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Original Research Article

The Prevalence of Body Dysmorphic Disorder and its Association with Social Anxiety among the Students in Elrazi University in Al Khartoum State, Sudan 2021

Ayat Alamin*, Aalaa Abdelbanat, Batool Alsawadi, Isra Khalil Mohammed Ali Saeed, Mehad Abdelrahman, Mohammed Adam, Samah Ahmed

Department of Medicine, University of Elrazi, Khartoum, Sudan

***Corresponding Author Email: ayatalsiddig8@gmail.com**

Abstract

This study investigated the prevalence of Body Dysmorphic Disorder (BDD) and its association with social anxiety among medical and non-medical students at Elrazi University in Khartoum, Sudan. Conducted between October and December 2021, the cross-sectional study involved 141 students, with data collected through body image and anxiety questionnaires. Results showed that 36.2% of participants screened positive for BDD, with a significantly higher prevalence among females (24.1%) compared to males (12.1%). Additionally, 10.6% of those with BDD also reported social anxiety, and 20.6% stated that these conditions negatively impacted their lives, particularly in dating and social interactions. The findings highlight gender differences and a notable link between BDD and social anxiety in this population.

Keywords: Body Dysmorphic Disorder, Body image, Gender differences, Social anxiety, Social interactions

INTRODUCTION

BDD is a disorder where there is a preoccupation with an imagined defect in one's appearance. Alternatively, when there is a slight physical anomaly, the person's concern is markedly excessive (Alavi et al., 2011).

The onset of BDD in two-thirds of individuals starts before age 18. On average, Subclinical symptoms of the disorder begin at age 12 or 13 years. Usually, the subclinical concerns evolve gradually into the full disorder, although some individuals experience a sudden onset of the disorder. Clinical features of BDD are consistent across age groups, including children, adolescents, and adults. Although little is known about the disorder in the elderly, it also occurs in this age group. While the disorder appears to be chronic, improvement is likely when evidence-based treatment is received (Alsaidan et al., 2020).

Individuals diagnosed with Body Dysmorphic Disorder (BDD) exhibit a persistent preoccupation with perceived defects or flaws in their physical appearance, which are often minimal or not observable to others. This preoccupation commonly focuses on features such as the skin (e.g., acne, wrinkles, scars, discoloration), nose (size or shape), and hair (e.g., thinning, balding, or excessive facial/body hair).These concerns tend to occupy an average of three to eight hours of an individual's day. A significant proportion of patients—ranging from 36% to 60%—hold delusional beliefs regarding their appearance, firmly believing that they are unattractive or deformed. Although delusional thinking is not a criterion for diagnosis, nearly all individuals with BDD engage in compulsive behaviors to alleviate distress or obtain reassurance. These behaviors include, but are not limited to, mirror checking, excessive grooming, weightlifting, tanning, and frequent reassurance seeking. Moreover, the disorder is frequently associated with heightened social anxiety, which can markedly impair social

functioning and diminish overall quality of life. (Alavi et al., 2011).

Problem Statement

Epidemiologic studies of BDD have reported a point prevalence of 0.7%~2.4% in the general population, which appears relatively common (Faravelli et al., 1997; Rief et al., 2006). It is found that BDD is common in clinical settings, with studies reporting a prevalence of 3%~53% in cosmetic surgery settings, 9%~12% in dermatology settings (Phillips et al., 1996; Hollander, Cohen, and Simeon, 1993; Wilhelm et al., 1997). A study of adolescents inpatients found that 4.8% of patients had BDD (Dyl et al., 2006). However, there is currently no available data on the prevalence of BDD in Sudan, particularly among university students.

Justification

Many studies indicate that body dysmorphic disorder is relatively common. These figures likely underestimate the true prevalence of BDD, due to underreporting caused by shame and stigma. Many individuals with this disorder feel ashamed of their appearance and the fact that they are so focused on it. As a consequence, they may not report their symptoms to clinicians. BDD is associated with notable impairment in psychosocial functioning, marked poor quality of life, and high suicidal rates (Bjornsson, Didie, and Phillips, 2010). Therefore, knowing the prevalence of BDD is essential as a first step to mitigate its impact.

Objectives

General Objective

To study the prevalence of body dysmorphic disorder and its association with social anxiety among the students in Elrazi University in December 2021.

Specific Objectives:

- To determine the prevalence of BDD among the students.
- To investigate the factors associated with BDD.

