Case Report

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Uncontrolled Diabetes Reversed After Treating Hidden Anxiety-Depression: A Five-Step Approach Case Report

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ABSTRACT

Uncontrolled diabetes mellitus in older adults is frequently approached through pharmacological intensification, including insulin initiation when oral agents fail to meet glycaemic goals. However, psychological factors such as chronic stress, anxiety, and depression may significantly impair glucose regulation and mimic treatment-resistant diabetes.

This case report describes a 70-year-old man with persistently uncontrolled type 2 diabetes (HbA1c 13%) despite maximal dual oral therapy and full adherence to medical and lifestyle recommendations. Using the AlKhathami Five-Step Patient Interview Approach, a structured mental-health integration model for primary care, the family physician identified an underlying moderate–severe anxious-depressive disorder contributing to metabolic dysregulation.

A combined management plan involving non-pharmacological interventions, nutritional support, and SSRI therapy (escitalopram) led to rapid clinical improvement. Within 10 days, the patient developed hypoglycaemia, necessitating the stepwise discontinuation of all antidiabetic medications. Over two months, anxiety and depressive symptoms resolved, sleep and concentration normalised, and HbA1c decreased from 13% to 7% without diabetic drugs.

This case demonstrates the substantial impact of addressing mental-health determinants on chronic-disease outcomes and highlights how the Five-Step Approach enables primary-care physicians to detect hidden psychological distress, prevent unnecessary insulin escalation, and achieve meaningful metabolic improvement. Integrating structured mental-health assessment into routine chronic-disease management is essential for improving outcomes in patients with uncontrolled diabetes.

***Keywords:** Uncontrolled diabetes mellitus, Anxiety–depression, Primary mental healthcare, Five-Step Patient Interview Approach, Psychological capacity compression, Glycaemic control*

Introduction

Uncontrolled diabetes mellitus in older adults is commonly addressed by intensifying pharmacological therapy, including the initiation of insulin when oral agents fail to achieve glycaemic targets [1]. However, psychological conditions such as chronic stress, depression, and anxiety have been shown to worsen metabolic control by increasing counter-regulatory hormones, reducing self-care behaviours, and impairing adherence to treatment [6,9]. Despite their substantial clinical impact, these mental-health determinants are often under-detected in routine primary-care practice.

The AlKhathami Five-Step Patient Interview Approach provides a structured and evidence-based framework that enables family physicians to systematically identify, explore, and manage psychological contributors within ordinary clinical encounters [2].

This case report demonstrates how applying this model revealed an underlying mixed anxiety–depressive disorder in a patient with persistently uncontrolled diabetes mellitus, and how targeted mental-health intervention led to substantial glycaemic improvement.

Case Presentation

Patient: Sami, a 70-year-old male with uncontrolled type 2 diabetes mellitus.

Background: Persistent hyperglycaemia (HbA1c 13%) despite maximal doses of sulfonylurea and metformin.

Adherence: Fully compliant with lifestyle and medication instructions.

The patient repeatedly refused insulin therapy due to fear related to his age. A specialist consultation reached the same recommendation but referred him back to primary care when he continued to decline insulin. Upon return, he was evaluated by a family physician trained in the Five-Step Approach.

Step 1: Does the patient need mental health assessment?

Yes, uncontrolled chronic disease is considered a clinical marker for possible psychological stress.

Step 2: Screening for hidden issues and stress

A. ICE (Ideas, Concerns, Expectations) Questions for hidden agenda, and delusion.

Responses were logical and reality-based. No delusional thinking detected.

B. Screening for psychological Stress using three Indicators

i) Sleep:

Difficulty initiating sleep suggests mild stress, while frequent awakenings indicate moderate to severe stress.

ii) Performance and Concentration:

A noticeable decline in performance or concentration indicates moderate to severe stress.

iii) Relationships and Irritability:

Social withdrawal or increased irritability with quick anger indicates moderate to severe stress.

Overall Stress Level: Moderate to Severe

Step 3: Referral or Primary Care Management

There was no evidence of suicidality, psychosis, dementia, or substance misuse.

Decision: Continue management under the family physician.

Step 4: Diagnosis - Depression and or Anxiety

Clinical questioning revealed the following:

Depression: Markedly reduced happiness and or diminished pleasure

Anxiety: Persistent tension most of the time and or excessive worry regarding health and family

Final Diagnosis: Moderate to Severe Anxious Depression

Step 5: Management Plan

The management plan consists of three components:

I. Non-pharmacological Management

Its aim is to increase the body's happiness hormones (such as serotonin) while reducing stress hormones like adrenaline and cortisol.

- Walking regularly without forcing yourself, since the mind naturally resists strict commitment.
- Avoid engaging in arguments, as they can disrupt your happiness hormones and increase psychological stress.
- When you engage in self-blame or self-criticism, you should stop the negative thought by replacing it with a positive one. Remind yourself of the good things you have—such as your ability to see, hear, and take care of your basic needs without needing help from others.
- Work on lowering stress hormones through Deep-breathing relaxation —before sleep, after waking, during moments of stress, and even when you are calm. Breathe naturally, without forcing or controlling the breath.
- Maintain regular follow-up according to the scheduled appointments.

