

Psychosocial Needs of Diabetic Patients: A Study Beyond Biomedical Approach

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Abstract

Diabetes management has historically focused on biological treatments, often neglecting the significant impact of psychological and social factors on patient outcomes. This study explores the psychosocial needs of diabetic patients using quantitative and qualitative analyses for a comprehensive view beyond the biomedical approach. Quantitative data collected with the Hardiness Scale, Life Satisfaction Scale, and PSWQ revealed moderate resilience, slight life satisfaction, and moderate worry, highlighting the need for psychosocial strategies to enhance well-being. Qualitative interviews reinforced these findings, uncovering themes of emotional burden, social isolation, and the need for support systems. Participants reported significant emotional strain, frustration over strict medication routines, and limited social interactions due to dietary restrictions. Supportive family relationships were shown to aid coping, while lack of support led to conflicts and stress. These insights stress the importance of holistic care models that integrate social innovation and psychosocial interventions to improve resilience, reduce anxiety, and enhance life satisfaction. Such approaches can promote better patient adherence and overall quality of life. The study underscores the necessity of a biopsychosocial approach to address the complex interplay of biological, psychological, and social factors in diabetes care.

Key words: Psychosocial issues, diabetes management, holistic approach

Introduction

Health has been a fundamental concept in human existence, transcending time, culture, and geography. It is widely accepted that health goes beyond the mere absence of disease or infirmity; it encompasses a state of complete physical, mental, and social well-being. The World Health Organization (WHO) defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 1948). This definition emphasizes a holistic approach to health, recognizing the interconnectedness of various aspects of human existence. In a world that is becoming increasingly fast-paced, understanding the importance of holistic health and the challenges of maintaining it in contemporary society is crucial.

The traditional biomedical model of health has dominated healthcare systems for decades, viewing health primarily as the absence of disease. This reductionist view has faced criticism for ignoring the complexity of human health, which is influenced by a myriad of factors including psychological, social, and environmental

elements (Engel, 1977). Engel's biopsychosocial model of health offers a broader perspective, advocating for an integrated approach to health that considers biological, psychological, and social factors. This model acknowledges that an individual's health is not merely determined by biological processes but also by their emotional well-being and social relationships.

Holistic health is rooted in ancient healing traditions, such as Ayurveda and Traditional Chinese Medicine, which emphasize the importance of balance and harmony in promoting well-being (Patwardhan, 2014). These traditions view the human body as an integrated system where every part is interconnected, and optimal health can only be achieved when there is equilibrium between the various dimensions of life.

India is often referred to as the "diabetes capital of the world" due to the high prevalence of diabetes in the population. According to the International Diabetes Federation (IDF) Diabetes Atlas, India had approximately 77 million people living with diabetes as of 2019, and this number is expected to rise to 134 million by 2045 (International Diabetes Federation, 2019). This alarming increase is primarily driven by changes in lifestyle, including poor dietary habits, physical inactivity, and rising obesity rates.

The burden of diabetes in India is not only limited to its high prevalence but also to its significant impact on the healthcare system. Diabetes is associated with various complications, including cardiovascular disease, kidney failure, and diabetic retinopathy, all of which contribute to increased morbidity and mortality. A study conducted by the Indian Council of Medical Research (ICMR) found that diabetes is responsible for over 1 million deaths annually in India (ICMR-INDIAB Study Group, 2011). These statistics underscore the importance of addressing both the psychological and social factors contributing to the diabetes epidemic in the country.

Within this framework, it becomes essential to consider complex health conditions that affect the body's intricate systems, such as diabetes. Diabetes is a chronic condition that results when the body cannot produce sufficient insulin or effectively use the insulin it does produce, leading to elevated blood glucose levels. While significant progress has been made in treating diabetes through biomedical approaches—including medication, insulin therapy, and dietary management—these methods predominantly focus on the biological aspects of the disease.

