



Psychological Hardiness in Diabetes Patients : A Qualitative Clinical Case Study

الصلابة النفسية لدى مرضى السكري: دراسة حالة عيادية

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Article abstract:

This study aimed to find out how type 2 diabetes patients conceptualize psychological toughness in their life experience with the disease, and what are the psychological processes and interactions through which this toughness is manifested in the course of their psychological adaptation to their health condition? The study sample consisted of 4 cases, and the respondents were purposively selected. The results of psychological hardiness were interpreted according to Kobasa's (1979) and Maddi's (2002) theories. The results of the case study showed the following results -

- Case 1: showed moderate hardiness, with balanced scores in commitment, control, and defiance.
- Case 2: Scored below average on the hardiness scale, particularly in control and defiance.
- Case 3: Demonstrated high hardness, with strong scores in Commitment and Control.
- Case 4: exhibited moderate hardiness, with strength in challenge but weaker control.

Keywords: Psychological toughness, Psychological diabetes, adaptation, Hardiness

ملخص المقال:

هدفت هذه الدراسة إلى استكشاف تصور مرضى السكري من النوع الثاني للصلابة النفسية خلال تجربتهم الحياتية مع المرض، وتحديد العمليات والتفاعلات النفسية التي تتجلى من خلالها هذه الصلابة في مسار تكيفهم مع حالتهم الصحية. تكونت عينة الدراسة من أربع حالات، تم اختيارها بشكل مقصود. وقد فسرت نتائج الصلابة النفسية استناداً إلى نظريات كوباسا (1979) ومادي (2002)

أظهرت نتائج دراسة الحالة ما يلي:

الحالة 1: صلابة نفسية معتدلة، مع درجات متوازنة في الالتزام والتحكم والتحدي.

الحالة 2: درجات أقل من المتوسط على مقياس الصلابة، خاصة في السيطرة والتحكم.

الحالة 3: صلابة نفسية عالية، مع درجات قوية في الالتزام والتحكم.

الحالة 4: صلابة نفسية معتدلة، مع قوة في التحدي وضعف في السيطرة

الكلمات المفتاحية: الصلابة النفسية، السكري، التكيف.



Introduction

Chronic illness is a serious health and psychological challenge for individuals around the world, as its management requires ongoing commitment to lifestyle changes, medical care, and adaptation to limitations imposed by the condition. In this context, chronic diseases such as type 2 diabetes stand out as a model that epitomizes these challenges prominently, given its progressive nature and the need for careful and continuous self-management (Nawara, 2016). The impact of diabetes extends beyond the physiological to the psychosocial dimensions of the individual, with many patients experiencing depressive symptoms, social isolation, and psychological exhaustion, negatively impacting their quality of life and ability to adhere to treatment.

Despite the prevalence of these challenges, individuals' responses to disease-related stressors vary widely, prompting psychological research to explore the internal factors that contribute to positive coping. Psychological hardiness has received increasing attention as a pivotal personality trait that helps mitigate the negative effects of chronic stress. Developed by Susan Kobasa (Kobasa, 1979), psychological hardiness is defined as a set of beliefs and attitudes that enable individuals to deal with stressors and turn them into opportunities for growth. This trait has three basic dimensions: challenge, which is the propensity to view change and stress as opportunities for learning and development rather than threats; control, which is the belief in one's ability to influence events; and commitment, which is the deep involvement in life activities and beliefs (Kobasa, 1979; Maddi, 2006).

Numerous studies have demonstrated the protective function of psychological toughness in managing long-term illnesses. For instance, prior studies have demonstrated that psychological toughness can have a substantial impact on how diabetic patients manage their illness, influencing their coping mechanisms, how they view the illness, and how they engage with treatment regimens. Hilliard et al. (2021) have emphasized the role of resilience in reducing psychological distress related to diabetes, particularly in younger age groups, while Yi et al. (2020) have found that more resilient diabetic patients exhibit better control of their blood sugar levels. These results highlight the fact that psychological resilience is a real factor that has a noticeable effect on patients' quality of life and health outcomes, rather than merely being a theoretical idea. However, most of these studies tend to adopt quantitative approaches that focus on measuring the “level” or “relationship” between variables, which may not provide a deep and comprehensive understanding of how psychological resilience manifests itself in patients' daily lived experience. Understanding an individual's subjective experience and internal psychological processes is of paramount importance in the context of chronic diseases, especially since adaptation is not just an outcome, but a dynamic process shaped by the interaction of personal beliefs, stressors, and available resources. There is an urgent need to explore the qualitative aspects of psychological resilience, not only as an existing trait, but as a living process that interacts with the challenges of illness, and how individuals interpret these interactions in the context of their daily lives

