

Knowledge and Counseling Attitude of Primary Health Care Physicians Regarding Nutrition in Baghdad

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Abstract

Background: Nutrition has a major role in health promotion and disease prevention. Nutritional knowledge of physicians had important impact in public health as they are in the front line of responding to patients' questions concerning their diet; as well they might have the influence in decreasing morbidity and mortality through proper nutrition counseling.

Aims: To assess the nutritional knowledge and attitude of physicians about nutrition counseling as well as to explore some determinants influencing the knowledge of physicians.

Methodology: A cross sectional study was conducted in 20 primary health care centers in Baghdad for the period from 10th of May, to the end of August, 2017. A self-administered questionnaire was used for data collection. The questionnaire comprised questions to assess nutritional knowledge and attitude toward nutritional counseling. In addition, the collected data covered some sociodemographic characteristics of the physicians.

Results: Out of 197 primary health care physicians working at the selected primary health care centers, 150 physicians enrolled in the study, with a response rate of 76.1%. The results showed that 67% of physicians had fair level of knowledge. Better level of knowledge was achieved by family medicine specialists, board qualified physicians, in addition to those with more than ten years post-graduation. Nearly all study participants (98%) had positive attitude toward nutritional counseling. Lack of time was the prime barrier to nutritional counseling as reported by 83 (55.3%) of physicians. Out of 150 physicians, 44% of them pointed out that web based material and social media were the dominant sources of their nutrition information.

Conclusion: despite fair level of knowledge of physicians, the study identified considerable deficiencies in knowledge in some aspects of nutrition. Therefore, there is a need for better training and continuing medical education for primary health care physicians to enhance their knowledge and counseling in nutrition.

Key Words: Knowledge, counseling, attitude, nutrition, primary health care physicians, Baghdad.

Introduction

Nutritional knowledge is the ability to produce facts or principles related to nutrition from memory. Nutritional knowledge plays an important role in public health; it is one of the factors that affect nutritional habits of individuals, families and communities⁽¹⁾. Primary care physicians (PCPs) see a majority of the population each year as well they are considered as the most reliable source of medical information and the best in their capability to motivate patients to make healthy lifestyle decisions⁽²⁾.

Therefore physicians' nutritional knowledge, their education and information have to be appropriate to match their practice, patients' needs and expectations^(3, 4). Existing literature supports progress in terms of nutrition knowledge among PCPs; however basic nutrition knowledge as well as nutrition knowledge applies to chronic disease still remains inadequate among primary care physicians worldwide⁽⁵⁾. Studies have been conducted in several countries to assess the physicians' nutrition knowledge, indicates a steady gap in nutrition knowledge among PCPs⁽⁶⁻¹⁰⁾. Owing to inadequate nutritional knowledge, physicians who are considered the main reliable source of nutrition information and education for many patients do not pay attention to nutrition-related problems of the patients⁽⁷⁾.

The reason of such assumption, in large part, interrelated to the severe deficiency of nutrition education at all levels of medical training in this commentary⁽¹¹⁾.

Nutritional counseling is an ongoing process in which a health professional, usually a doctor, deals with an individual to assess his or her habitual dietary intake and ascertain areas where the change is required. In the society, the physicians are believed to be the best advisor/counselor for any of the health related matters and are the most trusted⁽¹²⁾. Based on the review of literature, it is clear that nutrition counseling is not being provided as frequently as needed^(13, 14). Former surveys have found that physicians agree on nutrition being an important component of their practice but feel incompetent in their ability to provide nutritional counseling to patients^(14, 15).

Nutritional counseling has been a neglected area for years by medical and health educators because of various reasons. Even though, physicians have much less time to advice but at the same time there is need to consider that the physicians are much more reliable and their words are taken more seriously by patients. The time has come to consider this aspect of health care and it demands much larger and urgent attention⁽¹²⁾.

The current study was conducted aiming to: Assess the basic nutritional knowledge of PCPs in Baghdad, Inspect physicians' attitude and barriers regarding nutritional counseling. And explore some contributing factors influencing the knowledge of physicians.

