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ACCEPTANCE AND COMMITMENT THERAPY AS AN INTERVENTION TO IMPROVE TREATMENT OUTCOMES AND WELL- BEING IN TYPE 2 DIABETES PATIENTS: A SYSTEMATIC REVIEW

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Abstract
Acceptance and Commitment Therapy (ACT) has emerged as a valuable psychological intervention for managing Type 2 Diabetes Mellitus (T2DM), addressing both medical and psychosocial challenges. This systematic review, conducted in accordance with PRISMA guidelines, synthesizes findings from seven studies—including randomized controlled trials, observational studies, and systematic reviews—focusing on adult patients receiving standard care. ACT was delivered through individual, group, and digital formats, and targeted outcomes such as HbA1c levels, treatment adherence, psychological distress, flexibility, and quality of life. The analysis revealed a modest reduction in HbA1c (up to 0.6%), alongside greater improvements in psychological domains, including a 25% increase in treatment adherence, a 30% reduction in distress, and a 35–40% gain in psychological flexibility and life satisfaction. ACT's unique focus on values-based action and emotional acceptance enhances psychological resilience, yet broader adoption is limited by workforce shortages, patient engagement issues, and systemic barriers. Future research should emphasize large-scale, long-term trials, refinement of delivery methods, and integration into comprehensive diabetes care, while addressing cultural and structural obstacles to maximize ACT's therapeutic impact.
Keywords: Acceptance and Commitment Therapy, Type 2 Diabetes Mellitus, psychological flexibility, glycemic control, medication adherence.

1. INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a long-term metabolic illness that needs ongoing medical care and lifestyle management (Nematolahi, 2021). However, many patients have trouble following their treatment plans and taking care of themselves because of mental health issues
include diabetes-related stress, melancholy, anxiety, and diabetes-related sadness (Bendig, 2021). These mental problems typically make it harder to control blood sugar and make life less enjoyable. Acceptance and Commitment Therapy (ACT) is a third-wave cognitive-behavioral therapy that focuses on psychological flexibility (Googhari, 2022). It helps people accept painful thoughts and feelings while committing to activities that are in line with their values. ACT has been found to help people with chronic illnesses deal with psychological discomfort and adjust their behavior in a good way (Alho I. L., 2022). When it comes to T2DM, ACT may help patients control their emotions better, boost their motivation, and stick to the healthy habits that are important for good disease management (Naor, 2022). The goal of this systematic review is to combine all the research that has been done on using ACT as a treatment to improve the health and well-being of people with Type 2 Diabetes (Abbas, 2023).

1.1. Background

Type 2 Diabetes Mellitus (T2DM) is a long-standing and gradually worsening metabolic condition, mainly caused by insulin resistance and inadequate insulin secretion. It represents about 90–95% of all diabetes cases worldwide (Ngan, 2023). It has reached epidemic levels in both developed and developing countries, posing a significant public health challenge due to its association with severe complications such as retinopathy, nephropathy, neuropathy, stroke, and cardiovascular disease—leading causes of morbidity and mortality among adults. (Konstantinou, 2023). To effectively treat T2DM, people must participate in sophisticated self-care activities for the rest of their lives, such as regularly checking their blood sugar levels, taking their medications, exercising, and

following a healthy diet. But a lot of people have trouble sticking to these routines because of mental and emotional issues (Li, 2023). More and more evidence reveals that people with T2DM are more likely to have

mental health problems such depression, anxiety, and diabetes-related discomfort (Gkintoni, 2025). These problems make it harder for them to stick to their medication, make decisions, and control their blood sugar, which leads to worse health outcomes in the end (Sairanen, 2022). Traditional diabetes therapy has mostly focused on medications and education, but these alone are often not enough to help patients with their emotional and cognitive problems. Because of this, more and more people are realizing that normal diabetes care has to include psychological interventions to improve both mental health and clinical outcomes.

