INDIAN STREAMS RESEARCH JOURNAL
ISSN NO : 2230-7850
IMPACT FACTOR : 5.1651 (UIF)
VOLUME - 15 | ISSUE - 5 | JUNE – 2025

A CORRELATIONAL STUDY OF BODY IMAGE AND FEAR OF NEGATIVE EVALUATION AMONG FEMALE PATIENTS WITH TYPE 2 DIABETES

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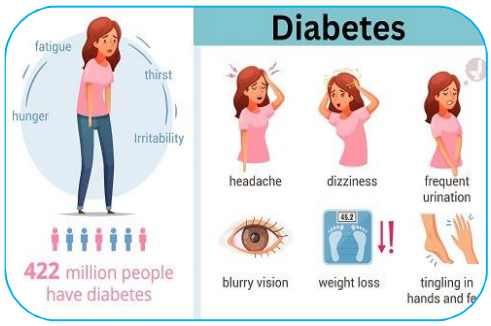
ABSTRACT



Type 2 Diabetes Mellitus (T2DM) is a prevalent chronic condition that not only affects physical health but also significantly impacts psychological well-being, particularly among women. This study titled "A Correlational Study of Body Image and Fear of Negative Evaluation Among Female Patients With Type 2 Diabetes Mellitus (T2DM)" aimed to explore the relationship between body image dissatisfaction and fear of negative evaluation (FNE) in this population. Employing a quantitative, cross-sectional correlational design, data were collected from 120 female T2DM patients aged 30 to 60 years in Kozhikode district, Kerala, using two standardized tools: the Body Image Scale and the Brief Fear of Negative Evaluation Scale (BFNE). Descriptive statistics revealed moderate levels of body image dissatisfaction and high levels of FNE. Pearson's correlation coefficient indicated a statistically significant moderate positive correlation between body image and FNE ($r = 0.462$, $p < 0.01$), suggesting that as dissatisfaction with body image increases, the fear of being negatively evaluated also intensifies. These findings highlight the psychological challenges faced by diabetic women, particularly within the sociocultural context of body ideals and interpersonal scrutiny. The study underscores the need for integrative healthcare approaches that address not only the metabolic but also the emotional and social dimensions of chronic disease management. Recommendations include incorporating psychosocial screening into routine diabetes care and developing interventions tailored to enhance body image and reduce social anxiety. This research contributes to a deeper understanding of how chronic illness interfaces with self-perception and social functioning among women in the Indian context.

KEYWORDS: *Type 2 Diabetes Mellitus, body image, fear of negative evaluation, women, psychosocial health, correlational study.*

INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a chronic, progressive metabolic disease primarily affecting the body's capacity to manage and use glucose (sugar) for energy. It is typified by insulin resistance, in which the cells of the body become less sensitive to insulin, and relative insulin deficiency, in which the pancreas fails to secrete sufficient insulin to stabilize normal blood glucose levels (American Diabetes Association [ADA], 2023). In contrast to Type 1 Diabetes, which is generally autoimmune and tends to occur early in life, T2DM tends to occur in adulthood, although it is increasingly found in younger individuals as a result of increasing rates of obesity and physical inactivity (World Health Organization

[WHO], 2023). The condition tends to be insidious in development and can go undetected for years, while in the meantime, high blood sugar levels can cause damage to organs and systems in silence.

The clinical characteristics of T2DM include hyperglycaemia, increased thirst (polydipsia), frequent urination (polyuria), increased hunger (polyphagia), fatigue, blurred vision, slow wound healing, and in some cases, weight changes. Over time, persistent hyperglycaemia can lead to long-term complications such as cardiovascular disease, neuropathy, nephropathy, retinopathy, and increased risk of infections (International Diabetes Federation [IDF], 2023). Risk factors for developing T2DM include obesity, physical inactivity, family history of diabetes, high blood pressure, high cholesterol levels, older age, certain ethnic backgrounds (e.g., South Asian, African, Hispanic), and a history of gestational diabetes.

Globally, T2DM has become a major public health concern due to its rapidly rising prevalence and the significant burden it places on healthcare systems. According to the International Diabetes Federation (2023), approximately 537 million adults aged 20 to 79 years were living with diabetes worldwide in 2021, and this number is projected to rise to 643 million by 2030 and 783 million by 2045. T2DM accounts for more than 90% of all diabetes cases, making it the dominant form of the disease. The increase is particularly pronounced in low- and middle-income countries, where rapid urbanization, lifestyle transitions, and limited access to preventive healthcare contribute to higher rates of diabetes. In regions such as South Asia, the Middle East, and Sub-Saharan Africa, the prevalence of T2DM is rising alarmingly, including among younger adults and even adolescents (WHO, 2023).

