

THE INFLUENCE OF FINANCIAL HARDSHIP AND LACK OF SOCIAL COVERAGE ON ADHERENCE TO DIABETES TREATMENT

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Reçu le: 26/04/2025 **Accepté le :** 18/05/2025 **Publication en ligne le:** 03/06/2025

ABSTRACT:

This article is based on a clinical case observed during my doctoral research on therapeutic adherence in diabetic patients. It highlights the socio-economic barriers faced by chronic patients, particularly those living in poverty and without social coverage, such as the lack of CNAS insurance in Algeria. Through the examination of this case, the article emphasizes the impact of exclusion from healthcare systems on treatment adherence and the psychological well-being of patients. By analyzing public financial governance policies, it questions the effectiveness of existing mechanisms in ensuring access to care for vulnerable populations. This study advocates for a revision of public health policies to ensure the true inclusion of impoverished patients in care systems, integrating psychosocial issues into governance decisions.

Key words: Public Health; Social Security (CNAS); Chronic Diseases; Medication Adherence; Poverty.

I INTRODUCTION

In Algeria, access to healthcare remains a major issue in public health policies, especially for vulnerable populations. Poverty and the lack of social coverage, such as CNAS insurance, exacerbate these inequalities and contribute to the exclusion of many patients from healthcare systems. Among them, patients with chronic diseases, such as diabetes, represent a particularly vulnerable group. Their care requires rigorous and continuous management, which involves appropriate therapeutic monitoring and facilitated access to medical care. However, therapeutic adherence, that is, the patients' compliance with prescribed treatments, is a complex concept influenced by multiple factors, including the psychosocial dimension. Economic precariousness, combined with the lack of social coverage, constitutes a major barrier to treatment adherence. Patients facing these challenges often experience feelings of

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abandonment and despair, affecting their psychological well-being and hindering their ability to follow a treatment plan regularly and effectively.

In this context, this article explores the impact of social exclusion on therapeutic adherence among chronic patients, particularly those living in poverty. The aim is to question current public policies, their effectiveness, and their capacity to ensure equitable access to care for these vulnerable populations, taking into account the psychological dimension that directly influences their healthcare journey.

II PUBLIC FINANCIAL MANAGEMENT AND HEALTHCARE IN ALGERIA:

In Algeria, public financial governance in the healthcare sector has historically relied on a centralized model, characterized by a strong state presence in the financing and management of healthcare structures. The national healthcare system is largely based on the principle of free care for citizens affiliated with social security (CNAS) or the mutual insurance system for non-salaried individuals (CASNOS). However, although this coverage is theoretically extensive, it fails to include all segments of the population, particularly those without stable employment, informal workers, and individuals in extreme poverty (Belkacem, 2018). The budgetary governance of the Algerian healthcare sector faces several limitations, particularly in terms of transparency, public expenditure efficiency, and the monitoring of the social impact of investments. Although the country allocates a significant portion of its budget to healthcare, the results in terms of accessibility, quality of care, and territorial equity remain uneven (Ministry of Health, 2022). The lack of evaluation and accountability mechanisms hinders resource optimization and the implementation of policies targeting the most vulnerable populations (OECD, 2021).

In a context marked by recurrent economic tensions, the rationalization of public spending has become a priority for the Algerian government. However, when applied without a social and inclusive perspective, this logic of rationalization risks exacerbating healthcare access inequalities and further excluding individuals on the margins of the formal social protection system (Ait Mokhtar, 2020). Thus, the governance of public finances in the healthcare sector must evolve towards a more participatory, transparent, and needs-sensitive approach for vulnerable groups. The exclusion of certain segments of the population from the social coverage system, particularly chronic disease patients without healthcare protection, raises questions about the current governance's ability to guarantee a fundamental right: the right to receive care with dignity. This situation justifies the need for a profound reform of the financing and distribution mechanisms of care, to build a more inclusive healthcare system, aligned with the principles of equitable and sustainable development.

III PSYCHOSOCIAL VULNERABILITY AND DISPARITIES IN HEALTHCARE ACCESS:

The concept of psychosocial vulnerability refers to a situation where individuals are exposed to an increased risk of psychological suffering and social disaffiliation, due to combined factors such as economic precariousness, isolation, chronic illness, or lack of institutional support (Castel, 1995). This vulnerability becomes particularly concerning when access to healthcare, which is a fundamental right, becomes unequal or even impossible.

In Algeria, numerous studies and reports indicate that inequalities in healthcare access primarily affect marginalized populations: elderly people living alone, women without resources, informal sector workers, and long-term unemployed individuals. For these groups, the absence of social coverage such as CNAS or CASNOS makes access to treatment not only difficult but sometimes non-existent (Bouklia-Hassane & Boualem, 2017). Patients with chronic conditions, such as diabetes, find themselves on interrupted therapeutic paths, facing the risk of serious complications.

