A study of eating habits among female nursing students in the university of Babylon/Iraq

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Objectives To assess socio demographic characteristics, the responses of eating habits among female nursing students and to determine the relationship between the socio demographic characteristics and the responses of eating habits.
Methods A descriptive analytic design was conducted on a purposive sample of 100 female nursing students in the University of Babylon. A questionnaire has been used as a tool of data collection and consisting of socio demographic, the general responses, the responses related to dietary activity, behavioral responses of eating habits, data collected from the period of March 1 to June 20, 2016.
Results The results of the study revealed that 64.0% of women aged between 22 and 24 years with Mean ± SD (52.46 ± 11.70), 61.0% of sample were found at grade 3 of study, 81.0% were single, 96.0% were home resident, 77.0% their original address in urban area, 86.0% study sample were not working. 56.0% were economic status satisfied to some extent. 67.0% were normal weight. 72.0% were non-dieting regimen. There is a significant relationship found between the demographical characteristics and responses related to dietary activity factors in like original address, marital status, and also between general responses and demographical characteristics, such as age groups, present BMI, and significant relationship between behavioral responses and demographical characteristics variables with occupation at $P \leq 0.05$.
Conclusion The study recommends that family can encourage their daughters to choose the healthiest food collections and schools, universities will assist in minimizing the consumption of fast foods and others.
Keywords eating habits, female, nursing students

Introduction

People who wish to be fit should adapt to the ideal habits and behave differently. Gain knowledge of adopt and apply the habits, is the right way to achieve the success.[1]

Residing in the university and college is potentially an important intention for the promotion of healthy lifestyles of the adult population. Though information about the body mass index (BMI) distribution and nutritional and health-related behaviors are still few, the majority of students having a desire to be thinner.[2]

Students', who join the university, dining plans are dealing daily with the food setting characterized by foods high in energy, fats, and added sugars, and low in nutrient density. This will put them in challenges what decide to eat beside having their food currently in an environment where no nutrition labeling is needed.[3]

Dietary patterns developed during adolescence may contribute to obesity and eating disorders and may increase the risk for several important chronic diseases later in life.[4]

Throughout a person's life, certain events will occur which is of particular importance and is considered as a turning point in their lives. Breakfast as an example is the most important meal in the dietary plan of an adolescent.[5]

Adequate intake of animal and plant sources of protein is vital for adolescence. Vitamins and minerals such as calcium, iron, and iodine must be included in the adolescents' diet. Best sources of vitamins are fruits and vegetables while milk and dairy products are the best sources of calcium.[6]

Today, the foods of Iraq reflect this rich inheritance as well as strong influences from the culinary traditions of Turkey and Iran and the Greater Syria area. Because of all these traditions and complex influences, Iraqi cuisine is enormously rich and varied.[7]

Most Asian countries have been shifting towards a diet higher in fat and meat, and lower in carbohydrates and fiber. Additionally, decreased levels of physical activity and leisure are linked to increases in the prevalence of an overweight condition, obesity and diet-related non-communicable diseases, although the prevalence of students who were overweight was very low in this study sample.[8] Being tense and having fear of gaining weight or becoming fat even if at normal weight or underweight is another pattern of eating habits as one of the girls deal as well as unsuitable balance behavior to prevent weight gain such as self-induced vomiting; misuse of laxatives, diuretics, enemas or other medications; fasting; or excessive exercise.[9]

Methodology

Design of the Study

A descriptive analytic study.

Sample of the Study

The probability (purposive sampling) was selected by a randomized system which consists of (100) female nursing students.

Setting of the study

The data were collected from the period between March 1 and June 20, 2016 at the College of Nursing, University of Babylon.

Instruments

The questionnaire was constructed for the purpose of the study. The instruments consisted four parts as below:

Part 1: Demographic Date Sheet: This part concerned with personal information include, the students age, grade, marital status, occupation, economic status, place of residence recently, original address, present body mass index, and dieting state at present.
Part 2: Responses, 13 items as general responses.
Part 3: Responses related to dietary activities, 12 items.
Part 4: Behavioral responses, 6 items.

These items are rated according to three level Likert scale (Always, Sometimes, and Never) and scored 3, 2, 1, respectively. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 19. Through the application of descriptive statistical data analysis include (Frequencies, Percentages, and Cumulative Percent) and arithmetic mean with standard deviation, Mean of score (M.S.) with their Standard Deviation (SD), Cutoff point = 3 + 2 + 1/3 = 2 and inferential statistics, and Relative Sufficiency (R.S.%), and their assessment by cutoff point (66.67%) due to scores (1, 2, 3) which are reported Pass and Failure (Under / Upper), as well as reassessment scoring by (Bad, Moderate, and Good) through the intervals ("33.33–55.54", "55.55–77.76", and "77.77–100"), respectively.

