



Motivation for the treatment of type 2 diabetes mellitus among primary health care users: a qualitative study

Motivação ao tratamento do diabetes mellitus tipo 2 por usuários da atenção primária à saúde: estudo qualitativo

Motivación para el tratamiento de la diabetes mellitus tipo 2 en usuarios de la atención primaria de salud: un estudio cualitativo

Luana Savana Nascimento de Sousa Arruda¹ , Beatriz Aguiar da Silva¹ , Juliana Queiroz de França Ancelmo¹ , Lariza Martins Falcao¹ , José Wicto Pereira Borges¹ 

ABSTRACT

Objective: To analyze the motivation for treatment of type 2 Diabetes Mellitus in people attended in Primary Health Care. **Methodology:** A qualitative and analytical study was conducted with 30 people with diabetes mellitus, through cognitive interviews. The IRAMUTEQ software was used for content analysis and data categorization. **Results:** Three main categories were obtained: lifestyle; social and family support; and drug therapy and laboratory tests (health services). Extrinsic motivation was predominant, with greater influence from family support, drug therapy, and well-being. Drug treatment was the central point, and non-drug treatment was peripheral; both presented intrinsic motivation. **Conclusion:** Motivation was predominant in extrinsic regulation, focused on lifestyle, social and family support, and the care offered by the health service.

DESCRIPTORS:

Motivation; Diabetes Mellitus; Cooperation and Adherence to Treatment; Primary Health Care.

Article Information:

Received: 03/26/2026

Accepted: 06/18/2026

Corresponding author:

Luana Savana Nascimento de Sousa Arruda. E-mail:

luana.arruda509@gmail.com

¹ Universidade Federal do Piauí. Teresina, Piauí, Brazil.

RESUMO

Objetivo: Analisar a motivação ao tratamento do Diabetes Mellitus tipo 2 de pessoas atendidas na Atenção Primária à Saúde. **Metodologia:** Estudo qualitativo e analítico, realizado com 30 pessoas com diabetes mellitus, por meio de entrevistas semiestruturadas. Para análise de conteúdo e categorização dos dados utilizou-se o *software* IRAMUTEQ. **Resultados:** Obtiveram-se três categorias principais: estilo de vida; apoio social e familiar; e terapia medicamentosa e exames laboratoriais (serviços de saúde). A motivação extrínseca foi predominante, com maior influência para apoio familiar, terapia medicamentosa e bem-estar. O tratamento medicamentoso foi o ponto central e o não medicamentoso, periférico, ambos apresentaram a motivação intrínseca. **Conclusão:** A motivação foi predominante na regulação extrínseca, voltadas para o estilo de vida, apoio social e familiar e aos cuidados ofertados pelo serviço de saúde.

DESCRIPTORIOS:

Motivação; Diabetes Mellitus; Cooperação e Adesão ao Tratamento; Atenção Primária à Saúde.

RESUMEN

Objetivo: Analizar la motivación para el tratamiento de la diabetes mellitus tipo 2 en personas atendidas en Atención Primaria de Salud. **Metodología:** Se realizó un estudio cualitativo y analítico con 30 personas con diabetes mellitus, mediante entrevistas semiestruturadas. Se utilizó el *software* IRAMUTEQ para el análisis de contenido y la categorización de los datos. **Resultados:** Se obtuvieron tres categorías principales: estilo de vida; apoyo social y familiar; y farmacoterapia y pruebas de laboratorio (servicios de salud). La motivación extrínseca fue predominante, con mayor influencia del apoyo familiar, la farmacoterapia y el bienestar. El tratamiento farmacológico fue el punto central, y el tratamiento no farmacológico fue periférico; ambos presentaron motivación intrínseca. **Conclusión:** La motivación predominó en la regulación extrínseca, centrada en el estilo de vida, el apoyo social y familiar, y la atención ofrecida por el servicio de salud.

DESCRIPTORES:

Motivación; Diabetes Mellitus; Cooperación y Adherencia al Tratamiento; Atención Primaria de Salud.

INTRODUCTION

Diabetes Mellitus (DM) is a complex chronic metabolic condition with a high global prevalence⁽¹⁾. Currently, Type 2 Diabetes Mellitus (T2DM) is the most common type, accounting for the greatest mortality burden associated with diabetic macrovascular disease, which manifests as accelerated atherosclerosis and its complications⁽²⁾. In 2021, 537 million adults aged 20 to 79 were living with the disease worldwide; in Brazil, it affects 15.7 million people⁽³⁾, with T2DM accounting for approximately 90% to 95% of these cases⁽⁴⁾.

Various factors influence medication non-adherence, and there is currently no consensus regarding which factor exerts the greatest influence⁽⁵⁾. In this context, understanding these factors is crucial for developing effective strategies within Primary Health Care (PHC)⁽⁶⁾. According to the World Health Organization (WHO), adherence involves the interplay of five sets of factors: social, economic, and cultural factors; health services and professionals; the underlying disease and comorbidities; treatment; and patient-related factors, including cognitive and motivational aspects that can be targeted

by interventions to improve treatment adherence⁽⁷⁾.

Literature reinforces that treatment adherence in people with T2DM is a multifactorial phenomenon influenced by self-efficacy, social and professional support, understanding of the disease, and psychosocial barriers, as well as emotional and behavioral aspects⁽⁸⁾. Studies also indicate that lifestyle changes and the maintenance of self-care are linked to the perception of control, social support, and practical and emotional barriers in the patient's daily life⁽⁹⁾.

Motivation represents the patient's internal driving force and is a central determinant of medication adherence⁽¹⁰⁾. It is evident that individuals with diabetes are less motivated to adhere to both pharmacological and non-pharmacological treatments, posing a challenge for both patients and healthcare professionals⁽¹¹⁾. In this regard, motivation for T2DM treatment remains under-explored in Primary Health Care (PHC) services compared to other levels of care, particularly concerning strategies that foster autonomy and self-regulation of care⁽¹²⁾.

Motivation is central to improving medication adherence and achieving more adaptive health outcomes regarding behavioral changes and long-term maintenance⁽¹³⁾. Evidence indicates that adherence to T2DM treatment is influenced by individual desires, attitudes, and values, as well as emotional and social factors that shape the experience of the disease and daily coping. Furthermore, self-care behavior is strongly influenced by family support, health education, and multidisciplinary care, all of which directly impact glycemic control and treatment continuity⁽¹⁴⁻¹⁵⁾. The study of motivation serves as a technique for understanding individual differences in adherence to diabetes treatment⁽¹³⁾.

Given that T2DM is a chronic condition, people with diabetes exhibit varying motivational elements when adopting behavioral strategies for disease management; this can lead to greater therapeutic adherence in some cases, while others face difficulties in adhering to the regimen due to dissatisfaction and uncertainty. In this context, the question arises: what factors motivate adherence to T2DM treatment?