On a psychological level, the inability to access healthcare leads to feelings of frustration, shame, and even indignity. Some patients report a sense of abandonment, a loss of trust in healthcare institutions, and may develop forms of resignation or total disengagement from medical follow-up (Bertrand & Joubert, 2006). These reactions directly affect therapeutic adherence and worsen the original condition.

Access to care cannot be reduced to the physical availability of facilities or medications; it also involves social recognition and a supportive care relationship. When an individual is deprived of this connection, their mental health becomes severely compromised. In this sense, public financial governance, when it neglects the social and psychological dimensions, indirectly contributes to reinforcing health inequalities. To address this issue, it is urgent to approach healthcare access from a holistic perspective, incorporating both social and subjective health determinants. Therapeutic adherence, as a key indicator of this dynamic, helps highlight the system's shortcomings and the real needs of the most vulnerable populations.

IV THERAPEUTIC ADHERENCE :

Therapeutic adherence is defined as the degree to which an individual's behaviors align with medical advice or health recommendations (Haynes, R. B., Taylor, D. W., & Sackett, D. L., 1979). According to Haynes, the patient is in a passive role, with medical prescriptions determining adherence. However, factors such as the patient's situation, the nature of the illness, and their understanding of what they are going through influence adherence.

Fontaine and Salah expand the concept of adherence to include not only taking medications but also following dietary recommendations, adopting healthy behaviors, and attending medical appointments. Halioa (2012) identifies three key components of therapeutic adherence: medical follow-up (attending consultations and exams), hygiene and dietary rules (important for treatment and prevention of complications), and medication adherence (respecting dosage and timing).

Non-adherence is often more complex than just non-compliance with doctors' orders. It relates to the patient's ability to adapt to medical frameworks that could optimize their health. Non-adherence reflects the mental, social, and psychological resources patients can mobilize to cope with their illness and care demands.

The concept of therapeutic adherence is dynamic, fluctuating over time, and depends on various life events. A patient is typically considered adherent if they take 75-80% of their prescribed treatment. Non-adherence can lead to complications, hospitalizations, and increased healthcare costs. The World Health Organization (WHO) recognized in 2003 that improving adherence in chronic diseases would have a greater impact than any biomedical advancement.

Non-adherence often extends the duration of illnesses, increases sick leaves, and leads to more frequent medical visits and longer hospital stays. Non-adherence is not just about reducing treatment efficacy but also expresses unresolved psychosocial and psychological conflicts in patients facing their illness. It can manifest as behavior such as taking medications at incorrect times, stopping treatment, or self-adjusting the treatment regimen. These behaviors can negatively affect health and reduce treatment effectiveness.

Therapeutic adherence should be seen as an evolving process. There is no clear-cut "compliant" or "non-compliant" patient. Adherence is neither guaranteed for the doctor nor permanent for the patient.

V DETERMINANTS OF THERAPEUTIC ADHERENCE/NON-ADHERENCE:

Non-adherence to treatment can be attributed to a variety of factors that can be categorized into patient-related, disease-related, treatment-related, and system-related factors. These include the patient's cognitive abilities, beliefs, and fears, as well as social and economic factors such as income, education, and support systems. Psychological factors, such as a patient's perception of their disease, also play a significant role. For instance, patients may not perceive the severity of their illness, leading to poor adherence. Additionally, the symbolic meaning attached to medications, such as fear of dependency or concerns about side effects, can affect adherence.

Furthermore, factors such as the chronic nature of some diseases, the absence of symptoms, or the lack of immediate benefits from treatment contribute to decreased adherence. For example, patients may stop treatment once symptoms improve, mistakenly believing the disease is cured. The presence of a supportive social network also influences adherence; those with a strong support system tend to adhere better to their treatment regimen. However, individuals experiencing social isolation or low socio-economic status are often more vulnerable to non-adherence.

The socio-economic context is crucial as poverty, lack of social support, and cultural beliefs can all hinder treatment adherence. For instance, financial limitations may prevent patients from purchasing medication, while poor access to healthcare facilities or transportation costs may discourage patients from seeking care. These external barriers underscore the importance of considering not only the patient's behavior but also broader social determinants when addressing treatment adherence.

The shift from a purely biomedical model to a more comprehensive psychosocial model highlights the importance of communication between patients and healthcare providers. This model recognizes that treatment adherence is influenced by the patient's understanding, motivation, and the quality of the care system.