II. **Nutritional and Vitamin Support**

Goal: Provide nutrients necessary for happiness-related hormones synthesis.

Walking regularly without forcing yourself, since the mind naturally resists strict commitment.

- Magnesium at bedtime
- Vitamins B1, B6, B12 (one tablet before breakfast)
- Vitamin D3 50,000 IU weekly × 3 months
- Avoid carbonated drinks and excess sugar
- Use natural, unrefined salt
- Avoid hydrogenated oils; use natural oils (olive oil, animal fat, ghee) in moderation

III. Pharmacological Management

Its purpose is to prevent the breakdown of serotonin, use the action of SSRIs (Selective Serotonin Reuptake Inhibitors), which work by preserving serotonin levels.

- Start escitalopram at 5 mg daily for six days → then increase to 10 mg daily, as the case is of moderate to severe intensity.
- Schedule the next follow-up in two weeks.

Clinical Course and Outcome

After 10 days of management, the patient experienced hypoglycaemia, requiring stepwise reduction of sulfonylurea and eventual discontinuation of all antidiabetic medications.

- Over the following two months:
- Anxiety and depressive symptoms fully resolved
- Sleep and concentration normalized
- Social engagement restored
- Blood glucose remained consistently normal

- HbA1c decreased from 13% to 7%, despite no diabetes medications

The patient continued escitalopram 10 mg daily with follow-ups every eight weeks.

Patient Perspective

"I never imagined I had a psychological disorder. For years, doctors focused only on my diabetes and blamed me for the poor control. No one ever asked about my sleep, daily performance, or psychological well-being. Now I feel as if I am living again. The last time I laughed this sincerely from the heart, the way I am laughing with you now was when I was 15 years old."

Discussion

This case highlights the well-established bidirectional relationship between mental health and diabetes control. Psychological stress activates the hypothalamic–pituitary–adrenal (HPA) axis, increasing cortisol and catecholamine secretion, which in turn promotes hepatic glucose output, insulin resistance, and glycaemic instability [4,8]. Similarly, depressive and anxiety disorders are strongly associated with poorer diabetes self-management, reduced medication adherence, sleep disturbance, and increased risk of uncontrolled hyperglycaemia [3,5]. These mechanisms often create a clinical picture of "pseudo-resistant" diabetes in which pharmacological escalation fails to achieve control because the underlying psychological burden remains unaddressed.

The application of the AlKhathami Five-Step Approach in this case played a pivotal role in uncovering hidden anxiety–depression as the primary contributor to the patient's uncontrolled diabetes. The approach provides a structured, patient-centred framework that guides primary-care physicians to (1) anticipate mental-health needs, (2) explore hidden symptoms, (3) determine appropriate care pathways, (4) diagnose accurately, and (5) initiate effective treatment [2]. Its strength lies in its ability to integrate mental-health assessment seamlessly into routine chronic-disease encounters, even within time-limited consultations. By enabling early recognition of psychological capacity compression and related symptoms, the Five-Step Approach prevented unnecessary escalation to insulin therapy and allowed the provider to address the true driver of metabolic dysregulation.

Following treatment of the underlying anxious-depressive disorder, the patient demonstrated rapid and sustained improvement in both mental-health and metabolic outcomes: normalization of sleep and concentration, resolution of anxiety and depressive symptoms, restoration of social functioning, and a reduction in HbA1c from 13% to 7% without any antidiabetic medications. This dramatic reversal aligns with existing evidence suggesting that effective management of depression and anxiety leads to improved glycaemic control and reduced complications in diabetes populations [7,11].

Importantly, this case illustrates how the integration of mental-health screening into chronic-disease management can prevent misclassification of patients as "non-compliant" or "poorly controlled" and reduce the burden of unnecessary polypharmacy. Primary-care-based mental-health interventions, when applied systematically, have been shown to enhance patient engagement, improve treatment outcomes, and reduce healthcare utilisation [10]. The Five-Step Approach aligns with WHO recommendations for scaling up mental-health services within primary care and provides an operational tool to achieve this in settings managing complex comorbidities such as diabetes and hypertension.

Overall, this case reinforces the critical importance of embedding structured mental-health assessment such as the Five-Step Approach into routine chronic-disease management. Doing so allows clinicians to identify hidden drivers of uncontrolled NCDs, personalise care, and achieve meaningful clinical improvement that may not be attainable through pharmacological intensification alone.

Conclusion / Key Learning Points

- Uncontrolled diabetes may reflect underlying psychological distress rather than treatment failure alone.
- The Five-Step Approach facilitates early detection of hidden anxious-depression.
- Treating psychological disorders can significantly improve glycaemic control and reduce medication burden.
- Integration of mental health into primary care is essential for holistic chronic disease management.

Patient Consent Statement

Written informed consent for publication was obtained from the patient.

Conflict of Interest & Funding Statements

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