Based on the above, this study seeks to answer the following central question:

How do type 2 diabetes patients perceive psychological resilience in their life experience with the disease, and what are the psychological processes and interactions through which this resilience is manifested in the course of their psychological adaptation to their health condition?



Research Objectives:

To explore and describe the manifestations and meanings of psychological hardiness as experienced by adult diabetic patients.

To understand the processes through which psychological hardiness serves as a coping mechanism against disease-related stress in the lived experiences of these patients.

To develop insights from individual case studies that can inform the integration of psychological hardiness support into diabetes care protocols. Based on preliminary findings and literature, we hypothesize that diabetic patients demonstrate

Importance of the study:

"This study is significant because it employs a qualitative case study approach to offer a rich, in-depth understanding of the complex interplay between psychological hardiness and the lived experience of Type 2 diabetes. While quantitative studies provide valuable data on correlations and prevalence, this research delves into the 'how' and 'why' of psychological adaptation at an individual level. By focusing on detailed clinical cases, it aims to uncover nuanced coping strategies, personal perceptions of illness, and the specific ways in which commitment, control, and challenge are manifested in daily life, which can be overlooked in broader surveys. The findings will provide a foundational understanding that can inform person-centered approaches to diabetes care, acknowledging the unique psychological journeys of patients."

1. Literature Review

Through a number of studies and research conducted by Kobasa (1979), he asserts that psychological hardiness is a general belief in the individual's effectiveness and ability to use all available psychological and environmental resources available in order to perceive, interpret them and face stressful life events effectively without distorted or distorted perception and interpret them realistically and objectively logically. The human being coexists with them positively It includes three dimensions : Commitment, Control and Challenge (Kobasa, 1979).

Mukhaimar (2006) defined psychological hardness as "an individual's possession of a set of traits that help him face sources of pressure, including the ability to commit, the ability to challenge, and the ability to control life matters" ذ

1.1 Theoretical Foundations of Psychological Hardiness

1. Kobasa's Theory (1979) : The Triadic Structure

Suzanne Kobasa is credited with conceptualizing psychological hardiness as a personality trait that buffers individuals against the negative effects of stress. Her model identified three core dimensions that characterize hardy individuals :

Commitment : A strong sense of purpose and involvement in life's activities. Hardy individuals remain engaged rather than feeling alienated.

Control: The belief in one's capacity to influence events, rather than perceiving oneself as helpless.

Challenge: A view of change and adversity as opportunities for growth rather than as threats.

Kobasa's studies—initially conducted on executives—demonstrated that individuals high in hardiness experience fewer stress-related illnesses despite high levels of pressure. Her work laid the foundation for later empirical investigations into personality and stress resistance.

2. Maddi's Theory (2002): Existential Resilience

Building upon Kobasa's work, Salvatore Maddi reconceptualized hardiness within an existential-psychological framework. Maddi emphasized that hardiness enables individuals to derive meaning from adversity, framing it as a path toward personal transformation.

He agreed on the three components of commitment, control, and challenge, but argued they are cultivated over time through life experiences, especially during childhood.

Maddi's theory suggests that hardy individuals are not merely stress-resistant, but also capable of thriving under pressure, because they maintain an inner sense of coherence, purpose, and flexibility.

His contribution was crucial in transitioning the concept from a fixed trait to a developable set of capacities rooted in both personality and meaning-making.

3. Bartone's Model (1999–2016): Hardiness in High-Risk Environments

Paul T. Bartone extended the construct of psychological hardiness into the military and organizational psychology contexts. Drawing on extensive research with U.S. Army personnel and first responders, Bartone viewed hardiness as a multi-dimensional resilience factor that predicts both psychological health and performance under extreme stress.

Key contributions of Bartone's model include:

Positioning hardiness as a protective buffer against combat-related trauma, burnout, and mental health disorders.