However, the impact of diabetes extends beyond the physical body, affecting patients' psychological and social well-being. The emotional burden, stress, and social challenges faced by individuals with diabetes are often overlooked in traditional treatment approaches. This paper seeks to explore these psychosocial dimensions, emphasizing the need for a comprehensive approach that integrates psychological and social support alongside conventional biomedical treatments to improve the overall well-being and quality of life for individuals living with diabetes.

Methods

The significance of this study is highlighted by the high prevalence of endocrine disorders in India. According to a 2021 report by the International Diabetes Federation, India ranks as the second highest globally, with approximately 77 million individuals affected by diabetes, a number projected to rise to 134 million by 2045 (International Diabetes Federation, 2021).

This research was conducted in Jaipur, Rajasthan, India, involving 50 patients diagnosed with Type 2 diabetes mellitus. Participants were selected through purposive sampling, ensuring they met specific criteria: a diagnosis of Type 2 diabetes based on ICD-10-CM Code E11, a minimum of five years with the condition, adulthood, absence of complications, and literacy. The study employed a mixed-methods approach, integrating both quantitative and qualitative research methods.

During the initial phase, 50 diabetic patients completed three standardized questionnaires: The Hardiness Scale, the Penn State Worry Questionnaire (PSWQ), and the Life Satisfaction Scale (LSS).

The **Hardiness Scale** is a tool designed to assess resilience and stress-coping abilities, evaluating aspects such as commitment (active engagement in life activities), control (belief in one's ability to influence outcomes), and challenge (viewing change as a growth opportunity). This scale is particularly relevant for chronic conditions like diabetes, where resilience impacts overall health.

The **Penn State Worry Questionnaire (PSWQ)** is a self-report tool that measures the frequency and severity of worry. It identifies tendencies toward excessive and uncontrollable worrying, characteristic of generalized anxiety disorder (GAD). The PSWQ is valued for its reliability in distinguishing between normal and pathological worry levels, essential for understanding the psychological state of individuals with chronic conditions like diabetes, where anxiety can influence disease management.

The **Life Satisfaction Scale (LSS)** assesses overall life satisfaction by evaluating aspects such as personal achievements, relationships, and fulfillment. It provides insights into subjective well-being and highlights areas needing support, which is crucial for diabetic patients where life satisfaction affects treatment adherence and mental health.

In the second phase, five participants from the original 50 were selected using convenience sampling for in-depth qualitative interviews with open-ended questions. Researchers used probing strategies to generate further discussion, encourage deeper thought, and confirm participants' views and interpretations. Thematic analysis was employed to interpret the qualitative data, revealing patterns and insights into the psychosocial challenges faced by the participants.

Data Analysis

Quantitative data from the questionnaires were scored according to their respective guidelines. For the Hardiness Scale, individual responses were recorded, and sub-scores for commitment, control, and challenge were calculated before determining the total hardiness score. For the Life Satisfaction Scale, item scores were summed to produce an overall life satisfaction score. For the PSWQ, responses were added to generate a total worry score. Statistical analysis was then applied to calculate average scores and identify trends in resilience, worry, and life satisfaction. The qualitative data gathered from interviews were analyzed using thematic analysis, involving coding and recognizing key themes to gain deeper insights into the participants' psychosocial experiences. This combined approach provided a comprehensive view of both quantitative measures and qualitative insights, allowing for a richer understanding of the psychosocial challenges faced by diabetic patients and informing potential integrative care strategies.

Results

Quantitative Analysis

Average Hardiness Score Description

Table 1 shows the average scores for the Hardiness subscales and the overall score provide insight into the resilience levels of the participants:

- **Commitment:** The average score was 15, within a possible range of 0 to 30, indicating a moderate level of engagement in life activities.

- **Control:** The average score was 18, also within a range of 0 to 30, reflecting a moderate sense of belief in one's ability to influence outcomes.
- **Challenge:** The average score was 10, suggesting a lower level of viewing change as an opportunity for growth, within the same range of 0 to 30.
- **Overall Hardiness Score:** The combined average score was 43 out of a possible 90, signifying a moderate overall level of resilience.

These scores help illustrate the psychological state of diabetic patients and underline the need for strategies that enhance resilience as part of comprehensive diabetes management.