In India, the situation is particularly critical, with the country being dubbed the "diabetes capital of the world." Recent estimates suggest that over 101 million Indians are currently living with diabetes, and millions more are at risk due to prediabetic conditions (Ramachandran et al., 2020). Cultural dietary practices, increased consumption of processed foods, genetic susceptibility, and physical inactivity are among the key contributors to this public health crisis. The disease not only causes individual suffering but also places a heavy economic and social burden on families and national health systems.

Physical Consequences of Type 2 Diabetes Mellitus (T2DM)

Type 2 Diabetes Mellitus (T2DM) is a progressive metabolic disorder that has far-reaching implications for nearly every major organ system in the body. The sustained state of hyperglycemia associated with T2DM leads to a multitude of physiological alterations and pathological processes that result in severe complications. These complications may develop insidiously and silently over time, often being diagnosed only after significant damage has occurred. Broadly, the physical consequences of T2DM can be classified into microvascular complications, macrovascular complications, and other systemic effects that collectively impair the quality of life and increase morbidity and mortality (American Diabetes Association [ADA], 2023).

One of the most common categories of complications in T2DM includes microvascular complications, which involve damage to the small blood vessels supplying critical organs. Among these, diabetic retinopathy is a leading cause of preventable blindness in adults worldwide. Prolonged hyperglycaemia damages the retinal capillaries, resulting in microaneurysms, haemorrhages, and in advanced stages, neovascularization. If untreated, it can lead to macular edema, retinal detachment, and permanent vision loss (Cheung et al., 2010). Another major microvascular complication is diabetic nephropathy, a progressive kidney disease characterized by glomerular damage, proteinuria, and declining renal function. It is the leading cause of end-stage renal disease (ESRD) and often necessitates dialysis or kidney transplantation (Gross et al., 2005). Diabetic neuropathy, another microvascular condition, affects the peripheral and autonomic nervous systems. Peripheral neuropathy typically presents as numbness, tingling, and burning sensations in the extremities, while autonomic neuropathy may impact cardiovascular function, gastrointestinal motility, bladder control, and sexual performance (Vincent et al., 2004).

In addition to microvascular damage, macrovascular complications are a significant source of disability and death among individuals with T2DM. Chronic hyperglycaemia accelerates the

development of atherosclerosis, leading to the narrowing and hardening of large arteries. This condition increases the risk for cardiovascular disease, which includes coronary artery disease (CAD), angina, myocardial infarction (heart attack), and congestive heart failure. Cardiovascular disease is the leading cause of death among individuals with diabetes (Emerging Risk Factors Collaboration, 2010). Similarly, cerebrovascular disease is a common consequence, as diabetic individuals are at heightened risk for ischemic stroke due to the involvement of cerebral arteries. These strokes often result in more severe neurological outcomes compared to non-diabetic populations (Mankovsky & Ziegler, 2004). Peripheral artery disease (PAD), characterized by reduced blood flow to the lower limbs due to arterial narrowing, is another macrovascular complication. PAD often presents with intermittent claudication and can progress to critical limb ischemia, ulcers, gangrene, and eventual limb amputation (Selvin & Erlinger, 2004).

One of the most devastating and visible outcomes of macrovascular and microvascular complications is the development of diabetic foot disorders. T2DM patients, particularly those with coexisting neuropathy and peripheral vascular disease, are at high risk for foot ulcers and infections. Minor injuries, often unnoticed due to sensory loss, may become chronic wounds susceptible to infection. Diabetic foot ulcers are difficult to treat, heal slowly, and frequently result in osteomyelitis and amputation if not managed promptly and appropriately (Boulton et al., 2005). These complications severely limit mobility and independence, imposing a heavy burden on both patients and healthcare systems.

Another significant consequence of T2DM is an increased susceptibility to infections. Chronic hyperglycaemia impairs the immune response through multiple mechanisms, including reduced neutrophil function, altered cytokine production, and impaired complement activity. As a result, individuals with diabetes are more vulnerable to bacterial, viral, and fungal infections. Common infections include urinary tract infections, respiratory tract infections, skin and soft tissue infections, and post-surgical infections. More severe infections, such as sepsis and tuberculosis, are also more prevalent among people with poorly controlled diabetes (Casqueiro et al., 2012).