Literature Review

Definition

Body dysmorphic disorder was originally called imagined ugliness syndrome and has also been called dysmorphic syndrome, body dysmorphia, dysmorphophobia, and dermatologic hypochondriasis (França et al., 2017). In 1886, Enrico Morselli, an Italian physician reported a disorder that he termed dysmorphophobia which describe the disorder as “a feeling of being ugly even though they do not appear to be anything wrong with the person’s appearance” (Hunt, Thienhaus and Ellwood, 2008, Carroll, Scahill and Phillips, 2002). The American Psychiatric Association in 1980 acknowledged the disorder and categorized it as an atypical somato form disorder in the third edition of its Diagnostic and Statistical Manual of Mental Disorders (DSM). Then, in 1987, the DSM-III's revision changed the term distinct somato form disorder to body dysmorphic disorder (Mufaddel et al., 2013). In 1994, DSM-IV defines BDD as “preoccupation with an imagined defect in appearance. If a slight physical anomaly is present, the person's concern is markedly excessive” (Bjornsson, Didie, and Phillips, 2010). The DSM-5 in 2013 subjected the diagnosis of BDD to two important changes. Firstly, BDD has been assigned to the category of obsessive-compulsive and related disorders. Secondly, a new criterion has been defined requiring the presence of repetitive behaviors or mental acts in response to appearance concerns (Schieber et al., 2015).

Prevalence

Many studies have been done on the prevalence of BDD around the world. In a study reported by Katharine Phillips, MD, it was found that BDD affects 1.7% ~ 2.9% of the general population, about 1 in 50 people. This means that more than5 to 10 million people in the United States alone have BDD. It may be even more common than this, because people with this disorder are often reluctant to reveal their BDD symptoms to others (Prevalence of BDD [Internet] locdf.org, 2014).

A separate study conducted at Aga Khan University in Pakistan aimed to assess the point prevalence of body dysmorphic disorder (BDD) among medical students and to explore gender differences in its occurrence. Of the 156 participants, 57.1% were female. While 78.8% expressed dissatisfaction with certain aspects of their appearance, 5.8% met the DSM-IV diagnostic criteria for BDD. The male-to-female ratio among those diagnosed was 1 to 7. (Taqui et al., 2008).

A study conducted in 2015 at King Saud University's College of Medicine in Saudi Arabia examined female medical students and found that 4.4% of the 365 participants tested positive for Body Dysmorphic Disorder (BDD). (Shaffi Ahamed et al., 2016).

The BDD Research Program in the Anxiety Disorders Clinic at Columbia University showed that “BDD affects 1-2% of the general population (The body dysmorphic disorder (BDD) Research Program, 2021).

In Australia, a study addressed the frequency of BDD symptoms among university students. Out of 619 students, fourteen participants (2.3%) appeared to meet the criteria for BDD. Female subjects demonstrated greater dysmorphic concern than male subjects. Furthermore, dysmorphic concern was lower among students of Asian background. This study suggests that appearance concerns are common among Australian university students, with approximately 1 in 50 fulfilling the criteria for a probable diagnosis of BDD (Bartsch, D. Prevalence of body dysmorphic disorder symptoms and associated clinical features among Australian university students," 2007).

Clinical Features

Preoccupation with one or more perceived defects or flaws in physical appearance that are not observable or appear slight to others: The individual thoughts ranging from being" unattractive" to looking like a" monster", they focus on one or many body areas, mainly on hair (excessive facial or body hair, thin hair), on skin (paleness, scars, lines, acne, wrinkles, lines), on nose (shape and size) or any other area. The preoccupation is unwanted, irresistible, and time-consuming (an average of 3 to 8 hours per day). Moreover, such preoccupation may interfere with patients' social functioning and occupational responsibilities.

At various stages of the disorder, individuals may engage in repetitive behaviors, such as frequent mirror checking, excessive grooming, skin picking, and constantly seeking reassurance, or perform mental acts like comparing their appearance to others. These appearance-related obsessions often lead to time-consuming, repetitive actions that heighten anxiety and feelings of dysmorphia. Common behaviors include comparison with others, obsessive mirror checking, grooming activities like hair pulling, shaving, styling, and plucking, as well as camouflaging disliked features by repeatedly applying makeup or wearing accessories like hats. Individuals might also regularly seek validation about their appearance, engage in excessive exercise or weightlifting, undergo cosmetic treatments, frequently tan, or shop compulsively in an attempt to hide features they find unattractive.

