Measurement of knowledge, attitude and practices of healthy dietary habits among Al-Kindy medical students, Baghdad 2023

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Abstract:

Background: A healthy diet along with having an efficient nutritional knowledge may keep away from issues such as health problems, mainly overweight and obesity. Knowledge, attitude, and practices of medical students with concern to healthy dietary habits are so vital as their good knowledge reflects good community knowledge in order to change the people's life style and behavior.

Objectives: to study the knowledge, attitude and practice among medical students studying at Al-Kindy college in Baghdad city, regarding the healthy dietary habits and to find out the association between the socio-demographics and knowledge scores of the participants.

Subjects and Methods: A cross sectional study design with analytic elements that has been implemented during the period from April 2023 through June 2023, a sample of 165 medical students was collected from Al-Kindy college that is located in Baghdad city. A questionnaire form was used to gather demographic data consistent with age, gender, residence, income, along with questions targeting the knowledge, attitude, and practices assessment regarding healthy dietary habits.

Results: In this study, almost half of the medical students had an accurate perception about components of healthy diet, healthy dietary habits, denotation of toxic triad of white poisons and risks of canned foods.

Conclusions: The study concluded that medical students of Al-Kindy college; have an insufficient nutritional knowledge, along with prevalent unhealthy dietary habits, keeping these highlights in mind, to suggest proper nutrition education for those medical students.

Key words: dietary habits, medical students, Iraq

Introduction:

Multiple non-communicable diseases, including such prevalent diseases as hypertension, diabetes, cancer, and ischemic heart diseases; have been linked to poor nutritional habits.[1, 2] In the recent years, the lifestyle has rapidly been technologically advanced, and industrialized, resulting in dietary modifications, as preferring certain types of food, namely fast foods.[3]

A healthy diet along with having an efficient nutritional knowledge may keep away from issues such as health problems, mainly overweight and obesity, protecting from further complications as ischemic heart diseases, hypertension, abnormal lipid profile, and type2diabetes mellitus.[4, 5]

One of the most important steps in medical nutritional therapy is to lead a healthy active life through life style modifications depending on both well balanced healthy diet and physical activity.[6, 7]

Knowledge, attitude, and practices of medical students with concern to healthy dietary habits are so vital as their good knowledge reflects good community knowledge in order to change the people life style and behavior. Yet the majority of medical students are not aware of practicing it adequately in their daily life. Improving nutrition knowledge, attitude and dietary practices through dietary education may help to avoid many nutrition-related diseases.[8]

A study has shown that most medical students are not aware of the well-balanced diet they needed for their body in certain conditions, and that they do not have the essential information and training concerning weight control, nutritional requirements.[9,10]

A study compared the dietary knowledge of medical students with that of non-medical group; revealed that medical students had a better understanding on the relationships between anemia, hypertension, obesity, food variety than that of other students ($P<0.05$).[11] This was agreed by the study which concluded that scoring of nutrition knowledge was lower in non-medical students.[12]

Aims of the study:

1- To assess the knowledge, attitude, and practices of Al-Kindy medical students regarding healthy dietary habits during the period from April 2023 through June 2023.

2- To find out the association between knowledge scores and socio-demographic characteristics.

Subjects and Methods:

A cross sectional study design with analytic elements that has been implemented during the period from April 2023 through June 2023, the sample was collected from Al-Kindy college which is located in Al- Russafa side of Baghdad city.

A total of 278 medical students were asked to participate in the study and were given the questionnaire; but only 165 were fully completed. They were collected from the chosen medical school via a systematic random sampling technique by choosing every fourth student; as total population size was 1000, and estimated sample size was 278, then; K=1000\278≈ 4. All students who were available at the time of data collection and willing to participate were included in the study.

A self- constructed questionnaire (pen and paper) was prepared, along with the appraisal of many previous studies and researches, it comprised the following parts:

Part (1): Embraced information about demographic data consistent with age, gender, residence, income, and the current academic stage,

Part (2): Questions targeting the knowledge assessment regarding healthy dietary habits.

Part (3): Assessed the students' attitudes with this concern, and

Part (4) comprised questions to assess the practices of the participated students.

Ethical issues and approvals for this study were attained, represented by the approvals from the relevant Medical School, the researcher's institute along with a verbal consent from the respondents as data were collected through an anonymous form, and that the participants were told that their data would not be used for any other purposes rather than the research work.

Statistical analysis was carried out using the SPSS (Statistical Packages for Social Sciences) version 24. Data were presented in simple measures of frequency, and percentages. The significance of association was tested using Pearson Chi-square test; as data were presented in categories, Statistical significance was considered with P-value equal to or less than 0.05.

Results:

A total of 278 medical students were asked to participate in the study, and 210 students replied and filled the questionnaire. The response rate of this study was 75%. Some participants had irrelevantly answered most of the questions and were excluded from the study. As a result, information for 165 participants was obtained and these data were included in the final analyses.

Table 1 showed that most of participants were from the Pre-clinical stage which is explained by their availability at time of data collection in the college, while clinical stages students expend more time for training in the hospitals.