T2DM also has notable effects on the musculoskeletal and integumentary systems. Musculoskeletal complications may include limited joint mobility, adhesive capsulitis (frozen shoulder), carpal tunnel syndrome, and diabetic cheiroarthropathy—a condition that causes thickened skin and joint stiffness, particularly in the fingers (Arkkila & Gautier, 2003). Skin conditions associated with diabetes include diabetic dermopathy (light brown scaly patches), acanthosis nigricans (darkened, velvety skin in body folds), and necrobiosis lipoidica (shiny plaques on the shins). These skin manifestations are often early indicators of poor metabolic control. Sexual and reproductive health issues are also frequently reported in individuals with T2DM. Men may experience erectile dysfunction due to both vascular and neuropathic complications, while women may face vaginal dryness, dyspareunia (painful intercourse), reduced libido, and increased risk of infections. Additionally, insulin resistance associated with T2DM contributes to reproductive disorders such as polycystic ovary syndrome (PCOS) in women of reproductive age. During pregnancy, women with T2DM or gestational diabetes face higher risks of complications such as preeclampsia, fetal macrosomia, and cesarean delivery (Krakowiak et al., 2010).

Psychological Effects of Type 2 Diabetes Mellitus (T2DM)

The disease requires lifelong adherence to demanding self-care behaviors including blood glucose monitoring, dietary management, medication compliance, regular physical activity, and frequent medical consultations. For many individuals, particularly those with limited resources, comorbid conditions, or social support deficits, these ongoing demands create substantial psychological burden (Peyrot et al., 2005). The mental health challenges experienced by individuals with T2DM are often multifactorial, involving both disease-related factors and broader psychosocial contexts. Among the most commonly documented psychological consequences are depression, anxiety, diabetes distress, fear of hypoglycaemia, cognitive impairment, body image disturbance, social withdrawal, and reduced self-efficacy.

Depression is the most prevalent and well-documented psychological comorbidities of T2DM. Numerous meta-analyses have confirmed that individuals with T2DM are nearly twice as likely to suffer from depression as those without diabetes (Anderson et al., 2001). Depression in this population is often underdiagnosed and undertreated, despite its profound effects on self-care behaviors and glycemic outcomes. The bidirectional relationship between depression and T2DM is particularly concerning. On one hand, the physiological stress and inflammation associated with depression may increase insulin resistance and dysregulate the hypothalamic-pituitary-adrenal (HPA) axis, thereby increasing diabetes risk. On the other hand, the diagnosis and management of diabetes—particularly when accompanied by complications such as retinopathy, nephropathy, or neuropathy—can cause feelings of despair, low self-worth, fatigue, and hopelessness (Lustman et al., 2000). Depressive symptoms in diabetic patients are strongly correlated with nonadherence to treatment regimens, unhealthy lifestyle behaviors, and poorer glycemic control (Gonzalez et al., 2008).

Anxiety is another significant psychological issue faced by individuals with T2DM. While general anxiety disorders (GAD) are prevalent in this population, more specific forms such as diabetes-related anxiety and fear of hypoglycemia are particularly impactful. The unpredictability of blood glucose fluctuations and the possibility of severe hypoglycemic episodes—such as fainting, seizures, or coma—can provoke chronic worry and hypervigilance. This fear often leads patients to engage in maladaptive behaviors, such as overeating or intentionally maintaining higher glucose levels, thereby increasing the risk of long-term complications (Hermanns et al., 2010). Anxiety also interferes with quality sleep, attention to self-care, and interpersonal relationships, all of which are essential for effective diabetes management.

Closely related to anxiety is diabetes distress, a term that refers specifically to the emotional turmoil and frustration associated with living with and managing diabetes. Unlike clinical depression, diabetes distress is not classified as a mental disorder but is highly prevalent and can be just as debilitating. It encompasses concerns about long-term complications, feeling overwhelmed by the demands of self-care, guilt over perceived lapses in adherence, and the feeling that others—including healthcare providers or family members—do not understand the personal burden of the disease (Fisher et al., 2009). High levels of diabetes distress are significantly associated with poor self-management, suboptimal glycemic control, and diminished overall well-being.

An often-overlooked but equally important psychological consequence of T2DM is reduced self-efficacy. Self-efficacy refers to an individual's belief in their ability to perform tasks and manage challenging situations. In the context of T2DM, low self-efficacy may manifest as doubt about one's ability to maintain dietary restrictions, exercise consistently, or manage blood glucose effectively. This lack of confidence can result in passive coping behaviors, disengagement from self-care routines, and increased reliance on others for disease management. Studies have found that higher levels of diabetes-related self-efficacy are positively associated with better glycemic control and psychological well-being (Luszczynska & Schwarzer, 2005).

