراسة التعرف على مستوى الوعي الغذائي ومدى تأثيره على زيادة الوزن لدى الأشخاص بشكل خاص وكانت الدراسة ذو شقين الأول معرفة مؤشر كتلة الجسم (BMI) Body Mass Index من خلال معرفة الطول والوزن والثاني معرفة العادات الغذائية المتبعة من قبل الأشخاص من خلال الاغذية المتناولة والثقافة الغذائية وكان ذلك بواسطة استمارة تم توزيعها على العينة والتي شملت (160) شخص بواقع 76 ذكور و84 اناث تم اختيارهم بشكل عشوائي من مدينة تكريت. وقد اظهرت النتائج وجود فروق معنوية عند مستوى دلالة ($P < 0.05$) في معدل مؤشر كتلة الجسم (BMI) كما اظهرت النتائج وجود فروق معنوية عند مستوى دلالة ($P < 0.01$) في الاغذية المتناولة من قبل الذكور والاناث وكذلك وجود فروق معنوية عند مستوى دلالة ($P < 0.05$) و ($P < 0.01$) في مستوى الثقافة

الكلمات المفتاحية: الوزن، مؤشر كتلة الجسم، الوعي الغذائي

الغذائية لدى الذكور والاناث اما بالنسبة للعلاقة بين الجنس والعمر ودليل كتلة الجسم بمستوى الوعي الغذائي فقد لوحظ وجود فروق معنوية عند مستوى دلالة ($P < 0.05$) بين العمر ومستوى الوعي الغذائي. وأوصت الباحثة بعض التوصيات وهي نشر الثقافة الغذائية بين جميع شرائح المجتمع و التركيز والحث على التوعية والتثقيف الغذائي من قبل المؤسسات ووسائل الاعلام من اجل الارتقاء في الوعي الغذائي , وحث وزارة التربية بإدخال التثقيف الغذائي ضمن المناهج المدرسية .