Advocating that hardiness is not merely inherited, but can be enhanced through training and leadership.

Introducing the idea of "psychobiological resilience", in which hardiness influences neuroimmune responses to stress (Sandvik et al., 2013).

Bartone's operationalization of hardiness influenced selection, training, and support programs within high-stakes professions, confirming its predictive power for success under pressure.

1.2 Components of Psychological hardiness :

Nahida Musa Talfah (2022) has clearly identified the components of psychological toughness based on the foundational theories of Kobasa (1979), Maddi (2002), and Barton (1999-2016). These components are summarized below:

Psychological hardiness is composed of three fundamental components—commitment, control, and challenge—which function together as a personality structure that enhances stress resistance. These components moderate the effects of life stress and reduce vulnerability to psychological and physical illness. (Telfah, 2022; Kobasa, 1979; Mund, 2016) components:

1. Commitment

Definition: A deep sense of purpose and meaningful involvement in activities and life roles.

Function: Encourages individuals to remain engaged and see their work and challenges as worthwhile.

Example: A university professor continues to teach passionately despite professional difficulties because they feel their role is meaningful. (Kobasa, 1979; Telfah, 2022).

2. Control

Definition: The belief in one's capacity to influence events and outcomes.

Function: Promotes a sense of autonomy and personal responsibility, reducing feelings of helplessness.

Example: Instructors who believe they can manage their workload are less likely to experience burnout, even under pressure. (Kobasa, 1979; Telfah, 2022).

3. Challenge

Definition: The perception of change and difficulty as opportunities for growth, not threats.

Function: Facilitates adaptability, resilience, and learning from stress.

Example: Viewing a curriculum reform or an increased teaching load as a professional development opportunity rather than an obstacle.



Figure 1 illustrates the triad of psychological toughness: Commitment, Control, and Challenge.

1.3 Previous studies on psychological hardiness

<i>Researcher(s) & Year</i>	<i>Aim of the Study</i>	<i>Study Sample</i>	<i>Key Results</i>
<i>Kobasa (1979)</i>	To explore psychological hardiness as a protective factor against illness in highly stressed individuals	259 American executives, including individuals with and without chronic disease	High hardiness (commitment, control, challenge) associated with fewer illness symptoms despite high stress exposure
<i>Maddi et al. (2006)</i>	To study the relationship between psychological hardiness and physiological indicators in chronic illness (e.g., hypertension)	136 individuals with chronic stress and elevated blood pressure	Hardiness predicted better performance, lower blood pressure, and improved coping under stress
<i>Sgatni, M., & Zerzour, A. (2022)</i>	To identify the level of psychological hardiness among a sample of diabetic patients.	30 diabetic patients in Algeria	A high level of psychological hardiness was found among the sample. No statistically significant differences were found based on gender, social status, or type of diabetes.

2. Methodology

This study adopted a qualitative clinical case study methodology, as outlined by Crowe et al. (2011), to conduct an in-depth, holistic analysis of psychological hardiness within the lived experiences of diabetic patients. This approach allows investigators to capture complex psychological adaptation processes and context-specific meanings that quantitative methods alone may fail to reveal.

2.1 Participants: Purposive sampling was employed to select four diabetic patients (two males and two females, aged 40–65 years) who were admitted to the internal medicine department of Al-Akhawat Baj Hospital in Chlef, Algeria. This selective sampling aimed to maximize the depth of information from individuals experiencing chronic illness within a clinical setting, rather than seeking statistical generalizability. Educational or socioeconomic status was not a primary selection criterion, allowing for a focus on the core psychological experiences.

2.2 Clinical Interview: A semi-structured clinical interview served as the primary qualitative data collection instrument, guided by a comprehensive protocol. These interviews were designed to be flexible yet focused, allowing for open-ended exploration and in-depth elicitation of participants' experiences. Key areas explored included their initial reactions to a diabetes diagnosis, the profound impact on social relationships, marital life, professional performance, and future aspirations. The intent was to capture rich, idiographic narrative accounts and subjective interpretations of their lived experiences with the illness, their unique coping mechanisms, and their evolving perspectives on adaptation.

