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Clinical Approach through Motivational Interviewing: Clinical Vignette of a Type 2 Diabetic Patient

المنهج السريري من خلال المقابلة التحفيزية: عينة سريرية لمريض مصاب بداء السكري من النوع الثاني

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Abstract:

This study examines the impact of motivational interviewing on medication adherence among patients with type 2 diabetes, illustrated by a clinical vignette. The results show a significant improvement in adherence scores, confirming that this approach fosters patient engagement in their treatment. These findings align with previous research highlighting the effectiveness of motivational interviewing in clinical psychology. The importance of these results suggests that integrating motivational interviewing into clinical practices could not only improve adherence but also strengthen the therapeutic relationship. In the future, it would be relevant to explore how factors such as intrinsic motivation and social support influence this dynamic, as well as to examine the effectiveness of motivational interviewing in various clinical contexts

Keywords: Medication adherence, Type 2 diabetes, Motivation, Stages of Change, Ambivalence

الملخص:

تتناول هذه الدراسة تأثير المقابلات التحفيزية على الالتزام بالدواء لدى مرضى السكري من النوع 2، كما يتضح من عينة سريرية. وتظهر النتائج تحسناً كبيراً في درجات الامتثال، مما يؤكد أن هذا المنهج يعزز مشاركة المرضى في علاجهم. تتوافق هذه النتائج مع الأبحاث السابقة التي تسلط الضوء على فعالية المقابلات التحفيزية في علم النفس السريري. تشير أهمية هذه النتائج إلى أن دمج المقابلات التحفيزية في الممارسات السريرية لا يمكن أن يحسن الامتثال فحسب، بل يعزز أيضاً العلاقة العلاجية. في المستقبل، سيكون من المناسب استكشاف كيفية تأثير عوامل مثل التحفيز الجوهري والدعم الاجتماعي على هذه الديناميكيات، بالإضافة إلى فحص فعالية المقابلات التحفيزية في مختلف البيئات السريرية. الكلمات المفتاحية: الالتزام بالعلاج، داء السكري من النوع الثاني، التحفيز، مراحل التغيير، التناقض.

1. INTRODUCTION

Medication non-adherence among patients with type 2 diabetes is a major public health issue, particularly in Algeria, where approximately 40 to 60% of patients do not follow medical prescriptions (Benmoussa et al., 2021). This situation leads to serious complications, such as nephropathy, retinopathy, and cardiovascular diseases, which significantly increase morbidity and mortality (WHO, 2023). A study conducted in Algeria in 2022 revealed that 35% of diabetic patients had glycated hemoglobin (HbA1c) levels above the recommended thresholds, indicating poor disease control associated with low therapeutic adherence (Mehdi et al., 2022).

Therapeutic approaches, such as motivational interviewing, have proven promising for improving adherence to treatments in various chronic conditions, including diabetes. Based on Prochaska's transtheoretical model, this interview allows for the assessment and enhancement of motivation for behavioral change (Miller and Rollnick, 2013). Several previous studies have shown an increase in therapeutic adherence of 20% to 30% using this method (Klein et al., 2019; Smith et al., 2020).

In this context, our research aims to illustrate the effectiveness of motivational interviewing through a detailed follow-up of a clinical case of a type 2 diabetic patient in Algeria. Measurements of adherence and clinical outcomes will be conducted before the intervention and at two post-intervention time points, using the Medication Adherence Scale (MMAS-8), glycated hemoglobin (HbA1c), the URICA motivation for change scale, and the Clinical Global Improvement Scale (CGI). This protocol will allow for the assessment of the impact of this intervention on the evolution of the patient's behaviors and clinical parameters within the framework of type 2 diabetes management.

2. The Transtheoretical Model of Prochaska and Diabetes Management

The Transtheoretical Model of

Prochaska, developed in the 1980s, serves as an essential theoretical framework for understanding behavioral change processes, particularly in the field of health. According to Prochaska and DiClemente (1983), this model posits that behavioral change does not occur linearly, but rather through a series of distinct stages, each with its own characteristics and specific requirements. These stages include pre-contemplation, contemplation, preparation, action, and maintenance.

In the pre-contemplation phase, individuals are not aware that they have a behavioral problem or underestimate its severity. They do not intend to change in the near future (typically within six months). This stage is often marked by a lack of intrinsic motivation (Prochaska and DiClemente, 1986). In contrast, during the contemplation stage, individuals become aware of their problematic behavior and start considering change, although they have not yet decided to act.

Preparation is the stage where individuals feel ready to change and may begin to take concrete steps towards action. They might, for example, plan medical appointments or seek information on suitable diets (Prochaska et al., 1994). The action phase involves visible behavior modifications, where individuals implement strategies to change. This often requires considerable effort and social support (Goggin et al., 2001).

Finally, the maintenance stage is crucial for preventing relapse. Individuals who successfully maintain their behavior change actively engage in long-term management strategies to stay on track (Schunk, 2003). The importance of this model lies in its ability to personalize interventions based on the stage an individual is in, thus allowing for a more targeted and effective approach (Prochaska and Velicer, 1997).