Thus, motivation is a force that helps people act, providing direction and persistence in achieving a specific behavior as they undergo new experiences involving complex biological, cognitive, and social regulations⁽¹⁶⁾. Self-Determination Theory (SDT) posits a motivation continuum classified into three types: amotivation, representing an absence of motivation for activities; extrinsic motivation, characterized by external factors; and intrinsic motivation, originating from within the individual to perform a specific action⁽¹⁷⁾. Intrinsic motivation is explored in SDT's first mini-theory, Cognitive Evaluation Theory, wherein motivation is driven by the individual's natural inclination toward assimilation, mastery, spontaneous interest, and exploration in order to achieve a complex state of well-being. Extrinsic motivation is driven by the desire to achieve a specific outcome, such as material goods or rewards, stemming from an

external source⁽¹⁸⁾. In contrast, internal motivation fosters behavioral changes and the adoption of new habits; these are crucial steps that guide the individual toward satisfactory results and establish a sense of self-trust and autonomy, ultimately impacting their health status⁽⁷⁾.

It is evident that the management of care for patients with chronic diseases still presents limitations. In this regard, there is a consensus that the use of theories is fundamental to guiding complex interventions by clarifying change processes and supporting self-management in Primary Health Care⁽¹⁹⁾. Understanding the motivation for diabetes mellitus (DM) treatment, centered on Self-Determination Theory (SDT), allows for the elucidation of symbolic and structural elements related to adherence and therapeutic follow-up. These elements can help in understanding the reasons for non-adherence.

OBJECTIVE

To analyze the motivation for treatment of type 2 diabetes mellitus among individuals receiving care in primary health care.

METHODOLOGY

Type of study and methodological procedures

This is an exploratory study with a qualitative approach, grounded in Self-Determination Theory, which guides the interpretation of data regarding treatment motivation in individuals with T2DM. The report was prepared in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines. COREQ is an instrument provided by the Enhancing the QUALity and Transparency Of health Research (EQUATOR) network; it comprises 32 items organized into three domains—1) Research team and reflexivity, 2) Study design, and 3) Analysis and findings—to guide the planning, execution, and reporting of qualitative research⁽²⁰⁾.

Study scenario and Data source

The interviews were conducted at six Basic Health Units in Teresina, Piauí, Brazil, between January and March 2023. The selection of units took into account criteria such as service demand and participant availability, while respecting the appointment schedules set by the units; to complete the data collection instrument, patients were invited to a suitable setting to ensure interview privacy.

A convenience sampling method was used, comprising 30 individuals diagnosed with T2DM. Inclusion criteria were: age ≥ 18 years; and a diagnosis of T2DM with ongoing management within the Family Health Strategy (FHS) framework. Individuals unable to communicate verbally or those who did not consent to the recording of the interviews were excluded. Sample recruitment concluded based on theoretical saturation, defined as the point at which no new relevant elements emerged from the participants' statements, a process that was discussed and validated among the researchers.

Data collection and organization

The study was conducted using semi-structured interviews based on a guiding question: "What motivates you to follow your diabetes treatment?" This interview format was chosen to allow for an in-depth exploration of the participants' perceptions, experiences, and the meanings they attributed to their treatment adherence process, while also providing flexibility during the interview and enabling a deeper elaboration of responses.

The researcher responsible for data collection held a degree in Nursing, had prior experience in qualitative research, and had received specific training in conducting interviews. Interviews were held individually in a private setting to ensure confidentiality. Prior to data collection, participants were informed about the study's objectives and ethical considerations, and the Informed Consent Form (ICF) was signed beforehand. The interviews were audio-recorded with the participants' authorization. The interviewer was responsible for managing the timing and the recording process.

Data analysis

The interviews were transcribed manually and in full immediately after being conducted, preserving data fidelity and forming the research's textual corpus. Saturation was reached when the conceptions and meanings attributed reflected, in both quantity and quality, the multiple dimensions of the phenomenon under study, or when no new elements emerged from the addition of further information⁽²¹⁾.

Data analysis followed the proposed steps. Alongside this organizational strategy, the textual analysis and processing tools of the *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* (IRAMUTEQ) software were used⁽²²⁾.

The analysis steps were: 1) The corpus was organized into 30 command lines (initial context units-ICUs) corresponding to the 30 participants; 2) Repeated readings of the transcribed content by the researcher to gain a general perception of the ideas expressed by the participants; 3) Detailed analysis using the IRAMUTEQ software, employing Descending Hierarchical Classification (DHC), Correspondence Factor Analysis (CFA), and similarity analysis; 4) Use of a coding process to describe analysis categories or themes, evaluating all classes shown in the dendrogram and similarity analysis; 4) Representation of the analysis through categories based on the interviewees' statements, which emerged from the classes generated by IRAMUTEQ; 5) Data interpretation, detailing the interviews and grounding the findings in Self-Determination Theory (SDT) to understand the motivation for T2DM treatment⁽²³⁻²⁴⁾.

Descending Hierarchical Classification (DHC) classifies text segments based on their respective vocabularies⁽²²⁾. Correspondence Factor Analysis (CFA) enables the retrieval of text segments belonging to each class. The resulting graphical representations show the proximities, oppositions, and trends of the corpus segments. The similarity analysis examines the linguistic structure of the discursive

content^(22,25). All results were analyzed using Self-Determination Theory to support the study's discussion.

Ethical aspects

The research was approved by the Research Ethics Committee of the Federal University of Piauí (opinion number 5,767,337), in compliance with the ethical and legal precepts of Resolutions 466/2012 and 580/2018 of the National Health Council^(26,27).

