

KNOWLEDGE, PERCEPTION AND ATTITUDES OF DENTAL UNDERGRADUATE AND POSTGRADUATE TOWARDS OBESITY

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ABSTRACT

Obesity is a growing public health problem. Little is known about dental undergraduates and postgraduates' knowledge, perception and attitude regarding people who are obese. To evaluate the knowledge, perception and attitudes of undergraduates and postgraduates students towards obesity admitted in Dow Dental College, Karachi. A cross-sectional survey was conducted at Dow Dental College. Total sample size calculated was 146, out of which 46 were postgraduate and 100 were undergraduate (1st year and 2nd year). House officers and oral hygienists were excluded from the study. Convenience sampling method was used. A self-administrated questionnaire was made to collect the data which consisted of 20 questions (statements) related to the student's knowledge, perception and practice towards obese patients. Statistically significant difference was found between undergraduates and postgraduates students with statements such as "obesity is associated with serious medical conditions, learning about obesity in dental school, necessary to assess patients dietary habits ($p=0.05$), ($p=0.00$), ($p=0.02$) and ($p=0.00$) respectively. Many postgraduates had negative attitudes towards obese patients than undergraduate students. Majority of the undergraduate students were interested in learning about obesity in dental school which indicates inclusion of obesity education in the dental curriculum. Counseling should be conducted for these postgraduate students who are practitioners in order to instill positive attitudes in them toward obesity patients.

Key Words: Attitudes, beliefs, dental students, knowledge, obesity.

INTRODUCTION

Obesity is defined by World Health Organization as a condition of abnormal or excess fat accumulation in adipose tissue; to the extent that health may be impaired.¹ Obesity may cause various health issues, which can be hypertension, diabetes, ischemic heart disease, gallstones, osteoarthritis and malignancy.²

There are number of medical problems that are associated with obesity. Obese patients have to tolerate the negative attitudes in work place and more importantly in health-care profession which requires balanced people on the job.³ Moreover, such people are also exposed to public disapproval and suffer marked discrimination in our society.⁴

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Obesity is major health problem. According to recent national survey, 54.9% of US adults are overweight and that 22.3% of US adults are obese.⁵ However, in urban settings if the revised definitions for Asian populations are used to categorize weight, the prevalence of overweight /obese individuals is estimated to be much high (56% in men and 67% in women).⁶

According to the survey conducted by WHO in Pakistan estimates, 25.5 % of women and 18.8% of men are overweight (Body Mass index (BMI) ≥ 25) and 3.6% of women and 1 % of men are obese (BMI ≥ 30).⁷ Obese patient often suffer with various health problems and treatment challenges, many with implications for the practice of dentistry.⁸ In order to aware such students about unique need of obese patient population, formal trainings should to be conducted.⁹⁻¹²

METHODS

A cross sectional study was conducted at Dow Dental College, Karachi from September to August 2015. Undergraduates of 1st year and 2nd year and postgraduate students of Dow Dental College, Dow University of Health Sciences (DUHS) were included in the study. Third and fourth year dental students, house officers and oral hygienist were excluded from the study.

Convenience sampling technique was used and a total of one hundred forty six participants were included in the study with a response rate of 84.9%. Ethical approval was obtained from the Dean of Dentistry of (DUHS) and we took consent from all the participants.

In order to assess the knowledge, attitudes and beliefs of study subjects toward obesity, a questionnaire was adapted from a previous survey conducted by Magliocca et al.³ The original questionnaire which had sixteen statements, was redesigned and four statements were additional. Thus, the final form consisted of 20 statements, 4 questions associated with the student's knowledge about obese patients, three related to their perception about professional responsibility towards obese patients and seven statements related to their attitude towards obese patients. Every question had answers on a Likert scale with 5 categories ranging from strongly agree = 1 to strongly disagree = 5. Analysis

was done using the SPSS software system (SPSS inc. SPSS for Windows, Version 16.0).