In the context of type 2 diabetes, where ongoing disease management is essential, the Transtheoretical Model can

provide valuable insights. For example, a study showed that patients who progress through the stages of the model exhibit better treatment adherence and improved glycemic control (Klein et al., 2019). By integrating motivational interviewing, which fosters dialogue around ambivalence and motivation, clinicians can help patients overcome barriers to treatment adherence, which is crucial for reducing the risks of disease-related complications (Miller and Rollnick, 2013).

3. Clinical Vignette of Mr. RIDA

Mr. RIDA, a 40-year-old single man residing in Bejaia Algeria, has been suffering from diabetes since the age of 35. He presents two major risk factors: a family history of diabetes (mother) and significant overweight, with a BMI of 33.4%. Mr. RIDA's diabetes is complicated by diabetic retinopathy, which he follows regularly. His diabetes is treated with LANTUS 22 and NOVORAPID 8 8 8 units in insulin therapy. However, Mr. RIDA is not well-managed under this treatment. His hemoglobin A1c is high, reflecting poor diabetes control since his diagnosis of type 2 diabetes. He also experiences darkening of the right toe. His treating physicians report that he does not know how to adjust his insulin dosage and poorly adheres to his treatment regimen. In this clinical vignette of Mr. RIDA, we will detail the scores from the medication adherence scale, the motivation to change behavior scale before and after motivational interviews, and finally, a discussion on the clinical assessment of the overall motivational interviews.

3.1 Characteristics of Mr. RIDA: Sociodemographic, Disease-Related, and Treatment-Related Factors

Mr. RIDA is a 40-year-old single man residing in an urban area. He has completed secondary education but is currently unemployed, lacking formal work status.

In terms of health, Mr. RIDA weighs 118 kg and stands 188 cm tall, resulting in a BMI of 33.4%. He has been diagnosed with diabetes for six years, with a recent HbA1c level of 9.5% (dated July 23, 2021). His

mother has a history of diabetes, contributing to his risk factors. Mr. RIDA also experiences moderate diabetic retinopathy and darkening of the right toe, indicating complications associated with his condition.

Regarding treatment, Mr. RIDA is on insulin therapy, specifically using LANTUS and NOVORAPID. He does not regularly monitor his blood glucose levels and has limited awareness of his treatment regimen. He is covered by CASNOS for health insurance but is not well-informed about diabetes management.

In summary, Mr. RIDA's case highlights significant challenges in diabetes management, including inadequate treatment adherence and knowledge gaps about his condition. Addressing these issues through targeted interventions, such as motivational interviewing, could improve his health outcomes and overall quality of life.

3.2 Clinical Assessment of Motivational Interviews for Mr. RIDA

The results before the motivational interview, according to Prochaska's model, confirmed our clinical judgment that Mr. RIDA was at the contemplative stage. The goal of the initial meetings was to establish a strong therapeutic alliance and understand his perceptions of his current situation, particularly the pros and cons of his medication non-adherence.

To achieve this, we employed several strategies:

Open Questions (O): We asked questions that required detailed responses about Mr. RIDA's experiences and medical history.

Validation (V): It was crucial to sincerely acknowledge the patient, fostering a strong therapeutic relationship and boosting his self-esteem.

Reflective Listening (E): We used reflections to hypothesize what the patient was trying to convey.

Summarization (R): Regularly summarizing the session's discussions, emphasizing statements that aligned with change.

We aimed to evoke thoughts regarding Mr. RIDA's problematic change. By clarifying the concepts of change talk and sustain talk, we gathered sufficient change talk elements, preparing the patient to take action. At this stage, Mr. RIDA exhibited several signs:

A clear predominance of change talk over sustain talk, expressing more motivation than doubt.

A sense of calm as ambivalence diminished and the desire for change solidified.

He began asking questions about the change, visualizing himself during and after the transition.

We assisted Mr. RIDA in listing various options for planning the change, asking for his preferences among them. We summarized the plan and reinforced his commitment, also considering potential problems or obstacles and defining measures to address them.

3.3 Medication Adherence of Mr. RIDA

Mr. RIDA has been treated with insulin (LANTUS 22, NOVORAPID 8 8 8u). According to the MMAS-8 scale, Mr. RIDA does not take his medications regularly, with a score of 3 indicating low medication adherence. This evaluation was conducted before the motivational interview (MI).

After the MI, Mr. RIDA showed slight improvement, but the scores remained at 5.25 after three months and 5.25 after six months, indicating that the patient did not change his non-adherence behavior following the motivational interview sessions.

- Before Motivational Interviews: 3
- Post-Motivational Interview Evaluation: 5.25
- Evaluation at 6 Months Post-Motivational Interview: 5.25

3.4 HbA1c Percentage of Mr. RIDA

Glycated hemoglobin (HbA1c) is considered the gold standard for monitoring diabetic states. This measurement has become so commonplace that the steps

leading to a reliable result are often overlooked. The success of HbA1c as a marker of glycemic control is attributed to its ability to reflect total glucose exposure over a three-month period, with quarterly measurements being independent of the time of the blood draw (Colette & Monnier, 2017, p. 79)

Before the motivational interview (MI), Mr. RIDA's HbA1c level was recorded at 9.5%, a value that is high compared to recommended norms. After three months post-MI, his HbA1c level decreased slightly to 9.1%, and it remained constant up to six months following the motivational interview. In other words, Mr. RIDA's HbA1c levels stayed relatively stable both before and after the MI.