Table 2, 3, 4 showed the Knowledge, attitude and practices assessment of participants, (n=165) respectively

Table (1): Socio-demographic Characteristics of the sample, N=165

Variables		No.	Percent (%)
Age (years)	18 - < 20	59	35.8
	20 - < 22	81	49.1
	22 - < 24	13	7.9
	≥ 24	12	7.3
Gender	Male	70	42.4
	Female	95	57.6
Residence	Rural	38	23.0
	Urban	127	77.0
Income	Low	11	6.7
	Moderate-Low	41	24.8
	Moderate-High	71	43.0
	High	42	25.5
Academic Stage	Pre-clinical stages	134	81.2
	Clinical stages	31	18.8

Knowledge score was calculated according to the following formula:
Knowledge= (Number of correct answers/Total knowledge questions) ×100
For example:
If a participant answered 9 correct answers out of 10, then his or her knowledge score is:
Knowledge= (9/10) ×100 =90%

Knowledge was categorized into (Good, Fair& Poor) with scores of (80≤, 50-70 & 50>) respectively.

This study demonstrated that 43.4%, 26.4%&30.2% of participants had Good, Fair& Poor 136 knowledge respectively.

Table (2): Knowledge assessment of participants, N=165

Knowledge Assessment		No.	Percent (%)
K1: what are the components of healthy diet?	Incorrect	71	43.0
	Correct	94	57.0
K2: what is meant by healthy dietary habits?	Incorrect	90	54.5
	Correct	75	45.5
K3: How many portions of fruits must be taken per day?	Incorrect	108	65.5
	Correct	57	34.5
K4: How many portions of vegetables must be taken per day?	Incorrect	101	61.2
	Correct	64	38.8
K5: How many portions of carbs, proteins &fats must be taken per day?	Incorrect	122	73.9
	Correct	43	26.1
K6: How many portions of red, white &fish meats must be taken per week?	Incorrect	112	67.9
	Correct	53	32.1
K7: What is meant by toxic triad of white poisons?	Incorrect	90	54.5
	Correct	75	45.5
K8: What are the risks of canned foods?	Incorrect	71	43.0
	Correct	94	57.0
K9: What are the main food sources of vitamins and minerals?	Incorrect	47	28.5
	Correct	118	71.5
K10: What is meant by trans-fats? What are their sources?	Incorrect	108	65.5
	Correct	57	34.5

Table (3): Attitude assessment of participants, N=165

Attitude Assessment		No.	(%)
A1: Do you think that exercising may aid in lowering body weight?	No	84	50.9
	Yes	81	49.1
A2: Do you think that it is safe to unfollow healthy dietary habits?	No	106	64.2
	Yes	59	35.8
A3: Do you think that it is important to regain normal BMI when person is over-weight or obese?	No	49	29.7
	Yes	116	70.3
A4: Do you think that keeping ourselves fit is important to our health?	No	39	23.6
	Yes	126	76.4
A5:Do you think that over-weight and obesity can lead to premature health disabilities and death secondary to the complications?	No	35	21.2
	Yes	130	78.8

Table (4): Practices assessment of participants

Practices Assessment		No.	(%)
P1: How many main meals& snacks are you taking per day?	Good	37	22.4
	Poor	128	77.6
P2: How many portions of fruits& vegetables are you taking per day?	Good	69	41.8
	Poor	96	58.2
P3: How many portions of carbs, proteins& fats are you taking per day?	Good	44	26.7
	Poor	121	73.3
P4: Have you exercised in the last one year?	Yes	62	37.6
	No	103	62.4

The results demonstrated that gender, residence and income had non-significant association with knowledge scores; (*p*-value>0.05).

Medical students of clinical stages (4^{th}, 5^{th}&6^{th}) had significantly good knowledge scores than those of pre-clinical stages (1^{st}, 2^{nd} and 3^{rd}), (*p*-values were 0.014).

Discussion:

This study explored the dietary knowledge, attitude and practices of students studying at Al-Kindy medical college in Baghdad city. It had included a total of 165 participants of both genders.

In our study, almost half of the medical students had an accurate perception about components of healthy diet, healthy dietary habits, denotation of toxic triad of white poisons and risks of canned foods.

Approximately one third of participants had answered correctly concerning the exact portions of fruits, vegetables, carbohydrates, proteins, fats, white meat, red meat, and fish that must be taken per single day. About (71.5%) of students knew the main food sources of vitamins and minerals.

In comparison; the study by Liu X, showed that among the participants, 32.7% supposed diet/food were vital issues influencing health, and when questioned about the denotation of a healthy diet, about 78% of participants offered appropriate descriptions or examples of a healthy diet; and 104 students did not answer or answered incorrectly (22%). [13]

Another study regarding food safety related knowledge, attitudes, and practices among the students from nursing, education and medical college; explored that the medical students scored the highest (10.29 ± 2.54) and the nursing students scored the lowest (8.51 ± 2.56). [14]

The current study illustrated that most medical students had good attitude concerning healthy dietary habits, having normal BMI to prevent premature health disabilities and death secondary to the complications.

The majority of participants in this study had poor practices with respect to the main meals& snacks, along with portions of carbs, proteins& fats that taken per day.

The study by Yücel K. as the regular eating habits were assessed in terms of the number of meals, and was defined as consuming three main meals plus at least one snack between the main meals, and it was practiced by 395 (70.9%) of participated individuals. [12]

Conclusions:

This study concluded that medical students of Al-Kindy college have an insufficient nutritional knowledge (merely 43.4% with Good knowledge scores), along with prevalent unhealthy dietary habits, keeping these highlights in mind, to suggest proper nutrition education and knowledge about healthy diet practices, to encourage nutritional and healthy behaviors in those medical students.

Conflict of interest:

The researcher declared no conflict of interest.

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