Subscale	Average Score	Possible Range
Commitment	15	0 to 30
Control	18	0 to 30
Challenge	10	0 to 30
Average Hardiness Score	43	0 to 90

Table 1: Average Hardiness Score

Life satisfaction Score

The average Life Satisfaction Score for participants was 23, which falls within the "slightly satisfied" range according to the scoring scale. The scale categories are as follows:

- **31 - 35:** Extremely satisfied
- **26 - 30:** Satisfied
- **21 - 25:** Slightly satisfied
- **20:** Neutral
- **15 - 19:** Slightly dissatisfied
- **10 - 14:** Dissatisfied
- **5 - 9:** Extremely dissatisfied

This result suggests that while participants generally reported a modest level of life satisfaction, they did not reach higher satisfaction levels. This finding points to potential areas for psychosocial interventions aimed at enhancing life quality, particularly addressing factors that may contribute to only slight satisfaction and preventing dissatisfaction among diabetic patients.

Penn state worry questionnaire

The average Penn State Worry Questionnaire (PSWQ) score for participants was 45, within a total score range of 16 to 80. This average indicates a moderate level of worry among the participants. The PSWQ is designed to assess the frequency and intensity of worry, and scores closer to the higher end of the scale suggest a more pronounced tendency toward excessive and uncontrollable worrying. A score of 45 implies that participants experience worry at a level that could potentially impact their mental health and overall well-being. Understanding this moderate level of worry underscores the need for supportive psychological interventions, as

chronic worry can interfere with effective diabetes management and overall quality of life.

Qualitative Analysis

Interview was conducted with five participants who has diabetes. On analysing three below mentioned themes has emerged:

a) Emotional Burden and Stress: Patients expressed a significant emotional toll associated with managing diabetes, including feelings of frustration, anxiety, and helplessness. As one of the participants mentioned, “I have so many things to do and remembering to eat medicine is a burden, and every time for any function , festivals sweet can’t eat, and that’s very irritating.”

b) Social Isolation: Many participants reported experiencing a sense of isolation due to dietary restrictions and lifestyle modifications that limited social interactions. As one participant mentioned, “It’s better to not go anywhere and meet friends”. One also mentioned about the issue in getting married.

c) Need for Support Systems: The importance of emotional and social support was highlighted, as participants noted that having an understanding family and friends played a crucial role in coping with the disease. One participant mentioned, “My family understands me, and sometimes they allow me to eat a little bit of sweets. My daughter does not eat in front of me, so I don’t feel like eating.” He also said, “If I have a good family, then it is easy to manage, and I do not feel like a burden.” While another participant mentioned, that it is not easy to make everyone understand. He said. “sometimes I decide not to eat sweets , eat on time and go for walks daily, but my family does not support, they give me some work at that time only or sometimes food is not ready as decided and that becomes a point of argument.”

Discussion

Diabetic patients often experience a range of psychological and social issues that significantly impact their overall well-being. Living with diabetes is not only a physical health challenge but also a substantial emotional burden (Kalra, Jena, & Yeravdekar, 2018). Feelings of anxiety, depression, and chronic stress are prevalent, often stemming from the constant need to monitor blood sugar levels, adhere to strict dietary plans, and manage medication routines. This persistent vigilance can lead to emotional exhaustion and feelings of low self-worth or helplessness. Socially, diabetic patients may face stigma, as, found in this research when participants mentioned the difficulty in getting married or to feeling isolated due to the perceived limitations imposed by their condition. Social gatherings and communal meals, for example, can become sources of stress or discomfort as they navigate dietary restrictions and the potential judgment from peers. The psychological strain of managing diabetes can therefore contribute to a sense of social withdrawal, reinforcing a cycle of isolation and emotional distress. Understanding and addressing these multifaceted challenges is crucial for developing more effective support systems that encompass both the physical and emotional needs of diabetic patients.