Other Features, Muscle dysmorphia which is a special form of body dysmorphia, where the person is preoccupied with the idea of his body is too small or insufficiently lean or muscular, the majority undergo excessive diet, weightlifting, exercising till it causes body damage, or they use anabolic androgenic steroids to make their muscles look bigger. Regarding the degree of insight of BDD beliefs, it's divided into good insight, that is, when an individual thinks that his beliefs about his body are probably not true. Poor insight: when the individual thinks that his beliefs about his body are probably true. Absent insight / delusional beliefs, where the individual is completely convinced that his beliefs about his body are true (2, p242-244).

Associated Factors

BDD is frequently comorbid with social anxiety disorder. The social anxiety and avoidance are due to concerns about perceived appearance defects and the belief or fear that other people will consider these individuals ugly or reject them because of their physical features. However, unlike social anxiety disorder, BDD includes prominent appearance-related preoccupation, which may be delusional and repetitive behaviors (2, p246).

Comorbidity studies found an overlap between BDD and social anxiety. Studies using structured interviews have reported a high prevalence of comorbid social phobia in BDD, e.g., 37% of 293 subjects in Gunstad and Phillips (2003). Wilhelm, Otto, Zucker, and Pollack (1997) showed a high prevalence of BDD (12%) among patients with a primary diagnosis of SP (Phillips and McElroy, 2000).

Body dysmorphic disorder and social anxiety disorder are highly comorbid disorders that share high levels of social avoidance and rejection sensitivity. Furthermore, in emotional processing studies, patients with BDD and SAD both show a relatively high sensitivity to hostility. However, BDD and SAD differ in many ways, including clinical differences and key phenomenology as well as treatment approaches (Phillips, 2017).

A Brazilian study was conducted to investigate the prevalence of social anxiety disorder and body dysmorphic disorder in a nonclinical Brazilian population. A total of 428 adults participated in the study. Social anxiety disorder was measured using a Brazilian version of the Social Phobia Inventory. And body dysmorphic disorder by using a body dysmorphic symptoms scale validated for the Brazilian population. The main results showed that 28.7% of the sample reported symptoms of social anxiety disorder (Tatiana Soler, Novaes, and Miguel Fernandes, 2019).

One study found that changes in social anxiety symptoms were significantly correlated with changes in BDD following fluoxetine treatment for BDD (Pinto and Phillips, 2005). This study recruited 66 outpatients with BDD, who participated in a randomized controlled trial for fluoxetine versus placebo. Although both the fluoxetine and placebo groups improved significantly following treatment, even after controlling for social anxiety scores. This study was unique in its results of the specific correlation between social anxiety disorder and body dysmorphic disorder severity during the pharmacological intervention (Fang and Hofmann, 2010).

OCD is characterized by the presence of obsessions and/or compulsions. Obsessions are persistent thoughts and urges that are experienced as intrusive and

unwanted. Whereas compulsions are repetitive behaviors or mental acts that an individual feels driven to perform in response to an obsession. There are similarities between OCD and BDD in some aspects, which include: both of them have obsessive thoughts and compulsive-like behaviors, both of them start in adolescence, and both of them can be comorbid together or with anxiety disorder, social anxiety, and depression. But they differ in some aspects, which include: The focus of OCD can vary greatly (contamination, death of a loved one, symmetry, guilt, etc.), whereas in BDD, the focus is only on one's appearance or body. BDD patients show poorer insight and even some are delusional compared to the OCD patients (2, p235-242).

Seeking unnecessary dermatological treatment or cosmetic surgery is considered a clue to a possible diagnosis of BDD (Anderson, 2003). It is found that BDD is a common disorder among individuals seeking aesthetic surgery, especially in rhinoplasty patients. Because patients with BDD often expect the cosmetic procedure to be the solution to their problems, they often experience a dissatisfaction that does not correlate with the objective outcome (Alavi et al., 2011). BDD is still an under-diagnosed psychiatric disease that will be seen with increasing frequency by cosmetic surgeons in the coming years. Historically, BDD has been considered a contraindication to cosmetic surgeries, but recent evidence supports more refined decision-making based on patients' overall level of functioning and BDD severity. In order to select patients who are appropriate for cosmetic procedures, working relationships with mental health colleagues must be established and validated preoperative BDD screening tools must be used. Once the preoperative assessment identifies a probable BDD diagnosis, "a multidisciplinary team must be involved in the confirmation of diagnosis, consideration of evidence-based treatments (i.e., cognitive behavior therapy and selective serotonin reuptake inhibitors), and the consideration of appropriateness for the procedure in question" (Bowyer et al., 2016, De Brito et al., 2015). Considerations of the appropriateness for the procedure should include a mild to moderate or severe disease categorization, patient history, predicted satisfaction, the procedure and defect under consideration, and patient safety. Further prospective studies are conducted to determine the efficacy of cosmetic procedures in patients with BDD (Tadisina, Chopra, and Singh, 2013).