RESULTS

Interviews

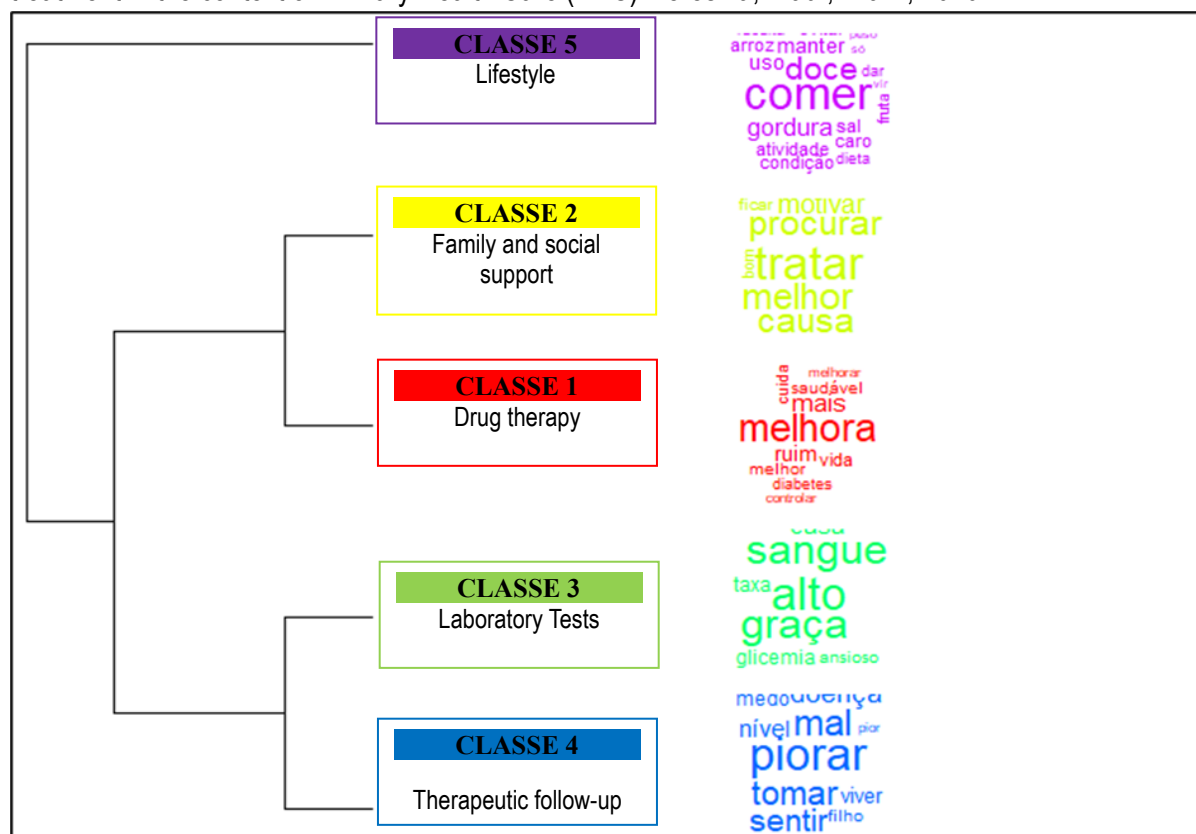
A total of 30 people with T2DM were interviewed, in which the prevalence was observed in females (53.3%), with an average age of 62.7 years, self-reported brown (53.3%) and married (50.0%). Regarding employment status, retired individuals predominated (36.7%), with an average family income of 1,537.40 BRL and economic class D-E (66.7%).

From the clinical data, it was detected that the majority of participants had a diagnosis time of 1 to 15 years (70.0%) and the remaining individuals had a diagnosis time of 16 to 30 years (30.0%). Regarding the amount of medication used to treat T2DM, it was evident that only one type of medication was used for T2DM (80.0%), in which 23.3% used insulin. When asked about the use of other medications, 76.7% said they used other medications. Regarding complications resulting from T2DM, 73.3% of participants reported developing complications, with hypertension being the most prevalent (73.3%).

The content resulting from the analysis carried out by the IRAMUTEQ software recognized the separation of the corpus into 30 text units, 79 (73.83%) of analyzable text segments were used and retained in the DHC. DHC, by crossing segments of texts and words, identified 5 classes, according to the dendrogram shown in figure 1.

It was possible to construct categories to explain the motivation for treating DM2 by PHC users. There were three main categories: 1) lifestyle (class 5); 2) social and family support (class 2); and 3) drug therapy and laboratory tests (health services) (classes 1, 3 and 4) (Figure 1).

Figure 1. Dendrogram of thematic classes regarding motivation for Type 2 diabetes mellitus (T2DM) treatment in the context of Primary Health Care (PHC). Teresina, Piauí, Brazil, 2026.



DM2 – Type 2 diabetes mellitus; PHC – Primary Health Care

Thematic axis 05 is the most significant and autonomous, featuring words related to lifestyle changes for individuals with T2DM, specifically highlighting dietary habit changes (“eating,” “sweets,” “fat,” “salt,” “diet”) and physical exercise (“activity”), thereby pointing to motivation for the non-pharmacological treatment of T2DM. Economic aspects (“expensive,” “financial situation”) are also highlighted. Within this category, three types of motivation from Self-Determination Theory (SDT) can be observed: amotivation (E04, E16), extrinsic motivation (E24), and intrinsic motivation (E29, E20). To further clarify this context, excerpts from the statements are highlighted below:

[...]I don't follow a healthy diet; it's too expensive [E04].

[...]I don't have time for physical activity because of household chores [E16].

[...]I don't do it regularly; I avoid certain heavy foods. I do it to prevent complications; I avoid sweets [E24].

[...]To stay in shape—I was feeling stagnant, sedentary—now I feel more energetic [E29].

[...]Because it greatly improves well-being, and even helps with sleeping better [E20].

In Class 2—family and social support—notable themes include motivation linked to specific terms ("family," "motivate," "important," and "treatment") and aspects related to leisure ("leisure," "good," "seek"). Family involvement provides emotional support to the person with diabetes, contributing to treatment adherence and the achievement of established goals, as illustrated in the accounts of participants E06, E22, and E23. Social determinants directly impact diabetes treatment, given that a patient's ability to cope with health issues arising during the course of the disease is strongly influenced by psychosocial factors that affect care management—as evidenced by the statements of participants E18, E21, E13, and E23.

[...]Because of the bond, they motivate me to undergo treatment [E06].

[...]Because they encourage me to maintain a healthy diet [E22].

[...]Because it's really good; they take care of me [E23].

[...]For my well-being, and because I face a lot of problems in life [E18].

[...]Because I feel much better [E21].

[...]I don't do much, and I don't drink anymore either; I work a lot [E13].

[...]I don't have any! It's been a long time since I've had any leisure time, [...]I stopped drinking because of the treatment [E23].

In Class 1 (drug therapy), terms emerged linking the participating subjects' intrinsic motivation to aspects of T2DM management ("improve," "control," and "manage") as well as to well-being ("taking care," "healthy," and "life"); these stand out as powerful drivers of adherence to T2DM therapy, as evidenced in the following accounts:

[...]I take it for the illness, to keep it under control and get better soon [E17].

[...]To avoid health issues, I do what the doctor says, but sometimes I forget [E24].

[...]To avoid feeling unwell, I use it to lower my blood sugar; I've become dependent on it—it's something I have to take so I don't die—and my daughter administers it at home [E27].

[...]Because I don't want to feel sick; I don't want to have complications [E30].

In the theme, laboratory tests, axis 03, aspects related to the rates or level of blood glucose ("high", "low", "glycemia"), words related to the psycho-emotional ("anxious", and "dying") and the performance of tests were emphasized as elements of motivation for the treatment of T2DM, with the word ("grace") being more prominent in the general context, due to the fact that it is accessible and free in PHC, relevant in renewing the prescription, being directly linked to the drug treatment of T2DM.

Consequently, Primary Health Care (PHC) serves as the primary entry point for managing

glycemic control strategies and treatment adherence, thereby promoting a reduction in disease-related complications. This was stated by the study participants, as illustrated in the statements below:

[...]Because it's very good for my own health; I get a check-up, and it's free here at the health center [E21].

[...]So I can get the prescription and the medication—that's why I do it every semester [E27].