2.3 Psychological Hardiness Scale: Emad Mukhaimer, (2002) hardiness scale, validated and standardized for the Algerian context by Bashir Maamariya (2011), was administered to each participant. This scale consists of 47 items, encompassing three core dimensions of hardiness: commitment (16 items), control (15 items), and challenge (12 items). Scores range from 47 to 141, with specific items reverse-scored to ensure accurate measurement. While inherently a quantitative measure, its deployment within this qualitative framework was strategic: the scores provided a structured, complementary profile of hardiness dimensions for each case. These quantitative data served to contextualize and enrich the understanding derived from the profound narrative insights obtained through the clinical interviews, rather than functioning as a primary tool for statistical inference. The scale's robust psychometric properties were noted, including a Cronbach's alpha of 0.51, split-half reliability of 0.73, and comparative validity of 0.74.

3.3 Data Analysis:

The qualitative data collected from the clinical interviews underwent rigorous thematic analysis, a systematic process used to identify, analyze, and report patterns (themes) within data. This involved iteratively reading the interview transcripts to gain familiarity, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Each of the four cases was first analyzed individually to preserve its unique narrative, capture specific manifestations of hardiness, and understand individual adaptation trajectories. This within-case analysis ensured that the depth and idiosyncrasy of each participant's experience were fully appreciated. Following this, a cross-case comparison was performed to identify commonalities, significant variations, and emergent patterns across the participants, thereby enhancing the overall understanding of psychological hardiness within this specific population. The quantitative scores from the psychological hardiness scale provided an additional layer of descriptive context, serving to corroborate or highlight divergences with the qualitative narratives and thereby strengthening the overall analytical insight.

3.4 .The results

A thorough evaluation of psychological hardiness was provided by the study's rich qualitative data from four different cases, which were further contextualized by the results of the hardiness scale. The results show how hardiness and adaptation techniques can take many different forms:

Case 1: Showed a moderate level of resilience, with scores that were balanced between challenge, control, and commitment. According to the interview, there was little disruption to social or professional life after the diagnosis, but there was initial shock followed by gradual acceptance.

Case 2: This patient's psychological hardiness score was below average, with specific vulnerabilities identified in the challenge and control dimensions. A less adaptive response to the chronic illness was indicated by the accompanying interview data, which clearly showed significant emotional distress and significant difficulties in maintaining established social relationships after the diabetes diagnosis.

Case 3: This participant scored highly in both commitment and control, indicating high psychological hardiness. The patient actively perceived diabetes as a manageable condition, and the interview consistently revealed an optimistic outlook. Strong family support greatly enhanced this beneficial adaptation, highlighting the interaction of internal characteristics and external resources. Among the sample, Case 3 showed the highest level of hardiness, especially in terms of commitment and control.

Case 4: Despite having relatively weaker control, this patient demonstrated moderate psychological hardiness, as evidenced by notable strength in the challenge dimension. Although the patient reported proactive and adaptable efforts to manage these challenges within the context of their illness, the interview insights revealed the existence of professional challenges.

comparative analysis : across these cases revealed significant variability in psychological hardiness levels and adaptive responses among the participants. While Case 3 demonstrated exceptional hardiness, Case 2 exhibited the lowest, struggling markedly with emotional regulation and social integration. Cases 1 and 4 showcased moderate resilience, albeit with differing strengths across the specific hardiness dimensions. Overall, the average hardiness score observed across this small, purposefully selected sample provided qualitative support for the initial hypothesis of moderate psychological hardiness within the diabetic patient population.

4.5 .Discussion

The qualitative findings from these in-depth case studies shed a bright light on the existence of substantial individual differences in the level of psychological resilience in diabetic patients. This observation is strongly consistent with Lazarus' (Lazarus, 1997) theory of stress and coping, which posits that individuals' responses to stressful situations are highly variable and depend on their unique personality traits and available resources. These variations, as our study revealed, are not just about whether or not resilience exists, but how its different dimensions (commitment, control, and defiance) are manifested in the face of the challenges of daily life with illness.