In 2002, a study was done on the prevalence of body dysmorphic disorder in patients with anorexia nervosa. Sixteen (39%) of the 41 patients with anorexia nervosa were diagnosed with comorbid BDD unrelated to weight concerns. The anorexia nervosa patients with BDD had higher levels of delusionality and significantly lower overall functioning than the anorexic patients without body dysmorphic disorder. These results suggest that BDD may be relatively common among patients with anorexia nervosa. Furthermore, the presence of comorbid body dysmorphic disorder may indicate a more severe form of illness (Grant, Kim, and Eckert, 2002).

Gender differences in body dysmorphic disorder were investigated in a study. "This study assessed gender differences in 188 subjects with BDD who were evaluated with instruments to assess demographic characteristics, clinical features of BDD, treatment history, and comorbid Axis I disorders". (49%) The subjects were women, and 51% were men. Men and women did not remarkably differ in terms of most variables examined, including rates of major depression, although women were more probably to be preoccupied with their weight and their hips, pick their skin, camouflage with makeup, and have comorbid bulimia nervosa. Men were more probably to be preoccupied with hair thinning, body build, use a hat for camouflage, genitals, be unmarried, and have alcohol abuse. Men, however, were as likely as women to have cosmetic surgery (Phillips and Diaz, 1997).

Pathologic skin picking (PSP) is characterized by repetitive impulsive picking of normal skin (Arnold, Auchenbach, and Mcelroy, 2001). PSP may also be asymptom of BDD. PSP was identified as a BDD symptom only recently (Philips and Mcelroy, 1992). While BDD has been described for more than a century (Philips, 1991). In a study, PSP specifically refers to picking secondary to BDD. The purpose of PSP in BDD is to improve the appearance of the skin by attempting to minimize or remove nonexistent or slight imperfections in appearance (e.g., perceived scars or pimples). In a previous study of 123 individuals with BDD, 26.8% met criteria for PSP secondary to BDD (Philips and Taub, 1995).

Experiencing abuse or bullying can cause you to develop a negative self-image and may lead you to have obsessions about your appearance. This is particularly true if you experience abuse or bullying when you are a teenager, when you may be more sensitive about the way you look or how your body is changing (Org.uk, no date).

Impacts

Having body dysmorphic disorder affects the lives of those living with it in many ways. It is important to respect these ways in helping someone to get better, and as an important step in the process of recovery.

Perhaps the most worrying effect among the sufferers of BDD is the notably high suicide attempt rate, which is about 25%. Therefore, families and doctors should be aware that these people are at a high risk. Hospitalization may be necessary to keep someone safe if the person is actively suicidal. Really few people report not suffering from depression with BDD. Fortunately, the SSRIs, antidepressants, are good medications used to treat BDD. Social anxiety, when the suffer feels that they look disgusting, social isolation would be a natural

consequence. Many people with this disorder live a life of isolation, whether it is fear of being ridiculed or fearing rejection because of their appearance. In addition, the continual compulsive actions and obsessing leave little energy and time to engage with others. Many people with BDD suffer great impairment in concentration and work. Drug and alcohol abuse can be of particular concern. Sufferers may self-medicate with the use of drugs or alcohol. And this, of course, may serve to complicate the problem.(Impact of BDD [Internet]. Iocdf.org, 2014).

Study design

This study was descriptive cross section institutional study which was represented 150 students from medicine and business administration to know the prevalence of BDD and its association with social anxiety among students in Elrazi University.

Study Area

The study was conducted in Khartoum State in Sudan, which is the capital ofSudan with a population of 12 million as of 2008. It is located where the Blue Nile and White Nile Rivers merge. The capital is actually made out of three distinct cities (Khartoum, Khartoum North or Bahri, and Omdurman) which are divided by the Nile and its two branches.

Study Sitting: Elrazi University.

Study Population: Students at Elrazi University.

Inclusion Criteria

- Medical & non-medical students.
- Females & Males.

Sampling

Sample Size

The sample size was calculated using survey system (sample size calculator). The sample size taken was 150, with a confidence level 95%.

Sampling Technique: Simple Random Sampling.