Methodology:

A cross sectional study was carried on a sample of twenty primary health care centers in

Baghdad from two health directories (Al- Karkh and Al-Rusafa). The selection of the primary health care centers was on a convenient base. Data was collected during the period from 10th of May to end of August 2017.

Data collection:

All physicians currently working in the selected primary health care centers during the study period were invited to participate in the study. Data was collected through a self –administered questionnaire distributed to the physicians at the primary health care centers. All physicians were knowledgeable that participation was voluntary. Then the questionnaire was handed out to the physicians who were willing to participate in the study. Filling out the questionnaire was considered as an announcement of willingness to join the study. To ensure anonymity, the physicians were asked not to put names on the questionnaire.

The questionnaire comprised three sections:

The first section covers basic socio-demographic and work related aspect of the study participants. The second section enclosed (20) multiple choice questions⁽¹⁶⁾ intended to define the physicians' nutritional knowledge. One point was assigned for each correct answer, while incorrect answer received zero point. Accordingly, total scores for knowledge ranged from 0-20. Then the sum of scores were categorized into three levels of knowledge: good knowledge level was defined by a score of (16-20); fair knowledge level (11-15), and poor knowledge level (< 11)⁽¹⁶⁾.

The third section of the questionnaire inquired about the attitudes adopted by physicians toward nutritional counseling and consists of ten statements which were rated according to 3 points Likert scale (agree, neutral and disagree). The total scores were ranged from (10-30) marks. The attitude score was rated as negative when the participant gained (10-21) marks and rated positive when the participant gained (22marks and more).⁽¹²⁾

The study participants were also enquired to ascertain the barriers to nutritional counseling according to their opinion. In addition to that, the physicians were requested to address the sources of their nutritional knowledge.

Data analysis: Microsoft excel was used for data entry. Data was analyzed using statistical package of social sciences (SPSS) program version 24. Chi square test was used to find out association between study variables and knowledge level, p-value ≤ 0.05 was considered statically significant.

Results

Out of 197 PCPs who were invited to participate in the study, a total of 150 from 20 PHCs had joined the present study, giving an overall response rate of 76.1%.

Table -1 demonstrated the physicians' knowledge responses regarding different aspect of nutrition. Out of 20 questions used to quantify physicians' knowledge, 15 questions were correctly answered by more than 50% of physicians enrolled in the study. Knowledge was predominantly deficient in many areas, for instance only 3.3% of study group correctly answered the question concerning the type of food having the lowest glycemic index. Furthermore 24% and 32.7% of the participants were able to recognize that excessive intake of protein increase body calcium loss, and alcohol is substance raises blood HDL level respectively.

Figure- 1 illustrated that 100(67%) of the study group had fair knowledge level and 10(6.7%) had poor knowledge.

Table-2 illuminates the relation between knowledge level and some socio-demographic characteristics of physicians. The results found the age of physicians and their gender failed to reveal a statistically significant association with knowledge level. ($p = 0.49$).

The participants qualification showed a statistically significant effect on knowledge level ($P = 0.001$). The physician specialty also revealed a statistically significant influence on the level of knowledge ($P = 0.001$). The highest rate of good knowledge was observed among family medicine specialists.

According to the result, length of time since graduation publicized statistically significant impact on the level of knowledge ($P = 0.011$). The level of knowledge improved with more time since graduation. The responses of study participants to statements to assess their attitude toward nutritional counselling were listed in table-3

The majority of study participants (91.3%) believed that physicians irrespective to their specialty should counsel their high risk patients about dietary changes. While only 67.3% of the participants agreed that nutritional assessment and counseling should be undertaken as part of routine visit appointment with diagnosis and treatment.

As a result, figure-2 exhibits that nearly all of study participants (98%) had positive attitudes toward nutrition counseling. Table-4 demonstrates the barriers identified by the study group that deters nutritional counseling. The most frequent barrier reported by physicians was lack of time (55.3%). This was followed by patients' compliance and physicians' nutritional knowledge (36.7% and 36%) respectively. Table-5 demonstrates the sources of physicians' information about nutrition. Web based materials and social media was the main source as listed by 66(44%) of study group, followed by postgraduate studies (38%). Other sources of physicians' information were demonstrated in table-5.