In this sense, the reports of E21 and E27 highlight the importance of health promotion and prevention programs and strategies within Primary Health Care (PHC). These accounts demonstrate a satisfactory extrinsic motivational relationship, as the services provided aid in patient treatment while fostering patient autonomy regarding the continuity of care and strengthening the bond with the health service and professionals.

In line with Theme 4, therapeutic follow-up is linked to both intrinsic and extrinsic motivational factors, manifested through family-related aspects ("child," "living"), emotional factors ("fear"), medication therapy ("level," "rise," "taking"), and health issues ("complication," "worsening," "illness"), as illustrated in the following accounts:

[...]Because I feel unwell, which is why I continue my treatment. And for my children, too [E01].

[...]Because not doing it leads to death; I do it so my glucose levels don't rise [E02].

[...]Because I know what diabetes can cause. I follow the treatment because of the complications [E03].

[...]If I don't do it, I feel bad; it goes up a lot [E04].

[...]Because I need to do this for myself; I take the medication because otherwise it gets worse [E12].

[...]To live longer—if I don't do it right, things get worse; I'm afraid of complications, of losing a limb, and of dying [E16].

[...]Out of love for life, to avoid complications or losing a foot. It's a dangerous disease [E20].

[...]To live a longer, better life, because almost my whole family has it. It's important to do it to avoid complications [E28].

Based on the study's factorial diagram, it is evident that classes 1 and 2, as they approach the Cartesian axis at index 0 (zero), demonstrate a stronger relationship (the simultaneous occurrence of two phenomena) between them. Figure 2 displays the words most frequently cited by the research participants and their distribution across the classes. The diagram reveals an emphasis on motivational factors related

Figure 2. Similarity tree regarding motivation for Type 2 diabetes mellitus (T2DM) treatment in the context of Primary Health Care. Teresina, Piauí, Brazil, 2026.

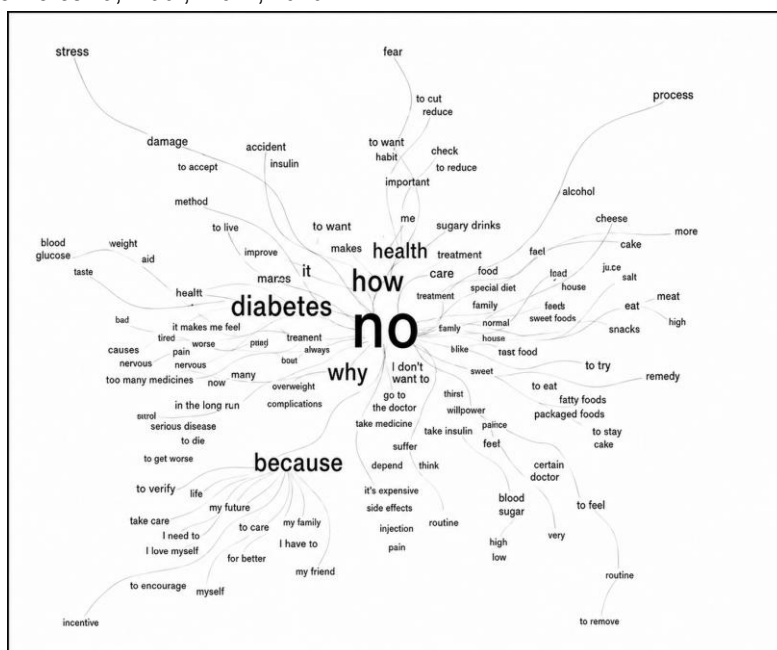
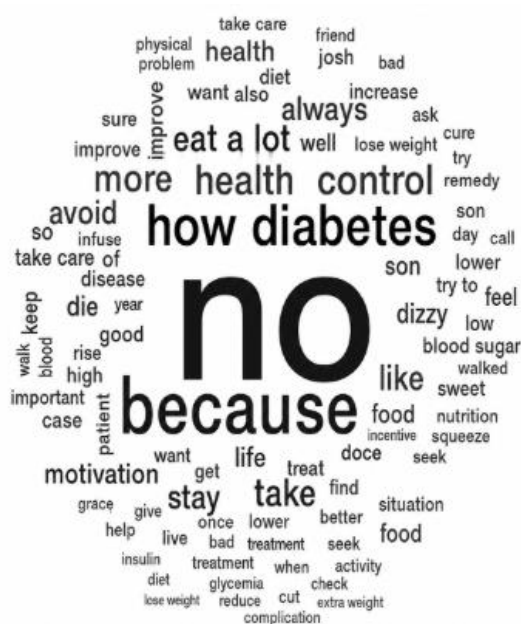


Figure 3. Word cloud regarding motivation for Type 2 diabetes mellitus (T2DM) treatment in the context of Primary Health Care (PHC), Teresina, Piauí, 2026.



DISCUSSION

Motivation regarding T2DM treatment revealed a symbolic structure linked to lifestyle, family and social support, pharmacological therapy, laboratory tests, and therapeutic follow-up. The structure of the narratives aligns with the SDT motivation continuum, elucidating the amotivational, intrinsic, and extrinsic motivational elements regarding T2DM treatment.

Given the complexity of the disease, the treatment goal is to achieve therapeutic targets—specifically glycemic control, behavioral changes (such as weight loss), control of cardiovascular risk factors, and the prevention and treatment of existing complications—in order to avoid disability and premature death⁽⁴⁾. However, maintaining glycemic targets is challenging, considering the various factors influencing low adherence, such as treatment duration, cognition, mood, self-efficacy, and a lack of communication, support, and interaction from healthcare professionals⁽²⁸⁾.

T2DM can be fully controlled, requiring the internalization of a new lifestyle to effectively change habits, with active participation from the patient, family members, healthcare professionals, and social stakeholders. Barriers linked to limited knowledge about the disease, motivation, and perception of therapeutic outcomes, as well as a lack of family support, hinder the internalization of lifestyle habits⁽²⁹⁾. Health education regarding T2DM is a key ally; professionals play a role based on imparting knowledge and developing the skills, attitudes, and behaviors essential for self-management of care⁽³⁰⁾.

The literature highlights important points to be addressed in educational interventions aimed at fostering patient motivation⁽³⁰⁻³¹⁾. These include considering the patient's opinions and experiences; understanding the factors that hinder or facilitate the daily management of the disease and its treatment; and encouraging knowledge of the pathology, physical activity, weight control, and healthy eating to foster the internalization of self-care. These strategies are timely for planning effective educational interventions that can positively impact the changes needed for good glycemic control and successful management of the disease⁽³²⁾.

Based on the identified results, the main category of "lifestyle" emerges independently. Lifestyle is known to be part of non-pharmacological treatment and is vital to the therapeutic process for disease control⁽³³⁾. Lifestyle modification is a behavioral decision, rooted in individual values and attitudes that internally affect the person with diabetes, aimed at achieving acceptable blood glucose levels, minimizing medication side effects, and preventing acute and chronic complications⁽³⁴⁾. Nevertheless, the study findings revealed that motivation acted as a barrier to maintaining a healthy diet and engaging in physical activity.