Data Collection Tools and Techniques

The study utilized two standardized instruments for data collection: the Body Dysmorphic Disorder Questionnaire (BDDQ) and the Social Phobia Inventory (SPIN). The BDDQ is a brief, self-report screening tool based on DSM criteria, commonly used in both clinical and non-clinical settings to identify symptoms of body dysmorphic disorder. It includes items assessing preoccupation with perceived physical flaws, functional impairment, and related behaviors such as avoidance and excessive grooming. The SPIN is a 17-item self-rated scale designed to measure various dimensions of social anxiety, including fear, avoidance, and physiological distress. A self-administered questionnaire format was adopted to provide participants with privacy and minimize interviewer bias. Both tools were initially administered in English and distributed in printed form. For participants who required language support, the questionnaires were verbally translated into Arabic to ensure cultural and linguistic appropriateness. Prior to data collection, all participants received clear instructions, and informed consent was obtained. Anonymity and confidentiality were strictly maintained to encourage honest responses. Data collectors were trained in ethical research practices, proper questionnaire handling, and how to assist participants without introducing bias.

DATA MANAGEMENT and ANALYSIS

Data Analysis: Descriptive &Interferential.

Data Analysis Tool

The data were analyzed using the Statistical Package for the Social Sciences (SPSS). Frequencies, percentages, and cross-tabulations were generated, and associations were tested using appropriate statistical tests. A 95% confidence level was applied to interpret statistical significance.

Ethical Considerations

Ethical approval for this study was obtained from the faculty of MBBS, Elrazi University. The research purpose and objectives were explained to the participant in clear, simple words.
Participants were given the right to voluntary informed consent.
Participants were given the right to withdraw at any time without any deprivation. Participants were given the right to benefit from the researcher's knowledge and skills.

RESULTS

- 36. 2% of those who participated in the study have BDD.

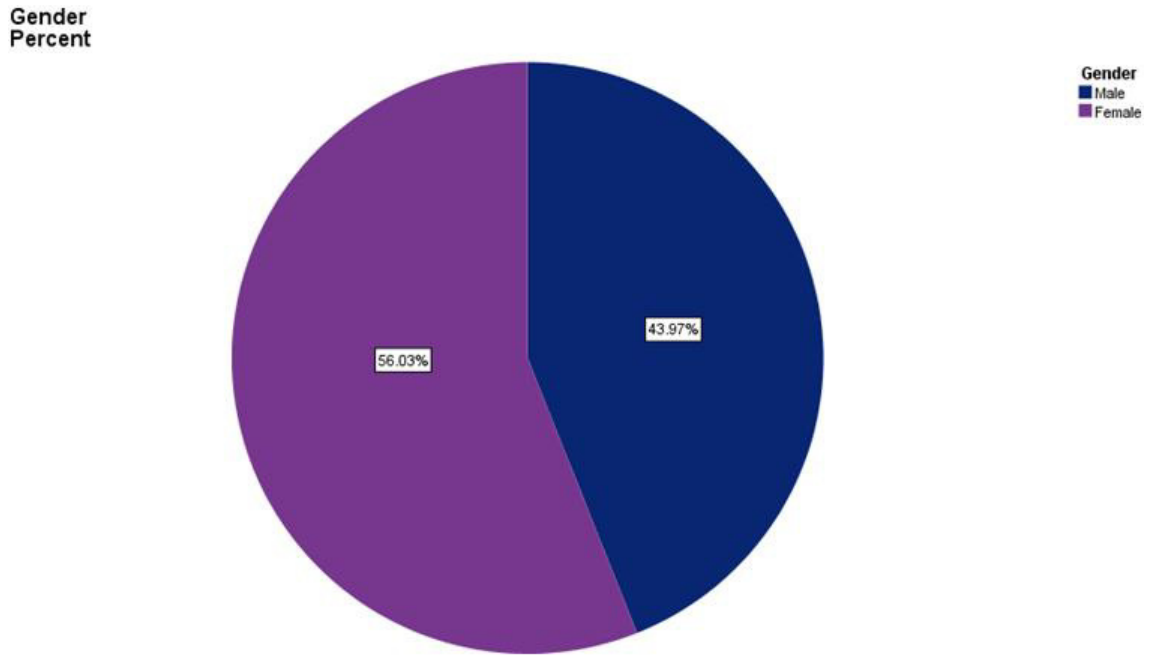

Figure 1. Chart Representing Gender Distribution of Students in Elrazi University, 2021, (n=141)