Another critical psychological effect of T2DM, particularly relevant among women, is body image disturbance. T2DM can cause or exacerbate physical changes such as weight gain, altered body shape due to insulin resistance, and skin-related complications like acanthosis nigricans or diabetic dermopathy. In societies that place a high value on appearance—especially thinness in women—these changes can result in poor self-esteem, dissatisfaction with body image, and feelings of shame or embarrassment (Ogden & Sidhu, 2006). This negative self-perception often contributes to social anxiety, including fear of negative evaluation (FNE), wherein individuals experience heightened sensitivity to being judged or criticized by others. In female patients, these fears can lead to social withdrawal, avoidance of public settings, and reluctance to seek medical help, all of which further compromise diabetes outcomes (Levinson & Rodebaugh, 2012).

The psychosocial context—including social support, socioeconomic status, cultural beliefs, and healthcare access—can significantly influence the psychological burden of T2DM. Individuals lacking family or community support may experience increased feelings of isolation and helplessness, while those facing financial hardship may encounter additional stress related to the affordability of

medications, glucose monitoring supplies, or healthy food. Cultural stigma around diabetes, particularly in some traditional societies, may discourage open discussion about the disease, limiting the individual's ability to seek emotional or informational support.

Among these psychosocial challenges faced by individuals with T2DM, body image disturbance and fear of negative evaluation (FNE) are emerging as crucial, yet underexplored, areas of concern. Body image is a multifaceted construct involving an individual's perceptions, thoughts, and feelings about their own body and physical appearance. For women with T2DM, factors such as weight gain, skin changes, and altered body shape resulting from medication side effects or metabolic complications may negatively impact body image and self-esteem (Ogden & Sidhu, 2006). Additionally, sociocultural pressures that emphasize thinness and appearance—especially in collectivistic societies—may further exacerbate dissatisfaction with one's body, leading to emotional distress.

Fear of negative evaluation (FNE), a form of social anxiety, refers to the apprehension or worry individuals experience about being judged unfavorably by others. For female patients managing T2DM, FNE may be fuelled by concerns over perceived social stigma, visible bodily changes, and the need to disclose or manage diabetes in public settings (Levinson & Rodebaugh, 2012). This fear can lead to avoidance of social situations, reduced health-seeking behaviors, and poor psychological well-being. It is important to note that FNE and body image disturbance are likely interconnected, with negative body image heightening concerns over how others perceive one's physical self.

Despite the recognition of psychological comorbidities in T2DM, most clinical attention remains focused on biological and behavioural management of the disease, leaving emotional and psychosocial aspects inadequately addressed. While depression, anxiety, and diabetes distress have received considerable scholarly attention, the specific relationships between body image disturbance and fear of negative evaluation in women with T2DM remain insufficiently explored, especially in the Indian context. Understanding the interrelation between these constructs is essential for developing comprehensive, patient-centred care that acknowledges not only the physiological but also the psychological and social dimensions of living with T2DM.

Need and Significance of the Study

The current study is both timely and essential due to the increasing prevalence of T2DM among women and the corresponding rise in diabetes-related psychological complications. In India, more than 100 million people are living with diabetes, with women constituting a substantial and growing portion of this population (International Diabetes Federation [IDF], 2023). Despite this alarming trend, the gender-specific psychological experiences of female patients often remain underrepresented in research and clinical interventions. Addressing psychological variables such as body image and fear of negative evaluation is crucial because these factors can significantly influence self-care behaviors, quality of life, social functioning, and clinical outcomes.

Women with T2DM often face a double burden—managing a demanding chronic illness while navigating cultural and societal expectations related to femininity, appearance, and social roles. For example, weight gain, which is both a risk factor and consequence of T2DM, may contribute to internalized stigma and dissatisfaction with body image. Additionally, many women report feeling self-conscious when administering insulin in public, discussing dietary restrictions, or explaining their illness, leading to a heightened fear of being judged or misunderstood. These psychological barriers can discourage patients from seeking timely medical attention, attending support groups, or adhering to recommended treatment regimens.

The research examining the intersection of body image and FNE in T2DM is sparse, particularly within the Indian sociocultural context where body ideals, gender roles, and stigma are uniquely shaped by tradition and community dynamics. Studying these variables in an Indian population not only fills a critical research gap but also contributes to culturally relevant psychological models and intervention strategies. By identifying the correlation between body image dissatisfaction and fear of negative evaluation, this study may inform healthcare professionals—including nurses, psychologists, and

endocrinologists—about the importance of integrating mental health assessments into routine diabetes care.