Table -1: Distribution of correct knowledge responses among the study group

Question	No. (n=150)	%
1-What Type of dietary fiber is helpful in lowering the blood cholesterol level	65	43.3
2-The excess of nutrient increase body calcium loss	36	24.0
3-an increase of 300 kcal\day is recommended during pregnancy during which trimester(s)	88	58.7
4-Complete protein can be found in the following food sources	111	74.0
5- Nutrient believed to prevent thrombosis is	95	63.3
6- The major type fat in olive oil is	121	80.7
7 nutrient protective against hypertension is	122	81.3
8-The most concentrated source of vitamin B12 is	62	41.3
9- substance raises blood HDL level	49	32.7
10- Type of food believed to have preventive effect on various types of cancer	119	79.3
11-The number of Kilocalories in one gram of protein is	95	63.3
12-The nutrient strongly associated with the prevention of neural tube defect	146	97.3
13-The type of food having the lowest glycemic index	5	3.3
14-Adult who's BMI between 25-29.9 Kg/m2 is rated	119	79.3
15-Food group suggested for control of hypertension	135	90.0
16-Diabetic patient should limit	77	51.3
17-The problem of absolute bottle feeding in children is	78	52.0
18-Vitamin A deficiency associated with	90	60.0
19-The goal of medical nutritional therapy in patient with kidney stone is to eliminate diet related risk factor and;	118	78.7
20-Regarding diabetes mellitus type 2 exercises will	119	79.3

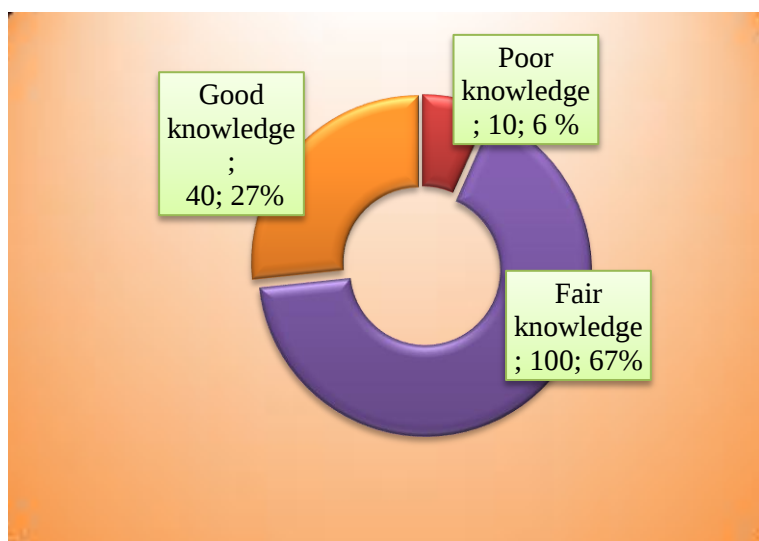


Figure- 1: The distribution of physicians according to their level of knowledge on nutrition

Table -2: The distribution of study group according to the level of nutrition knowledge and socio-demographic characteristics