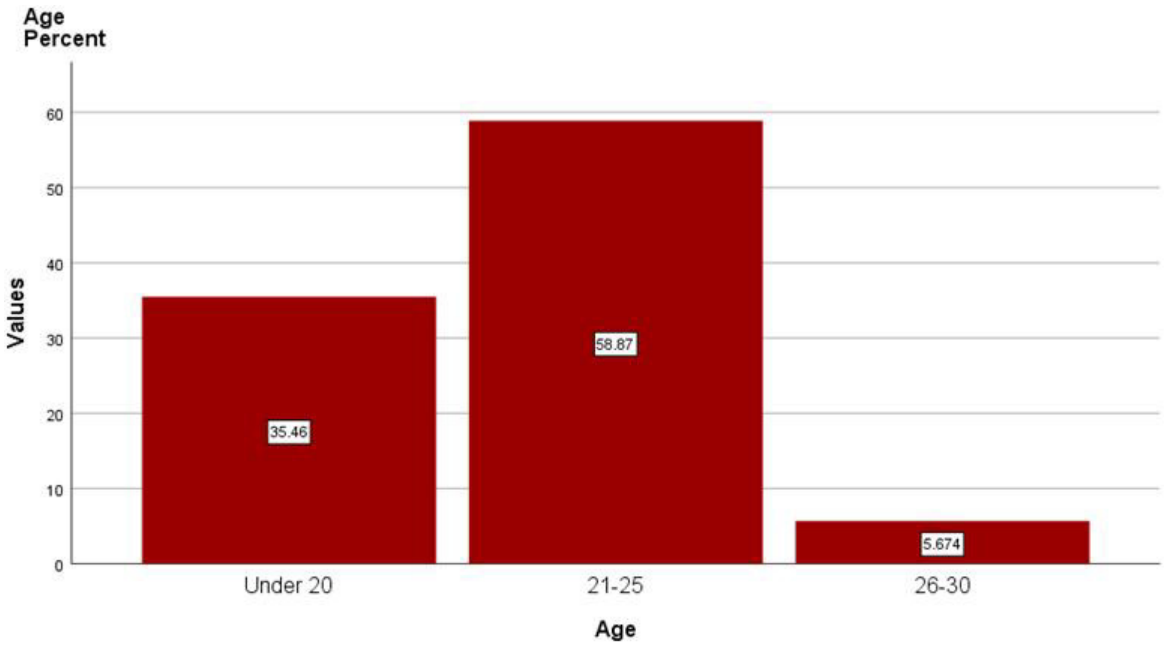

Figure 2. Graph Representing Age Distribution of Students in Elrazi University, 2021, (n=141)

- There is an association between BDD and Social anxiety.

A total of 141 students from Elrazi University participated in the study which constitutes 76 students from Medicine (53.9%) and 65 from Business Administration (46.1%), the response rate was 100%. Outcomes are displayed in tables and figures from which 62 are Males (44.0%) and 79 are Females (56.0%). Figure 1

The majority of the students are between the ages of 21-25, making up (58.9%) of the total age group, (35.5%) are less than 20 years, and (5.7%) are between the ages of 26-30. Figure 2

The study included students from seven (7) diverse nationalities from Africa, Asia, Europe, and the Caribbean with the majority from Sudan (74.5%), Nigeria (20.6%), Somalia (2.1%) Britain (0.7%), Turkey (0.7%), Morocco (0.7%), and Jamaica (0.7%). Table 1

Table 1. Description of sociodemographic factors of students in Elrazi University, Khartoum, Sudan, 2021 (n=141)

Descriptive			
		Frequency	**Percent**
Gender	Male	62	44.0%
	Female	79	56.0%
Age	20	50	35.5%
	21-25	83	58.9%
	26-30	8	5.7%
Nationality	Sudanese	105	74.5%
	other	36	25.5%
Collage	Business Administration	65	46.1%
	Medicine	76	53.9%
	Total	141	100.0%

Table 2. DistributionofsociodemographicfactorsinrelationtoBodyDysmorphicDisorder(BDD) of students in Elrazi University, Khartoum, 2021 (n=141)

