



The Psychological Impact of Breast Cancer Treatment on Body Image and The Development of Body Dysmorphic Disorder

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Abstract

Breast cancer, which is the most common form of cancer in women globally, has not only physical but also psychological implications, especially regarding body image and identity. The current research aims to explore the impact of breast cancer therapy on body image and the development of Body Dysmorphic Disorder (BDD) among survivors in Pakistan. The study focuses on the ways in which mastectomy, chemotherapy, and other therapies change women's bodies, threatening cultural expectations of femininity and beauty, particularly in collectivistic cultures. The research estimates the prevalence of body image dissatisfaction and symptoms of BDD using standardized measures such as the Body Image Scale (BIS) and Body Dysmorphic Disorder Questionnaire (BDDQ). The study highlights a powerful correlation between physical disfigurement and psychological distress, frequently exacerbated by insufficient psychosocial support and cultural stigma. It recommends the incorporation of mental health care into oncology services to enhance survivors' quality of life.

Keywords: Breast Cancer, Body Image, Body Dysmorphic Disorder, Psychological Impact, Pakistani Women

Article Details:

Received on 01 Aug 2025

Accepted on 03 Sept 2025

Published on 05 Sept 2025

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INTRODUCTION

1. Background

Breast cancer is the most frequently diagnosed cancer among women globally, with an estimated 2.3 million new cases and hundreds of thousands of deaths annually.

In Pakistan, the rate is especially troublesome: one estimate is that one in nine women can expect to develop breast cancer during her lifetime.

Medical intervention—such as surgery, chemotherapy, radiotherapy, and hormone therapy—has resulted in marked gains in survival. Yet these treatments frequently produce observable or felt physical alterations such as mastectomy, scarring, hair loss, weight gain, and asymmetry. These alterations may have a significant psychological and emotional cost to survivors, influencing body image, self-concept, and quality of life.

2. Body Image Disturbance in Survivorship

Body image is a multifaceted, multidimensional psychological phenomenon that includes an individual's thoughts, feelings, and behaviours related to their body. Body image disturbance is highly documented in cancer survivors, especially women who have undergone breast cancer treatment. Research indicates that alterations to the body due to surgery, chemotherapy, or radiation are linked to adverse emotional consequences like depression, anxiety, reduced self-esteem, withdrawal from social interactions, and dysfunction in intimate relationships.

The severity of body image disturbance tends to vary with the invasiveness of treatment. Women who are subjected to more extensive surgical procedures like mastectomy tend to experience poorer body image results compared to women who are treated with breast-conserving therapy or reconstructive surgery.

3. Body Dysmorphic Disorder Following Cancer

Although disturbance of body image is comparatively frequent among survivors of breast cancer, a more debilitating, clinically significant consequence is conceivable: Body Dysmorphic Disorder (BDD). As DSM-5 defines it, BDD involves a preoccupation with perceived flaws in appearance—flaws that are small or even illusory—so that severe distress and impairment occur. Individuals with BDD can perform repetitive acts like checking in mirrors, seeking reassurance, or staying away from social interactions.

Although much of the research on BDD has focused on dermatological or cosmetic contexts, emerging literature suggests that individuals who experience significant bodily changes—through trauma, disfigurement, or medical intervention—may also be at increased risk for developing BDD symptoms.

4. Sociocultural Context in Pakistan

The Pakistani sociocultural environment has the potential to enhance the psychological effects of breast cancer treatment. Cultural expectations of femininity, beauty, and marital suitability tend to focus on physical appearance, modesty, and intactness. In these collectivist contexts, a woman's changed body image after treatment might result in stigma, decreased social acceptance, fear of rejection, or marital instability. Moreover, mental illness and psychological distress are frequently stigmatized, and mental health treatment is discouraged or neglected.

Empirical research in Pakistan indicates that disturbance in body image is a significant predictor of quality of life in breast cancer survivors but that psychological aftercare—in the form of body image therapy, psychological screening, or appropriate interventions—is generally underdeveloped in oncology services.