The findings from this study have the potential to foster the development of holistic care plans that include body image therapy, self-esteem building, social skills training, and cognitive-behavioral strategies aimed at reducing social anxiety. Such psychosocial interventions can enhance the overall well-being and treatment compliance of women with T2DM, ultimately improving glycemic outcomes and reducing healthcare costs. Therefore, this study is not only academically significant but also practically valuable for advancing gender-sensitive, integrative approaches to diabetes management.

REVIEW OF LITERATURE

Numerous studies have highlighted the psychological burden experienced by individuals with T2DM. Depression, anxiety, and diabetes distress are prevalent among diabetic populations and have been found to interfere with glycemic control, self-care behaviors, and overall quality of life (Anderson et al., 2001; Gonzalez et al., 2008). Cognitive impairments, reduced self-efficacy, and fear of hypoglycemia are also common, particularly in long-standing diabetes cases (Cukierman-Yaffe et al., 2009). Among women, these issues are often compounded by cultural, familial, and societal expectations, making the experience of diabetes more complex and psychologically taxing.

Body image refers to an individual's perceptions, thoughts, and emotions about their physical appearance and body functioning (Cash & Smolak, 2011). In chronic illnesses like T2DM, where metabolic changes, weight gain, and visible bodily symptoms are common, negative body image is a frequent psychological outcome (Ogden & Sidhu, 2006). Female patients often report dissatisfaction with body shape, weight, and skin appearance due to diabetes-related complications such as acanthosis nigricans, lipohypertrophy, and weight fluctuations from medication (e.g., insulin therapy). This dissatisfaction can erode self-esteem and hinder social participation (Williams et al., 2015). Furthermore, negative body image in chronic illness is not merely cosmetic—it is often associated with increased depression, poor health behaviors, and decreased adherence to treatment protocols (Neumark-Sztainer et al., 2006).

Fear of negative evaluation is defined as an individual's apprehension about others' evaluations and the distress associated with the possibility of being judged unfavorably (Watson & Friend, 1969). It is a central component of social anxiety and has been linked to poor psychological functioning, especially among women and those with visible or socially stigmatizing health conditions. FNE may discourage patients from openly managing their illness in public settings (e.g., injecting insulin), leading to secrecy, shame, and avoidance behaviors (Levinson & Rodebaugh, 2012). In Indian contexts, where social scrutiny and community norms regarding health, appearance, and behavior are particularly strong, women with T2DM may be more prone to FNE, impacting both their social life and disease management practices (Shrivastava et al., 2013).

Studies consistently show that women are more vulnerable to internalizing disorders, body image concerns, and social anxiety due to higher societal pressures regarding appearance and conformity (Fredrickson & Roberts, 1997). When chronic illness alters physical appearance or functioning, it may exacerbate fears of being perceived as weak, unattractive, or socially inadequate. Research by Cash and Pruzinsky (2002) indicates that women with physical health conditions are more likely to report psychological distress linked to body dissatisfaction and social evaluative fears than men with similar conditions. This suggests a gendered experience of illness wherein female patients with T2DM may suffer a "double burden"—managing the disease while navigating social judgments related to body and behavior.

A growing body of literature has established a strong correlation between negative body image and heightened fear of negative evaluation. Individuals dissatisfied with their appearance are more likely to expect negative judgment from others, which may lead to social withdrawal and reduced quality of life (Clark et al., 1998; Gilbert & Meyer, 2005). This relationship is particularly evident among women with chronic illnesses that affect physical appearance. For instance, a study by Durso and Latner (2008) found that body dissatisfaction mediated the relationship between obesity and social anxiety.

Similarly, Lillis et al. (2010) found that perceived social stigma and body shame were closely associated with reduced treatment adherence among women with metabolic disorders. However, limited studies have specifically explored this relationship among women with T2DM, particularly in the Indian sociocultural context. Given the high prevalence of body image dissatisfaction and the cultural emphasis on female appearance, this gap in research underscores the need for a focused examination of how body image and FNE are interrelated in this population.

While international research has explored psychological comorbidities in T2DM and established links between body image and social anxiety, very few studies have examined the specific interaction between body image and fear of negative evaluation among women living with T2DM in India. Furthermore, most studies on T2DM tend to prioritize physiological outcomes, overlooking the nuanced psychosocial variables that critically influence disease management and quality of life. There is a lack of gender-sensitive, culturally relevant research that investigates how societal attitudes and personal self-image intersect to affect the emotional health of female diabetes patients.

