Nurses' Knowledge toward Bariatric Surgery at Surgical Wards at Teaching Hospitals in Al-Basra City

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Abstract

This study aimed to assess the level of nurses' knowledge about bariatric surgery and to find the relationship between Nurses' knowledge about bariatric surgery and their demographic characteristics (age, gender, level of education, and years of experience). A descriptive-analytic study was conducted on nurses' knowledge toward bariatric surgery at surgical wards at Al-Sader Teaching Hospital, Al-Faiha Teaching Hospital, and Al-Mawani Teaching Hospital in Al-Basra City. The period of the study was extended from the 15th of November 2020 to the fifth of April 2021. Purposive (non-probability) sample covers (100) nurses who work in the surgical wards, a questionnaire was designed to investigate nurses' demographics, knowledge toward obesity, bariatric surgery, complications of bariatric surgery, and postoperative nursing care and patient education. The results of this study showed that 85% of studied nurses had poor knowledge about bariatric surgery, 14% of nurses had moderate knowledge and only 1% of nurses had good knowledge.

Keywords: *Nurses, Knowledge, Bariatric Surgery.*

Introduction

In both economically stable and emerging areas of the world, obesity has been one of the most critical public health issues. About 1.9 billion people were overweight globally in 2016, and of these, more than 650 million were obese, a figure that has tripled since the 1970s. If the rate continues to grow, it is projected that by 2025, about one-third of the world's adult population will be overweight and over 1 billion will be obese [(1)], and up to 57.8% of the adult population of the planet (3.3 billion people) will be either overweight or obese by 2030 [(2)].

In the Eastern Mediterranean region, the prevalence of obesity and obesity ranges from 74% to 86% in women and 69% to 77% in men [(3)], in Iraq alone about 23.6 million are obese, accounting for 65.6% of the adult population [(4)].

Obesity refers to body fat collection and irregular distribution caused by several causes such as inheritance, high-calorie, high-fat intake, and absence of count of physical activity [(5)].

Bariatric surgery is a successful treatment for extreme obesity that leads to the reduction and reversal of multiple comorbidities associated with obesity, consistent weight loss over time, quality of life improvement, and extended longevity [(6)].

Surgery leads to substantial weight loss and helps to avoid, improve or overcome more than 40 illnesses or disorders linked to obesity, including cardiac disease, type 2 diabetes, obstructive sleep apnea, and some cancers [(7)].

There are three forms of surgical procedures: gastric restriction, malabsorption, or both. Restrictive surgery reduces the ability of the stomach to reduce the amount of food that can be consumed at the same time. As the name implies, malabsorption procedures interfere with the gastrointestinal tract's absorption of food and nutrients [(8)].

The choice of operation depends largely on the severity of obesity, the occurrence of comorbid disorders, the surgeon's expertise, and the particular needs of the patient or other contraindications [(9)].

Until recommending surgical treatment, stringent selection criteria are applied, such as (i) over 5 years of obesity, (ii) frequent insufficiency of non-surgical treatment, (iii) BMI >40 kg/m^2 or BMI >35 kg/m^2 in the case of concomitant comorbidities, (iv) between 21 and 65 years of age, (v) absence of mental illness, and (vi) absence of alcohol or psychotropic drug abuse [10].

The mortality rate for bariatric operations is poor, but the possibility of postoperative complications is high; potential postoperative complications include leakage of the anastomosis with peritonitis, wound infections, abdominal wall hernia, deep venous thrombosis, gallstones, swelling, gastrointestinal symptoms, and dietary deficiency [11].

A nurse plays a vital role in the treatment and care of patients, in their planning for surgery, in teaching patients about future complications after surgery, and in preparing for discharge [12].

Material and Methods

To achieve the aims of this study**:** A descriptive-analytic study was conducted on nurses' knowledge toward bariatric surgery at surgical wards at Al-Sader Teaching Hospital, Al-Faiha Teaching Hospital, and Al-Mawani Teaching Hospital in Al-Basra City. The period of the study was extended from the 15th of November 2020 to the fifth of April 2021.

Instruments were constructed by the researcher for the study. A non-probability purposive sample of (100) nurses. The study instrument is composed of five parts: the first part dealing with the socio-demographic characteristics of the nurses, the second part dealing with knowledge about obesity, the third part knowledge about bariatric surgery, while the fourth part including knowledge about complications of bariatric surgery and knowledge about postoperative nursing care and patient education, which consists from (51) items (Know, Uncertain, and Don't Know).

Each question was composed of (3) items in the form (Know, Uncertain, and Don't Know). and given (3 for Know answer, 2 for Uncertain, and 1 for Don't Know). About (30-45) minutes are given for the test completion.

The validity of the study instrument was determined through a panel of (13) experts and the reliability of the instrument was determined through the alpha Cronbach method. The analysis of the data used was descriptive statistics and statistical inferential, to find the differences between the socio-demographic characteristics of the nurses and their knowledge.

Data were analyzed through the use of SPSS application version 26.0. Descriptive data analysis including Mean of the score (M.S), with their Standard Deviation (S.D), and frequency (f). Inferential data analysis includes the T-test for independent samples, One-way analysis of variance (one-way ANOVA), Pearson correlation.

