Knowledge of Doctors Working at Surgical Departments and Nutrition Centers about Bariatric Surgery as Treatment of Obesity

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ABSTRACT

Background: Surgical treatment of morbid obesity is considered the most important approach for the treatment of this condition. Bariatric surgery will success by including of team from surgeons, dietitians, with primary health care providers for assessment, treatment, monitoring and evaluate obese person both pre- and post-surgery.

Objectives: To assess the knowledge of doctors in surgical department and nutritional centers regarding nutritional guideline of bariatric surgery to treat obesity.

Methods: A cross-sectional study done from beginning of February to the end of May 2018, convenient sampling (121 doctors) were participated in Al-Yarmouk teaching hospital, Imamein kadhimein medical city, Al-karkh general hospital, and Institute of Nutrition. The questionnaire was self-administered asking them about nutrition guideline of bariatric surgery for adults.

Results: From 121 participants, 97 were in surgery and 24 in nutritional branch. There is higher mean knowledge score for doctors in nutrition centers in questions of exclusion criteria of bariatric surgery (7.75 ± 1.03) and on the outcome of bariatric surgery (4.00 ± 0.97). The results show significantly higher in mean knowledge score for doctors in surgery groups of board and diploma degree regarding the questions of the cause of using this surgery (2.28), and of recommendations required in bariatric surgery (4.77).

Conclusion: Overall doctor's knowledge was significantly associated with the degree and specialty of the participants and their place of work about nutritional guideline of bariatric surgery.

Keywords: Knowledge, Nutritional center, Surgical department, Bariatric surgery, Obesity.

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Obesity is an abnormal or excessive fat accumulation that may impair health⁽¹⁾. It is one of the greatest public health challenges of the 21st century⁽²⁾. The prevalence of obesity is increasing rapidly worldwide⁽¹⁾. This growing rate of obesity represents a pandemic that needs urgent attention if obesity's potential toll on morbidity, mortality, and economics are to be avoided⁽³⁾.

Dietary instruction, physical activity, drugs and surgery are the treatment methods available to achieve the goal of negative energy balance (by consuming fewer calories than needed, by increasing the level of physical activity or a combination of both)⁽³⁾.

Combinations of these approaches may also be used to achieve weight loss, as examined studies have the manv effectiveness of using combinations of these treatment modalities, Decreasing body fat, physical function, quality of life and medical heal⁽⁴⁾. surgerv Bariatric is considered the most effective treatment option available for obesity management⁽⁵⁾. This surgery lead to greater weight outcomes with improvement in quality of life and co-morbid conditions than all other treatment options⁽⁶⁾.

Although bariatric surgery is considered an effective treatment, but it is not appropriate for all cases with obesity, it is considered an addition to other obesity treatment options, not a replacement. Treatment for obesity, including bariatric surgery, is more successful when a

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multidisciplinary team from health care providers with primary health care, for assess, treat, monitor and evaluate obese individuals before and after operation⁽⁷⁻¹⁰⁾.

Prevalence of obesity worldwide nearly tripled between 1975 and 2016⁽¹⁻²⁾. In local surveys in sub-regions and clinical populations in Iraq, high proportions of obesity have been reported. In Erbil city, Iraq, the prevalence of overweight was 33.4% and obesity 40.9% and in Basrah 55.1% overweight and obesity⁽¹¹⁾. So this study was conducted because of the dramatic increase of obesity in Iraq and availability of different treatment options.

The aim of this study is to assess the knowledge of doctors in surgical department and nutritional centers regarding nutritional guideline of bariatric surgery to treat obesity.

-Methods

A cross-sectional study was carried out. The data was collected from the nutritional clinics and outpatient of general surgery and wards of surgical departments in three hospitals in Baghdad al Karkh: Imamein Khadhimein medical citv. Al-Yarmuk teaching hospital. Al Karkh general hospital also collected from Institute of Nutritional Research in Baghdad. The data collection was carried out during the period of 5 months in the year 2018. A total of 121 doctors in the nutritional centers, general surgical department at these hospitals and Institute of Nutrition during the data

collection period were survived by a selfadministered questionnaire. The questionnaire was organized to gather information on many variables including gender, age, hospital, degree with request to write it, and position subdivided into surgical department and nutritional center.

We recorded six questions in the questionnaire concerning basic issues from the Nutrition Guideline of Bariatric Surgery.

Statistical analysis was done by using SPSS (statistical Package for Social Sciences) version 20. In which we use mean, standard deviation, frequency and percentage as descriptive statistics. For analysis we use Chi square, independent sample t-test and ANOVA with LSD. P value ≤0.05 was regarded significant.

