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KNOWLEDGE AND ATTITUDE TOWARDS OBESITY AND BARIATRIC SURGERY AMONG HEALTH CARE STAFF OF PAKISTAN

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ABSTRACT

The objective of this study was to determine the frequency of adequate knowledge and positive attitude towards obesity and bariatric surgery among health care staff of Pakistan.This cross sectional study was conducted at Islamabad Medical Complex, Islamabad, over duration of 6 months, from January 2022 to July 2022. For this study a total of 115 health care staff participated through non- probability consecutive sampling. A self-administered questionnaire was designed to determine the frequency of adequate knowledge and positive attitude of healthcare staff towards obesity and bariatric surgery. The primary outcome was to find the frequency and percentage of adequate knowledge and positive attitude of health care staff towards obesity and bariatric surgery. A total of 115 questionnaires were received from health care staff. Generally, a high knowledge (90.43%) of obesity was recorded. However, the overall knowledge regarding bariatric surgery was relatively low (53.04%). Attitude of health care staff towards obesity management was good (60.87%) while their attitude towards bariatric surgery was not appreciable (28.70%). Health care staff has adequate knowledge of obesity and has positive attitude towards obesity management, however, their knowledge about bariatric surgery was relatively low and there was lack of positive attitude towards bariatric surgery.

Keywords: *Obesity, Health care staff, Knowledge, Attitude, Bariatric surgery*

INTRODUCTION

WHO in its report published in 2020 estimated over 650 Million adults as obese and even more alarming, over 1.9 Billion adults as overweight. This report estimated 13% of the adults of world population as obese and 39% of the adults as overweight. In a report it was noted that between the age of 5-19 years 340 Million children were either overweight or obese. This matter looks more alarming as in 2020, 39 Million children of 5 or less than 5 years of age were either overweight or obese. The moment of satisfaction comes with the fact that obesity is preventable.[1]

For south Asians, this burden of obesity and then the diabetes is even more than western nations. A study involving 30 000 adults conducted on International Day for the Evaluation of Abdominal Obesity in three different regions of Asia indicates some alarming data for our region. Abdominal obesity which is a fair indicator of diabetes, hypertension and other cardiovascular diseases is shown in this report to be most prevalent in South Asia especially in Pakistan and India. [2]

Unfortunately, data for prevalence of central obesity is scarce in Pakistan. Some work on the subject done by Jafar *et al*. shows 25% prevalence

of overweight and obesity in the regions of Pakistan where they collected data, with an alarming 10.3% people being obese having BMI of 27 kg/m2 or above. The study also clears a perception and found that there was no statistical difference between urban and rural population in prevalence of obesity. [3] Another study shared an estimate that nearly 25% of the Pakistani population would fall into the category of overweight or obese if we apply new Indo-Asian-specific cutoff values of BMI. Numerous interventions are recommended for weight loss including behavioral changes, physical activity, dietary changes and pharmacological treatment. Bariatric procedures are emerging treatment of choice for obese patients and complications related to obesity yet bariatric surgery is still less utilized intervention in our country. [4]

A main barrier in treating obesity is the knowledge and attitude of health care staff about obesity and its management. Prevalence of obesity is increasing rapidly and physician's knowledge about its associated comorbidities, diagnosing and management of obesity still remains low. This fact is true for both physicians and associated health care professionals. [5] In a study done in USA, physicians expressed that they have limited knowledge about treatment options for obesity.[6] Slow adaptation of surgical intervention for obesity in the Asian health system is attributed to lack of knowledge and familiarity of physicians and also the lack of expertise among surgeons. [7]

Although we can say that awareness about obesity is increasing and hereditary factors are among major pathophysiological reasons, still a feeling of dishonor and negative attitude is found towards obese individuals in society and even in health care professionals.[8] These factors results in less attention in effective evidence-based strategy selection, low priority towards these patients and lack of follow ups. Talking about an important segment of health care staff, nurses, there are studies that's show data about a negative attitude of nurses towards these obese patients. This was also reported that there was a lack of knowledge among these nurses about overweight and obesity.[9] In Pakistan, the prevalence of obesity and its related diseases are increasing but the adequate knowledge and positive attitude of health care staff towards obesity has rarely been studied. Our health care staff still deals obesity as only a risk factor. Shah AA and Shariff AH in their paper asked for a call for national and regional guidelines for recognition of bariatric surgery as a valid modality in therapeutic protocols for obesity.[10] Therefore, there is a need to pay attention to this lack of knowledge and misunderstandings regarding obesity management and bariatric surgery among health care staff in Pakistan. This study was planned to determine the knowledge and attitude of health care staff in Pakistan regarding obesity and bariatric surgery. Different segments of health care staff including consultants, registrars, medical officers, house officers and nurses were part of this study to have a better picture of the situation.

