Reflecting Reality: Exploring body dysmorphic disorder in young social media enthusiasts - A cross-sectional study

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Abstract

Objective: To assess the frequency of body dysmorphic disorder and its determinants among young social media users in a cosmopolitan setting, and to explore the association of the disorder with the utilisation of different social media applications.

Method: The cross-sectional study was conducted from August to December 2023 after approval from the ethics committee of the Hamdard College of Medicine and Dentistry, Karachi, and comprised active social media users aged 15-28 years. Data was collected the self-reported Body Dysmorphic Disorder Questionnaire. Data was analysed using SPSS 24.

Results: Of the 709 participants, 399(56.3%) were females. The overall mean age of the sample was 19.5±2.3 years. The majority of participants were single 644(90.8%) and had attained education up to high school 621(87.5%). Snapchat was being used by 180(25.4%) subjects, followed by Instagram 96(13.5%), Facebook 96(13.5%), Youtube 101(14.2) and Twitter 67(9.4%). Body dysmorphic disorder was found in 45(6.3%). The majority 513(72.4%) agreed that social media greatly influenced their appearance.

Conclusion: There was a significant association between heightened social media usage and exacerbated body dysmorphic disorder symptoms.

Keywords: Body dysmorphic disorder, Social media, Body image, Young adults. (JPMA 75: 1494; 2025)

Introduction

Body dysmorphic disorder (BDD), or dysmorphophobia, is a multifaceted and incapacitating psychological disorder marked by an intense preoccupation with perceived flaws in one's physical appearance.[1] Individuals with BDD experience significant distress and dysfunction across multiple areas of functioning, including social, occupational and psychological domains.[2] BDD is characterised by distressing and persistent obsessions over perceived imperfections in one's appearance, which are usually unnoticeable or minimally observable to others. The preoccupation with appearance-related issues, along with the need to engage in repetitive and time-consuming behaviours, intensifies the distress and impairment associated with this disorder.[3]

The exact aetiology of BDD is still unknown, and is probably determined by a confluence of genetic, neurological, psychological and environmental factors.[4] Research suggests that BDD could be linked to atypical processing in the brain areas accountable for regulating emotions and body image. Furthermore, a history of childhood trauma, elevated perfectionism, and cultural influences pertaining to societal beauty standards have been associated with the development and persistence of BDD.[5]

The exact diagnosis of BDD is essential for effective treatment and management. The diagnostic criteria outlined in the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) include significant distress or impairment associated with perceived flaws in appearance, repetitive behaviours (e.g. camouflaging, excessive grooming), and excessive checking or seeking reassurance concerning one's appearance.[6] BDD must be differentially diagnosed in order to differentiate it from diseases like obsessive-compulsive disorder (OCD) and eating disorders that share some of the same characteristics.[7]

BDD has been reported to affect approximately 2% of the general population, with marginally elevated incidence noted in clinical settings.[8] The prevalence is markedly higher among patients in cosmetic and dermatology settings, as well as those with mental illness, relative to the general population.[9] Individuals with BDD suffer from reduced quality of life (QOL) and compromised

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psychosocial functioning, irrespective of the presence of mental comorbidities.[10] BDD impacts individuals of all genders, ages and ethnicities. The condition frequently commences during adolescence, although initiation in early childhood or adulthood is also prevalent.[11]

The rise of social media in Pakistan has led to an increasing concern among the younger generation in the context of BDD.[12] Research reveals that social media can adversely affect body image satisfaction.[13-15] The comparison of oneself with influencers, models and celebrities has heightened the demand for cosmetic treatments among students and young adults. The pursuit of perfection has contributed to mental health issues, imparting individuals' capacity to function properly.[16]

There is a scarcity of data regarding BDD prevalence among young social media users in Pakistan. The correlation between social media usage and BDD remains unexamined. The current study was planned to assess the frequency of BDD and its determinants among young social media users in a cosmopolitan setting, and to explore the association between the use of several social media applications and BDD.

Subjects and Methods

The cross sectional study was conducted from August to December 2023 in Karachi after approval from the ethics review committee of the Hamdard College of Medicine and Dentistry in Karachi, and comprised young social media users of both genders aged 15-28 years, including students from various institutions and members of the general population. The sample size was estimated using OpenEpi calculator[17] with 1.5% confidence limit, 95% confidence level and 80% power while taking BDD prevalence to be 4%.[18] The sample was raised using non-probability convenience sampling technique, and informed consent was obtained from the participants. Those excluded were individuals having known psychiatric illness. Data was collected using a pre-designed questionnaire that includes questions related to sociodemographic characteristics, social media usage, and apprehensions regarding physical appearance.

