

## ORIGINAL ARTICLE

# THE FREQUENCY OF BODY DYSMORPHIC DISORDER IN FEMALE UNIVERSITY STUDENTS

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## ABSTRACT

**Background:** Body dysmorphic disorder (BDD), once known as dysmorphophobia, is a mental disorder in which the person afflicted is engrossed with an imagined imperfection in their appearance that is actually normal or is very minor.

**Methods:** The cross-sectional study was conducted in Karachi at Ziauddin University targeting female students between the ages of 17–25, using an adapted questionnaire which was used to diagnose BDD and determine the role of media in influencing their self-image.

**Results:** Out of the 180 students included in this study, at least 9.4% were highly concerned about one or more than one physical attributes, while 2.8% showed extreme concern. 6.1% met the DSM-V criteria for BDD. The most frequent foci of concern were: Being too fat or too thin (35%), skin (24.4%), hair (15%), teeth (14%) and nose (14%). 24.4% of the students got sad/angry/depressed because of their appearance. The study also showed that 42% of the subjects spent 1-2 hours watching television every day, and 13.9% watching 3-7 hours of television per day. 46.7% also regularly visit entertainment/beauty websites or read entertainment magazines. 22.8% were extremely satisfied with their appearance, as opposed to 4.4% which were extremely dissatisfied.

**Conclusion:** Our results show that BDD is widespread amongst female college students. The body features of concern were recognized and the influence that media, either through the use of beauty magazines or television/movies on self-image was estimated.

**KEY WORDS:** Body Dysmorphic disorder (BDD), Females, Frequency, Risk factors

## INTRODUCTION

Body Dysmorphic disorder (BDD), once known as dysmorphophobia, is a mental disorder in which the person afflicted is engrossed with an imagined imperfection in their appearance that is actually normal or is very minor<sup>1</sup>. The main onset of symptoms of this mental disorder occurs during childhood or adolescence with a gradual onset in those with early onset BDD<sup>2</sup>. Patients with BDD have abnormal brain activation when viewing objects and also process faces differently, with abnormalities in their frontostriatal systems<sup>3-6</sup>.

They have more white matter volume and also have dysfunction in their frontal lobe indicated by discrepancies in their executive function<sup>7,8</sup>. Other risk factors may include shyness, psychological trauma (as a consequence of physical or mental

abuse, teasing, isolation, bullying and emotional neglect), having a genetic predisposition, being more emotional or sensitive than others, and having physical defects (like acne) in adolescence which have since resolved<sup>2,9-14</sup>.

Their preoccupations most commonly involve their skin and facial features (such as acne, shape of their eyes, skin color, baldness) but can include any 'ugly' or hideous' body part or even multiple parts which are difficult to control and occur for about 3 to 8 hours in a day<sup>9,15-18</sup>. They cause feelings of anxiety, depression, and low self-esteem amongst other agonizing emotions, which in turn cause them to perform certain repetitive behaviors or rituals during the course of their illness to get rid of their emotional anguish<sup>18</sup>. These range from combing their hair, restricting their diet, excessively grooming themselves (such as applying makeup multiple

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times a day), hiding their defects (with a hat, clothes, or using makeup), compulsive shopping and tanning to name a few<sup>15, 19, 20</sup>. Some even check themselves in the mirror constantly, hoping they look different, thinking they will feel worse if they stop themselves from scrutinizing their appearance in the mirror<sup>21</sup>. Patients often seek non-psychiatric care for their imagined or minor imperfections, going to dermatologists and cosmetic surgeons to alleviate their distress with treatments, like medications for acne and surgeries such as rhinoplasty, liposuction, and even dental procedures<sup>22, 23</sup>. However, even with these treatments, patients rarely see an improvement and sometimes they even make their symptoms worse<sup>24</sup>. The rates of suicidal ideation and even suicide attempts are high<sup>9, 19, 25</sup>. They commonly have at least one co-morbid disorder during their lifetime, most frequently major depressive disorder. Other common disorders include Obsessive Compulsive Disorder, Social phobia and substance use disorder<sup>26</sup>.