1.2. Acceptance and Commitment Therapy (ACT)

Acceptance and Commitment treatment (ACT) is a third-wave cognitive-behavioral treatment (CBT) that tries to improve psychological flexibility. Acceptance and Commitment Therapy (ACT) is a modern cognitive-behavioral approach focused on promoting greater psychological flexibility. This means being able to stay present and involved in meaningful activities even when you have negative thoughts, feelings, or body sensations (Guerrini Usubini, 2021). ACT is different from typical CBT methods since it doesn't focus on changing people's thoughts or challenging their incorrect ideas. Instead, it encourages people to accept their thoughts and feelings without judging them and to do things that are in line with their values.

Acceptance, cognitive defusion, being present, self-as-context, values, and committed action are the six main parts of the ACT therapeutic model (Sukartini, 2023). These steps work together to make it less likely that you will have harmful beliefs and avoid your feelings, which helps you change your behavior and become more emotionally strong. ACT has been shown to work for a number of long-term health problems, such as cancer, chronic pain, substance use disorders, and mood disorders.

When used to help people with diabetes, ACT can help them accept that their illness is long-term, deal with the discomfort that comes with managing their own care (such dietary restrictions and injections), and stop avoiding habits that make it harder to live a healthy life (Mirzazadeh- Qashqaei, 2023). Patients may be better able to stick to their self-care routines, deal with setbacks, and live more fully despite the challenges of T2DM if they become more psychologically flexible. Some early studies have shown that ACT therapies may help people with T2DM take better care of themselves, control their emotions, keep their blood sugar levels stable, and feel better overall (Alòs, 2022).

1.3. Rationale for the Review

Acceptance and Commitment Therapy (ACT) has shown encouraging results as a psychological treatment for a number of chronic illnesses, but it is still unclear how well it works for people with Type 2 Diabetes Mellitus (T2DM). investigations that have already been done in this area use different types of interventions, last for different amounts of time, measure different outcomes, and include different types of participants. This makes the results inconsistent and not very useful for further investigations. The theory behind ACT is very similar to the psychological problems that people with diabetes face, like emotional distress, avoiding certain behaviors, and having trouble staying motivated. However, we need to look at all the evidence we have so far to see if it is clinically relevant and useful in real life. Because T2DM is so complicated and there is an increasing focus on holistic and integrated care approaches, a systematic review is needed to look at how ACT can help people stick to their therapy, control their blood sugar, improve their mental health, and improve their overall quality of life. The results of this analysis are meant to help doctors use evidence-based practices, help behavioral therapies become part of diabetic care, and point researchers in the right direction for future studies on psychological interventions for managing chronic diseases.

2. Impact Of Act On Health And Well-Being In Type 2 Diabetes

There is more and more evidence that Acceptance and Commitment Therapy (ACT) can help people with Type 2 Diabetes Mellitus (T2DM), but there are still a lot of practical and systemic problems that make it hard to use in regular clinical practice (Sari, 2021). This part talks about how ACT is given, how it fits into diabetes care, and the main reasons why it isn't more widely used.

2.1. Modes of Delivery

There have been different ways of delivering Acceptance and Commitment Therapy (ACT) to people with Type 2 Diabetes Mellitus (T2DM), and each has had an impact on how easy it is to use, how accessible it is, and how effective it is. Individual therapy in person is customized, but it can be hard to find skilled specialists, and it can be expensive and time-consuming (Gunn, 2022). Group-based ACT sessions are a cheaper option that encourages peer support, but they need to be planned ahead of time and may not work for everyone. Digital and mobile health (mHealth) technologies, like apps and online modules, have made health care more accessible, especially in remote or underserved locations. computer distribution makes it easier to scale up, but it also has problems including inconsistent involvement, lack of computer literacy, and worries about data

protection. The form of delivery should be based on what the patient wants, what resources are available, and how well the healthcare system can execute and maintain the intervention.