VI CLINICAL CASE PRESENTATION: MRS. DALINDA :

Mrs. Dalinda is a 49-year-old patient from Béjaïa, Algeria. She is widowed and raises her two children alone. Diagnosed with Type 2 diabetes at the age of 47, she also suffers from hypertension. Her treatment includes a combination of oral antidiabetic medications (AMAREL, GLUCOPHAGE 850 mg) and insulin therapy (LANTUS 36 IU/day).

Mrs. Dalinda does not have coverage through the National Social Insurance Fund (CNAS) and obtains her medications from the state-run Beau Séjour Clinic in Bejaia, Algeria, where she is regularly monitored. The lack of social security coverage constitutes a significant barrier to the consistency and quality of her care. Biologically, her glycated hemoglobin (HbA1c) remains elevated since the diagnosis, indicating chronic diabetes imbalance.

Somatic Findings: Mrs. Dalinda has already developed complications, including diabetic retinopathy. She also has overweight issues, with a body mass index (BMI) of 30%, which is an additional risk factor. Her doctors report difficulties in managing insulin, particularly an inability to properly titrate her doses, and her adherence to treatment is considered insufficient.

The case of Dalinda is emblematic of many patients living in socio-economic vulnerability. In Algeria, as in many low- and middle-income countries, limited access to

healthcare coverage significantly compromises chronic disease management. The financial burden of purchasing essential medications, such as insulin and oral antidiabetics, weighs heavily on patients' daily lives, often leading to therapeutic gaps.

•Medication Adherence of Mrs. Dalinda

Mrs. Dalinda's therapeutic follow-up is characterized by very poor medication adherence, despite the prescribed treatments. Prior to starting motivational interviewing (MI) sessions, the patient did not regularly adhere to her medication regimen, as indicated by the Medication Adherence Scale MMAS-8, where she scored 0.5, reflecting very low adherence. She took her medications erratically and often did not have the necessary doses available due to financial difficulties.

The first observation after three months of MI follow-up shows a slight improvement in the regularity of medication intake, but this was not sufficient to significantly correct her adherence. After three months, the score remains unchanged at 0.5, confirming that the impact of MI on the regularity of her treatment is limited. Insulin therapy, which requires rigorous management and precise monitoring, remains poorly controlled, as evidenced by Mrs. Dalinda's inability to properly titrate her insulin. Dependence on external factors, particularly difficulties in obtaining medications, plays a central role in this poor adherence. Additionally, her psychological state (anxiety, depression, frustration) does not help her adopt the necessary behaviors for effective diabetes management.

Follow-up results after six months show an HbA1c level still high at 10.7%, despite a slight reduction from the initial HbA1c of 11%. This evolution, though seemingly positive, reflects a chronic imbalance in her diabetes, with marginal variations in glucose levels, still far above therapeutic goals.

Beyond the purely clinical aspects, therapeutic adherence is deeply intertwined with emotional and psychosocial dimensions. Feelings of helplessness, guilt associated with perceived "failure" to manage the disease, and the psychological fatigue caused by repeated therapeutic failures contribute to a vicious circle that weakens the patient's motivation.

•Impact of Socio-Economic Factors on Adherence

One of the key factors contributing to the deterioration of Mrs. Dalinda's therapeutic adherence is her socio-economic difficulties. The lack of CNAS coverage, her precarious financial status, and limited access to regular care and medications significantly contribute to her poor treatment adherence. These external obstacles act as a major hindrance to managing her condition, as she has to choose between immediate financial priorities and taking care of her health. The lack of financial resources forces her to cut expenses on

medications and consultations, creating uncertainty regarding the continuity of her treatment, particularly for expensive medications like insulin.

The family context also plays a role, as Mrs. Dalinda has to take care of her two children without social support, which puts her in a constant state of stress. This stress, combined with managing the illness, leads to a psychological sacrifice that is reflected in a gradual disengagement from her treatment. The lack of psychological support and continuous medical follow-up exacerbates her vulnerability and prevents any possibility of stabilizing her health condition.

Mrs. Dalinda, follows a treatment regimen consisting of oral antidiabetic medications (Amarel, Glucophage 850 mg) and insulin (Lantus 36 IU/day). However, she does not have coverage from the National Social Insurance Fund (CNAS), making it difficult for her to consistently access medications, particularly insulin, and receive adequate medical care.

Her clinical situation is complicated by several factors, including the onset of diabetic retinopathy and a body mass index (BMI) of 30%, indicating overweight. These issues contribute to her increased health risks. Despite her medical treatment, Mrs. Dalinda struggles with medication adherence. A pre-intervention score on the MMAS-8 scale showed a very low adherence of 0.5, reflecting irregular use of her prescribed medications. Even after three months of motivational interviewing, there was only slight improvement, with the score remaining the same, indicating that her adherence remained inadequate. Her inability to properly manage insulin dosage further complicates her health condition.