Pakistan's society has strong sociocultural pressures built within its several customs. Being physically attractive is important, but more so in women than in men<sup>27</sup>; such pressures of societal expectation of physical presentation and even personal pressure of becoming the "ideal self" is often influenced by the way media represents the "ideal" body. A number of experimental studies show that exposure to images of thin beautiful women in media has a negative effect on a young women's image of themselves and their mood<sup>28, 29</sup>. Most women compare their own appearance to others who are 'more' attractive<sup>29, 30</sup>. When they don't meet this ideal standard, they judge themselves that they don't meet expectations of society and they become dissatisfied with their body<sup>31</sup>. Taking this background into account, we conducted this study to determine the prevalence of BDD amongst young female university students and also to see what the role of media was on influencing their self-image.

## METHODS

A Descriptive Cross-Sectional Study was conducted at Ziauddin University, a private educational university, in Karachi, Pakistan over a period of two weeks. A sample size of 200 Female University Students was selected through convenience sampling technique, out of which 180 were analyzed. All Female students between the ages of 17-25 years of age at Ziauddin University from the MBBS, Dentistry, Pharmacy and Physical Therapy Departments were included in the study. Students that submitted incomplete forms, those not included in the ages of 19-25 and those diagnosed with an eating disorder anorexia nervosa or bulimia nervosa were excluded from this study. Informed consent was taken before handing out the questionnaires. The nature of the study was explained to the participants, and they

were requested to fill the questionnaire completely and honestly. Also, they were assured their questionnaires would remain strictly confidential.

The questionnaire consisted of two sections: the first section covered demographic information; the second incorporated an adapted questionnaire to measure BDD.

Section A: Demographic information consisted of six parameters: Age, Department, Year of education, Marital Status, Height and Weight

Section B: A structured questionnaire, the Body Image Disturbance Questionnaire (BIDQ) was adapted which had been tested as a reliable and valid measure for body image in non-clinical samples<sup>32, 33</sup>. It consisted of 7 questions, each of which with responses in the form of a 5 point response format.

The first two questions assess the level of concern with the physical imperfection; the third assesses the level of distress felt by the person; and the fourth, fifth, sixth and seventh question assess the level of impairment in social, educational and occupational functioning. The score was the mean of the 7 items scaled from 1 to 5. A mean greater than 3 was the cut-off for diagnosing BDD. The questionnaire then included questions to assess the amount of media exposure they had.

Results were analyzed statistically using Statistical Package for the Social Sciences (SPSS) for windows version (17.0). Comparisons among groups were made using appropriate tests. Descriptive statistics were performed.

## RESULTS

A total of 200 questionnaires were distributed and 184 students (response rate of 92%) returned the forms. After taking the exclusion criteria into account, 180 students were eligible for further analysis.

In the study, female students that participated from Ziauddin University included 51 (28.3%) students from Pharmacy, 51 (28.3%) students from MBBS, 50 (27.8%) from Dentistry, and 28 (15.8%) from the Physical Therapy Department. Most of the students were single (97.8%), only 4 out of the total of 180 were married.

Out of the 180 students, only 32.2% (58) were not concerned about their appearance, while the rest were somewhat dissatisfied with some part of their appearance, with 17 students (9.4%) being very concerned, and 5 (2.8%) being extremely concerned. 44.4% of the participants were in some degree of distress, pain or difficulty due to their physical appearance, amongst which 45 students (25%) stated their physical appearance caused

them mild impairment, 7 (3.9 %) students were disturbed and in severe distress because of their physical appearance, and only 1 student(0.6%) felt her appearance caused her extreme distress and social impairment. Regarding social life, 43women (23.9%) felt their appearance occasionally interfered with it significantly, and only 2.8% of students (5/180) stated that it had very often significantly interfered with their social lives. With respect to the participant's ability to function in their respective roles or their education, only4 students (2.2%) had stated that their appearance significantly interfered very often, whilst the majority (76.1%) stated that their appearance never significantly interfered with their education or ability to function. Many participants (91students, 50.6%) avoided events because of how they felt about their body, with 56 students (31.1%) occasionally avoiding things and 5 of the participants (2.8%) avoiding things very often.