Healthy eating should be an integral part of diabetes treatment, involving varied and balanced nutritional guidance aimed primarily at meeting individual nutritional needs for effective glycemic

control⁽³⁵⁾. However, this is the most challenging aspect of T2DM treatment; study participants demonstrated amotivational behaviors stemming from economic conditions. Far from depending solely on the individual's autonomous will or personality traits, it relies on a multitude of internal and external factors surrounding food selection and consumption, all constrained by purchasing power⁽³⁴⁾.

From the perspective of Self-Determination Theory, the economic hardships reported by participants go beyond the issue of accessing recommended foods; they constitute contextual barriers that can undermine the satisfaction of the basic psychological need for competence. When individuals perceive limitations in implementing the guidance they have received, their sense of efficacy in managing the disease tends to diminish, fostering states of amotivation or less self-determined forms of behavioral regulation. Thus, adherence to dietary recommendations depends not only on individual will but also on environmental conditions that influence the internalization and maintenance of self-care behaviors⁽³⁶⁻³⁸⁾.

Exercise is a subcategory of planned and structured physical activity aimed at maintaining and improving physical fitness and health⁽³⁹⁾. Physical exercise can improve glycemic control, reduce cardiovascular risk factors, contribute to weight loss, and enhance well-being⁽⁴⁰⁾. Within the framework of SDT, engaging in physical activity requires intrinsic motivation and persistence⁽³⁷⁾; however, in the context of T2DM, this motivation faces various demotivating factors, with time availability and management being cited by participants as key issues.

Reports regarding a lack of time and difficulties in maintaining a regular physical activity routine suggest that this behavior is still predominantly driven by less self-determined forms of motivation. According to SDT, behaviors maintained solely by external demands or concerns about disease consequences are less likely to persist over time. Conversely, when physical activity is perceived as aligned with an individual's personal values and goals, a gradual process of internalization occurs; this fosters more autonomous forms of regulation and better behavioral maintenance, even in the face of daily challenges⁽³⁶⁻³⁸⁾.

Lifestyle changes are considered modifiable factors and require initiatives that contribute to the adoption and maintenance of healthy habits. Such change unfolds over the long term, complicated by the multifaceted nature of the disease, which hinders empowerment and autonomous decision-making, and requires sustained motivation alongside support from a multidisciplinary team, family, and social network⁽⁴¹⁾. Extrinsic motivation regarding lifestyle was linked to "avoiding sweet foods" for the purpose of "avoiding disease complications." At this level of motivation, behaviors were observed to be contingent upon external factors.

Several determinants were identified as part of the process of adherence to T2DM treatment. These encompass not only lifestyle but also aspects found in category 2, "treatment motivation and

relationships with family and social circles", specifically highlighting extrinsic motivation for treatment driven by family support and the use of pharmacological therapy.

Family and friend support constitutes a social resource for decision-making and the management of both non-pharmacological and pharmacological diabetes treatments. Within SDT, extrinsic motivation relies on the innate psychological need for relatedness, that is, the need to feel close to and understood by significant others who strongly influence behavioral change⁽⁴²⁾. The patient will be extrinsically motivated to undertake challenging tasks, such as lifestyle changes, by feeling like a member of a group, connecting with it, and receiving support for decision-making and treatment management⁽⁴³⁾.

The family support identified in the narratives can be understood as a key element in satisfying the basic psychological need for relatedness. According to Self-Determination Theory (SDT), feeling accepted, understood, and supported by significant others fosters the development of more self-determined forms of motivation, facilitating the internalization of behaviors necessary for treatment. Thus, family support acts not only as an external incentive for self-care but also as a social condition capable of strengthening the individual's engagement in the daily management of diabetes and adherence to therapeutic recommendations^(36-38,44).

Motivation for medication adherence relies on the need for autonomy and is enhanced when individuals decide of their own free will to adopt behavioral changes. Participants describe abstaining from alcohol as a lifestyle change resulting from treatment, internalizing the willpower to change as important, necessary, and self-regulating for achieving desired levels of well-being⁽³⁶⁾. The lack of leisure activities, manifested here as abstaining from alcohol, stands out as a stressor during lifestyle changes, yet remains necessary for maintaining health as part of the treatment regimen.

Individuals motivated to adhere to treatment acknowledge the factors affecting the consequences of not taking medication; furthermore, driven by the fear of complications and feeling unwell, they develop essential coping skills, even in the face of barriers such as forgetfulness. Intrinsic motivation for treatment reflects a strong desire to follow recommendations for holistic well-being, serving as a crucial predictor of treatment adherence and positive health outcomes⁽⁴⁴⁾. Given this, strategies that positively impact patient motivation must be devised to improve therapeutic adherence.

The recurring association between treatment adherence and the fear of complications suggests the predominance of controlled regulation mechanisms among some participants. Although the fear of disease progression may foster adherence behaviors in the short term, SDT proposes that motivations based on fear, pressure, or the avoidance of negative consequences tend to be less sustainable compared to more autonomous forms of motivation. Thus, the results indicate that a portion of treatment engagement appears to be linked to an attempt to avoid undesirable outcomes, rather than to the

incorporation of health behaviors as choices aligned with the individuals' personal values⁽³⁶⁻³⁸⁾.

The provision of Primary Health Care (PHC) services and the care delivered through the Family Health Strategy (FHS) serve as important regulators of extrinsic motivation. External regulations can be internalized. For a value to be internalized, and for subsequent motivation for action to arise, a social environment that influences this process is required. For instance, a patient who undergoes laboratory tests because they understand their value to the treatment is extrinsically motivated, just as those who undergo the tests solely to comply with the expectations of healthcare professionals and family members are. The way the social environment responds to the disease process can become a key ally in fostering self-determination⁽³⁶⁾.

Health promotion interventions for diabetes education should take place repeatedly throughout the patient's life to foster satisfaction with the service and establish a trusting relationship for treatment adherence. These interventions should employ empowerment-based, problem-solving approaches that facilitate the internalization of health-promoting behaviors⁽³⁵⁾. Self-Determination Theory (SDT) posits that such intervention strategies are crucial for understanding patient motivation, which hinges on the psychological needs for competence, autonomy, and relatedness⁽³⁶⁾.

Other regulators of extrinsic motivation included the fear of complications and even death. High rates of complications and mortality associated with T2DM currently constitute a major public health issue. In this context, PHC plays a pivotal role in implementing educational initiatives, timely patient registration, scheduled follow-up consultations, welcoming care, monitoring, care coordination, and ensuring accessibility, all aimed at reducing complications and premature deaths⁽³⁵⁾.

CFA results demonstrated a strong association between motivational factors and categories related to behavior change, therapeutic adherence, and T2DM complications. It can be inferred that individuals self-regulate their actions in response to positive and negative stimuli; the patient becomes aware of their vulnerability to complications and moves toward behavioral changes to improve their health.