Socio-demographic variables	Level of nutrition knowledge						Total (n=150)		P-Value
	Poor		Fair		Good		No.	%	
	No.	%	No.	%	No.	%			
Age (Years)									0.491
< 30	2	(18.2)	8	(72.7)	1	(9.1)	11	(7.3)	
30 – 39	4	(6.3)	44	(69.8)	15	(23.8)	63	(42.0)	
40 – 49	3	(6.8)	28	(63.6)	13	(29.6)	44	(29.3)	
≥ 50	1	(3.1)	20	(62.5)	11	(34.4)	32	(21.3)	
Gender									0.492
Male	4	(10.8)	23	(62.2)	10	(27.0)	37	(24.7)	
Female	6	(5.3)	77	(68.1)	30	(26.5)	113	(75.3)	
Qualification									0.001
Bachelor	8	(9.3)	67	(77.9)	11	(12.8)	86	(57.3)	
Diploma or Master	1	(12.5)	4	(50.0)	3	(37.5)	8	(5.3)	
Board	2	(3.6)	27	(48.2)	27	(48.2)	56	(37.4)	
Specialty									0.001
General Practitioner	8	(9.3)	67	(77.9)	11	(12.8)	86	(57.3)	
Family medicine specialists	1	(1.9)	28	(50.0)	27	(48.1)	56	(37.3)	
Other specialties	1	(12.5)	5	(62.5)	2	(25.0)	8	(5.4)	
Time since graduation (Years)									0.011
< 10	6	(12.0)	37	(74.0)	7	(14.0)	50	(33.3)	
10 – 19	0	(0)	41	(69.5)	18	(30.5)	59	(39.3)	
≥ 20	4	(9.8)	22	(53.7)	15	(36.6)	41	(27.4)	

Table-3: The physicians' responses regarding their attitude about nutrition counseling

Statement	Physicians response					
	Agree		Disagree		Neutral	
	No.	%	No.	%	No.	%
1- Counseling is a waste of time	12	8.0	128	85.3	10	6.7
2-Training of physician in human nutrition and counseling is required	138	92.0	5	3.3	7	4.7
3-Nutritional counseling in the practice is effective at changing patient behavior	118	78.7	12	8.0	20	13.3
4-Physician should spend more time exploring dietary habit of patient	123	82.0	5	3.3	22	14.7
5-Nutritional assessment and counseling should be undertaken in any routine visit appointment just like diagnosis and treatment	101	67.3	11	7.3	38	25.3
6-All physicians regardless their specialty should counsel their high risk patient about dietary changes	137	91.3	8	5.3	5	3.3
7-Feel comfortable with your ability to discuss osteoporosis prevention and treatment including nutrition and life style	121	80.7	7	4.7	22	14.7
8-Patient education effort will be effective in increasing patient compliance with nutritional recommendation	120	80.0	8	5.3	22	14.7
9-Patient motivation is essential to change their dietary habit	128	85.3	3	2.0	19	12.7
10-Feeling comfortable discussing the overall benefit of exercise on health and wellbeing	128	85.3	1	0.7	21	14.0

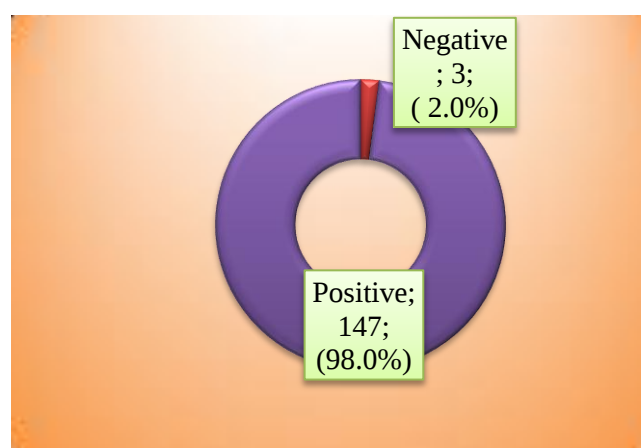

Figure-2: Distribution of the study participants according to their attitude regarding nutritional counselling

Table -4: Study group responses towards barriers to nutritional counseling

Barriers to nutritional counseling **	No.	%
Lack of Time	83	55.3
Patient compliance to nutritional advice	55	36.7
Physician knowledge about nutrition	54	36.0
Patient knowledge about nutrition	51	34.0
Physician counseling skill	43	28.7
The ability to identify patient who would benefit from counseling	23	15.3

**Some of the study group gave more than one response

Table-5: Physicians sources of information regarding nutrition

Source of nutritional information **	No.	%
Web based materials and social media	66	44.0
Postgraduate studies	57	38.0
Undergraduate medical school	49	32.7
Seminars or lectures on nutrition	45	30.0
Textbooks on nutrition	41	27.3
Scientific Journals on nutrition	37	24.7
Nutrition courses designed for PHC physicians	25	16.7
Public magazines	17	11.3
Printed pamphlets in PHCs	7	4.7