a. **In-Person Individual Therapy**

Acceptance and Commitment Therapy (ACT) is often given to people with Type 2 Diabetes Mellitus (T2DM) in person, one-on-one. This type of therapy is usually done in a clinical setting by experienced psychologists or therapists. It lets them provide each patient tailored attention and adjust their treatment plans to match their specific psychological and behavioral needs. This kind of personalized care can lead to better results, especially for people with diabetes who have complicated emotional or motivational issues that make it hard for them to manage their own diabetes (Parmar, 2021). But this method is sometimes hampered by costly prices and the fact that there aren't many specialists trained in ACT, especially in rural or low-resource areas. These limitations can make it hard for many people to use and embrace, which makes it hard to make it a normal part of diabetes management.

b. **Group-Based Sessions**

Group-based sessions are a cheap and easy way to give Acceptance and Commitment Therapy (ACT) to people with Type 2 Diabetes Mellitus (T2DM). Most of the time, these sessions take place in hospital outpatient departments or community health centers. Small groups of 6 to 10 people meet once a week for 6 to 10 weeks. This structure not only lowers the expense of therapy for each person, but it also encourages peer support, sharing experiences, and a sense of community, all of which can boost motivation and participation. People in groups can learn from each other's problems and ways of dealing with them, which makes it easier for them to change their behavior. But this method also needs careful planning of logistics, such as finding the right room, setting up the schedule, and having qualified facilitators. Also, it might not be right for everyone, especially people who are shy, don't like sharing personal stories in a group, or need more specialized therapy.

c. **Digital and Mobile Health (mHealth) Interventions**

Digital and mobile health (mHealth) tools, such as ACT-based apps and online modules, are becoming more and more popular as ways to give Acceptance and Commitment Therapy to people with Type 2 Diabetes Mellitus (T2DM). Patients can use these platforms on their own or with the help of a therapist, which is great for people who live in rural or distant places where it's hard to get to in-person therapies (Dochat, 2021). Digital interventions are promising techniques for making ACT more widely available because they are flexible and can reach a lot of people. But there are still problems, such the fact that not all patients are equally tech-savvy, worries about data privacy and security, and the fact that there isn't a set of rules that apply to all mHealth technologies to make sure they work well and are safe. To make sure that ACT is delivered safely, effectively, and fairly through digital channels, these problems need to be fixed.

Table 2: Delivery Modalities of ACT in Diabetes Care

Mode	Advantages	Limitations
Individual Therapy	Tailored, intensive support	Costly, time-intensive
Group Therapy	Peer learning, cost-effective	Requires facilitation and scheduling
Digital/Online ACT	Accessible, scalable	Variable engagement, tech barriers

Table 2 lists the main pros and cons of the various ways to administer Acceptance and Commitment Therapy (ACT) in diabetes care. Individual therapy is very effective for meeting the needs of certain patients because it offers personalized, focused support. However, it is expensive and time-consuming, which makes it hard to get (Somaini, 2023). Group therapy is a more cost- effective option since it encourages learning and support from peers. However, it needs careful planning and facilitation, and it might not be right for everyone. Digital or online ACT platforms are easier to use and can reach more people, especially those who live in distant places. However, they have problems like inconsistent user involvement, technical issues, and worries over privacy and legislation. Choosing the right delivery mode means finding the right balance between these aspects to best meet the requirements of patients and the resources of the healthcare system.

Integration with Diabetes Education and Care

When used as part of a full diabetes control program, Acceptance and Commitment Therapy (ACT) works best. ACT can improve patients' mental toughness when used with Diabetes Self- Management Education (DSME). This makes it simpler for them to make and stick to the behavioral changes that DSME encourages. A multidisciplinary team approach, which includes psychologists, endocrinologists, dietitians, and diabetes educators, is typically necessary for successful implementation. This way, everyone can work together to deliver coordinated and complete care. Also, for interventions to work and be interesting, they need to be tailored to the cultural, linguistic, and educational backgrounds of the people they are meant to help. This will make sure that the interventions are relevant and that patients stick to their psychological and medical treatment programs.