The observed proximity between motivational factors, behavior change, therapeutic adherence, and T2DM complications suggests that motivation plays a central role in organizing treatment-related experiences. In light of SDT, this finding reinforces that adopting self-care behaviors depends not merely on knowledge about the disease, but primarily on the degree to which therapeutic requirements are internalized. The more these behaviors are integrated into the individual's personal values, the greater their capacity for self-regulation and for maintaining the practices necessary for long-term disease control tends to be^(36-37, 44).

The similarity tree revealed that the word "no" serves as the semantic organizing center for T2DM treatment motivation, linked to "health," "how," "why," "staying/remaining," and "diabetes", terms that are

interconnected. Non-pharmacological treatment and therapeutic adherence appeared on the periphery of care. Observing this peripheral zone acknowledges that T2DM care in Primary Health Care (PHC) focuses on biological processes rather than health promotion approaches; this significantly diminishes self-management of care and runs counter to health policies aimed at reducing the burden of chronic diseases.

The fact that the word "no" occupies a central position in the representational structure of treatment motivation suggests that the experience of living with T2DM is strongly associated with restrictions, prohibitions, and sacrifices perceived by the participants. From an SDT perspective, this semantic organization may indicate the predominance of an external control logic, wherein behaviors are driven primarily by compliance with rules or the avoidance of negative consequences. Although such mechanisms may foster initial adherence, they tend to result in less autonomy and lower internalization of behaviors compared to contexts that promote choices perceived as meaningful and voluntary⁽³⁶⁻³⁷⁾.

Lifestyle change, being represented as the most significant category independent of the others, stands out as a priority aspect. However, given the high prevalence of extrinsic motivation, Primary Health Care (PHC) must enhance health promotion initiatives to boost motivation levels and foster self-determination regarding lifestyle.

Taken together, the results suggest that motivation for T2DM treatment is distributed along the motivational continuum proposed by Self-Determination Theory, with the coexistence of amotivation, controlled regulations, and more autonomous forms of engagement. However, there is a predominance of elements related to extrinsic motivation, particularly those associated with fear of complications, professional monitoring, and family support. Although such factors may foster initial treatment adherence, the sustainability of behavioral changes depends on the process of internalization and the satisfaction of the psychological needs for autonomy, competence, and relatedness. Thus, strategies developed within Primary Health Care should aim to create environments that foster self-determination, promoting greater engagement and the maintenance of self-care behaviors over time. ^(36-38,44).

Study Limitations

The study limitations concern the difficulties in recruiting participants for interviews, stemming from a lack of awareness about the research and fear of answering questions, as well as constraints on the depth of their accounts due to the need to return to their medical appointments or daily activities. Finally, the semi-structured interviews highlighted the need for improved Primary Health Care (PHC) support in monitoring individuals with Type 2 Diabetes (T2D) and addressing the challenges of living with the condition, thereby offering a broader perspective on the factors that hinder adherence to T2D treatment.

Contributions for the Nursing Area, Health or Public Policy

The study presents relevant contributions regarding the identification of regulatory elements of motivation in the treatment of diabetes, allowing health professionals, especially nurses, to reformulate strategies, practices and approaches in Primary Health Care. For public health, the best planning of actions that promote the integration of care for chronic diseases. From the perspective of public policies, evaluation of health indicators and implementation of programs and guidelines that provide greater autonomy, qualification of the bond and quality of life.

CONCLUSION

This study revealed that the motivation for therapeutic adherence among people with T2DM is a dynamic, multifaceted phenomenon, comprising various forms of motivational regulation distributed along the continuum proposed by Self-Determination Theory. The results highlighted that lifestyle, family and social support, care provided by health services, therapeutic adherence, and fear of complications are central elements in shaping motivation for treatment.

From the perspective of health management and care, the study contributes by identifying the motivational regulators that influence therapeutic adherence. Recognizing these motivational regulatory processes will enable the multidisciplinary team, and nurses in particular, to develop interventions targeting the factors that limit therapeutic adherence, addressing both its extrinsic and intrinsic aspects. A need was also identified for strategies that foster patient self-management regarding their health journey.

Understanding motivation as a process that transcends purely individual aspects, encompassing relational, social, and contextual factors, broadens the interpretation of therapeutic adherence in T2DM. In this regard, the findings reinforce the value of Self-Determination Theory in understanding the mechanisms underpinning treatment adherence; they demonstrate that maintaining self-care behaviors depends not merely on the presence of motivation, but on the quality of that motivation and the extent to which these behaviors are internalized and integrated into individuals' daily lives.

REFERENCES

1. Torquette SL, Almada BHG, Portes MOP, Consta ILS, Carvalho ASC et al. Impacto de uma intervenção incentivadora na adesão ao tratamento de indivíduos com Diabetes Mellitus tipo 2. *Revista Interdisciplinar Ciências Médicas* [Internet] 2024 [citado 15 jan 2024];8(1). Disponível em: <https://doi.org/10.61910/ricm.v8i1.247>
2. Rodacki M, Teles M, Gabbay M, Montenegro R, Bertoluci M, Rodrigo I. Classificação do diabetes.

Diretriz Oficial da Sociedade Brasileira de Diabetes (2023). Disponível em: <https://diretriz.diabetes.org.br/classificacao-do-diabetes/#citacao>.

3. International Diabetes Federation. IDF Diabetes Atlas. 10th ed. Brussels, Belgium: International Diabetes Federation. Disponível em: <https://www.diabetesatlas.org/>.

4. Brasil. Ministério da Saúde. Secretaria de ciência, tecnologia e inovação e do complexo econômico-industrial da saúde. Portaria SECTICS/MS nº 7, de 28 de fevereiro de 2024. Protocolo Clínico e Diretrizes Terapêuticas de Diabetes Mellito Tipo 2. 2024. Disponível em: <https://www.gov.br/saude/pt-br/composicao/saps/ecv/publicacoes/protocolo-clinico-de-diretrizes-terapeuticas-pcdt-para-diabetes-mellitus-tipo-ii/view>.

5. Wtodarski L, Fernandes DA, Brandalise M. Avaliação do autocuidado da adesão do tratamento em pacientes usuários de insulinas. Aletheia [Internet] 2020 [citado 15 jan 2024];53(1):121-131. Disponível em: <https://pepsic.bvsalud.org/pdf/aletheia/v53n1/v53n1a11.pdf>.

6. Mendes EV. O cuidado das condições crônicas na atenção primária à saúde: o imperativo da consolidação da estratégia da saúde da família. Organização Pan-Americana da Saúde, 1 ed. 2012. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/cuidado_condicoes_atencao_primaria_saude.pdf.