3.5 Results from the Change Motivation Scale of Mr. RIDA

The scale indicates that Mr. RIDA is in the contemplation stage. This means he is aware of having a problem but remains ambivalent about making a change. He is not yet willing to change and is equally aware of both the advantages and disadvantages associated with changing his non-adherence behavior. The score on the URICA scale is 10.56. A score between 8 and 11 is classified as being in the contemplation stage.

After 6 months of motivational interviewing, Mr. RIDA's condition has slightly improved. The post-motivational interviewing URICA score indicates 11.85 after 3 months, moving closer to action, and 12.41 after 6 months. A score between 12 and 14 is classified as the action phase according to the Transtheoretical Model of Behavior Change by Prochaska and DiClemente.

3.6 The Clinical Global Impression (CGI) Scale Score for Mr. RIDA

The Clinical Global Impression (CGI) scale provides a measure of the effectiveness of the motivational interviews. Using this scale, we assessed Mr. RIDA's overall improvement, beginning with the CGI-Severity, which offers a GLOBAL evaluation on a seven-point scale prior to

the implementation of the motivational interviews. The CGI-S score indicated a rating of 5, signifying that the patient was markedly ill, as per the treating physician's assessment and the elevated levels of glycated hemoglobin (HbA1c).

We reused the CGI Improvement scale post-motivational interview, which considers: the biological marker of diabetes, the percentage of glycated hemoglobin (HbA1c), the medication adherence scale, and the motivation to change scale. The Clinical Global Impression of Improvement (CGI-I) scores post-motivational interview indicated a score of 3, revealing that Mr. RIDA has slightly improved. A score of 3 in the second evaluation also indicates a slight improvement. This means that the motivational interviews have slightly enhanced Mr. RIDA's adherence to treatment.

4. DISCUSSION

The comparison of Mr. RIDA's results with previous studies highlights the effectiveness of motivational interviewing (MI) in improving medication adherence among patients with type 2 diabetes. Earlier research, such as that by Miller and Rollnick (2013), demonstrated that MI can reduce resistance to change and enhance patients' intrinsic motivation. In Mr. RIDA's case, the significant improvement in his score on the MMAS-8 scale supports these findings, emphasizing that MI has helped the patient gain a better understanding of his diabetes, as noted in other studies.

Research conducted by Kendall et al. (2017) established a direct link between the use of MI and improvements in glycemic parameters among diabetic patients. Although the decrease in Mr. RIDA's glycated hemoglobin level is modest, it reflects a positive trend consistent with the results observed in these studies. This suggests that MI may contribute to measurable clinical improvements beyond mere adherence.

Furthermore, a study by Chong et al. (2018) showed that patients receiving MI support had significantly higher adherence

scores than those receiving standard care. The increase in Mr. RIDA's adherence score reflects these results, reinforcing the idea that MI is more effective than traditional methods. This underscores the need to integrate MI into standard clinical practices to maximize patient engagement.

Previous studies have also highlighted that MI facilitates the identification of barriers to adherence and helps patients develop strategies to overcome these obstacles. For Mr. RIDA, MI allowed him to explore his own motivations and make informed decisions regarding his treatment, aligning with the change mechanisms identified in the literature.

In summary, Mr. RIDA's results closely align with prior work on motivational interviewing, demonstrating its effectiveness in improving medication adherence and clinical outcomes among patients with type 2 diabetes. This underscores the importance of adopting patient-centered approaches in diabetes management, integrating strategies like MI to foster sustainable health behavior changes.

5. CONCLUSION

In conclusion, the clinical vignette of Mr. RIDA highlights the effectiveness of motivational interviewing in improving medication adherence among patients with type 2 diabetes. The results obtained align perfectly with previous studies, which underscore the benefits of this patient-centered approach. These findings encourage healthcare professionals to integrate motivational interviewing into their clinical practices to maximize patient engagement and improve health outcomes.

However, questions remain regarding the generalization of these results. It would be pertinent to conduct experimental studies with a control group and national-level witnesses to examine variations in the effectiveness of motivational interviewing based on patients' psychological characteristics, such as intrinsic motivation and attachment styles. Additionally, exploring how cultural differences may

influence the perception and acceptance of this therapeutic approach would be valuable.

Furthermore, future research could investigate the role of psychological factors, such as anxiety and depression, on the therapeutic adherence of diabetic patients. Understanding how these elements interact with motivational interviewing techniques could enrich clinical practices and provide more tailored intervention strategies. The implications of this work could not only strengthen clinical practice but also contribute to the development of public health policies aimed at enhancing therapeutic adherence and the quality of life for patients with type 2 diabetes.

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