BDD was assessed using the Body Dysmorphic Disorder Questionnaire (BDDQ), a concise self-reported instrument, based on (DSM-IV) diagnostic criteria for BDD.[18] The questionnaire, initially developed as a screening tool for BDD in psychiatric contexts, has been validated across various community settings.[12,18] The BDDQ comprised five close-ended questions assessing whether the participants' concerns with their appearance were a sources of preoccupation. The questionnaire evaluated the degree to which these concerns induced distress or impacted the

individual's social or occupational functioning. A BDD diagnosis was warranted when a participant answered 'yes' to the initial two questions, selected any choice from the third question, chose either option 'b' or 'c' in the fourth question, and responded 'no' to the final question. The BDDQ identified individuals preoccupied with perceived flaws in appearance (e.g., nose, skin, hair). When these concerns are focussed on thinness, body fat, or weight gain, they started to overlap with core features of eating disorders rather than BDD.

Data was analysed using SPSS 24. Categorical variables were expressed as frequencies and percentages. Mean±standard deviation were calculated for continuous variables. Inferential statistics were calculated using the chi-square test for association of sociodemographic characteristics and social media usage with BDD. $P<0.05$ was considered statistically significant.

Results

Of the 800 individuals approached, 709(88.6) participated. There were 399(56.3%) females and 310(43.7%) were males. The overall mean age was 19.5±2.3 years. The majority of participants were single 644(90.8%) and had attained education up to high school 621(87.5%). Snapchat was being used by 180(25.4%) subjects, followed by Instagram 96(13.5%), Facebook 96(13.5%), Youtube 101(14.2) and Twitter 67(9.4%).

More than half of the participants 392(55.3%) were concerned about the appearance of certain body parts they found unattractive. Out of this subgroup, 250(63.8%) said they were often preoccupied with thoughts about their appearance and wished they could think about it less.
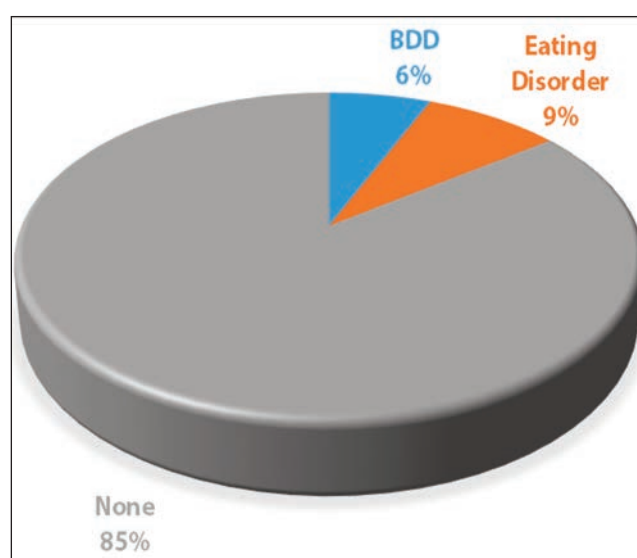

Figure: Prevalence of body dysmorphic disorder (BDD) and eating disorder among the participants (n=709).

Table-1: Frequency of body dysmorphic disorder (BDD) among social media users..

Items		n (%)	BDD
Are you very concerned about the appearance of some part(s) of your body that you consider especially unattractive?	No	317 (44.7)	250 (35.2)
	Yes	392 (55.3)	
Do these concerns preoccupy you? That is, do you think about them a lot and wish you could think about them less?	No	142 (36.2)	
	Yes	250 (63.8)	
Responded positively to the above two questions	No	459 (64.8)	
	Yes	250 (35.2)	
Has your defect(s) caused you a lot of distress, torment, or pain?	No	146 (58.4)	163 (65.2)
	Yes	104 (41.6)	
Has your defect(s) significantly interfered with your social life?	No	112 (44.8)	
	Yes	138 (55.2)	
Has your defect(s) significantly interfered with your schoolwork, your job, or your ability to function in your role?	No	102 (40.8)	
	Yes	148 (59.2)	
Are there things you avoid because of your defect(s)?	No	87 (34.8)	
	Yes	163 (65.2)	
Having one of the above four impacts	No	87 (34.8)	
	Yes	163 (65.2)	
	Total	250 (100)	
How much time do you spend thinking about your defect(s) per day on average?	<1 hr.	58 (35.6)	105 (64.4)
	1 -3 hrs.	22 (13.5)	
	>3 hrs.	83 (50.9)	
	Total	163 (100)	
Is your main concern with your appearance that you aren't thin enough or that you might become fat?	No	45 (42.9)	45 (42.9)
	Yes	60 (57.1)	
	Total	105 (100)	