Variable			**Body Dysmorphic Disorder (BDD)**		**Total**	**Odd Ratio**	**95% Confidence Interval**		**P-value**
			Yes	No			**Lower**	**Upper**	
Gender	Male	Count	17	45	62	.637	.395	1.027	0.055
		% of Total	12.1%	31.9%	44.0%				
	Female	Count	34	45	79				
		%ofTotal	24.1%	31.9%	56.0%				
Age	20	Count	23	27	50	1.175	.759	1.821	0.033
		%ofTotal	16.3%	19.1%	35.5%				
	21-25	Count	28	55	83				
		%ofTotal	19.9%	39.0%	58.9%				
	26-30	Count	0	8	8				
		%ofTotal	0.0%	5.7%	5.7%				
Nationality	Sudanese e	Count	39	66	105	1.114	.659	1.883	0.681
		%of Total	27.7%	46.8%	74.5%				
	Other	Count	12	24	36				
		%ofTotal	8.5%	17.0%	25.5%				
collage	Business s Administrati on	Count	22	43	65	.887	.569	1.383	0.595
		%ofTotal	15.6%	30.5%	46.1%				
	Medicine	Count	29	47	76				
		%ofTotal	20.6%	33.3%	53.9%				
Social Phobia	Yes	Count	15	14	29	1.609	1.034	2.506	0.050
		%ofTotal	10.6%	9.9%	20.6%				
	No	Count	36	76	112				
		%ofTotal	25.5%	53.9%	79.4%				
Total		Count	51	90	141				
		%ofTotal	36.2%	63.8%	100.0 %				

Among the 79 female participants, 24.1% exhibited symptoms of Body Dysmorphic Disorder (BDD), compared to 12.1% of male participants, indicating that BDD was approximately twice as prevalent among females. This gender difference approached statistical significance (p = 0.055). Overall, 36.2% of the total sample reported difficulty accepting certain aspects of their bodies. The most commonly mentioned areas of concern included: skin 2.8%, stomach 2.8%, mouth and hips (2.1% each), followed by specific concerns such as the nose 0.7%, hair 0.7%, genitals 0.7%, breast 0.7%, body scars and wrinkles 2.1%, eyes 0.7%, and hands 0.7%. Notably, 19.1% of participants did not specify the particular body part they were dissatisfied with.

There is a statistically significant positive association between Body Dysmorphic Disorder and Social Anxiety; the odds of those who have social phobia are 1.6 times more likely to have BDD [OR 1.609 CI (1.034 – 2.506)].

Among the participants who exhibited symptoms of Body Dysmorphic Disorder (36.2%), 10.6% also reported symptoms of social anxiety, indicating a statistically significant association between the two conditions ($p = 0.050$). Additionally, 20.6% of all participants indicated that BDD and social anxiety had negatively impacted their quality of life and contributed to feelings of sadness. Specific areas of life reported to be affected included dating life 6.4%, physical activities 1.4%, relationships with friends 1.4%, and social activities 0.7%, while 4.3% mentioned other non-specific impacts.

There is no Significant association between Body Dysmorphic Disorder and age difference, nationality, or college of Study. Table 2

DISCUSSION

This study aimed to examine the prevalence of Body Dysmorphic Disorder (BDD) among students at Elrazi University in 2021. The findings revealed that 36.2% of the participants met the criteria for BDD, which is notably higher than figures reported in previous studies from other countries. For example, research conducted among medical students in Pakistan reported a BDD prevalence of 5.8% (Taqui et al., 2008), while studies in Australia and Saudi Arabia found lower rates of 2.3% and 4.4%, respectively (Bartsch, 2007; Shaffi Ahamed et al., 2016). These differences could be attributed to cultural, environmental, or socioeconomic factors.

In line with previous literature, the current study also found that female students exhibited a higher rate of BDD symptoms compared to male students. This gender difference is consistent with global trends, where females tend to report greater dissatisfaction with their appearance and are more influenced by societal beauty standards.

The high use of social media and exposure to idealized body images may also play a role in the increased rates of BDD among university students. Platforms like Instagram and TikTok promote unrealistic beauty standards, contributing to body image dissatisfaction, particularly among young adults (Sharma and Khanna, 2017).

A significant association was also observed between BDD and social anxiety ($p = 0.050$). Students who screened positive for BDD were more likely to experience symptoms of social anxiety. This finding aligns with prior research indicating that individuals with BDD often fear being judged or rejected based on their appearance, leading to avoidance of social interactions and reduced quality of life (Tayag and Gonzales, 2021; Tatiana Soler et al., 2019).

Although the current study found no significant associations between BDD and age, nationality, or college of study, this does not rule out the influence of these factors. The limited variability in these characteristics within the sample may have affected the results.