Results

Table 1 shows the highest percentage of the sample reported at age ranged between 22 and 24 years, and they are accounted 64%, with mean age and standard deviation 22.01 ± 1.360. The greater number of them in third grade, and they are accounted 61%. The highest percentage of the sample place of residence recently was at home, and they are accounted (96%) while sample represents Urban residency at 77%. The majority of participants are not working. They constitute (86%). The study revealed that 56% of their economic status was satisfied to some extent, the greater number of them with normal BMI, they are accounted 67%. 72% of the sample was not on dieting regimen.

Table 1. **Distribution of demographical characteristics among female nursing students (*N* = 100)**

Demographical variables	No. and percents	*N*	Percentage (%)	Cumulative percent
Age	19–21	33	33	33
	22–24	64	64	97
	25–27	3	3	100
	Mean ± SD		22.01 ± 1.360	
Grade	Year one	3	3.0	3
	Two	14	14.0	17
	Three	61	61.0	78
	Four	22	22.0	100
Marital status	single	81	81	81
	married	17	17	88
	divorce	2	2	100
Place of residence recently	Home	96	96.0	96
	Hostel	4	4.0	100
Original address	Rural	23	23.0	23
	Urban	77	77.0	100
Occupation	Working	14	14.0	25.6
	Not working	86	86.0	100
Economic status	Satisfied	40	40.0	40
	Satisfied to some extent	56	56.0	96
	Un satisfied	4	4.0	100
BMI	Underweight <18.5	5	5.0	5
	Normal 18.5–24.9	67	67.0	72
	Overweight 25–29.9	27	27.0	99
	Obese 30–39.9	1	1.0	100
Dieting state present	On dieting regimen	28	28.0	28
	Non-dieting regimen	72	100.0	100

Table 2 shows the highest percentage representing 40.0% of study samples answer sometimes "I am terrified about being overweight". 47.0% of study samples were sometimes "avoid eating when hungry", 41.1% of them were "always avoid soft drinks", 47.0% of study participants were "sometimes cut food into small pieces", 39.0% of study samples were "sometimes aware of the calorie content of food", (36.0%) of study samples were "always avoid food with a high carbohydrate content" i.e. (bread, rice, potatoes, etc.), (77.0%) of students answer they "never vomit after eating", (46.0%) of study subjects were "never guilty after eating", (52.0%) of study samples were "sometimes think about burning up calories when exercising", (48.0%) of population sample said "sometimes I take longer than others to eat my meals", (45.0%) of study sample were "never eat diet foods", (40.0%) of study samples were "sometimes feel that food controls their life", (50.0%) of study samples were "sometimes l display self-control around food", (41.0%) of study sample answer they "never feel that others pressure them to eat". Table 3 shows the highest percentage representing 40.0% of study sample answer sometimes I give too much time and thought to food, 47.0% of them were sometimes feel uncomfortable after eating sweets and sugar, 43.0% of study sample was never engage in dieting behavior, and never like stomach to be empty, 48.0% of study samples were sometimes enjoy trying new rich foods, 41.0% of study samples were sometimes skipped breakfast, majority of participants representing 53.0% were sometimes skipped lunch, 51.0% of study samples were sometimes consumed at least 1≤ serving daily of dairies, while more than half of them, 58.0% were sometimes consume one serving of meat and eggs daily, 49.0% of study sample sometimes consume at least one serving 1≤ serving of fruits and vegetables daily, same time 48.0% of girls were sometimes taking meals regularly, and 39.0% of study sample were sometimes taking snacking. Table 4 deals with the behavioral responses, the results show that highest percentage represented 52.0% of study sample were never gone on eating binges where feeling that unable to stop, while majority of participants accounted 66.0% of study sample were never (behaving as sick vomited to control or shape, majority of girls represented 71.0% never (use laxatives, diet pills or diuretics to control their weight

Table 2. **Distribution of the general responses among female nursing students with comparison significant**