Table-2: Association of sociodemographic characteristics with body dysmorphic disorder (BDD).

Characteristics	BDD n=45 (%)	No BDD n=664 (%)	Total n=709 (%)	*p*-value
Mean Age (years)			19.5±2.3	<0.001
≤ 20	23 (51.1)	489 (73.6)	512 (72.1)	
>20	22 (48.9)	175 (26.4)	197 (27.9)	
Gender				0.003
Male	29 (64.4)	281 (42.3)	310 (43.7)	
Female	16 (35.6)	383 (57.7)	399 (56.3)	
Marital status				0.603
Unmarried	41 (91.1)	603 (90.8)	644 (90.8)	
Married	4 (8.9)	61 (9.2)	65 (9.2)	
Education				0.290
High school	44 (97.7)	577 (86.9)	621 (87.5)	
Graduate and above	1 (2.2)	87 (13.1)	88 (12.5)	
Income (rupees)				0.151
≤ 10,000	43 (95.6)	582 (87.7)	625 (88.2)	
>10,000	2 (4.4)	82 (12.3)	84 (11.8)	
Occupation				<0.001
Employed	17 (37.8)	111 (16.7)	128 (18.1)	
Student	23 (51.1)	302 (45.5)	325 (45.8)	
Both	5 (11.1)	135 (20.3)	140 (19.7)	
Housework	Nil	116 (17.5)	116 (16.4)	

Table-3: Association of sociodemographic characteristics with body dysmorphic disorder (BDD).

Characteristics	BDD n=45 (%)	No BDD n=664 (%)	Total n=709 (%)	p-value
Use of social media				<0.001
Snapchat	29 (64.4)	151 (22.7)	180 (25.4)	
Instagram	13 (28.9)	83 (12.5)	96 (13.5)	
Facebook	1 (2.2)	95 (14.3)	96 (13.5)	
YouTube	Nil	101 (15.2)	101 (14.2)	
Twitter	Nil	67 (10.1)	67 (9.4)	
All	2 (4.4)	167 (25.2)	169 (23.8)	
Social media contribution to your appearance				0.001
Yes	42 (93.3)	471 (70.9)	513 (72.4)	
No	3 (6.7)	193 (29.1)	196 (27.6)	
Time spent on social media (hours)				<0.001
1–≤3	3 (6.7)	202 (30.4)	205 (28.9)	
4–6	21 (46.7)	332 (50.0)	353 (49.8)	
> 6	21 (46.7)	130 (19.6)	151 (21.3)	
Follow fashion-related content on social media				0.030
Yes	34 (75.6)	402 (60.5)	436 (61.5)	
No	11 (24.4)	262 (39.5)	273 (38.5)	
Follow celebrities on social media				0.012
Yes	28 (62.2)	291 (43.8)	319 (45.0)	
No	17 (37.8)	373 (56.2)	390 (55.0)	
Repetitive behaviour (looking mirror, excessive grooming, asking people about your looks)				0.105
Yes	41 (91.1)	318 (47.9)	359 (50.6)	
No	4 (8.9)	346 (52.1)	350 (49.4)	

Among these participants, 163(65.2%) experienced one or more negative effects related to their perceived flaws. The impact included emotional distress in 104(41.6%) participants, problem with social life 138(55.2%), difficulties with studies, work or daily responsibilities 148(59.2%), and avoiding certain activities because of perceived flaws 163(65.2%). Of these participants, who experienced one or more of these effects, 105(64.4%) spent more than an hour each day thinking about their perceived flaws, and, among them, 60(57.1%) were mainly focussed on either being too thin, or afraid of gaining weight (Table 1), which pointed to concerns more closely related to the eating disorder than

BDD. The remaining 45(42.9%) participants were diagnosed with BDD. In the context of the overall sample, BDD prevalence was found to be 45(6.3%) (Figure).