While this study focused primarily on BDD and social anxiety, other research suggests that BDD may also be associated with conditions like Obsessive-Compulsive Disorder (OCD), Pathologic Skin Picking (PSP), and eating disorders such as anorexia nervosa. These comorbidities were not explored in the current research and could be areas for future study.

CONCLUSION

This study has contributed to a better understanding of the psychological vulnerabilities faced by young individuals, with 36.2% of students screening positive for Body Dysmorphic Disorder (BDD). The findings indicate that gender and social anxiety are significantly associated with BDD in this population.

RECOMMENDATIONS

- More research is needed in other areas and with different methods to better understand how things like social media may be linked to BDD.
- The observed gender difference and link to social anxiety warrant further longitudinal and qualitative studies to explore the psychosocial factors contributing to BDD among students.
- Universities should integrate mental health awareness campaigns focused on body image, self-esteem, and the psychological effects of social media among students, especially during orientation programs.
- The results support the need for easily accessible psychological counseling and support services within the university to address BDD and associated social anxiety disorders.

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ANNEXES

ANNEX(1):BDDQUESTIONNAIRE
ANNEX(2): Social Phobia Inventory

Body Dysmorphic Disorder Questionnaire (BDDQ)
This questionnaire asks about concerns with physical appearance. Please read each question carefully and circle the answer that is true for you. Also write in answers where indicated.

1) Index number
2) Contact number_____

3) Gender:
Male□ female□
4) How old are you?
Under20y□ 21-25y□ 26–30y □ over30y□
5) What's your nationality:
Sudanese□ other□
If other: please write your nationality _____
6) What is your college?
Business Administration□ medicine□

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1) Are you worried about how you look? Yes□ No □
--If yes: Do you think about your appearance problems alot and wish you could think about them less? Yes □ No □
--If yes: Please list the body areas you don't like:_____

_____
_____Examples of disliked body areas include: your skin (for example, acne, scars, wrinkles, paleness, redness); hair; the shape or size of your nose, mouth, jaw, lips, stomach, hips, etc.; or defects of your hands, genitals, breasts, or any other body part.

NOTE: If you answered "No" to either of the above questions, you are finished with this questionnaire. Otherwise please continue.

2) Is your main concern with how you look that you aren't thin enough or that you might get too fat? Yes □ No □
3) How has this problem with how you look affected your life?

- Has it often upset you a lot? Yes□ No □
- Has it often gotten in the way of doing things with friends, dating, your relationships with people, or your social activities?

Yes□ No□
--Ifyes: Describe how:_____

_____

- Has it caused you any problems with school, work, or other activities? Yes□ No □

--If yes: What are they?_____

_____

Are there things you avoid because of how you look? Yes□ No□
--If yes: What are they?_____

_____

4) On an average day, how much time do you usually spend thinking about how you look? (Add up all the time you spend in total in a day then circle one.)
(a) Less than 1 hour a day (b)1-3 hours a day (c) More than 3 hours a day

SocialPhobia Inventory (SPIN)*

Please indicate how much the following problems have bothered you **during the past week**. Mark only one box for each problem, and be sure to answer all items.

	NOT AT ALL	A LITTLE BIT	SOME-WHAT	VERY MUCH	EXTREMELY
1. I am afraid of people in authority.	☐	☐	☐	☐	☐
2. I am bothered by blushing in front of people.	☐	☐	☐	☐	☐
3. Parties and social events scare me.	☐	☐	☐	☐	☐
4. I avoid talking to people I don't know.	☐	☐	☐	☐	☐
5. Being criticized scares me a lot.	☐	☐	☐	☐	☐
6. Fear of embarrassment causes me to avoid doing things or speaking to people.	☐	☐	☐	☐	☐
7. Sweating in front of people causes me distress.	☐	☐	☐	☐	☐
8. I avoid going to parties.	☐	☐	☐	☐	☐
9. I avoid activities in which I am the center of attention.	☐	☐	☐	☐	☐
10. Talking to strangers scares me.	☐	☐	☐	☐	☐
11. I avoid having to give speeches.	☐	☐	☐	☐	☐
12. I would do anything to avoid being criticized.	☐	☐	☐	☐	☐
13. Heart palpitations bother me when I am around people.	☐	☐	☐	☐	☐
14. I am afraid of doing things when people might be watching.	☐	☐	☐	☐	☐
15. Being embarrassed or looking stupid is among my worst fears.	☐	☐	☐	☐	☐
16. I avoid speaking to anyone in authority.	☐	☐	☐	☐	☐
17. Trembling or shaking in front of others is distressing to me.	☐	☐	☐	☐	☐