**Some of the study group gave more than one response

Discussion:

The results of present study indicated that the participants were aware about some important areas of nutrition. The majority of them had correct knowledge regarding the role of folate in prevention of neural tube defect, as well as the role of fruits, vegetables and potassium in prevention and control of hypertension. Similar findings were also reached by previous studies from Saudi Arabia ⁽³⁾, Turkey ⁽⁷⁾ and Qatar ⁽¹⁶⁾, which concluded that inadequate information in more specific issues on nutrition might be due to less connection of primary health care physicians with academic and educational centers and thus not being informed about recent and specific nutritional intervention.

The result obtained from this study revealed that about two thirds (67%) of the physicians had fair level of knowledge about nutrition. This finding was in keeping with results reached by previous studies conducted in Turkey ⁽⁷⁾, and Saudi Arabia ⁽¹⁷⁾ which demonstrated that fair level of knowledge

was dominant among primary health care physicians.

The present study results showed that the level of knowledge improved with increasing age; however, the results revealed no association between age and the level of knowledge. The finding of study contrast with conclusion of studies conducted in Saudi Arabia ⁽³⁾, Turkey ⁽⁷⁾, Iran ⁽¹⁰⁾, and Qatar ⁽¹⁶⁾. These studies reported a significant association between age and level of knowledge.

According to the results, no significant difference was established between male and female physicians in regard to the level of knowledge. This finding was in parallel with the results from previous studies conducted elsewhere which declared that there was no statistically significant association between level of knowledge and gender ^(3, 7, 18).

The current study demonstrated that qualification and specialty of physicians were among the factors determining their level of knowledge. Better knowledge was reported among

board certified and family physicians specialists. The possible explanation to this could be attributed to that in Iraq, all family physician specialists are board certified, where nutritional syllabus are part of their board training curriculum in family medicine specialty which might elucidate their better level of knowledge. These results were in agreement with findings reached by previous studies^(7, 10, 18) which documented a positive relationship between qualification, specialty and level of knowledge.

The results obtained from current study found a significant influence of time duration since graduation on the knowledge, as better knowledge observed among physicians who had spent more than 10 years' post-graduation. A finding replicated in other studies from Turkey⁽⁷⁾ and Qatar⁽¹⁶⁾ which reported that physicians' knowledge was improved after 10 years of experience. This might mean that physicians' knowledge enhanced through each additional years of experience and practice.

Nearly all physicians enrolled in the present study displayed positive attitude toward nutrition counseling. A number of previous studies have verified that primary care physicians continue to believe that providing nutrition counseling is within their realm of responsibility as in studies from India⁽¹²⁾, Saudi Arabia⁽¹⁷⁾, and Lebanon⁽²⁰⁾. This finding might justify such high rate of positive attitude reported among study participants. Furthermore, this rate of positive attitude could be due to that self-reported responses may not reflect responders, actual attitudes.

Published studies in nutritional counseling shown that time could be a significant barrier in hindering physicians from speaking with patients about nutritional concerns. A mediocre visit with a primary care general practitioner is 10 – 20 minutes.^(21, 22) The above mentioned findings supported the present study result where lack of time was the main barrier acknowledged by the study group that obstruct their willing to provide nutritional counseling to their patients. This finding was in keeping with results reached by earlier studies^(9, 17, 18).

In the current study, 44% of respondents chose a web based material and social media as their top sources of nutrition information. This finding could be attributed to inadequate training and shortage of proper resources made available to help primary health physicians' access latest information in the field of nutrition. Therefore, it is essential to provide physicians with facilities that will enable them to improve their knowledge. This finding was similar to the results of previous researches from Saudi Arabia⁽²³⁾ and Iraq⁽²⁴⁾.

Conclusion: despite fair level of knowledge of physicians, the study identified considerable deficiencies in knowledge in some aspects of nutrition. Therefore, there is a need for better

training and continuing medical education for primary health care physicians to enhance their knowledge and counseling in nutrition.

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