The present study is guided by Social Comparison Theory (Festinger, 1954) and Self-Presentation Theory (Leary & Kowalski, 1990). Social Comparison Theory posits that individuals evaluate their self-worth by comparing themselves to others, especially in terms of appearance and social competence. In the case of women with T2DM, such comparisons may highlight bodily changes perceived as undesirable, leading to body dissatisfaction and heightened FNE. Self-Presentation Theory suggests that individuals attempt to control the impressions others form of them, especially in situations where appearance and performance are evaluated. These theoretical models provide a useful lens through which to understand the psychological experiences of female T2DM patients in social contexts.

RESEARCH METHODOLOGY

Research Approach and Design

The present study adopts a quantitative, correlational research design to investigate the relationship between body image and fear of negative evaluation among female patients with T2DM. The correlational design is appropriate for this study as it seeks to measure the degree and direction of the relationship between two psychological variables without manipulating any of them. A cross-sectional survey method was used for data collection.

Variables of the Study

- **Independent Variable:** Body Image
- **Dependent Variable:** Fear of Negative Evaluation

Research Questions

1. What is the level of body image perception among female patients with T2DM?
2. What is the level of fear of negative evaluation among female patients with T2DM?
3. Is there a significant relationship between body image and fear of negative evaluation among female patients with T2DM?

Hypothesis of the Study

- H0: There is no significant correlation between body image and fear of negative evaluation among female patients with T2DM.
- H1: There is a significant correlation between body image and fear of negative evaluation among female patients with T2DM.

Population and Sample

The population of the study comprises female patients diagnosed with Type 2 Diabetes Mellitus, attending diabetic clinics and primary health centers in Kozhikode district, Kerala. A purposive sampling technique was employed to select participants who meet the inclusion criteria. Based on

previous correlational research and considering resource constraints, a sample size of 120 female patients was determined to ensure adequate statistical power. The inclusion criteria for the present study comprised female patients aged between 30 and 60 years who had been diagnosed with Type 2 Diabetes Mellitus (T2DM) for a minimum duration of one year. Participants were required to be able to read and understand either Malayalam or English and must have been willing to participate voluntarily by providing informed written consent. On the other hand, the study excluded individuals with a history of severe psychiatric illness or any form of cognitive impairment that could affect their ability to comprehend or respond to the study instruments. Additionally, patients diagnosed with gestational diabetes or Type 1 diabetes, as well as those undergoing any form of surgical intervention or critical medical treatment during the data collection period, were not considered for participation in the study.

Research Tools and Instruments

Two standardized self-report questionnaires were used for data collection:

1. **The Body-Image Ideals Questionnaire (BIQ):** Developed by **Cash and Szymanski (1995)**, is a self-report instrument designed to assess the discrepancy between an individual's perceived physical appearance and their personal ideals for various body features. Unlike traditional body image measures that focus on satisfaction or dissatisfaction, the BIQ emphasizes **evaluative body image** by capturing both the *importance* of specific physical attributes and the *degree of discrepancy* from the ideal. The questionnaire consists of **11 body-related features**, such as weight, height, muscle tone, and facial features. For each feature, respondents rate how important it is to them (on a 3-point scale) and how close their actual appearance is to their ideal (on a 4-point scale). A **discrepancy score** is calculated, with higher scores reflecting greater body image dissatisfaction. **Psychometric properties** of the BIQ are robust. The scale demonstrates **high internal consistency** (Cronbach's alpha = .83 to .90) and **test-retest reliability** over a 2-week interval. It also exhibits **good construct validity**, correlating significantly with measures of self-esteem, body dissatisfaction, and psychological distress, supporting its use in both clinical and research contexts.
2. **Brief Fear of Negative Evaluation Scale (BFNE):** Developed by Leary (1983), this tool assesses the level of apprehension and concern over others' evaluations. It contains positively and negatively worded items rated on a 5-point scale.

Both tools have demonstrated good psychometric properties in past studies, and pilot testing was done to confirm their reliability in the local context.

Data Collection Procedure

After obtaining institutional ethical clearance and permissions from healthcare facilities, data were collected using paper-based questionnaires. Participants were approached in outpatient clinics and diabetic care units. Written informed consent was obtained before participation. The researcher administered the questionnaires in the presence of the participant and clarified any doubts. Informed consent was collected from all participants. Participants were assured of confidentiality, anonymity, and their right to withdraw at any time without penalty. Data were stored securely and used only for academic purposes.