Response of the sample	Scoring levels	No.	%	χ^2-test	*P*-value (*)	MS	SD	RS
1. I am terrified about being overweight	Never	25	25	1.9	0.772	1.90	.772	63.3
	Sometimes	40	40					
	Always	35	35					
2. Avoid eating when I am hungry	Never	37	37	2.2	0.701	2.21	.701	73.6
	Sometimes	47	47					
	Always	16	16					
3. Cut my food into small pieces	Never	37	37	2.1	0.780	2.09	.780	69.6
	Sometimes	47	47					
	Always	16	16					
4. I aware of the calorie content of foods that I eat	Never	35	35	2.1	0.814	2.06	.814	68.6
	Sometimes	39	39					
	Always	26	26					
5. I particularly avoid food with a high carbohydrate content (i.e. Bread, rice, potatoes, etc.)	Never	36	36	2.3	0.809	2.25	.809	75.0
	Sometimes	34	34					
	Always	30	30					
6. I vomit after I have eaten	Never	77	77	2.7	0.529	2.73	.529	91.0
	Sometimes	19	19					
	Always	4	4					
7. I feel extremely guilty after eating	Never	46	46	2.3	.0709	2.32	.709	77.3
	Sometimes	40	40					
	Always	14	14					
8. I think about burning up calories when I exercise	Never	21	21	1.9	0.694	1.94	.694	64.6
	Sometimes	52	52					
	Always	27	27					
9. I take longer than others to eat my meals	Never	29	29	2.1	0.722	2.06	.722	68.6
	Sometimes	48	48					
	Always	23	23					
10. I eat diet foods	Never	45	45	2.3	0.770	2.25	.770	75.0
	Sometimes	35	35					
	Always	20	20					
11. I feel that food controls my life	Never	39	39	2.2	0.757	2.18	.757	72.6
	Sometimes	40	40					
	Always	21	21					
12. I display self-control around food	Never	18	18	1.9	0.697	1.86	.697	62.0
	Sometimes	50	50					
	Always	32	32					
13. I feel that others pressure me to eat	Never	41	41	2.2	0.792	2.17	. 792	72.3
	Sometimes	35	35					
	Always	24	24					

(*)HS: Highly Sig. at $P < 0.01$; S: Sig. at $P < 0.05$; N S: Not Sig. at $P > 0.05$. The statistics based on the Chi Square test. χ^2: Chi Square, *P:* Probability, MS: Mean of Score, SD: Standard deviation, RS: Relative sufficiency.

or shape), 64.0% of study sample were never exercised more than 60 minutes a day to lose or to control weight, 66.0% of them never lost 20 pounds or more in the past 6 months, 76.0% of study participants were never been treated for an eating disorder. Table 5 summarizes of the subjects overall responses shows good assessment in regard to behavioral responses. Regarding "Responses" part results reported (Table 6) no significant relationship with "Demographical Characteristics" variables except with (age groups and present BMI) significant relationship were obtained at $P < 0.05$. Table 7 shows no significant relationship between responses related dietary activity element the with demographical characteristics variables except with (marital

Table 3. **Distribution of the responses related to the dietary activity among female nursing students with comparison significant**

Response related to dietary activity	Scoring levels	No.	%	χ^2-test	*P*-value (*)	MS	SD	RS
1. I Give too much time and thought to food	Never	25	25	18.620	0.000	2.14	0.682	71.3
	Sometimes	40	40					
	Always	35	35					
2. I Feel uncomfortable after eating sweets and sugar	Never	37	37	3.620	0.154	2.04	0.764	68.0
	Sometimes	47	47					
	Always	16	16					
3. I Engage in dieting behavior	Never	43	43	10.820	0.004	2.25	0.744	75.0
	Sometimes	39	39					
	Always	18	18					
4. I Like my stomach to be empty	Never	43	43	5.420	0.067	2.19	0.800	97.0
	Sometimes	33	33					
	Always	24	24					
5. I Enjoy trying new rich foods	Never	9	9	27.020	0.000	1.66	0.639	55.3
	Sometimes	48	48					
	Always	43	43					
6. Skipped breakfast	Never	29	29	2.660	0.264	1.99	0.722	66.6
	Sometimes	41	41					
	Always	30	30					
7. Skipped lunch	Never	35	35	25.340	0.000	2.23	0.649	74.3
	Sometimes	53	53					
	Always	12	12					
8. Consumed at least (1≤ serving) daily of dairies	Never	31	31	16.580	0.000	2.12	0.691	70.6
	Sometimes	51	51					
	Always	18	18					
9. Consume one serving of meat and eggs daily	Never	25	25	4.460	0.108	2.08	0.646	69.3
	Sometimes	58	58					
	Always	17	17					
10. Consume at least one serving (1 ≤ serving)of fruits and vegetables daily	Never	17	17	28.340	0.000	1.83	0.697	61.0
	Sometimes	49	49					
	Always	34	34					
11. Taking meals regularly	Never	32	32	11.840	0.003	2.12	0.715	70.6
	Sometimes	48	48					
	Always	20	20					
12. Taking snacking	Never	28	28	1.820	0.403	1.95	0.783	65.0
	Sometimes	39	39					
	Always	33	33					

(*)HS: Highly Sig. at $P < 0.01$; S: Sig. at $P < 0.05$; NS: Not Sig. at $P > 0.05$. The statistics based on the Chi Square test. χ^2: Chi Square, *P*: Probability of chance, MS: Mean of Score, SD: Standard deviation, RS: Relative sufficiency.

status and original address) highly significant correlation were obtained at $P < 0.01$. Table 8 shows no significant relationship between behavioral part and the sociodemographic characteristics variables except with occupation significant correlation ships was obtained at $P < 0.05$.