MATERIAL AND METHODS:

This was a cross-sectional study. This study was conducted at the, Islamabad Medical Complex, Islam Abad, Pakistan, over duration of 6 months, from January 2022 to July 2022. For this study a total of 115 health care staff was included through non- probability consecutive sampling. A self-administered questionnaire was designed, to determine the adequate knowledge and positive attitude of healthcare staff towards obesity, importance of weight loss and bariatric surgery. First part of the questionnaire was designed to assess the adequate knowledge of the health care professional regarding obesity and management of obesity. Eight questions were designed to inquire this knowledge. Second part of questionnaire was designed to assess the knowledge of health care professionals regarding bariatric surgery, and benefits or hazards associated with bariatric surgery. This assessment was made through six questions. Third part of the questionnaire was related to the assessment of positive attitude of these healthcare professionals towards obesity management. This part was consisted of eight questions. Fourth part of the questionnaire was related to the assessment of positive attitude of these healthcare professionals towards bariatric surgery and it was assessed on the basis of three question related to the attitude of these professionals. This Questionnaire was filled by hand from these 150 healthcare staff, out of them 115 responded and submitted answers. Data was collected from various departments of the hospital

including surgical, medicine and outpatient departments.

The primary outcome was to find the frequency and percentage of adequate knowledge and positive attitude of health care staff towards obesity and bariatric surgery. SPSS (Chicago, IL, USA) of version 25 was used for data analysis. Mean ± Standard deviation was calculated for quantitative data and frequency and percentages were presented for qualitative data. Adequate knowledge and positive attitude was determined by calculating frequency and percentage.

Results:

Age range of the health care staff who participated in this study was 22 to 59 years with mean age of 33.15 ± 9.26 years. Out of these 115 participants, 63 (54.78%) were males while 52 (45.22%) were females. There was almost equal number of health care providers participating from Medicine and Surgery departments while there were 7 Doctors from the OPD department. The main bulk of the 41(35.65%) and 30 (26.08%) of the study participants from the health care professionals were registrar and house officers followed by 20 (17.39%) health professionals who were staff nurses as elaborated in table 1.

There was adequate knowledge of health care staff regarding obesity as revealed by their response to the question asked and it was noted that 104 (90.43%) of health care staff had adequate knowledge on obesity. There was relatively low knowledge of health care staff regarding bariatric surgery as revealed by their response to the questions asked and it was noted that only61 (53.04%) participants had adequate knowledge on bariatric surgery. A large number of the health care staff showed a positive attitude regarding obesity as revealed by their response to the questions asked them and it was observed that 70 (60.87%) of the participants had a positive attitude towards obesity. The results on the basis of responses of the healthcare staff to the questions asked them showed that positive attitude of health care staff regarding bariatric surgery was very poor and on the basis of their response to the questions asked it was noted that only 33 (28.7%) of the participants had positive attitude towards bariatric surgery as elaborated in table 2.

Answers of health care staff regarding questions about their adequate knowledge on obesity are shown in Table-3.

Answers of health care staff regarding questions about their adequate knowledge on bariatric surgery is shown in Table-4.

Answers of health care staff regarding questions to find their positive attitude on obesity and its management are shown in Table-5.

Answers of health care staff regarding questions to find their positive attitude towards bariatric surgery are shown in Table-6.

Table 1: Distribution of demographic characteristics

Demographics	Frequency	Percentage
Age of participant (years)		
Mean ± SD	33.15 ± 9.26	
Gender of the participants		
Male	63	54.78%
Female	52	45.22%
Department of participants		
Surgery	55	47.83%
Medicine	53	46.08%
Outpatient Department	7	6.09%
Designation of the participants		
Professor	2	1.74%
Associate Professor	2	1.74%
Assistant Professor	5	4.35%
Senior Registrar	8	6.96%
Registrar	41	35.65%
Medical officer	7	6.09%
House Officer	30	26.08%

Staff Nurse	20	17.39%
Total	115	100%

Table 2: Distribution of knowledge and attitude towards obesity and bariatric surgery

Knowledge	Frequency	%age
Part 1: Adequate Knowledge on Obesity		
Yes	104	90.43%
No	11	9.57%
Part 2: Adequate Knowledge on bariatric surgery		
Yes	61	53.04%
No	54	46.96%
Part 3: Attitude towards obesity		
Yes	70	60.87%
No	45	39.13%
Part 4: Attitude towards bariatric surgery		
Yes	33	28.70%
No	82	71.30%
Total	115	100%

Table-3: Answers of Health Care Staff regarding their knowledge on obesity.