RESULTS

The participants which took part in the study were 146 out of which 124 responded with an overall response rate of 84.9%. Fig 1 depicts the response rates for each year according to the class year and gender, undergraduates (males-29.5%, females-70.5%), post-graduates (males-26.1%, females-73.9%). Mean age was 22.77 ± 4.04 . Statistically significant difference was found between undergraduates and postgraduates students when inquired in knowledge section that obesity is associated with serious medical conditions (p value 0.05) (Table 1). In table 2, learning about obesity in dental school and necessary to assess patients dietary habits also showed statistically significant difference (p=0.00) and (p=0.02) respectively. Table 3 depicted

TABLE 1: KNOWLEDGE ABOUT OBESITY

| Statements | Undergraduate | Postgraduate | Total | p value |
|---|---------------|--------------|-----------|---------|
| Obesity is a chronic disease. | | | | NA |
| strongly agree | 35.9%(28) | 34.8%(16) | 35.4%(44) | |
| agree | 52.6%(41) | 45.7%(21) | 50%(62) | |
| neutral | 3.8%(3) | 10.9%(5) | 6.4%(8) | |
| disagree | 3.8%(3) | 6.2%(3) | 4.8%(6) | |
| strongly disagree | 3.8%(3) | 2.2%(1) | 3.2%(4) | |
| Small weight losses (5-10%) can produce Important medical benefits for obese patients. | | | | NA |
| strongly agree | 17.9%(14) | 17.4%(8) | 17.7%(22) | |
| agree | 56.4%(44) | 63.0%(29) | 58.8%(73) | |
| neutral | 16.7%(13) | 8.7%(4) | 13.7%(17) | |
| disagree | 7.7%(6) | 8.7%(4) | 8.0%(10) | |
| strongly disagree | 1.3%(1) | 2.2%(1) | 1.6%(2) | |
| Obesity is associated with serious medical condition | | | | 0.05 |
| strongly disagree | 57.7%(45) | 67.4%(31) | 61.2%(76) | |
| agree | 23.1%(18) | 28.3%(13) | 25%(31) | |
| neutral | 9.0%(7) | 2.2%(1) | 6.4%(8) | |
| disagree | 10.3%(8) | 0%(0) | 6.4%(8) | |
| strongly disagree | 0%(0) | 2.2%(1) | 0.8%(1) | |
| I can provide differential diagnosis list for obesity (two or three conditions that mimic obesity). | | | | NA |
| strongly agree | 19.2%(15) | 30.4%(14) | 23.3%(29) | |
| Agree | 43.6%(34) | 45.7%(21) | 44.3%(55) | |
| neutral | 30.8%(24) | 17.4%(8) | 25.8%(32) | |
| disagree | 6.4%(5) | 6.5%(3) | 6.4%(8) | |
| strongly disagree | 0%(0) | 0%(0) | 0%(0) | |

TABLE 2: PERCEPTION BASED UPON PROFESSIONAL RESPONSIBILITY

| Statements | Undergraduate | Postgraduate | Total | p= |
|---|---------------|--------------|-----------|------|
| Treating obese patients in dentistry means I will need to make accommodations in equipment and office furniture. | | | | NA |
| strongly agree | 21.8%(17) | 6.5%(3) | 16.1%(20) | |
| agree | 21.8%(17) | 23.9%(11) | 22.5%(28) | |
| neutral | 28.2%(22) | 34.8%(16) | 30.6%(38) | |
| disagree | 19.2%(15) | 28.3%(13) | 22.5%(28) | |
| strongly disagree | 9.0%(7) | 6.5%(3) | 8.0%(10) | |
| In my discipline it is necessary to assess patients dietary habits. | | | | 0.02 |
| strongly agree | 48.7%(38) | 19.6%(9) | 37.9%(47) | |
| agree | 41.0%(32) | 63.0%(29) | 49.1%(61) | |
| neutral | 7.7%(6) | 15.2%(7) | 10.4%(13) | |
| disagree | 1.3%(1) | 2.2%(1) | 1.6%(2) | |
| strongly disagree | 1.3%(1) | .0%(0) | 0.8%(1) | |
| I would be interested in learning about obesity in dental school. | | | | 0.00 |
| strongly disagree | 60.3%(47) | 37.0%(17) | 51.6%(64) | |
| agree | 38.5%(30) | 43.5%(20) | 40.3%(50) | |
| neutral | 1.3%(1) | 19.6%(9) | 8.0%(10) | |
| disagree | 0 | 0 | 0 | |
| strongly disagree | 0 | 0 | 0 | |

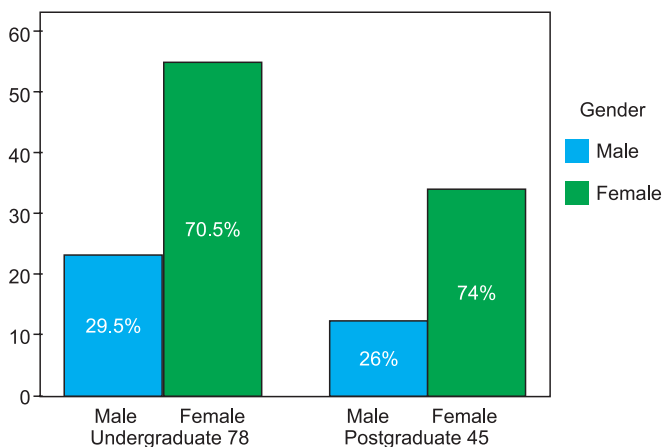


Fig 1: Response rate

statistical significant difference ($p=0.00$) between undergraduate and postgraduate students about their comfort ability in treating obese patients.