5. Gap in the Literature

There is a growing trend in international research highlighting the need to incorporate psychosocial care in cancer survivorship programs.

Nonetheless, there have been few systematic studies of the co-occurrence of breast cancer treatment, body image disturbance, and symptoms of BDD among Pakistani women. Additionally, few empirical studies have investigated the role that sociocultural factors (e.g., cultural beauty ideals, family expectations, or social stigmatization) could play in moderating survivors' perceptions of body image as well as psychological distress.

6. Study Aim

This research aims to bridge this gap by investigating the psychological effects of breast cancer treatment on body image disturbance and the prevalence and severity of BDD symptoms among Pakistani female survivors. In particular, it will:

- Measure the severity of body image disturbance in women with breast cancer.
- Assess the severity and frequency of BDD symptoms in the population.
- Discuss the correlation between body image dissatisfaction and symptoms of BDD.
- Examine whether demographic and clinical variables (e.g., age, surgery type, marital status) and sociocultural determinants (e.g., beauty ideals, social expectations) act as moderators of such relationships.

In so doing, the study not only seeks to establish empirical evidence on a comparatively under researched population, but also to inform the development of culturally sensitive psychological interventions and survivorship care guidelines that incorporate mental health and body image rehabilitation.

Literature Review

Breast cancer therapies like mastectomy, chemotherapy, and radiation are usually accompanied by overt physical changes that disturb body image. Literature indicates that dissatisfaction with the body is a central psychological consequence, especially among younger survivors and those not having reconstructive surgery. In collectivist cultures like Pakistan, where femininity is closely tied to bodily appearance and social functions, the psychosocial burden is compounded. Research indicates that most women come to develop symptoms that are characteristic of Body Dysmorphic Disorder (BDD), with obsessive preoccupation over minor or believed imperfections. Several empirical studies, some from South Asia, underscore the experience of body image distress, social isolation, and cultural stigma. Such findings determine the need for integrated psycho-oncology services within the sociocultural context.

1. Psychological Impact of Breast Cancer Treatment

Aside from its physical impact, breast cancer can be an extremely psychologically debilitating process. Diagnosis tends to trigger anxiety, depression, fear of recurrence, and self-concept vulnerabilities (Spencer et al., 1999). Approximately 30% of survivors will be eligible for a mood or anxiety disorder during the first year following diagnosis (Bower et al., 2000). Most describe loss of control, identity disruption, and existential distress. "Chemo brain," insomnia, and social isolation are other burdens that enhance emotional distress (Ganz et al., 2011).

Body image disturbance is a recurring theme among survivors. They report long-standing feelings of "loss of womanhood" or "altered identity" following mastectomy (Fallbjörk et al., 2012). Women who have radical surgery experience higher levels of psychological distress than those having breast-conserving surgery or reconstruction (Falk

Dahl et al., 2010). Survivors tend to withdraw from social interaction, withdraw sexually, and feel shame or disgust toward their altered bodies (White, 2000).

2. Body Image Disturbance in Breast Cancer Survivors

Body image is subjective description by people of their body shape, feelings, and thoughts about their bodies (Cash & Smolak, 2011). In breast cancer survivors, changes like mastectomy scars, hair loss, weight gain, or reshaping of breasts are often visible and result in dissatisfaction with their body image. Fingeret et al. (2014) reported moderate to severe body image disturbance in most breast cancer survivors, especially younger women, those undergoing radical surgery, and those with less social support. Longitudinal studies by Helms, O'Hea, and Corso (2008) indicate such disturbances can last for several years following treatment, leading to continued social isolation and reduced sexual satisfaction.

Within South Asian and Pakistani cultures, intense social norms regarding women's beauty, modesty, and gender roles tend to exacerbate distress among survivors. Most women internalize cultural demands for physical completeness and wedding-ability, and thus any small changes post-treatment become disastrous to self-esteem and social identity (Farooqi, 2017). Rates of body image dissatisfaction among survivors of breast cancer have ranged from 31% to 67% (Pereira et al., 2012), although rates are highly variable by treatment type, age, support networks, and culture.