Age, gender ane occupational status had a significant association with BDD (*p*<0.05) (Table 2).

The majority of the participants 513(72.4%) agreed that social media greatly influenced their appearance. Nearly half of the participants 353(49.8%) spent 4-6 hours daily on

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social media, fashion-related content on social media was followed by 436(61.5%), and celebrities were followed by 319(45%). Repetitive behaviours, such as mirror gazing, excessive grooming, and enquiring about one's appearance, were exhibited by 359(50.6%) participants. A significant association was identified for BDD with social media usage, the influence of social media on appearance, time allocated to social media, and the following of fashion-related content and celebrities (Table 3).

Discussion

The prevalence of BDD in the current cohort was 6.3, which marginally exceeded 5.3%[12] and 5%[19] reported from Pakistan earlier. A recent study conducted in Saudi Arabia identified 4.2% BDD prevalence among social media users.[18] Several studies from Malaysia, Bangladesh and the Middle East found higher prevalence rates of BDD; 9%[20], 11%[21] and 8.8%[22] respectively.

In the present study, individuals without BDD were more likely to be preoccupied with the dimensions and contours of their abdomen than those with BDD. The BDDQ used in the current study excluded certain individuals from the BDD group if their principal concern was not insufficient thinness or the apprehension of weight gain.

The present study identified a significantly elevated BDD prevalence (51%) among participants aged <20 years. This finding was consistent with prior research on BDD in Pakistan.[19,23] Numerous international studies also indicated that BDD was more prevalent among adolescents and younger individuals.[22,24,25] Adolescents and younger adults typically exhibit heightened care and self-awareness regarding their appearance, and have increased susceptibility to peer pressure.

In the current study, 64.4% of males demonstrated significant apprehensions over their body image. The present finding aligned with the trend of body image concerns among males.[20,26] Conversely, research on Arab Middle Eastern population indicated that females exhibited greater awareness of their body image than males.[22] Nevertheless, other studies have reported no significant difference with respect to gender.[25,27,28] Moreover, the current results aligned with studies conducted in Saudi Arabia and Iran, indicating a notably high prevalence of BDD among students.[28,29] Social media is known to exert a great influence on young students about their physical appearance.

The present study revealed that Snapchat (64.4%) and Instagram (28.9%) were the most commonly used social media platforms among individuals with BDD, based on the time spent on these platforms (46.7%). Also, 93.3% of the participants affirmed that social media profoundly impacted their looks. Snapchat is particularly recognised for its functionalities that enable users to modify and personalise videos and photographs, a practice frequently observed in individuals with BDD. The participants' widespread engagement with various social media platforms may indicate a concern of missing out on the gratifying experiences of others.[30]

The present study identified a statistically significant link of BDD tith those who followed celebrities (62.2%) and those who engaged with fashion-related content (75.6%) on social media. Contrasting one's looks with that of celebrities and contemporary fashion trends can underscore appearance as a critical determinant in judgement, and amplify perceived irregularities in one's physique. The findings suggested that prolonged exposure to such content on social media may result in compulsive behaviour and a skewed self-perception of BDD. Addressing this issue necessitates the promotion of more diverse and authentic representations of beauty on social media.[31]

The current study has limitations as its cross-sectional design restricted the capacity to determine the causal relationship between social media usage and BDD development. Besides, the study sample may not adequately represent the wider community of young social media enthusiasts, potentially constraining the generalisability of the findings. Moreover, the self-reported data may have introduced a bias, as individuals could underreport or exaggerate their symptoms and social media usage.

Conclusion

There was a significant association between heightened social media usage and worse BDD symptoms. A high frequency was noted among younger individuals, males and students, who spent more time on Snapchat and Instagram. It is essential to address the impact of social media on body image by promoting realistic representations of beauty to alleviate the adverse impacts on youth.

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MI: Concept, data curation, write-up, critical review and editing.
MF: Literature search, methodology, data analysis, writing-original draft and editing.
NM: Review, feedback, analysis, data curation, writing-original draft and editing.
HI: Literature review, write-up, editing and proofreading.

MAH: Literature search, writing-original draft, methods and data collection.
AAH: Data analysis, write-up, review and data collection.
SSA: Literature search, writing-original draft and data collection.
SMM: Formal data analysis, results, proofreading and critical feedback.