S.no	**Question**	**Yes n (%)**	**No n (%)**	**Don't Know n (%)**
1	Obesity is a big health problem	108 (93.91%)	7(6.08%)	0 (0%)
2	A small amount of weight loss (10% of body weight) that is sustained over time is an important goal in weight-loss therapy	102 (88.7%)	7(6.08%)	6 (5.22%)
3	Dietary advice , physical activity advice and behavioral counseling can help to reduce weight	104 (90.43%)	9 (7.83)	2 (1.74%)
4	CV diseases, T2DM and insulin resistance are related to obesity	115 (100%)	0 (0%)	0 (0%)
5	Obesity can cause GERD (gastro esophageal reflux disease), osteoarthritis and joint pain.	107 (93.04%)	3 (2.61%)	5 (4.35%)
6	Infertility and miscarriage can be due to obesity in females.	96 (83.48%)	11 (9.57%)	8 (6.96%)
7	Have you ever heard about methods to determine obesity like BMI and Waist/Hip ratio?	104 (90.43%)	8 (6.96%)	3 (2.61%)
8	Adults with healthy body weight (BMI 18.5–24.9 kg/m2) also needed be to be encouraged by physicians to maintain their weight	96 (83.48%)	17 (14.78%)	2 (1.74%)

Table-4: Answers of Health Care Staff regarding their knowledge on bariatric surgery

S.no	**Questions**	**Yes n (%)**	**No n (%)**	**Don't Know n (%)**
1	Surgical treatment is available for obesity in Pakistan	102 (88.69%)	10 (8.69%)	3(2.61%)
2	Bariatric Surgery is safe and reliable	94 (81.74%)	3 (2.61%)	18 (15.65%)

3	I am sure that weight will not rebound after bariatric surgery	11 (9.57%)	87 (75.65%)	17 (14.78%)
4	Patients can eat or drink freely after bariatric surgery	10 (8.69%)	87 (75.65%)	18 (15.65%)
5	Bariatric Surgery is helpful in controlling elevated BP, serum lipid content and improves glycemic control.	84 (73.04%)	14 (12.17%)	17 (14.78%)
6	You know that where is the procedure of Bariatric surgery available in Pakistan	65 (56.52%)	50 (43.48%)	0 (0%)

Table-5: Answers of health care staff to questions asked for finding their attitude towards obesity and its management.

S.no	**Questions**	**Yes n (%)**	**No n (%)**	**Don't Know n (%)**
1	The weight management in my practice can be effective	75 (65.22%)	32 (27.82%)	8 (6.96%)
2	Counseling on obesity is professionally rewarding	81 (70.43%)	27 (23.47%)	27 (23.47%)
3	I would offer advice about weight control to all patients	48 (41.74%)	67 (58.26%)	0 (0%)
4	There is a need to discuss weight loss in adults Having BMI 25–29.9 kg/m2	51 (44.34%)	60 (52.17%)	4 (3.48%)
5	Patients education leaflet for weight reduction must be present at clinic for patient's education	115 (100%)	0 (0%)	0 (0%)
6	We can discuss weight loss with patients despite work overload	48 (41.73%)	47 (40.87%)	0 (0%)
7	There is lack of patient motivation and compliance but make our weight loss program still remains beneficial	87 (75.65%)	24 (20.87%)	4 (3.47%)
8	Not only specialized clinics and dietitian but all health care staff can work on obesity issue	51 (44.35%)	59(51.3%)	5 (4.35%)

Table-6: Answers of health care staff to questions asked for finding their attitude towards bariatric surgery.

S.no	**Questions**	**Yes n (%)**	**No n (%)**	**Don't Know n (%)**
1	Bariatric surgery is cost-effective.	30 (63.48%)	50 (6.09%)	35 (30.43%)
2	We are sure about its efficacy and safety due to published data regarding bariatric surgery is available.	35 (43.48%)	50 (30.43%)	30 (26.09%)
3	Will you recommend your obese patients for bariatric surgery where life style, dietary or pharmacological interventions are not successful.	36 (31.30%)	70 (60.87%)	9 (7.83%)

Discussion:

Obesity is emerging as global pandemic not only in the developed countries but also in the developing world. Various comorbidities like type 2 diabetes, coronary artery disease, hypertension, several types of cancers and other related metabolic disturbances make it even more serious health concern.[11] Adequate knowledge of health care staff is the most important factor in diagnosis of obesity and its management. [12] Hence the first step is to assess the knowledge and attitude of health care staff towards obesity and its treatment including bariatric surgery. This is due to the fact that surgical treatment of obesity is increasing worldwide yet it is still considered as new discipline in health care staff including surgeons, physicians and other health care staff in Pakistan.