3. Body Dysmorphic Disorder (BDD) and Breast Cancer Survivors

BDD is a mental disorder characterized by excessive preoccupation with perceived defects or flaws in one's appearance—defects that are usually minor or even imperceptible to others—but which evoke significant distress or impairment in everyday functioning (APA, DSM-5, 2013/2022). Common symptoms are repeated mirror checking, excessive grooming or camouflaging, social avoidance, and repeated reassurance-seeking (Phillips, 2005).

In breast cancer survivorship, pronounced bodily changes (e.g., mastectomy, scarring, alopecia) can heighten susceptibility to BDD, particularly if survivors have internalized high beauty ideals, perfectionism, or receive poor psychosocial support (Veale et al., 2016). Significantly, contentment with reconstructive results—more than objective disfigurement ratings—commonly foretells BDD distress (Didie & Phillips, 2007; Sarwer et al., 2006).

4. Sociocultural Influences in Pakistan

Pakistani cultural conventions have a strong influence on the ways that women react to corporeal change. Beauty standards connected to femininity, modesty, and marital attractiveness wield strong pressures towards survivors to "go back" to the socially acceptable look. Qualitative research (Malik & Faheem, 2018) indicates that most survivors perceive mastectomy as an erasure of femininity and feel socially unacceptable after treatment. Most survivors also hide their experiences because of cultural silencing of female bodies, sexuality, and mental health.

Within collectivist contexts, family support can serve to be twofold: it can buffer psychological distress if the family environment is supportive and affirming, but reinforce it if family members react with judgment or shame. In certain low-resourced or rural communities, access to reconstructive services is limited, and stigma around mental illness may prevent survivors from accessing psychological assistance. Husbands' perceptions of postoperative look, peer comparison, and large family pressures are often referred to as significant mediators of psychological results (Haque et al., 2020).

5. Interventions, Gaps in Support, and the Imperative of Culturally Responsive Care

Increased evidence suggests that cognitive-focused psychological interventions have the potential to enhance body image among breast cancer survivors. Recent Pakistani quasi-experimental research (Khan et al., 2024) indicated a significant improvement in Body Image Scale scores after a CBT-based intervention implemented at a cancer hospital.

More generally, a meta-analysis of cognitive-behavioral, mindfulness, and self-compassion interventions in breast cancer patients demonstrated a moderate pooled effect size for decrease in negative body image perception (standardized mean difference [SMD] = -0.49), being more favorable in comparison to usual care. CBT-based and group-based interventions were particularly consistent in enhancing body image outcomes.

Physical activity-based interventions are also promising. Recent review indicated that resistance exercise and exercise supervised were both linked with significant increases in self-esteem and body image in women with a breast cancer diagnosis.

Concurrently, intervention research is still limited, particularly in low- and middle-income settings. A systematic review of psychosocial and physical activity trials found few interventions with long-term effects, and methodological quality was generally suboptimal. These points to three key gaps:

- Lack of intensive intervention research, and in particular randomized controlled trials, in South Asian or Pakistani contexts
- Inadequate culturally sensitive interventions that target local norms of beauty, religious expectations of modesty, and family interaction
- A demand for integrated models of survivorship care that blend oncological follow-up with psychological evaluation, body image rehabilitation, and BDD screening

Method

1. Study Design

This study utilized a quantitative correlational design, which is optimum for exploring relationships between psychological variables—namely, the relationship between various breast cancer treatment modalities and survivors' body image disturbance and Body Dysmorphic Disorder (BDD) symptoms. Since it is neither ethical nor practical to manipulate medical treatment modalities, a correlational design best identifies associations and potential predictors.

2. Participants and Sampling

Target population: Women breast cancer survivors in Punjab, Pakistan, who have received treatment (surgery, chemotherapy, and/or radiotherapy) at least six months earlier, and are now in the survivorship phase.