Discussion

The present study identified the eating habits among female nursing students. And aimed to study the eating habits in the context of avoid engaging in the negative eating behaviors. The age group revealed that students are in the middle ages, cultural, socio economic and some health attitudes play an important role in the development of eating habits. A study conducted in Sudan by (Elhassan) found that the age of most students was ranging from 19 to 24 years.[10] The greater number of them in third grade. As the university students may need hostel, the results revealed that the majority are living at their homes, staying with the family may change the habits of students.[11] This agree with the present study when they reported

Table 4. **Distribution of the studied sample behavioral responses among female nursing students with comparison significant**

Behavioral responses	Scoring levels	No.	%	χ^2-test	*P*-value (*)	MS	SD	RS
1. Gone on eating binges where you feel that you may not be able to stop	Never	52	52	20.540	0.000	2.37	0.734	79.0
	Sometimes	33	33					
	Always	15	15					
2. Ever made yourself sick (vomited) to control your weight or shape	Never	66	66	51.860	0.000	2.57	0.655	85.6
	Sometimes	25	25					
	Always	9	9					
3. Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape	Never	71	71	68.180	0.000	2.65	0.592	88.33
	Sometimes	23	23					
	Always	6	6					
4. Exercised more than 60 minutes a day to lose or to control your weight	Never	64	64	50.960	0.000	2.58	.606	86.0
	Sometimes	30	30					
	Always	6	6					
5. Lost 20 pounds or more in the past 6 months	Never	66	66	49.520	0.000	2.54	0.702	83.3
	Sometimes	22	22					
	Always	12	12					
6. Have you ever been treated for an eating disorder	Never	76	76	84.061	0.000	2.66	0.673	88.6
	Sometimes	13	13					
	Always	11	11					

(*)HS: Highly Sig. at $P < 0.01$; S: Sig. at $P < 0.05$; NS: Not Sig. at $P > 0.05$. The statistics based on the Chi Square test. χ^2: Chi Square, *P:* Probability of chance, MS: Mean of Score, SD: Standard deviation, RS: Relative sufficiency.

Table 5. **Summary statistics of eating habits among female nursing students**

Dietary habits	No.	Min.	Max.	GMS.	RS.	Ass.
General responses	100	1.8	2.7	2.25	71.81	Mod.
Response related to dietary activity	100	1.66	2.25	1.95	70.3	Mod.
Behavioral responses	100	2.37	2.66	2.515	85.1	Good

Min.: minimum; Max.: maximum; GMS.: grand mean of score; RS.: Relative sufficiency; Ass.: Assessment; No.: Number.

Table 6. **Relationship between general responses and sociodemographic characteristics among 100 students**

Relationships between general responses factors and demographical characteristics	General responses		
	C.C.	Sig.	C.S.
Age groups	0.780	0.013	S
Grade	0.534	0.869	NS
Marital status	0.518	0.346	NS
Occupation	0.392	0.381	NS
Socio-economic status	0.518	0.346	NS
Place of residence recently	0.480	0.665	NS
Original address	0.445	0.102	NS
Present BMI	0.951	0.041	S
Dieting state now	0.400	0.324	SN

(*)S: Sig $P < 0.05$; NS: Non Sig. at $P > 0.05$; C.C.: Contingency coefficients; C.S: Comparison significant.

Table 7. **Relationship between responses related to dietary activity factors and demographical characteristics variables and among 100 students**

Relationship between responses related to dietary activity factors and demographical characteristics variables	Responses related to dietary activity		
	C.C.	Sig.	C.S.
Age groups	0.635	0.969	NS
Grade	0.492	0.784	NS
Marital status	0.628	0.000	HS
Occupation	0.37	0.246	SN
Socio-economic status	0.381	0.911	NS
Place of residence recently	0.282	0.999	NS
Original address	0.473	0.007	HS
Present BMI	0.983	0.032	NS
Dieting state now	0.341	0.436	SN

that a mean study career of 3.0 ± 1.0 years and mentioned that more than half of the participants living at parental home and consumed more fruit and vegetables than those who resided outside of their family home. Our results further indicate that the subjects who are working while they study are only some, having a budget may help students improve their eating selections, at the same time, the study revealed that part of our elements are moderately satisfied economically, These findings were consistent with (Reyes) who indicated that money becomes the overwhelming factor (with 49.1%) of the sample when looking at working and lower-middle class students.[12] The data showed that a majority of students would eat healthier if money was not a factor in deciding what to eat. With regard to BMI, greater number of them with the normal level, and not on dieting regimen at present time. A finding that is consistent with a study of (Majors). The results show that on average nutrition and non-nutrition students where within a normal BMI.[13]