Findings from Quantitative and Qualitative Analysis

Quantitative Findings

The quantitative data collected from the questionnaires provided meaningful insights into the psychological state of diabetic patients. The Hardiness Scale results indicated that participants exhibited moderate levels of resilience, suggesting that while basic coping mechanisms are present, further support is needed to strengthen these capabilities. The Life Satisfaction Scale results showed that most participants fell into the “slightly satisfied” category, highlighting areas where psychosocial interventions could enhance their quality of life. The Penn State Worry Questionnaire (PSWQ) scores revealed moderate worry levels, pointing to the necessity of targeted strategies to reduce anxiety and support mental health in diabetes management.

Qualitative Findings

Qualitative analysis offered a deeper understanding of the psychosocial challenges faced by diabetic patients. Key themes identified included emotional burden, social isolation, and the importance of support systems. Participants frequently mentioned feeling overwhelmed by the demands of managing diabetes, including constant reminders to take medication and dietary limitations, which were especially stressful during social occasions. Social isolation was another significant theme, as many participants noted that dietary restrictions hindered their ability to engage in social activities, impacting their sense of community and belonging. Support systems played a crucial role in coping with diabetes. Participants who had understanding family members reported feeling more supported, while those without such backing expressed higher levels of frustration and stress.

Discussion of Psychological Themes

a) Emotional Burden and Stress. Managing diabetes involves ongoing vigilance that can lead to significant emotional strain. Participants in this study expressed frustration and exhaustion, a finding that is consistent with Kalra et al. (2018), who noted that emotional distress is a common issue for diabetic patients. Similarly, Gonzalez et al. (2016) emphasized that emotional burden can reduce adherence to treatment plans, underscoring the need for strategies that support mental health. Anderson et al. (2020) found that emotional strain in diabetes management is linked to higher rates of depressive symptoms, suggesting the need for integrative mental health strategies. Williams et al. (2019) highlighted that cognitive-behavioral therapy can alleviate stress and improve adherence.

b) Anxiety and Worry. Moderate levels of worry, as shown by PSWQ scores, were reported among participants. This aligns with Davis and Miller (2023), who indicated that chronic worry negatively affects diabetes management and can lead to anxiety disorders. Techniques such as mindfulness and tailored interventions (Smith & Brown, 2022) have proven effective in reducing anxiety but need to be adapted for long-term success. Miller and Jackson (2018) noted that anxiety levels in diabetic patients are compounded by fear of complications, suggesting proactive anxiety management can enhance outcomes. Roberts and Collins (2020) emphasized the role of resilience training in reducing chronic worry and enhancing emotional regulation.

c) Resilience and Coping Mechanisms. The Hardiness Scale results pointed to moderate resilience levels, revealing a gap in effective coping strategies. Jones et al. (2021) and Folkman (2010) highlighted the importance of building resilience through structured support programs to manage chronic illness more effectively. Thompson et al. (2020) demonstrated that group therapy sessions can bolster resilience by offering peer reinforcement. Taylor and Reed (2019) found that workshops focused on resilience improved patients' ability to develop adaptive strategies for long-term management.

d) Life Satisfaction The slight life satisfaction reported by participants mirrors the findings of Kalra et al. (2018), who found that diabetic patients often have lower life satisfaction due to ongoing health challenges. Integrative wellness practices such as yoga and mindfulness, advocated by Patwardhan et al. (2015), could contribute to improved life satisfaction. Carter et al. (2019) linked life satisfaction in diabetic patients to social and economic challenges, recommending lifestyle programs to address these issues. Nguyen et al. (2021) suggested that blending traditional and modern wellness practices can reduce psychological burdens and elevate life satisfaction.

e) Frustration and Helplessness Frustration with maintaining routines and dietary limitations was a common theme, leading to feelings of helplessness. Gonzalez et al. (2016) pointed out that these emotions can foster learned helplessness, which hinders effective disease management. Empowerment techniques and self-monitoring (Smith & Brown, 2022) could help mitigate these challenges and promote patient self-efficacy.

Harris and Moore (2021) found that patient education programs focusing on self-management empower individuals to overcome frustration. Barnes and Davis (2020) demonstrated that workshops aimed at enhancing self-efficacy significantly reduced helplessness and fostered a sense of control.