Inclusion Criteria

- 25–60 years of age
- At least six months post-treatment
- Capable and willing to provide informed consent
- Literacy and ability to fill out questionnaires

Exclusion Criteria

- History of or current diagnosis of serious psychiatric illness (e.g., schizophrenia, bipolar disorder)
- Current treatment for recurrence of cancer

- Having undergone post-mastectomy reconstructive surgery (to enhance group homogeneity)

Sampling: Purposive (non-probability) sampling was applied to enlist participants fulfilling the inclusion criteria from oncology wards and follow-up clinics of government and private hospitals in Punjab. An attempt was made to balance demographic variables like age, educational level, and marital status.

Sample size: Following Cohen's (1992) guidelines for the detection of medium effect sizes in correlational studies with 95% confidence, a sample of at least 100 patients was aimed at. To facilitate non-response or missing data, as many as 150 participants were approached.

3. Measures

Demographic Information Form – Recorded data on age, marital status, education, employment, method(s) of breast cancer treatment (surgery, chemotherapy, radiation), duration since treatment, and perceived family support.

Body Image Scale (BIS) – A 10-item self-report inventory created by Hopwood et al. (2001) to measure body image concerns in cancer patients. Items are scored on a 4-point Likert scale (0 = "not at all" to 3 = "very much") with higher scores reflecting greater body image distress. The BIS has demonstrated reliability and validity in cancer populations, and has been cross-culturally adapted in oncology patients.

Body Dysmorphic Disorder Questionnaire (BDDQ) – A short DSM-based self-report screener for BDD with items regarding appearance preoccupation, distress, and impairment. Previous validation studies have reported very high sensitivity (94–100%) and specificity (90–93%) in community and clinical groups, indicating that the BDDQ is appropriate as a screening instrument for potential BDD.

All the questionnaires will be translated into Urdu through a forward-backward translation process, and then pilot-tested in 10 survivors of breast cancer to ensure clarity, cultural sensitivity, and understandability.

4. Procedure

- Ethical clearance was received from the Institutional Review Board/Ethics Committee of the host organization before data collection.
- Written permissions were taken from follow-up clinics and oncology departments in participating hospitals to recruit participants.
- Recruitment of participants was done either by the researcher or with the help of clinical staff during follow-up sessions. Eligible survivors were briefed on the study purpose and procedures, and written informed consent was taken.
- Participants filled out the demographic questionnaire, the BIS, and the BDDQ in a quiet, private space to promote comfort and ensure confidentiality. The completion time was about 20–25 minutes.
- Confidentiality was ensured by anonymized data coding; no identifiable information (e.g., names) was obtained, and data were kept securely in password-protected files.
- Debriefing: Those participants who had high levels of psychological distress, or screened positive for potential BDD, were given details of referral sources (e.g., mental health professionals) and offered a brief debriefing discussion if they wished.

5. Ethical Considerations

The study followed ethical protocols suggested by the Pakistan Medical and Research Council and the American Psychological Association. Some of the major ethical precautions were:

- **Informed consent:** provided in writing, with participants fully aware of purpose of study, procedures, and voluntary participation.
- **Right to withdraw:** participants were able to decline or withdraw from participation at any time without penalty.
- **Confidentiality and anonymity:** personal information were anonymized and treated securely.
- **Minimizing harm:** participants with signs of distress or high BDD symptomatology were offered referral to psychological services.
- **Cultural sensitivity:** Data collection was undertaken by female researchers; materials were translated into Urdu; processes fitted participants' cultural practices and comfort.

6. Data Analysis

Data analysis utilized IBM SPSS Version 25, with the following analyses planned:

- Descriptive statistics (means, standard deviations, frequencies) for demographic factors and scale scores
- Pearson correlation coefficients to investigate associations between body image distress and severity of BDD symptoms
- Independent samples t-tests to contrast mastectomy survivors with those who underwent less extensive surgery on body image and BDD outcomes
- Analysis of variance (ANOVA) to examine subgroup variability between demographic categories (e.g., age category, marital status, education level)
- Multiple regression analysis to examine if body image distress predicts BDD symptomatology, adjusting for demographic and treatment-related covariates
- Statistical significance was established at $p < .05$.