-Results

One hundred twenty one doctors in surgical departments and nutritional centers were enrolled in this study.

The largest number of participants were from Imamein Kadhimein medical city 53 (43.8%) followed by Al-Yarmook teaching hospital 50 (41.3%) then Al-Karkh general hospital 13 (10.7%) and lastly Institute of nutrition 5 (4.1%).

In table 3, we used one score for each correct answer of questions according to number of branches and distribute the mean \pm SD for both surgical and nutritional positions.

Variable		Total	Total sample Surgical dept.		cal dept.	Nutritional center	
		N=121	100%	N=97	100%	N=24	100%
Age/ years	≤40	63	52.1%	59	93.7%	4	6.3%
	41-50	46	38%	27	58.7%	19	4.1%
	51-60	11	9.1%	11	11.3%	0	0%
	> 60	1	0.8%	0	0%	1	4.2%
Gender	Male	101	83.5%	86	88.7%	15	62.5%
	Female	20	16.5%	11	11.3%	9	37.5%
Degree	Board community	16	13.2%	0	0%	16	66.7%
	Board surgery	35	28.9%	35	36.1%	0	0%
	Diploma community	4	3.3%	0	0%	4	16.7%
	Diploma pediatrics	1	0.8%	0	0%	1	4.2%
	Diploma surgery	4	3.3%	4	4.1%	0	0%
	Master community	1	0.8%	0	0%	1	4.2%
	MB ChB	58	47.9%	58	59.8%	0	0%
	PhD community	2	1.7%	0	0%	2	8.3%

Table 1: Demographic characteristic according to place of work.

Table 2: Correct responses to knowledge questions.

Question		Total sample:		100%
	Correct		Incorrect /I don't	
			know	
Q1) What is The term "bariatric" refers to?	94	77.7%	27	22.3%
Q2) Why use surgery to treat obesity?	77	63.6%	44	36.3%
Q3) What are the relative indications for bariatric surgery?	100	82.6%	21	17.4%
Q4) What are the exclusion criteria for bariatric surgery?	69	57%	52	42.9%
Q5) What are the recommendations for bariatric surgery	109	90 %	12	9.9%
patient?				
Q6) What are the outcomes of bariatric surgery?	73	60.3%	48	39.6%

Table 3: Knowledge score to each questions according to place of work.

	Surgical department	Nutritional centers	P value
	Mean ±SD	Mean ±SD	
Definition of bariatric surgery	2.32±0.65	2.33±0.76	0.982
causes of use bariatric surgery	1.94±0.82	1.75±0.79	0.288
Relative indication of bariatric surgery	1.62±0.49	1.65±0.55	0.780
Exclusion criteria of bariatric surgery	5.92±1.79	7.75±1.03	<0.001
Recommendation of bariatric surgery	4.49±0.87	4.54±0.50	0.803
Outcome of bariatric surgery	3.51±1.06	4.00±0.97	0.044

Use t- test.

The overall knowledge score from (0-29) for the total sample 121 on all questions according to place of work with the mean and SD and p value. There was significant difference between the overall doctor's knowledge of nutritional center and surgical department.

The results showed significantly higher score for surgery group in question of the cause of using surgery to treat obesity, and question of recommendations required in bariatric surgery, while there was significantly higher score for community group in question of exclusion criteria of bariatric surgery, (Table 4).

Table 5 explains the association between overall knowledge score and degree according to groups of MB ChB, surgery and community group.

Table 4: Mean	knowledge score	according to s	pecialty and degree.

Degree		No.	Mean score	Std. Deviation	P value	
	MB ChB	58	2.24	0.68		
Q1	Surgery (Board/Diploma)	39	2.46	0.60	0.262	
	Community (Board/Diploma/Master)	23	2.39	0.72		
	MB ChB	58	1.72	0.83		
Q2	Surgery	39	2.28	0.69	0.002	
	Community	23	1.74	0.81		
	MB ChB	58	1.55	0.60		
Q3	Surgery	39	1.82	0.45	0.053	
	Community	23	1.61	0.50		
	MB ChB	58	5.72	1.77		
Q4	Surgery	39	6.23	1.81	<0.001	
	Community	23	7.78	1.04		
Q5	MB ChB	58	4.31	1.02		
	Surgery	39	4.77	0.48	0.024	
	Community	23	4.52	0.51		
Q6	MB ChB	58	3.29	1.10		
	Surgery	39	3.85	0.90	0.007	
	Community	23	3.96	0.98		

*Diploma pediatric excluded was 1(0.8%) in nutritional center.

Use ANOVA with LSD.