Table 8. **Relationship between behavioral responses factors and demographical characteristics variables among 100 students**

Relationship between behavioral responses factors and demographical characteristics variables	Behavioral Responses		
	C.C.	Sig.	C.S.
Age groups	0.650	0.177	NS
Grade	0.399	0.873	NS
Marital status	0.320	0.875	NS
Occupation	0.415	0.014	S
Socio-economic status	0.142	0.306	NS
Place of residence recently	0.380	0.533	NS
original address	0.220	0.825	NS
present BMI	0.909	0.318	NS
Dieting state now	0.288	0.434	SN

General Responses

This portion deals with eating responses in general, it is amazing to know that most of the items are considered as eating attitude and lifestyle practices and some can be as self-report to determine whether there is any eating disorder that needs professional attention. The current data show that girls demonstrated moderate to good reaction toward the eating attitudes, except with some of items that their answers show some fear from being overweight, think about burning up calories when exercise, show self-control around food and the effect of others on pattern of eating. These findings were consistent with (Alavi) who found that dietary behaviors of the majority of participants per evaluation were on the medium level (41 percent) with the participants' attitude in most cases was very positive.[14]

And agree with so many studies as (Yahia) who illustrated that the university girls see the shape and weight of fashion models as the ideal body shape and figure to attain. Girls with such strong body weight perception can be at risk of developing eating disorders.[15] Other portions like this study revealed what (Musaiger) pointed out it is important to limit carbohydrate consumption, it is important to limit the amount of fat, About 42% and 81% of physicians and medical students, respectively, did not know the correct percentage of energy needed from fat, carbohydrates, and protein in a healthy diet.[16] Also consistent with (*Alakaam*) Marywood University (USA) *who found that,* most of the students (80%) said that meals are home cooked, occur mostly at homes on a daily basis, are varied, filling, and small in portion size, and take place at a specific time during the day. While disagreeing with the fact of guilt feeling when pointed-out that several participants reported feelings of guilt in the US due to eating more meals and consuming unhealthy food.[17]

Responses Related to Dietary Activity

The results of this table demonstrated that the sample activities mainly of acceptable level, only with regard to trying new rich foods and eating less than required fruits and vegetables daily[18] agree with the current study girls less frequently consumed breakfast, fruits, milk, sugar-sweetened drinks, and energy drinks, but significantly more frequently consumed French fries/potato chips, cakes/donuts, and sweets/chocolates. While the study came with that some healthy dietary activities like students are not Skipped breakfast or Skipped lunch. (Alavi) found that the 48.4% of the participants are not eating breakfast, 62.7% dairy products, and 27.7% meat and eggs.[14]

Behavioral Responses

Results further indicate that these latter determinants become more vital when the population sample demonstrated that all their eating behavior come pass and away from having an eating disorder, their assessment indicated that for example do not try to vomit after eating or using laxatives, diet pills or diuretics to control weight or shape and so on. The results are consistent with (Payne) indicated that 20% of the study sample participated in binge eating, 21% fasted, 3% vomited and 2% admitted to laxative misuse, resulting in an overall eating disorder.[19] With regard to physical activities, the sample show that sample less exercised more than 60 min a day to lose or to control their weight (Musaiger) showed that the mean number of minutes performing physical activity per week was significantly higher among boys than girls.[20]

Conclusion

Based on the findings of this study, it can be concluded that the overall responses of nursing students is Moderate in General, and related to dietary activity it came good in behavioral assessment. However, it is found that there is a significant relationship between general responses. Factors and demographical characteristics (Age groups and present BMI) also have a high significant relationship between responses related to dietary activity. Factors and marital status as well as original address, finally a significant relationship between behavioral responses and sample occupation was found.

Recommendations

Family can help grills in adopting healthy habits when selecting food collections, activating the educational programs as early as in adolescence about the importance of body image for females through giving health information to maintain healthy body. Schools and universities have a good role in encouraging the students to make their meals as fresh as possible and minimizing the fast foods and others. Motivate the population to stop imitating the others in unhealthy nutritional practices.

Conflict of interest

None.

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