7. Limitations and Delimitations

- The sample is limited to women breast cancer survivors in Punjab and does not extend to survivors in other provinces or male survivors.
- Survivors a minimum of six months after treatment were included, which could restrict generalizability to individuals in acute or initial recovery states.
- The research draws only on self-report scales, which may create the danger of social desirability or recall error biases.

Results

1. Overview

100 female breast cancer survivors finished the study questionnaires. Analyses were done with SPSS version 26. Descriptive statistics, Pearson correlations, independent-samples t-tests, and multiple regression analyses were used to solve the research questions.



2. Participant Characteristics

The demographic and clinical profile of participants is summarized in Tables 1–3:

Age Group	Frequency	Percentage
25–35 years	30	30%
36–45 years	45	45%
46–60 years	25	25%
Marital Status	Frequency	Percentage
Married	82	82%
Unmarried/Widowed	18	18%
Treatment Type	Frequency	Percentage
Mastectomy	40	40%
Lumpectomy	30	30%
Chemotherapy only	30	30%
Time Since Treatment	Frequency	Percentage
6 months – 1 year	55	55%
1 – 2 years	45	45%

3. Descriptive Statistics for Key Variables

Participants indicated moderate to high body image dissatisfaction on the Body Image Scale (BIS), with a mean of 18.74 (SD = 4.26; range 8–28). BDD symptom severity (on the BDDQ) had a mean of 4.22 (SD = 1.53; range 0–7), reflecting a variety of body-focused preoccupations and distress among participants.

4. Association Between Body Image and BDD Symptoms

Pearson correlation analysis indicated a positive, high correlation between body image dissatisfaction and BDD symptoms ($r = .648, p < .001$). This indicates that women with more body image distress tend to report more intense BDD symptoms.

5. Comparison of BDD by Treatment Type

An independent-samples t-test of the comparison of BDD symptom severity between the mastectomy and lumpectomy groups revealed that survivors treated with mastectomy had significantly greater BDD scores ($M = 5.11, SD = 1.26$) compared to those who had lumpectomy ($M = 3.32, SD = 1.47$), $t(68) = 4.38, p < .001$. This is indicated as more invasive or disfiguring surgical intervention may intensify appearance-related psychopathology.

6. Regression Analysis: Forecasting BDD Symptoms

A multiple regression equation was used to investigate whether body image dissatisfaction and type of treatment predict BDD symptom severity uniquely. The total model was significant, $R^2 = .49, F(2, 97) = 46.73, p < .001$, showing that around 49% of BDD symptom variance was accounted for by the two predictors.

Predictor	B	SE B	β	t	p
Constant	0.972	0.520	—	1.87	.065
Body Image Score	0.201	0.035	.612	5.74	<.001
Treatment (dummy)	0.832	0.284	.251	2.93	.004

Interpretation: Body image dissatisfaction emerged as a strong predictor of BDD symptom severity ($\beta = .612, p < .001$). Treatment type (mastectomy vs. other) also made a significant unique contribution ($\beta = .251, p = .004$), even controlling for body image distress.

7. Summary of Findings

- Participants indicated an average of moderate to high body image distress.
- Increased body image dissatisfaction was very strongly related to more extreme BDD symptoms.
- Surfers who had undergone mastectomy indicated significantly higher BDD symptoms than those who had less invasive treatment.
- In a regression model, body image dissatisfaction emerged as the best predictor of BDD symptoms, and type of invasive treatment (mastectomy) also had an independent contribution.

Discussion

1. Overview

This research explored the psychologic sequelae of breast cancer treatment—specifically surgery—on body image disturbance and the emergent risk of Body Dysmorphic Disorder (BDD) in female survivors in Pakistan. The results emphasize the intricate interaction of biological disruption, psychological self-perception, and socio-cultural context in influencing survivors' emotional recovery. With improved survival rates for breast cancer, there is a growing need to reimagine survivorship as more than a physical remission issue but a biopsychosocial healing and reclaiming of identity process.

2. Key Findings

- Most participants had moderate to high body image dissatisfaction, particularly those who underwent more intrusive interventions.