Degree	No.	Mean score	Std. Deviation	P value
MB ChB	58	18.84	2.99	
Surgery (Board/Diploma)	39	21.41	2.83	<0.001
Community (Board/Diploma/Master)	23	22.00	2.20	

Table 5: Overall mean knowledge score in different specialty and degree.

Discussion

Complications of morbidly obese patients can lead to death without proper treatment. There is absence of nutrition guideline of bariatric surgery in our hospitals and nearly absent adequate resources and equipment to manage morbidly obese patients.

In the present study, the mean correct answer of doctors in surgical departments was 75.3 (77.6%) lower than the result of study of Marcin Giaro et al⁽¹²⁾ where majority of participants gave correct answers. This may be due to lower theoretical knowledge on the field of bariatric surgery. When asked about the causes of using bariatric surgery to treat obesity, we found the mean correct answer 62% lower than the study of Dhruvin H Hirpara et al⁽¹³⁾ which was 79% correct answers from general surgeons. We used multidisciplinary approach in the treatment of obesity in our institute, including physical activities. dietary changes, behavioral modifications with frequent follow up, in addition to patient's refusal, and absence of centers and facilities in the field of bariatric surgery.

In indication of bariatric surgery, we found that mean correct answer nearly same results of Piotr Major et al⁽¹⁴⁾ where 166 (81.8%) of primary care physician was correct and our result was higher than the study of Marcin Giaro et al⁽¹²⁾ where 110 (77%) of surgeons gave correct answers and higher than the study of Anfal Nawawi et al⁽¹⁵⁾ which was 218 (73%) of medical students answered correctly about the indications of this surgery. This showed that our participants were more aware of most important points in this type of surgery through their practical experience.

Fear of surgical and medical complications postoperatively affected on the decision to refer patients for weight loss surgery, as the all patients should undergo preoperative evaluation for obesity-related co-morbidities and causes of obesity with attention towards factors which might affect for the recommendation surgery. importance of post-operative period for any especially bariatric because suraerv exposure to nutritional deficiency after this surgery is common and post-operative dietary recommendations are to prevent nausea and vomiting, gaining weight and pain, with frequent metabolic and nutritional monitoring after all bariatric surgical procedure.

Regarding the outcome of bariatric surgery, the study of Marcin Giaro et al⁽¹²⁾ where 120 (83.9%) of surgeons had correct answers and the study of David B Sarwer⁽¹⁷⁾ in which most physicians (79.4%) reported improvement of co-morbidities among obese patients, both were higher than the results in the present study (60.3%) because we don't have specialized center with adequate facilities to manage morbidly obese patients and may be due to loss to follow up which depends on the bariatric procedure performed and the severity of comorbidities.

Knowledge of exclusion criteria and outcome of bariatric surgery were significantly higher among physicians in nutritional centers than that among this might be doctors surgeons, in nutritional centers received ongoing education with medical conferences and journals about nutritional disorders and obesity managements, and many of our surgical participants are not bariatric surgeons, some of them don't perform bariatric procedure.

We found significant difference of the overall doctor's knowledge about questions on the guideline of bariatric surgery higher in doctors of nutrition center than surgical department, this may be due to their interest in obesity management as it is their specialty, while our surgeons in hospitals dealing with the most urgent surgeries due to wars, trauma, and other emergency cases in our country, in addition to lack of bariatric centers in our country.

knowledge Higher for surgical participants about causes of using bariatric surgery and recommendations pre- and post-surgery; this explained by hiah experience and education of our surgeons on the effectiveness of this surgery on weight loss and improving in quality of life taking into consideration existing comorbidities. Also, there is significantly higher knowledge for participants working in nutritional centers (who have community board, diploma, and master degree) in exclusion criteria of bariatric surgery and the outcome of bariatric surgery as they play a vital role in selection and referral of the indicated patients and who suitable for bariatric surgery and determine the patients awareness and understand the patients of the planned operation, postoperative side effects and lifestyle changes required to achieve the successful outcomes in managing obese patients.

There is significant association in overall knowledge when compared with the degree of the participants. Lowest score with the MB ChB degree of our participants, which may be due to their training in hospitals which lack this type of surgery and don't have sufficient attentions to guideline of bariatric surgery in their courses, while participants with community degree had the highest score, because they have more experience in this field and ongoing educational with reading in website and journals focused on this issue.

In conclusion; Overall doctor's knowledge about bariatric surgery was associated with the scientific degree of the participants and their place of work. Doctors working in nutritional center had the highest

score. Doctors in surgical departments had significantly higher knowledge regarding the reason to use bariatric surgery and the recommendation given to them.

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