DISCUSSION

The health troubles that accompany weight problems have gained lot of interest.^{4,5,6-8} Obesity have immediate effect on dental treatment and oral health through periodontium^{9,10}, dryness of mouth (xerostomia), effects of polypharmacy¹¹, negative impact on the safety of IV

sedation¹² or troubles in accomplishing local anesthetic sedation.¹³ Further, the co-morbidities generally related to obesity, like diabetes,¹⁴ cerebrovascular diseases,¹⁵ CVS problems,¹⁶ high blood pressure¹⁷, depression¹⁰, osteoarthritis¹⁷, bronchial asthma¹⁸, and obstructive sleep apnea¹⁹ have been described to influence dental treatment. Obesity itself isn't associated with exaggerated rates of carcinoma, however it has association with multiplied occurrence of other cancers, numerous of which might be stated to metastasize to the jaws.²⁰

In spite the limitation within the formal education for many students, 50% agreed that weight problems to be a chronic disease, and 61.2% strongly agreed that obesity is associated with serious medical condition. Knowledge of obesity as a serious disease permit patients to get appropriate treatment; it should aid the public achievement of a larger sense of acceptance of obesity and reduce unfairness and stigmatization.^{21,22} Hypothyroidism, pituitary problems, and different endocrine diseases, in addition as mass lesions like polycystic renal sickness or malignancy, might cover-up as "primary" obesity.^{23,24} Moreover, a few medical drugs will originate substantial weight gain leading to "secondary" obesity²⁵.

TABLE 3: STUDENTS ATTITUDE TOWARDS OEBSITY

| Statements | Undergraduate | Postgraduate | Total | p=value |
|--|---------------|--------------|-----------|---------|
| I have a negative reaction towards the appearance of obese patient | | | | NA |
| strongly agree | 2.6%(2) | 10.9%(5) | 5.6%(7) | |
| agree | 17.9%(14) | 15.2%(7) | 16.9%(21) | |
| neutral | 17.9%(14) | 13.0%(6) | 16.1%(20) | |
| disagree | 37.2%(29) | 41.3%(19) | 38.7%(48) | |
| strongly disagree | 24.4%(19) | 19.6%(9) | 21.7%(27) | |
| It is difficult for me to feel empathy for a obese patient | | | | NA |
| strongly agree | 5.1%(4) | 4.3%(2) | 1.6%(2) | |
| agree | 15.4%(12) | 17.4%(8) | 16.1%(20) | |
| neutral | 33.3%(26) | 43.5%(20) | 37%(46) | |
| disagree | 28.2%(22) | 28.3%(13) | 28.2%(35) | |
| strongly disagree | 17.9%(14) | 6.5%(3) | 13.7%(17) | |
| I feel uncomfortable when treating an obese patient | | | | 0.00 |
| strongly disagree | 1.3%(1) | 19.6%(9) | 8.0%(10) | |
| agree | 16.7%(13) | 15.2%(7) | 16.1%(20) | |
| neutral | 14.1%(11) | 23.9%(11) | 17.7%(22) | |
| disagree | 43.6%(34) | 26.1%(12) | 37%(46) | |
| strongly disagree | 24.4%(19) | 15.2%(7) | 20.9%(26) | |
| Overweight patient tend to be lazier than normal weight | | | | NA |
| strongly agree | 39.0%(30) | 30.4%(14) | 35.4%(44) | |
| Agree | 33.8%(26) | 47.8%(22) | 38.7%(48) | |
| neutral | 14.3%(11) | 10.9%(5) | 12.9%(16) | |
| disagree | 5.2%(4) | 6.5%(3) | 5.6%(7) | |
| strongly disagree | 7.8%(6) | 4.3%(2) | 6.4%(8) | |
| Overweight people lack willpower and lack motivation in comparison with normal people | | | | NA |
| strongly agree | 29.5%(23) | 19.6%(9) | 25.8%(32) | |
| Agree | 30.8%(24) | 34.8%(16) | 32.2%(40) | |
| neutral | 15.4%(12) | 23.9%(11) | 18.5%(23) | |
| disagree | 15.4%(12) | 15.2%(7) | 15.3%(19) | |
| strongly disagree | 9.0%(7) | 6.5%(3) | 8.0%(10) | |
| I would feel uncomfortable asking an obese patient about his or her dietary habits | | | | NA |
| strongly agree | 14.1%(11) | 23.9%(11) | 17.7%(22) | |
| Agree | 12.8%(17) | 21.7%(10) | 21.7%(27) | |
| neutral | 17.9%(14) | 21.7%(10) | 19.3%(24) | |
| disagree | 29.5%(23) | 23.9%(11) | 27.4%(34) | |
| strongly disagree | 16.7%(13) | 8.7%(4) | 13.7%(17) | |
| I would feel uncomfortable asking an obese patient about his or her dietary habits | | | | NA |
| strongly agree | 7.7%(6) | 23.9%(11) | 13.7%(17) | |
| Agree | 25.6%(20) | 21.7%(10) | 24.1%(30) | |
| neutral | 17.9%(14) | 21.7%(10) | 19.3%(24) | |
| disagree | 26.9%(21) | 21.7%(10) | 16.9%(31) | |
| strongly disagree | 21.8%(17) | 10.9%(5) | 17.7%(22) | |