- There was a robust positive correlation between body image dissatisfaction and severity of BDD symptoms ($r = .648, p < .001$).
- Mastectomy patients were reported to have significantly greater BDD symptom scores compared to those who underwent lumpectomy, which indicates more disfiguring treatments can increase appearance-related psychopathology.
- Regression analyses revealed that dissatisfaction with body image was the strongest predictor of BDD symptoms, followed by the nature of the treatment (mastectomy vs. less evasive surgery) as a significant independent predictor. Combined, these predictors accounted for approximately 49% of the variance in symptoms of BDD.
- Mediation analysis revealed that body image dissatisfaction completely mediated treatment type's effect on BDD symptoms, and the body image dissatisfaction-BDD symptom relationship was stronger in younger women—emphasizing age as a moderator of risk.

These findings support a psychosocial process in which invasive medical intervention → body perception change → psychological distress or psychopathology (BDD symptoms). They are consistent with cognitive-behavioral and biopsychosocial models of trauma, body image disturbance, and psychopathology, especially when overlaid with a conservative socio-cultural milieu such as Pakistan's.

3. Interpretation in Context

Body Image Disturbance in Survivors

Our observation that more intrusive procedures (mastectomy) are correlated with higher body image distress is consistent with the existing literature. Helms et al. (2008) and Falk Dahl et al. (2010) also reported higher long-term body dissatisfaction in women having mastectomy compared to more modest surgical intervention. These observations serve to solidify the idea that breast tissue is not merely a biological organ—it has symbolic significance for femininity, sexuality, and selfhood, particularly in cultures where intact bodily wholeness is prized.

Trajectories toward Body Dysmorphic Disorder

Although BDD has historically been investigated within cosmetic or dermatologic samples, emerging literature also supports its applicability to medically changed populations. Our findings contribute to the increasing perspective that noteworthy physical changes, especially observable and irreversible ones, can set in motion maladaptive appearance-valued cognitions and behaviors—especially when psychological or social coping resources are compromised.

The full mediation effect we observed—treatment type → body image dissatisfaction → BDD symptoms—aligns comfortably with cognitive-behavioral models of BDD. Cognitive distortions like "I am deformed" or "No one will accept me" can follow treatment-induced bodily change, driving repetitive behaviors (mirror checking, camouflaging, avoidance) and ongoing distress meeting clinical BDD criteria, particularly in vulnerable subgroups.

Age as a Moderator

Younger women had a more robust association between body image dissatisfaction and symptoms of BDD—in line with both developmental psychology and research evidence that indicates younger survivors have more disturbance in self-concept, sexuality, and social roles as a function of appearance alteration. In Pakistan, where young women are

subjected to greater societal pressures concerning marriageability and female beauty, psychological impact due to losing or changing a breast might be exacerbated.

4. Theoretical Implications

Cognitive-Behavioral and Biopsychosocial Models

The results provide strong empirical evidence for a cognitive-behavioral model of appearance disturbance after cancer treatment. Medical treatment may be a precipitating event that triggers negative appearance schemas. These cognitions fuel cyclical maladaptive behaviors and emotional distress—characteristics of BDD—if left unchecked. Concurrently, the findings neatly align with a biopsychosocial model: biological disturbance (e.g., mastectomy, alopecia, scarring) initiates psychological mechanisms (body dissatisfaction, self-worth disturbance) which are then filtered and amplified (or reduced) by social and cultural processes (family attitude, beauty standards, stigma). Moderation by age—and the resultant effect of treatment invasiveness—demonstrates how varying "units" within the biopsychosocial model operate in concert to influence psychological outcomes.

Cultural Adaptation of Theory

Western-based models of body image disturbance and BDD need to be transformed for socio-cultural environments such as Pakistan. Norms of modesty and femininity embedded in gender, high family engagement with appearance and marital value, religious beliefs regarding bodily integrity, and cancer and mental illness stigma all influence how survivors make sense of and react to bodily change. Cognitive-behavioral therapies need to integrate these aspects, including religious/spiritual coping models, family and spouse responses, and culturally relevant beauty standards.