Table 1: Distribution of the Variables Related Demographic Characteristics N=100 nursing staff

descriptive statistics of Demographic Variables			
Demographic Variables	**Variables Classes**	**F**	**Percent**
Gender	Male	48	48 %
	Female	52	52 %
	Total	100	100 %
Age	20-24	17	17 %
	25-29	30	30 %
	30-34	12	12 %
	35-39	11	11 %
	40-44	10	10 %
	45 & more	20	20 %
	Total	100	100 %

***Cont.*. Table 2. Results of regression analyses for six monosyllablic word lists.**

Marrital status	Single	21	21 %
	Married	79	79 %
	Total	100	100 %
Education level	Secondary School	48	48 %
	Institute	39	39 %
	College	13	13 %
	Total	100	100 %
Years of experience	1-5	34	34 %
	6-10	28	28 %
	11-15	11	11 %
	16-20	8	8 %
	20 & more	19	19 %
	Total	100	100 %

F = frequency

This table shows the socio-demographic characteristics of the nurses in the present study 52% were female (more than half), age group were (25-29) years (30%). Regarding educational levels, the highest percentage is seen with the secondary school of nursing (30%). Most of them married (79%). Approximately one-third of the sample (34%) had 1-5 years of experience and without any training courses inside or outside Iraq.

Table 2: Nursing Staff's knowledge toward Bariatric Surgery

Nursing staff's knowledge						
Assessment levels	**F**	**%**	**Scale**	**Total**		
				MS	**Sd**	**Ass.**
Weak	85	85 %	1 – 1.66	1.36	0.311	Weak
Medium	14	14 %	1.67 – 2.33			
Good	1	1 %	2.34 – 3			
Sum	100	100 %				

F = frequency, % = percent, Ass. = Assessment, MS= Mean Score, Sd=Standard Deviation

The findings of this table indicate that the majority of the nurses (85%) has weak knowledge about bariatric surgery (all domains), 14% of them has medium knowledge, and only 1% of them has good knowledge at the level of the mean score and standard deviation= (1.36+0.311).

Table 3: Relationships of Demographic Variables with Nurses' Knowledge (all domains)

Relationships of Demographic Variables with Nurses' Knowledge (all domains)										
Demographic Variables	**Variables Classes**	**F**	**MS**	**Sd**	**Ass.**	**df**	**Significant**			
							Cal.	**Tab.**	**P-value**	**Sig.**
Gender	Male	48	1.32	0.295	W	98	T-test =1.10	T-test =1.98	0.272	NS
	Female	52	1.39	0.324	W					
Age	20-24	17	1.35	0.253	W	94,5	Anova =0.323	Anova = 2.31	0.999	NS
	25-29	30	1.40	0.351	W					
	30-34	12	1.27	0.295	W					
	35-39	11	1.36	0.378	W					
	40-44	10	1.37	0.375	W					
	45 & more	20	1.34	0.248	W					
Marrital status	single	21	1.26	0.389	W	98	T-test =1.73	T-test =1.98	0.085	NS
	married	79	1.18	0.283	W					
Education level	Secondary school	48	1.15	0.099	W	97,2	Anova =238.2	Anova = 3.09	0.00	S
	Institute	39	1.37	0.148	W					
	College	13	2.02	0.159	M					
Years of experience	1-5	34	1.40	0.359	W	95,4	Anova =0. 892	Anova = 2.47	0.472	NS
	6-10	28	1.30	0.220	W					
	11-15	11	1.42	0.349	W					
	16-20	8	1.22	0.186	W					
	20 & more	19	1.37	0.345	W					

MS = mean score, W=Weak, M=Medium, Ass= Assessment, Sd= standard deviation, S=significant, if (P-value) < 0.05 is significant (S), if (P-value) > 0.05 is nonsignificant (NS),

P-value using T-test for independent samples when it is two groups, P-value using one-way ANOVA (Analysis of Variance) when it is three or more group

df: degree of freedom, T-test (n – 2), ANOVA (n – groups), Cal.= calculated, Tab.= tabular

The results of this table shows there is a significant relationship between nurses' education level and their knowledge about bariatric surgery (all domains) at a P-value ≤ 0.05.

Also, the findings of this table shows there is no significant relationship between nurses' (gender, age, marital status, and years of experience) and their knowledge about bariatric surgery at a P-value ≤ 0.05.