Data Analysis

The collected data were coded and entered into the **Statistical Package for the Social Sciences (SPSS)** software. Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to summarize the demographic and variable data. Pearson's correlation coefficient was used to analyze the relationship between body image and fear of negative evaluation. A significance level of $p < 0.05$ was considered statistically significant.

DATA ANALYSIS AND INTERPRETATION

Demographic Profile of the Respondents

Table 4.1 presents the demographic characteristics of the respondents including age, education, duration of diabetes, and marital status.

Table 4.1: Frequency and Percentage Distribution of Demographic Variables (N = 120)

Demographic Variable	Category	Frequency	Percentage (%)
Age (in years)	30–39	28	23.3
	40–49	47	39.2
	50–60	45	37.5
Education	Primary	20	16.7
	Secondary	44	36.7
	Higher Secondary	32	26.7
	Graduate and above	24	20.0
Duration of Diabetes	1–3 years	35	29.2
	4–6 years	52	43.3
	7 years and above	33	27.5
Marital Status	Married	103	85.8
	Unmarried/Widowed	17	14.2

Table 4.2 shows the descriptive statistics for the Body Image Scale and Brief Fear of Negative Evaluation (BFNE) Scale.

Table 4.2: Descriptive Statistics for Study Variables

Variable	Minimum	Maximum	Mean	Std. Deviation
Body Image Score	15	56	37.12	9.31
Fear of Negative Evaluation	10	50	33.45	8.75

Interpretation: The mean body image score of 37.12 indicates a moderate level of dissatisfaction. The mean FNE score of 33.45 suggests a high level of concern about negative evaluation among the participants.

Test of Normality

To determine whether the variables are normally distributed, the Kolmogorov–Smirnov and Shapiro–Wilk tests were performed.

Table 4.3: Test of Normality

Variable	Kolmogorov–Smirnov Sig.	Shapiro–Wilk Sig.
Body Image	0.082	0.067
FNE	0.096	0.073

Interpretation: Since all p-values are greater than 0.05, both variables are approximately normally distributed, allowing the use of Pearson's correlation coefficient.

Inferential Statistics: Pearson Correlation Analysis

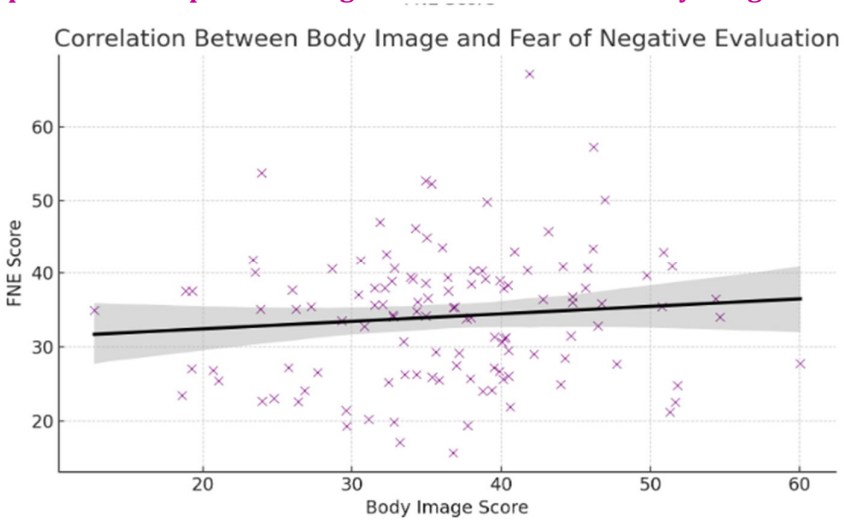
Table 4.4: Correlation Between Body Image and Fear of Negative Evaluation

Variables	Pearson r	Sig. (2-tailed)
Body Image and FNE	0.462	0.000 **

p < 0.01 (Highly significant)

Interpretation: The Pearson correlation coefficient of 0.462 indicates a moderate positive correlation between body image dissatisfaction and fear of negative evaluation. The p-value (0.000) is highly significant, thus rejecting the null hypothesis and supporting the alternative hypothesis that there is a statistically significant correlation between the two variables.

Graph 4.1: Scatterplot Showing Correlation Between Body Image and FNE



The results revealed moderate body image dissatisfaction and high fear of negative evaluation among female T2DM patients. A statistically significant positive correlation was found between the two psychological variables, suggesting that higher body image dissatisfaction is associated with increased FNE. These findings underscore the importance of addressing psychological and emotional issues alongside medical management in diabetic care.