There is lack of work done in this field worldwide. In a Swedish study published in 2022 done in 235 physicians reported that most of the physicians (91%) took obesity as a disease and very encouragingly 97% had belief that physicians can play a role in helping their patients to reduced weight. While 99% of the physicians felt confident to discuss lifestyle changes, 67% were confident to suggest medication and 81% to suggest bariatric surgery.[13]

Another study done in Bahrain and published in 2009 reported a good level of physicians regarding identification of obesity as a chronic disease (71%). Major barrier in management of obesity were time constraints, lack of dieticians and specialty clinics and absence of obesity guidelines. There were however very few recommending surgery.[14]

In a Swiss study, it was found that some doctors and nurses lack both knowledge and skills to diagnose obesity. A main reason described was absence of clear guidelines. [15] In an American study, the percentage among 170 nurses to be able to use BMI for classification of obesity was only 26%.[16]

In a study done in china to assess the knowledge and attitude of nurses towards obesity and bariatric surgery, the acceptance regarding safety and efficacy of bariatric surgery was low (25.1% and 22.9% respectively). The main concerns were postoperative complications and possible adverse effects. This was in contrasts to the surgeons who had beliefs in benefits of bariatric surgery in shape of reduction of comorbidities of obesity and improving quality of life.[17]

Nemeri A and coworkers reported great variability in surgeon experience and perioperative bariatric surgery care in MENA countries. They suggested arranging the programs on bariatric surgery in the region.[18]

In an effort to evaluate perception of medical students of Pakistan regarding obesity and importance of its management, a study done in 2021 reported that 20% believed obesity as hereditary factor and can't be controlled and only two third were able to calculate correct BMI range.[19]

F Butt and his team tried to find perception and management of obesity among Pakistani doctors and found that only 8% had completed any obesity management training course. Link between obesity and diabetes was discussed most often (88%) while they mostly ignored to discuss cancer and dementia. As for as calculating BMI of obese patients is concerned only 60% doctors calculated it. Similarly only 54% were confident in putting childhood obesity in a program for weight management.[20]

The results of our study regarding adequate knowledge on obesity are in line with the results found in the data available in previous studies globally. The overall knowledge of health care staff regarding obesity was good (90.43%) which is similar to the study done with physicians in Sweden[25.]This part included questions regarding prevalence of obesity, assessing the classification of obesity, comorbidities relating to obesity and importance of weight reduction. The knowledge of health care staff regarding bariatric surgery was average as only 53.04% gave right answers on bariatric surgery. The questions were related to knowledge on availability, reliability, safety and efficacy of bariatric surgery. The same level of knowledge on bariatric surgery was reported in studies done in China and MENA region. [17,18]

There was overall positive attitude towards obesity and its management as it was found to be 60.43%. This included questions regarding attitude of medical staff regarding their confidence in obesity management and their willingness to start weight loss programs with their patients at their hospitals. These results look similar to results reported by F Butt in Pakistani population [20] where 60% Doctors

calculated the BMI and expressed their interest in patient's weight loss.

The part of questionnaire arranged to find the positive attitude on bariatric surgery, included their confidence in cost effectiveness and their recommendations for bariatric surgery. Only 28.70% of participants showed positive attitude towards bariatric surgery. These results are not surprising as already similar attitude is expressed in studies done in China, MENA region and Pakistan. Shah AA and his team mentioned the need to launch campaigns on public awareness on obesity and considering bariatric surgery for weight loss programs in Pakistan. [17, 18, 21]

From this study, it is obvious that health care staff is aware of the obesity as a public health concern in Pakistan, most of them are willing to work on weight loss for their obese patients however the knowledge regarding bariatric surgery is low, and health care staff is not sure about referring their obese patients for bariatric surgery. It is therefore suggested to enhance their confidence in weight loss programs especially bariatric surgery.

Conclusion:

Health care staff has adequate knowledge of obesity and have positive attitude towards obesity management, however their knowledge about bariatric surgery was average and most of them were not prepared to refer their patients for bariatric surgery. It is therefore suggested to enhance their confidence in weight loss programs especially bariatric surgery.

Conflict of Interest:

None.

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