The prevalence of BDD was calculated to be 6.11% (8/180); this was calculated using the mean from the first 7 questions in Section B from the questionnaire, a mean greater 3 was the cut off for diagnosing BDD. Out of 8 students, 3 students were from MBBS, 5 were from Pharmacy, 3 were from Dentistry and no students from the Physical Therapy Department. Figure 1 shows the foci of concern of all students. The most frequent foci of concern were: Being too fat or too thin (35%), skin (24.4%), hair (15%), teeth (14.4%) and nose (14.4%).

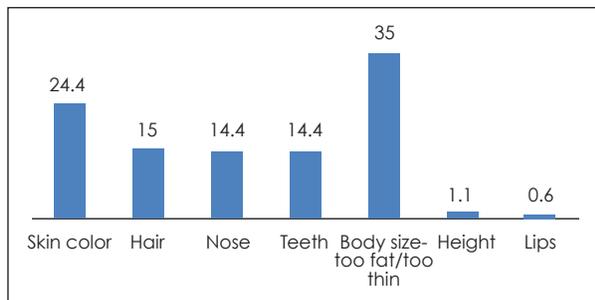


Figure 1: Percentages of Body Foci of Concern.

Out of the 180 students, 24.4% students would get depressed/angry/sad about their appearance. Figure 2 shows the different actions these 44 students would take when they got depressed/sad/angry about their appearance. Amongst the many different practices the participants did to feel better about their appearance, the most common were exercise (23 students), praying (19 students), and eating healthy (14 students).

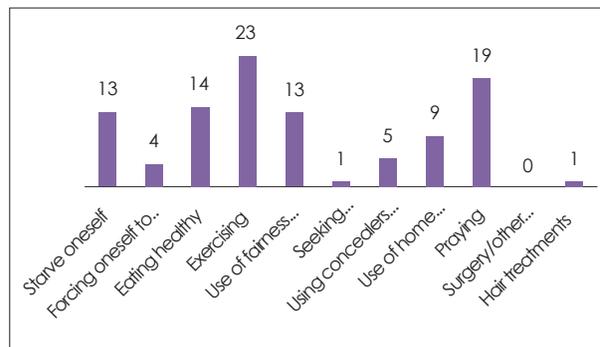


Figure 2: Actions Undertaken by Students because of their Appearance.

A large number of students, 36.1% (65/180) felt that media had influenced their self-image, and 25.6% (46/180) felt that media may have influenced their image of themselves in some way. The degree of exposure was categorized into Low (<2 hours), Moderate (3-7 hours), and High (>7hours a day). 82.8% (149/180) of the students had low exposure to television; 13.9% had a moderate exposure to television and a surprising 3.3% (6/180) watched more than 7 hours of television/movies and had high exposure to television. Amongst the participants, 46.7% (84/180) students read entertainment magazines or used the internet to visit entertainment/ beauty sites, indicating that media- especially television and movies, plays a major role in influencing ideal body image.

**Table 1: Responses of Students Regarding their Appearances**

If you could rate your satisfaction of your appearance what would it be												
		Very Dissatisfied		Dissatisfied		Neutral		Satisfied		Extremely Satisfied		P Value
		n	%	n	%	n	%	n	%	n	%	
Do you wish you could be someone else	Yes	3	37.5	5	83.3	5	11.9	12	14.5	4	9.4	0.001
	No	5	62.5	1	16.7	37	88.1	71	85.5	37	90.2	
Do you think everyone is beautiful in their own way	Yes	7	87.5	5	83.3	40	95.2	80	96.4	36	87.8	0.297
	No	1	12.5	1	16.5	2	4.8	3	3.6	5	12.2	
Do you consider your skin color to be the unattractive feature of yourself	Yes	6	75	3	50	8	27.7	23	27.7	4	9.8	0.001
	No	2	25	3	50	34	81	60	72.3	37	90.2	
Do you consider your hair to be the unattractive feature of yourself	Yes	1	12.5	0	0	8	19	13	15.7	5	12.2	0.751
	No	7	87.5	6	100	34	81	70	84.3	36	87.8	
Do you consider your nose to be the unattractive feature of yourself	Yes	1	12.5	1	16.7	7	16.7	10	12	7	17.1	0.934
	No	7	87.5	5	83.3	35	83.3	73	88	34	82.9	
Do you consider your teeth to be the unattractive feature of yourself	Yes	1	12.5	1	16.7	7	16.7	9	10.8	8	19.5	0.747
	No	7	87.5	5	83.3	35	83.3	74	89.2	33	80.5	
Do you consider your body size (too fat or thin) to be the feature of yourself to be	Yes	4	50	6	100	20	47.6	30	36.1	3	7.3	0.001
	No	4	50	0	0	22	52.4	53	63.9	38	92.7	