FINDINGS, DISCUSSION, AND CONCLUSION

The findings of the study revealed several important insights regarding the psychological experiences of female patients with Type 2 Diabetes Mellitus (T2DM). Firstly, the participants exhibited a moderate level of body image dissatisfaction, as indicated by a mean score of 37.12 on the Body Image Scale. This suggests that many women in the sample were not fully satisfied with their physical appearance, potentially due to diabetes-related changes such as weight fluctuations, skin issues, or other bodily transformations. Secondly, the level of fear of negative evaluation (FNE) was found to be high, with a mean score of 33.45 on the Brief Fear of Negative Evaluation Scale (BFNE). This indicates a heightened concern among the participants about how they are perceived and judged by others, reflecting significant social anxiety. Most importantly, a statistically significant moderate positive correlation was observed between body image dissatisfaction and FNE ($r = 0.462$, $p < 0.01$). This finding suggests that as dissatisfaction with body image increases, the fear of being negatively evaluated by others also intensifies. These results underscore the interconnectedness of self-perception and social anxiety in diabetic women, emphasizing the need for psychological support in diabetes care. These findings affirm the core hypothesis of the study and suggest a meaningful psychosocial link between physical self-perception and social anxiety dimensions among diabetic women.

The moderate body image dissatisfaction observed aligns with the findings of Ogden and Sidhu (2006), who emphasized that weight changes, physical symptoms, and visible complications related to diabetes contribute to disrupted self-perception. Moreover, the high levels of FNE corroborate prior research by Levinson and Rodebaugh (2012), who identified that individuals with chronic illnesses often fear social judgment, especially when the illness involves socially visible signs or restrictions. This study uniquely contributes to the literature by examining the interplay between body image and FNE in the context of Indian women with T2DM. In a collectivist society like India, where community norms and social appearance are culturally emphasized, physical changes due to illness may lead to heightened self-consciousness and increased vulnerability to negative evaluations. The significant correlation found in this study supports Social Comparison Theory (Festinger, 1954), suggesting that patients internalize societal standards of attractiveness and femininity, leading to adverse self-evaluations when their bodies deviate from these norms.

In addition, Self-Presentation Theory (Leary & Kowalski, 1990) offers insight into why FNE may increase with negative body image. Individuals dissatisfied with their bodies may engage in heightened impression management, becoming overly concerned about others' perceptions. This can manifest in behavioral withdrawal, avoidance of social interactions, and even reluctance to adhere to treatment routines that involve public scrutiny (e.g., insulin injections). The findings also underscore the need for holistic care in diabetes management. Traditional care models that prioritize glycemic control without addressing mental health concerns may inadvertently overlook essential components of patient well-being. The observed psychosocial issues demand the integration of mental health screening, counseling, and psychoeducation into routine diabetic care, particularly for women.

CONCLUSION

This study provides empirical evidence of the psychological dimensions of T2DM, specifically among female patients. The significant positive correlation between body image dissatisfaction and fear of negative evaluation reveals a complex interplay between physical health, self-perception, and social cognition. These psychological variables not only affect emotional well-being but may also impact treatment adherence, health-seeking behavior, and quality of life. The findings advocate for a paradigm shift in chronic disease management—one that views the patient as a whole person with intertwined biological, psychological, and social needs. Addressing the psychosocial burdens borne by women with T2DM, particularly in appearance-conscious and socially interconnected communities, can enhance both clinical outcomes and subjective well-being.

RECOMMENDATIONS

1. Integration of Psychosocial Screening: Routine screening for body image dissatisfaction and social anxiety should be incorporated into diabetic care protocols.
2. Patient-Centered Interventions: Programs such as cognitive-behavioral therapy (CBT), body image workshops, and social skills training should be introduced to support emotional adjustment.
3. Healthcare Provider Training: Nurses and clinicians should be sensitized to the psychological experiences of diabetic women and trained to provide empathetic, nonjudgmental support.
4. Further Research: Future studies may explore the mediating role of cultural beliefs, social support, or self-esteem in the relationship between body image and FNE.

LIMITATIONS OF THE STUDY

1. The use of purposive sampling and a relatively small sample size limits the generalizability of the findings.
2. Self-report measures may be subject to social desirability bias.
3. The cross-sectional design does not allow for causal inferences.

Despite these limitations, the study offers valuable insights and lays the groundwork for future psychological and public health research on chronic illness in women.

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