7. Almeida RA, Malagris LEN. Avaliação de fatores de influência na adesão ao tratamento de hipertensão e diabetes. Revista Brasileira de Terapias Cognitivas [Internet] 2023 [citado 15 jan 2024];19(1):22-42. Disponível em: <https://doi.org/10.5935/1808-5687.20230032>

8. Nam S, Chesla C, Stotts NA, Kroon L, Janson SL. Barriers to diabetes management: patient and provider factors. Diabetes Res Clin Pract. [Internet] 2011 [citado 9 jun 2026];93(1):1-9. Disponível em: <https://doi.org/10.1016/j.diabres.2011.02.002>

9. Bekken T, Ottesen N, Glenton C, Nordheim LV. What motivates people with type 2 diabetes to maintain lifestyle changes and what challenges do they experience? A qualitative evidence synthesis. PLoS One. [Internet] 2025 [citado 9 jun 2026];20(9):e0332276. Disponível em: <https://doi.org/10.1371/journal.pone.0332276>

10. Papus M, Dima AL, Viprey M, Schott AM, Schneider MP, Novais T. Motivational interviewing to support medication adherence in adults with chronic conditions: Systematic review of randomized controlled trials. Patient Education and Counseling [Internet] 2022 [citado 9 jun 2026];105(11):3186-3203. Disponível em: <https://doi.org/10.1016/j.pec.2022.06.013>

11. Lima EK da S, Lima MRS. Adesão ao tratamento do diabetes mellitus em pacientes da atenção primária à saúde. Arquivos de Ciências da Saúde da UNIPAR [Internet] 2022 [citado 15 jan 2024];26(3):643-656. Disponível em: <https://doi.org/10.25110/arqsaude.v26i3.2022.8791>
12. Phillips AS, Guarnaccia CA. Self-determination theory and motivational interviewing interventions for type 2 diabetes prevention and treatment: a systematic review. J Health Psychol. [Internet] 2017 [citado 15 jan 2024];25(1):44-66. Disponível em: <https://doi.org/10.1177/1359105317737606>
13. Schmidt SK, Hemmestad L, Macdonald CS, Langber H, Valentiner LS. Motivation and Barriers to Maintaining Lifestyle Changes in Patients with Type 2 Diabetes after an Intensive Lifestyle Intervention (The U-TURN Trial): A Longitudinal Qualitative Study. Int J Environ Res Public Health [Internet] 2020 [citado 15 jan 2024];20(17):7454. Disponível em: <https://doi.org/10.3390/ijerph17207454>.
14. Sarfo JO, Obeng P, Kyereh HK, Ansah EW, Attafuah PYA. Self-determination theory and quality of life of adults with diabetes: a scoping review. Journal of Diabetes Research. [Internet] 2023 [citado 9 jun 2026];2023:5341656. Disponível em: <https://doi.org/10.1155/2023/5341656>
15. Gow K, Rashidi A, Whithead L. Factors influencing medication adherence among adults living with diabetes and comorbidities: a qualitative systematic review. Current Diabetes Reports. [Internet] 2024 [citado 9 jun 2026];24:19–25. Disponível em: <https://doi.org/10.1007/s11892-023-01532-0>
16. Carvalho IS, Moreira TMM, Arruda LSNS, Lima GS, Loureiro AMO, Gomes EB et al. Healthy Lifestyle Motivation Questionnaire: theoretical framework and validity evidence. Rev Rene [Internet] 2024 [citado 9 jun 2026];25:e93456, 2024. Disponível em: <http://dx.doi.org/10.15253/2175-6783.20242593456>
17. Davies E. Health simulation through the lens of self-determination theory – opportunities and pathways for discovery. Advances in Simulation [Internet] 2024 [citado 9 jun 2026];9(31). Disponível em: <https://doi.org/10.1186/s41077-024-00304-4>.
18. González-Juárez L, Sotomayor-Sánchez S M. Auto-determinación guiada como herramienta para mejorar el cuidado de la diabetes. Revisión de la literatura. Ver Mex Enferm Cardiol [Internet] 2022 [citado 9 jun 2026];30(1):33-42. Disponível em: <http://www.revistamexicanadeenfermeriacardiologica.com.mx/>.
19. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International Journal for Quality in Health Care. [Internet] 2007 [citado 15 jan 2024];19(6):349–357. Disponível em: <https://doi.org/10.1093/intqhc/mzm042>
20. Glaser BG, Strauss AL. The discovery of grounded theory: strategies for qualitative research. Chicago: Aldine; 1967.

21. Sousa, YSO, Gondim SMG, Carias IA, Batista JS, Machado KCM. O uso do software Iramuteq na análise de dados de entrevistas. Revista Pesquisas e Práticas Psicossociais [Internet] 2020 [citado 15 jan 2024];15(2):1-19. Disponível em: DOI: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1809-89082020000200015
22. Camargo BV, Justo AM. IRAMUTEQ: um software gratuito para análise de dados textuais. Temas em psicologia [Internet] 2013 [citado 15 jan 2024];21(2): 513-518. Disponível em: <http://dx.doi.org/10.9788/TP2013.2-16>
23. Santos V, Salvador P, Gomes A, Rodrigues C, Tavares F, Alves K et al. IRAMUTEQ nas pesquisas qualitativas brasileiras da área da saúde: scoping review. CIAIQ [Internet] 2017 [citado 15 jan 2024];2. Disponível em: <https://proceedings.ciaiq.org/index.php/ciaiq2017/article/view/1230/1191>
24. Souza MAR, Wall ML, Thuler ACMC, Lowen IM, Peres AM. O uso do software IRAMUTEQ na análise de dados em pesquisas qualitativas. Revista da Escola de Enfermagem da USP [Internet] 2018 [citado 15 jan 2024];52. Disponível em: <https://doi.org/10.1590/S1980-220X2017015003353>
25. Brasil. Resolução nº 580, de 22 de março de 2018. Resolve regulamentar o disposto no item XIII.4 da Resolução CNS nº 466, de 12 de dezembro de 2012. Plenário do Conselho Nacional de Saúde, Brasília, 2018. Disponível em: <https://conselho.saude.gov.br/resolucoes/2018/Reso580.pdf>
26. Brasil. Conselho Nacional de Saúde. Resolução nº 580, de 22 de março de 2018. Regulamenta o disposto no item XIII.4 da Resolução CNS nº 466/2012, estabelecendo normas aplicáveis a pesquisas em Ciências Humanas e Sociais. Diário Oficial da União.2018.
27. Theofilou P. Treatment adherence of diabetes mellitus patients: Is it affected by demographic and patient-related factors? A literature review. Academia Medicine [Internet] 2023 [citado 15 jan 2024];1. Disponível em: <https://doi.org/10.20935/acadmed6108>
28. Zairina E, Nugraheni G, Sulistyarini A et al. Fatores relacionados às barreiras e à adesão medicamentosa em pacientes com diabetes mellitus tipo 2: um estudo transversal. J Diabetes Metab Disord [Internet] 2022 [citado 15 jan 2024];21:219–228. Disponível em: <https://doi.org/10.1007/s40200-021-00961-6>.
29. Lemos CA, Gonçalves AMRF, Vieira EM, Pereira LRL. Learning demands of diabetes self-management: a qualitative study with people who use insulin. Rev. latinoam. enferm [Internet] 2024 [citado 15 jan 2024];32:e4167. Disponível em: <https://doi.org/10.1590/1518-8345.6923.4167>
30. Brehmer LCF, Canever BP, Rosa LM, Locks MOH, Manfrini GC, Willrich GPB. Diabetes mellitus: estratégias de educação em saúde para o autocuidado. Rev enferm UFPE on line, [Internet] 2021 [citado

15 jan 2024];15:e246321. Disponível em: <https://doi.org/10.5205/1981-8963.2021.246321>.