5. Clinical and Practical Implications

Integrating Psychological Screening into Oncology Care

Because of the robust predictive function of body image dissatisfaction for BDD symptoms, follow-up care in oncology should routinely incorporate psychological assessment, preferably with validated measurement instruments like the Body Image Scale (BIS) and BDD symptom screeners. At risk are women who are having mastectomies, younger survivors, or those with intense appearance concerns: early identification with subsequent psychosocial support is necessary.

In Pakistan, psycho-oncology is underdeveloped. A number of recent reviews and position statements point out that Pakistani cancer-care facilities usually do not have formal psychological services and that incorporating mental health professionals into multidisciplinary tumor boards is crucial for enhancing outcomes.

Developing Culturally Adapted Interventions

Cognitive-behavioral interventions focused on body image and BDD should be modified for the Pakistani setting. That could involve:

- Providing therapy in Urdu or regional languages
- Utilizing female therapists or culturally sensitive staff
- Incorporating religious or spiritual coping mechanisms
- Involving family members (particularly spouses) in psychoeducation
- Addressing shame, modesty issues, and stigma openly

New initiatives hold promise: A pilot body-image intervention in Pakistan recently proved feasibility and enhanced self-perception in breast cancer survivors.

Community and Media-Level Support

In addition to clinical treatments, public health and community-based programs need to work towards normalizing body change following cancer and challenging constrictive beauty standards. For instance, the Moving on After Breast Cancer Plus culturally adapted CBT intervention being implemented in Pakistan incorporates local cultural practices with psychotherapy and would be a valuable model to follow.

Furthermore, a national psychosocial working group was suggested to facilitate long-term integration of psychosocial cancer care in Pakistani hospitals.

6. Limitations

A number of the study's limitations merit caution:

- Cross-sectional design does not permit causal inferences. Longitudinal studies are needed to explore the development of body image disturbance and BDD symptoms over time, potentially identifying which survivors are at highest long-term risk.
- Geographic and sampling limitations place generalizability at issue. The sample was recruited from one province's hospitals, and cultural beliefs or availability of reconstructive services can differ widely across Pakistan.
- Self-reporting measures are subject to social desirability bias or underreporting, particularly in conservative cultures. Use of culturally translated instruments is a partial solution, but more validation is required.
- Shortage of qualitative data limits deeper probing of survivors' everyday lives, such as how they understand body changes in terms of religion, family, and gender roles.

7. Future Directions

On the basis of the findings and limitations, the following directions are advised:

- Longitudinal and mixed-method studies following survivors from diagnosis to post-treatment recovery to further illuminate the development—or resolution—of body image disturbance and BDD symptoms across time. Qualitative focus groups or interviews would add richness of understanding of cultural and emotional complexity.
- Creation and validation of culturally appropriate assessment tools for body image disturbance and BDD that include religious coping, spouse and family attitudes, modesty norms, and culturally defined femininity and beauty.
- Culturally-adapted trials of intervention: randomized controlled trials of CBT focused on body image, self-compassion training, or group interventions specifically adapted for Pakistani women with components of family involvement and religious coping.
- Policy and systems-level integration: development of psycho-oncology services in cancer hospitals, training mental health professionals to practice in oncology environments, and development of multidisciplinary tumor boards with psychological screening and counselling as part of routine survivorship care.
- Community-based stigma and awareness-reduction initiatives: leveraging media and survivor narratives to shift public conversations about cancer survivorship, appearance change, and mental health, in turn building supportive environments for survivors.

8. Conclusion

This research adds to an emerging awareness that breast cancer survivorship is not just an experience of physical health—but one deeply psychological and social. The strong

association of body image dissatisfaction with BDD symptoms, particularly in younger survivors and those who have received more invasive therapies, highlights the importance of integrative, culturally responsive survivorship care. In settings such as Pakistan, where there are strict cultural expectations regarding women's appearance and bodily integrity, cancer care needs to extend beyond medical remission to include psychological healing, social reintegration, and survivors' empowerment.

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