Mrs. Dalinda's socio-economic situation is a significant barrier to her health management. The lack of CNAS coverage means she must pay out-of-pocket for her medications and medical consultations. This financial strain forces her to prioritize her immediate economic needs over her long-term health, which often leads to missed doses or insufficient quantities of medication. Additionally, as a single mother raising two children without social support, the stress of caregiving exacerbates her psychological and emotional challenges, contributing to her disengagement from self-care.

Despite attempts to improve adherence through motivational techniques, her HbA1c remains high, indicating poor control over her diabetes. After six months of follow-up, her HbA1c level is still elevated at 10.7%, despite a slight reduction from 11%. This suggests chronic diabetes imbalance and limited progress in achieving therapeutic goals.

The lack of psychosocial support and limited resources contribute to her difficulties. Without access to continuous medical care, financial aid, and emotional support, her health management remains compromised. Addressing these issues requires a comprehensive, multi-faceted approach, combining medical treatment, financial assistance, and psychosocial support to improve Mrs. Dalinda's quality of life and long-term health outcomes.

VII CONCLUSION :

In conclusion, the case of Mrs. Dalinda highlights the complexity of managing chronic diseases, particularly type 2 diabetes, in a context of social and economic precariousness. The analysis of her therapeutic journey shows that psychosocial factors, notably stress related to poverty and the absence of social insurance, have a major impact on her medication adherence and diabetes control. Although motivational interviewing led to a slight improvement in her HbA1c level, it was not sufficient to achieve lasting change, emphasizing the need for a comprehensive and multidimensional approach to improve treatment adherence among vulnerable patients.

It is therefore essential to consider, beyond the strictly medical aspects, the socio-economic and psychological barriers faced by these patients. The lack of adequate health coverage, combined with insufficient psychological and social support, remains a major obstacle to the effective management of chronic diseases. This case also underlines the importance of adapting care strategies to the socio-economic realities of patients, especially in contexts of poverty where resources are limited.

The findings from this case open several avenues for future research and practical improvements in the management of chronic patients, particularly in developing countries and vulnerable populations:

Deepening research on the impact of socio-economic factors: It would be relevant to conduct broader studies on the effects of poverty, lack of social coverage, and psychological factors on therapeutic adherence in chronic patients, to better understand the specific obstacles facing these populations.

Evaluating the effectiveness of therapeutic education programs: The implementation of more intensive therapeutic education programs, incorporating psychological and socio-economic aspects, could be an interesting pathway to enhance patient adherence to treatments.

Strengthening access to care and social assistance: Public policies should focus on improving access to healthcare for uninsured patients, reducing treatment costs, and facilitating access to health services. A universal health coverage system would reinforce the effectiveness of therapeutic strategies.

Developing new psychotherapeutic approaches: Future research should explore the integration of cognitive-behavioral therapies or new forms of psychological support to help patients overcome demotivation and stress related to managing their chronic illnesses.

Establishing interdisciplinary support programs: For optimal care, it is crucial to promote collaboration between various healthcare professionals (physicians, psychologists, social workers) to better support patients in all aspects of their care journey.

These perspectives aim not only to improve therapeutic adherence in patients like Mrs. Dalinda but also to promote a more holistic and inclusive approach to managing chronic diseases in vulnerable contexts. The implementation of adapted public health policies and the training of healthcare professionals on the social and psychological realities of patients will help better address today's public health challenges.

These perspectives aim not only to improve therapeutic adherence in patients like Mrs. Dalinda but also to promote a more holistic and inclusive approach to managing chronic diseases in vulnerable contexts. The implementation of adapted public health policies and the training of healthcare professionals on the social and psychological realities of patients will help better address today's public health challenges.

Ultimately, the case of Mrs. Dalinda serves as a poignant reminder that the success of medical interventions is deeply intertwined with the social conditions in which patients live. Effective management of chronic illnesses requires moving beyond biomedical models to embrace an integrated vision of care that considers the patient's entire life context. Addressing these broader determinants of health is essential for achieving meaningful and sustainable improvements in public health outcomes.

Addressing chronic disease management in vulnerable populations requires more than medical interventions. It demands a profound reconsideration of how healthcare systems interact with the social realities of patients. A multidisciplinary and compassionate approach, rooted in social justice, is essential to reduce inequalities and empower patients like Dalinda. The case presented here is not an isolated incident but a reflection of broader systemic issues that call for urgent and sustained action. Promoting preventive care, strengthening community support networks, and advocating for structural reforms are critical steps toward building resilient healthcare systems that leave no one behind.

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