31. Gonçalves ES, Santos HJG, Barbosa JS. P. Assistência de enfermagem no manejo do diabetes mellitus na atenção primária em saúde. Revista REVOLUA [Internet] 2022 [citado 15 jan 2024];1(2):96–106. Disponível em: <https://revistarevolua.emnuvens.com.br/revista/article/view/20>.

32. Ferreira RR, Arantes BT, Cardoso LT, Ramos VG, Ribeiro ZH, Gonçalves A. Possíveis aspectos relacionados à não adesão ao tratamento não farmacológico do diabetes tipo II: uma revisão de literatura. Revista Master - Ensino, Pesquisa e Extensão [Internet] 2022 [citado 15 jan 2024];17(14). Disponível em: <https://revistamaster.emnuvens.com.br/RM/article/view/243>.

33. Almeida LM, Pena PGL. Segurança alimentar e nutricional: determinantes sociais e escolhas alimentares no contexto das desigualdades. Rev Nutr [Internet] 2021 [citado 15 jan 2024];34:e200245. Disponível em: <https://doi.org/10.1590/1678-9865202134e200245>

34. Ramos S, Campos LFC, Strufaldi DRBM, Gomes DL, Guimarães DB, Souto DL, et al. Terapia Nutricional no Pré-Diabetes e no Diabetes Mellitus Tipo 2. Diretriz Oficial da Sociedade Brasileira de Diabetes, 2023. Disponível em: <https://diretriz.diabetes.org.br/terapia-nutricional-no-pre-diabetes-e-no-diabetes-mellitus-tipo-2/>.

35. Silva Júnior WS, Fioretti A, Vancea D, Macedo C, Zagury R, Bertoluci M. Atividade física e exercício no pré-diabetes e DM2. Diretriz Oficial da Sociedade Brasileira de Diabetes, 2023. Disponível em: <https://diretriz.diabetes.org.br/atividade-fisica-e-exercicio-no-pre-diabetes-e-dm2/>

36. Deci EL, Ryan RM. The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry. [Internet] 2000 [citado 15 jan 2026];11(4):227–268. Disponível em: https://doi.org/10.1207/S15327965PLI1104_01

37. Ryan RM, Deci EL. Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness. New York: Guilford Press; 2017.

38. Ng JYY, Ntoumanis N, Thøgersen-Ntoumani C, Deci EL, Ryan RM, Duda JL, Williams GC. Self-determination theory applied to health contexts: A meta-analysis. Perspectives on Psychological Science. [Internet] 2012 [citado 09 de junho de 2026];7(4):325–340. Disponível em: <https://doi.org/10.1177/1745691612447309>

39. Pereira WVC, Vancea DMM, de Andrade Oliveira R, Freitas YGP, Lamounier RN, Silva Júnior WS, et al. Position of Brazilian Diabetes Society on exercise recommendations for people with type 1 and type 2 diabetes. Diabetol Metab Syndr [Internet] 2023 [citado 15 jan 2026];15:2. Disponível em: <https://doi.org/10.1186/s13098-022-00936-1>

40. Malagris LEN, Ribeiro JAA, Teixeira LG, Mourão SE. QC senso de autoeficácia, comportamentos de saúde e adesão ao tratamento em pacientes portadores de diabetes e/ou hipertensão. *Revista Brasileira de Terapias Cognitivas* [Internet] 2020 [citado 15 jan 2026];16(1):26-33. Disponível em: <https://doi.org/10.5935/1808-5687.20200005>
41. Shiau CWC, LIM SM, Cheng LJ, LAU Y. Effectiveness of Game-Based Self-Management Interventions for Individuals with Diabetes: A Systematic Review and Meta-analysis of Randomized Controlled Trials. *Jornal Games for Health* [Internet] 2021 [citado 15 jan 2026];10(6):371-382, 2021. Disponível em: <https://doi.org/10.1089/g4h.2020.0221>
42. Regufe VMG, Lobão MA, Cruz-Martins NLC, Von HAFEP, Pinto CB. Clinical and Sociodemographic Profile, Self-Care, Adherence and Motivation for Treatment, and Satisfaction with Social Support in Portuguese Patients with Type 2 Diabetes. *J Clin Med* [Internet] 2024 [citado 15 jan 2026];13(21):6423. Disponível em: <https://doi.org/10.3390/jcm13216423>
43. Santos AL, Marcon SS, Teston EF, Back IR, Lino IGT, Batista VC, Matsuda LM, Haddad MCFL. Adesão ao tratamento de diabetes Mellitus e relação com a assistência na atenção primária. *REME-Rev Mineira Enferm* [Internet] 2020 [citado 15 jan 2026];24(1). Disponível em: <https://doi.org/10.5935/1415-2762.20200008>
44. Williams GC, McGregor HA, Zeldman A, Freedman ZR, Deci EL. Testing a self-determination theory process model for promoting glycemic control through diabetes self-management. *Health Psychology*. [Internet] 2004 [citado 15 jan 2026];23(1):58–66. Disponível em: <https://doi.org/10.1037/0278-6133.23.1.58>

Acknowledgments: *We would like to thank the Universidade Federal do Piauí and the Fundação Municipal de Saúde for the opportunity to develop this reaserch.*

Funding: Scholarship from the Coordination for Higher Level Personnel Improvement (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brazil - CAPES*).

Data Availability: All data are included in the manuscript.

Authors' contributions: Conception and design of the research: Arruda, Luana Savana Nascimento de Sousa; Borges, José Wicto Pereira. Data acquisition: Arruda, Luana Savana Nascimento de Sousa; Silva, Beatriz Aguiar da; Ancelmo, Juliana Queiroz de França. Data analysis and interpretation: Arruda, Luana Savana Nascimento de Sousa; Borges, José Wicto Pereira; Falcao, Lariza Martins. Drafting the manuscript: Arruda, Luana Savana Nascimento de Sousa; Silva, Beatriz Aguiar da; Ancelmo, Juliana Queiroz de França. Critical revision of the manuscript for intellectual content: Arruda, Luana Savana Nascimento de Sousa; Borges, José Wicto Pereira; Falcao, Lariza Martins.

Declaration of use of generative artificial intelligence: During the preparation of this manuscript for the *Revista de Enfermagem da UFJF*, the authors used ChatGPT (OpenAI) to support language revision, improve textual clarity, and assist in organizing the writing of parts of the manuscript. Following the use of the tool/service, the author(s) reviewed and adjusted the content as necessary, assuming full responsibility for the version submitted and presented in this publication.

Editor-in-Chief: André Luiz Silva Alvim 