Table 5. Pearson Correlation for the Relationships between domains

Pearson Correlation for the Relationships between domains							
Obesity domain with Bariatric Surgery domain							
Domains	N	MS	df N – 2	Sd	r	P-value	Sig.
Obesity domain	100	1.44	98	0.412	0.721**	0.000	S
Bariatric Surgery domain	100	1.31		0.330			
obesity domain with Complications domain							
Obesity domain	100	1.44	98	0.412	0.647**	0.000	S
Complications domain	100	1.30		0.315			
obesity domain with Postoperative Care domain							
Obesity domain	100	1.44	98	0.412	0.687**	0.000	S
Postoperative Care domain	100	1.38		0.323			
Bariatric Surgery domain with Complications domain							
Bariatric Surgery domain	100	1.31	98	0.330	0.851**	0.000	S
Complications domain	100	1.30		0.315			
Bariatric Surgery domain with Postoperative Care domain							
Bariatric Surgery domain	100	1.31	98	0.330	0.824**	0.000	S
Postoperative Care domain	100	1.38		0.323			
Complications domain with Postoperative Care domain							
Complications domain	100	1.30	98	0.315	0.802**	0.000	S
Postoperative Care domain	100	1.38		0.323			

r= Pearson Correlation, **. Correlation is significant at the 0.01 level and df = (n – 2) = 98

The findings of this table shows there is a significant relationship between all domains of the study questionnaire at a P-value ≤ 0.01, therefore the knowledge in one domain will affect the remaining domains because all domains are linked with each other.

Discussion

The characteristics of the present sample included in this study at age group (25-29) years old (30%). These results agreed with (Fan et al., 2020) which the majority of the nurses' age was between (18-27) years old (39.8%). The researcher believes that nurses working in the surgical wards were young and this indicated a positive point because they have a greater desire to develop their information than nurses who are older and also this work requires more effort muscle.

Regarding gender, this study shows that more than half of the samples are female and they were accounted for (52%). This study agreed with (Lopez et al., 2020) which reveals that the majority of respondents were female (58.5%). The majority of the nurses worldwide are female. In Iraq, the College of Nursing and Nursing Institute accepts the female more than male.

Regarding the marital status, this study reveals that the majority of nurses who work in the surgical wards were married (79%). The results of this study agreed (Al-hzoy, 2020) which stated that the (50%) nurses were married. The researcher believes that most nurses are married because all nurses in the surgical wards are 20 years and above and employed at young ages.

Regarding educational levels, in the present study the highest percentage is seen with the secondary school of nursing (30%). The findings of this study agreed with (Mansour et al., 2019) which stated that (56.7%) of studied nurses were Secondary School nurses. In Iraq, we have a nursing secondary school, nursing institute, and college of nursing. Hospital wards depend on nurses who graduated from Nursing Secondary School and Nursing Institute while nurses who graduated from nursing college are work in special units (critical wards) and their numbers are small compared to other nurses.

This study reveals that the majority of nurses who work in the surgical wards were between (1-5) years of experience with a percentage (34%). These results are agreed with (Ak et al., 2021) which shows that more than half of the sample has (1-5) years of experience.

The results of the present study indicated that the majority of the study samples (85%) have poor knowledge about bariatric surgery.

The researcher believes that nurses' knowledge deficit regarding bariatric surgery might be due to many causes; This surgery is a new technique for the treatment of obesity, nurses not studied obesity and bariatric surgery in all levels of education for nursing, the nurses not have any training courses about bariatric surgery, the nurses do not develop and update their knowledge continuously.

The results of this study agreed with (Mansour et al., 2019) in their study the results showed that more than two-thirds of studied nurses (73.3%) had poor knowledge and practice.

The findings of this study agreed with (Fan et al., 2020) in their study "Knowledge and Attitudes Towards Obesity and Bariatric Surgery in Chinese Nurses" they concluded that the Chinese Nurses have poor knowledge of obesity-related metabolic disorders and also have poor acceptance of surgical treatment modalities.

The results of this study also agreed with (Ponstein, 2012) in his study "Assessing the Nurses' Knowledge of Bariatric surgery: A Performance Improvement Project" his results showed that 66.7% had no previous experience of caring for bariatric surgical patients.

Concerning the result related to associations between nurses' knowledge and demographical data. The present study reveals that there is no significant association between nurses' knowledge and demographic data of the study group concerning (age, gender, Marrital status, and years of experience) except the level of education. The results of the present study are supported by other studies that indicated no significant difference between demographic data and nurses' knowledge (Al-hzoy, 2020) who mentioned in their results that the nurses' demographic data did not affect the results.

Conclusions

1. The majority of the nurses who participate in the present study had a knowledge deficit toward bariatric

surgery in all domains (knowledge about obesity, knowledge about bariatric surgery, complications of bariatric surgery, and postoperative care and patient education).

2. There are no significant differences between demographic data (age, gender, Marrital status educational level, years of experience) and nurses' knowledge.

3. The vast majority of the nurses in the present study 52% were female (more than half), age group was (25-29) years (30%). Regarding educational levels, the highest percentage is seen with the secondary school of nursing (30%). Most of them married (79%). Approximately one-third of the sample (34%) had 1-5 years of experience and without any training courses inside or outside Iraq.

Recommendations

The researcher recommends the following based on the findings of the present study:

1- Providing education programs for nurses to improve their knowledge about bariatric surgery.

2- Training courses should be provided to these nurses to increase their knowledge about bariatric surgery, complications of bariatric surgery, and pre and postoperative nursing care.

3- The researcher recommended more studies about bariatric surgery because of the deficit studies about this topic in Iraq.

4- Creating a continued education unit in the surgical ward to help nurses develop their knowledge about bariatric surgery because of the curriculum at all levels of nursing that doesn't include obesity and its surgeries.

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Conflict of Interest: None to declare.

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