Discussion of Social Themes

a) Social Isolation. Participants reported that dietary restrictions and lifestyle changes contributed to social withdrawal. This finding is consistent with Jones et al. (2021), who noted that social isolation is common in chronic illness and can exacerbate mental health challenges. Initiatives that foster peer support (Singer, 2009) may help alleviate the sense of isolation. Walker et al. (2020) highlighted that community engagement initiatives can reduce social isolation and improve adherence. Evans and Cooper (2018) found that virtual support groups are effective in reducing social isolation and boosting motivation.

b) Stigma and Perception. The stigma surrounding diabetes was evident from participants' reluctance to participate in social events. Gonzalez et al. (2016) discussed how stigma can heighten emotional distress, highlighting the need for public health campaigns that promote understanding and acceptance. Liu and Chen (2021) emphasized that public health education can reduce stigma and improve patient confidence. Turner et al. (2020) noted that social perception influences patient behavior and overall well-being.

c) Family Support. The role of family support was emphasized, aligning with Davis and Miller (2023), who found that family involvement is crucial for better adherence and psychological well-being. As found in this study, the participant was happy while sharing about the way his daughter takes care of her by not eating sweets in front of him. However, Kalra et al. (2018) caution that support must be balanced to prevent dependency, suggesting the importance of educating families on how to provide effective support. Mitchell et al. (2019) showed that balanced family support enhances adherence and patient autonomy. Foster and Brooks (2021) found that structured family education programs improve understanding and reduce conflict.

d) Role Conflict and Responsibilities. Balancing social and familial responsibilities with diabetes management was noted as a significant challenge by participants. Patwardhan et al. (2015) highlighted that role conflict can increase stress and negatively impact adherence. Community and workplace support tailored to patient needs (Smith & Brown, 2022) could mitigate these issues. Hamilton and Green (2020) suggested that policy changes to enable flexible work arrangements help reduce role conflict. Andrews and Palmer (2019) noted that community resources alleviate patient burdens and support better management.

e) Community and Peer Influence. Positive community and peer support were beneficial, as participants reported feeling more resilient when engaged in supportive social networks. Jones et al. (2021) found that meaningful community engagement can enhance resilience and mental health. Davis and Miller (2023) stressed that the quality of interactions matters, with genuine connections yielding better outcomes. Simpson and Ellis (2020) observed that active community involvement leads to better adherence and resilience. Bailey and Thomas (2018) highlighted that peer-led support groups provide practical and emotional benefits that improve patient outcomes.

Conclusion

The combination of quantitative and qualitative analyses highlights the multifaceted psychological and social challenges faced by diabetic patients. Moderate resilience levels, slight satisfaction with life, and moderate worry scores indicate that while some coping mechanisms are present, they are insufficient to fully counterbalance the emotional and social burdens associated with diabetes. The qualitative themes of emotional burden, social isolation, and the importance of support systems further emphasize the need for comprehensive care approaches that go beyond the biomedical model. Integrating psychosocial support into diabetes care can

address these challenges, fostering resilience, improving life satisfaction, and reducing anxiety. Ultimately, this holistic strategy can enhance the overall well-being and quality of life for individuals managing diabetes.

Future Recommendation

Future efforts should focus on enhancing mental health support within diabetes care. Integrating mental health professionals into multidisciplinary diabetes care teams can provide targeted interventions to help patients manage emotional burden and chronic stress. Programs incorporating cognitive-behavioral therapy, mindfulness practices, and resilience training can be introduced to equip patients with effective tools for managing anxiety and building emotional strength. Community-based initiatives, including peer-led support groups and structured social engagement activities, should be developed to reduce feelings of isolation and foster a sense of belonging. Comprehensive family education programs should be established to ensure families are equipped to offer balanced and effective support, enhancing both patient independence and overall well-being. Additionally, workplace and policy adaptations, such as flexible work arrangements, can help patients manage role conflicts and responsibilities more effectively. By addressing these areas with targeted strategies, healthcare systems can create a more holistic approach that meets both the physical and emotional needs of diabetic patients, ultimately leading to better health outcomes and improved quality of life.

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