In this research it was found that 50% participants agreed that obesity is a chronic disease while similar study conducted by Kumar et al showed that 80.5% participants agreed that obesity is a chronic disease and in the present study 58.8% subjects agreed that small weight losses can produce important benefits in obese patients. These figures are in concurrence with 86.2% and 78.4% that has been reported by female dental students of Saudi Arabia.⁷ However, a study conducted in Australia on 88% general practitioners who believed that small weight losses can produce important benefits among obese patients.⁸

In the current it was found that 61.2% of the respondents strongly agreed that obesity is associated with serious medical conditions, which is in agreement with 94% of dentists and dental hygiene students of university of Michigan who were conscious of a relationship between obesity and medical conditions.³ This could be attributed to the wide attention and publicity given to obesity and its ill-effects by the Government of Pakistan.

There was a significant difference for knowledge about obesity between the students based on the course of study with a greater proportion of postgraduate students agreeing to the knowledge related questions. This difference could be due to the curriculum of the postgraduate students' knowledge and their exposure with practical work, during which they learn about the medical conditions and diseases related to obesity.

Postgraduate students are taught to assess dietary habits of the patients as a part of regular case history, which might have influenced this finding. More than half of the subjects (78%) were interested in learning about obesity in the dental College, which is a positive indication that many dental students welcome incorporation of obesity education in the dental curriculum.

In the present study significantly lesser percentage of postgraduate students than undergraduate subjects agreed that treating obese patients in dentistry means that they will need to make accommodations in equipment and office furniture, which might be due to the real life experience of postgraduate students with obese patients in their routine clinics.

It was observed that nearly half (more than 40%) of the faculty members of a medical school agreed that they have negative reactions toward obese patients.¹⁰ In contrast, only 19% of the present study subjects agreed that they have negative reactions to obese patients. Significantly greater proportions of postgraduate had negative attitudes toward obese patients than their undergraduate counterparts. This might be due to negative experiences of the postgraduate while treating obese patients during their clinical practice while among

undergraduate students their pre-existing attitudes could have contributed for this finding.

Weight stigma (treating obese individuals as if they are deficient) and society's demands for slenderness has been a concern to obese people. It has also been observed that teachers can hold negative anti-fat attitude that may affect perception of performance among obese students.¹¹ Negative attitudes toward obese people are observed both implicitly and explicitly and are even observed among obese people, children and even in health-care professionals.¹² Thus, dental students might hold negative attitudes toward obese patients, but it is also expected that their professional education would have influenced their attitudes. However, the influence of dental education of the student's attitudes toward obesity could be understood by future studies conducted to compare the perceptions of obesity and obese population of students from medical professions and comparable young adults from the general population belonging to similar cultural environment.

Though the response rate was considerable in the current study, the first limitation was the inclusion of dental students of only one dental college of Pakistan so; the results cannot be generalized to all dental student of Pakistan. Moreover, the obesity status was not recorded in dental students as the responses of obese students might be different from those who are non-obese. However, a research on west Philadelphia adolescents observed that all the subjects had positive self-esteem, eating habits and health behavior knowledge regardless of their obesity status.⁶

CONCLUSION

Many postgraduates had negative attitudes towards obese patients than undergraduate students. Majority of the undergraduate students showed that they were interested in learning about obesity in the dental college which warrants inclusion of obesity education in the dental course curriculum. There should be counseling for these students who are practitioners in order to impart positive attitudes in them toward obesity patients.

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