The case of Patient 3 (Case 3), who demonstrated remarkably high psychological toughness, provides a convincing empirical foundation for Kobasa's pivotal concept of psychological toughness (Kobasa, 1979). This case demonstrates an individual's ability to recognize stressors as opportunities for growth and development, driven by a strong sense of commitment to and control over their lives. This is consistent with the results of Kobasa's original study (Kobasa, 1979) which found that executives with high resilience reported fewer sickness symptoms despite high stress levels, as well as with Maddi's work (Maddi, 2006) emphasized resilience as the courage to grow from stress. In contrast, the low psychological resilience observed in Case 2 reflects a profile characterized by heightened emotional vulnerability, including anxiety and a diminished sense of control. This aligns with broader clinical observations in the literature that suggest some diabetic patients are particularly susceptible to psychological distress, especially when lacking adequate coping resources or social support. This case highlights the urgent need for tailored psychological interventions to foster inner psychological resources and promote adaptive responses to chronic illness.

The observed variation in levels of psychological hardiness across the individual cases in our study can be attributed to a complex interplay of factors, including the social support available to the individual, underlying personality traits, and the specific coping strategies used by individuals (Pollock, 1989). Pollock's study (Pollock, 1989) emphasizes that resilience is a motivational factor that contributes to better adaptation to chronic illness and reduces emotional distress, which is evident in the variability of our patients' responses. Florian et al. (Florian et al., 1995) also support this proposition, noting that resilience is positively associated with solution-oriented coping styles and emotional stability in the context of chronic illness. In addition,

studies such as Telfah's (Telfah, 2022) revealed an association between psychological hardiness and burnout, suggesting its protective role even in stressful occupational contexts.

The qualitative observation of moderate hardiness in the majority of the studied cases reinforces the initial hypothesis of the study. This suggests that although diabetic patients face significant and persistent challenges associated with their condition, many of them possess inherent adaptive psychological traits that facilitate effective adaptation and coping processes. These findings emphasize that resilience is not just an exceptional trait possessed by a few, but an ability that can exist at different levels and influence how individuals manage their chronic illness (Riaz et al., 2015). For example, Riaz et al. (Riaz et al., 2015) showed that psychological toughness was negatively associated with depression and positively with general mental health and diabetes self-management in patients with type 2 diabetes in Pakistan, supporting our results. Similarly, Chan's (Chan, 2000) study on cancer patients showed that higher hardiness predicted greater optimism and better psychological well-being, reflecting the applicability of the concept of hardiness across different chronic diseases.

These insights highlight the urgent need to incorporate targeted psychological interventions into standard diabetes care protocols. These interventions should be designed to promote the core dimensions of psychological resilience: Commitment, Control, and Challenge. Adopting approaches such as CBT and mindfulness techniques, as recommended by recent studies (Zhang et al., 2023), can effectively enhance psychological resilience, thereby improving overall disease management and contributing to a better quality of life for individuals with diabetes. The case study, by its qualitative nature, provides an informative basis for understanding the mechanics by which these interventions can work at the individual level.

3 .Conclusion:

This study confirms that diabetic patients generally exhibit moderate psychological resilience, enabling them to navigate the multifaceted challenges of their condition. Resilience serves as a vital protective factor, facilitating adaptation to the physical and emotional demands of diabetes. However, the small sample size limits generalizability, and the exclusion of socioeconomic and educational factors may overlook key influences on resilience.

Future research should explore larger, more diverse samples to validate these findings and evaluate the effectiveness of resilience-enhancing interventions. Investigating the interplay between resilience and constructs like self-efficacy and optimism, as suggested by Bandura (1977) and Seligman (1991), could further inform strategies for supporting diabetic patients. This study highlights the critical role of psychological resilience in chronic illness management, advocating for a holistic approach that integrates psychological support into medical care.

- **Recommendations:**

Based on the findings and in-depth discussion of this qualitative study, the following recommendations are made to enhance the understanding and support of psychological hardiness in patients with diabetes:

Integrate the assessment of psychological hardiness into the clinical care of patients with diabetes: It is recommended to include tools to assess psychological hardiness, particularly the dimensions of commitment, control, and defiance, as part of the routine psychological assessment of patients diagnosed with diabetes or experiencing difficulties in coping. This will allow for the identification of patients at psychological risk and the identification of their individual needs.

Develop customized psychological intervention programs to promote resilience: Depending on the nature of the case study, psychological intervention programs should be designed that focus on enhancing dimensions of psychological resilience. These programs can use cognitive-behavioral therapy (CBT) or mindfulness techniques.

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