## DISCUSSION

The rates of BDD vary considerably, ranging from as low as 0.7% in community based samples<sup>34</sup> to as high as 13% found in nonclinical student samples<sup>15</sup>. The prevalence of Body Dysmorphic Disorder was found to be 6.11%. This was higher than the prevalence of BDD found in related researches done, such as that by Taqui A M et al done in 2008 in Pakistan in which the prevalence was 5.8% amongst male and female medical college students<sup>35</sup> and that by Bartsch D conducted in 2007 amongst Australian university students in which the prevalence was found to be 2.3%<sup>36</sup>.

While the high frequency of body image dissatisfaction was noticeable in the subjects (67.8%), the severity was often not high enough for them to be labeled with BDD. This was much higher than the

body image dissatisfaction that was found in Turkey (43.8%)<sup>37</sup> but lower than that found in America (74.3%)<sup>38</sup>.

The most frequent foci of concern were: Being too fat or too thin (35%), skin (24.4%), hair (15%), teeth (14%) and nose (14%). Our findings were similar to most studies done on BDD<sup>15, 35, 39</sup>. In several researches done on women in the US and other parts of the world<sup>40, 41, 42</sup>, apart from the concerns mentioned above, women were also significantly concerned about their breasts, thighs, and buttocks which were not mentioned at all by the subjects in our study. This could be due to the fact that they were ashamed or too embarrassed to mention their concerns. Also, Pakistan is an orthodox Muslim country, and women are brought up to avoid talking about their thighs and breasts, is at is frowned upon<sup>35</sup>.

Socio-economic factors can also play a very important role: In contrast to a large proportion of the population of Pakistan, the females attending the university are middle or upper middle class females from well to do families and in the process of higher education. For such females, having a thin figure is often akin to being considered desirable. This is a finding in most western countries, where women of higher socio-economic status are thinner than women of lower status<sup>43</sup>.

A high proportion of those with body image dissatisfaction did try to control their problems by modifying their diet, exercising, or using fairness creams/home remedies to change their appearance. 1% admitted to taking antidepressants to feel better. Our study showed that the subjects spent an unhealthy amount of time watching television, with 42% watching 1-2 hours of television every day, and 13.9% watching 3-7 hours of television per day. 46.7% also regularly visit beauty websites or read beauty magazines.

A study done in the US showed that pictures in fashion magazines strongly influenced girls' perceptions about the perfect body shape, and many had gone on diets or started exercise programs because of reading articles<sup>44</sup>.

Exposure to 'the ideal body' in the media, which portrays females with unrealistically thin and slender figures, flawless complexions and airbrushed and photo-shopped features, can play a very important role in increasing insecurities and body image dissatisfaction, especially in vulnerable young females. This can lead to a number of physical and mental health issues, like depression, low self-esteem, shame, social anxiety and eating disorders<sup>45, 46</sup>.

### CONCLUSION

Our results show that BDD is widespread amongst female college students, and that they are most concerned about their body size as being either too fat or too thin and their skin.

The results of our study concur with most other similar studies done on the topic worldwide. The subjects were given questionnaires, rather than interviewed, so the hesitancy in answering personal questions would be at the minimum.

However, the results would have been more valid had they been conducted in more than one university. The results cannot be generalized to all university students of the country. However, our sample is rich because we have taken into our sample not only medical students, but also from students in pharmacy, dentistry and physiotherapy.

This study can be further pursued with assessing the difference in prevalence of BDD amongst women

that practice the a modest way of dressing in accordance to their religion and women that do not, as one study in Iran found much lower levels of body dissatisfaction in women who practiced the Islamic way of dressing<sup>47</sup>.

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