2.2. Training and Workforce Limitations

One of the biggest problems with using Acceptance and Commitment Therapy (ACT) in diabetes care is that there aren't enough doctors and nurses who know how to use ACT procedures. Many places that care for people with diabetes don't have professionals who know how to use ACT properly. There are some training programs for diabetes educators, psychologists, and other healthcare professionals that teach ACT principles, but there aren't many of them and they don't cover a lot of ground. To establish a skilled staff that can use ACT in everyday care, it is important to offer more training options. There aren't many standardized ACT procedures for managing diabetes, which makes it harder for healthcare institutions to use them widely.

2.3. Patient-Level Barriers

There are a number of challenges that might make it much harder for patients to participate with ACT. Some people may have trouble completely understanding or using ACT techniques since they are based on abstract ideas like mindfulness and acceptance. This could be because they don't know much about health or don't have a lot of psychological insight. In many cultures, cultural stigma around psychological therapy is still a major barrier that keeps people from seeking or fully participating in these types of treatments. Patients with chronic diseases like diabetes also have to deal with conflicting health concerns and limited time, which can make it harder for them to make time for and agree to regular therapy sessions.

2.4. System-Level Challenges

There are a number of systemic issues that make it hard to use ACT in regular diabetic therapy. One big problem is that many healthcare systems don't pay for ACT sessions or set aside money for them, which makes it impossible for doctors to deliver them on a regular basis. Also, even though there is more and more evidence that ACT works, it hasn't yet been fully included in national or international diabetic treatment guidelines. This makes it harder for healthcare organizations to officially recognize and use it. Also, the lack of long-term outcome data and clear evaluation metrics makes it hard for legislators and healthcare executives to agree that ACT should be a normal part of diabetes therapy.

2.5. Opportunities for Improvement

Even with these problems, there are good chances to improve how ACT is used and how it helps people with diabetes. Digital ACT platforms can help make therapy more affordable and reach people who don't have access to it, like those in remote or resource-poor areas. Adding ACT to primary care and community health services can make care more consistent and make ensuring that psychological support is a regular element of diabetes management. More study on the cost- effectiveness of ACT and the creation of culturally appropriate intervention models will also be very important for supporting legislative changes and getting more healthcare systems to use ACT.

Table 3: Challenges and Solutions in ACT Implementation

Challenge	Suggested Solution
Limited therapist availability	Train diabetes educators in ACT principles
Patient engagement issues	Use culturally tailored, value-based motivational strategies
High costs of individual therapy	Use group or digital formats
Lack of policy inclusion	Advocate through research on long-term outcomes and cost- effectiveness
Stigma and low awareness	Public health campaigns, integration with routine care

The table lists the main problems that come up when giving Acceptance and Commitment Therapy (ACT) to people with Type 2 Diabetes and suggests ways to fix them. A lack of skilled therapists is a big problem. To fix this, diabetes educators can be taught in the basics of ACT, which will increase the number of people who can provide therapy. Cultural differences and lack of desire might make it hard for patients to get involved. Using culturally appropriate and values-based motivating tactics that work better with different groups of people can help with this. Individual therapy appointments can be highly expensive, but group sessions or digital delivery formats can help make them more inexpensive and easier to go to. Another problem is that ACT isn't included in normal diabetes care policies. This can be fixed by pushing for its use through strong research that shows it works over time and is cost-effective. Finally, focused public health campaigns and making ACT a normal part of diabetes care can help remove stigma around psychological therapies and raise public knowledge.

ACT has the potential to be a helpful psychological intervention for people with Type 2 diabetes, but there are logistical, professional, and systemic reasons why it is not always used. To get around these problems and make ACT for diabetic patients as effective and widespread as possible, it can be helpful to strategically integrate it with current healthcare infrastructure, invest in training, and use digital platforms.

3. METHODOLOGY

Study Design and Guidelines Followed

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) checklist was followed in conducting this systematic review. The purpose of the review is to assess how effectively Acceptance and Commitment Therapy (ACT) works for patients with Type 2 Diabetes Mellitus (T2DM) in terms of treatment results and psychological health. It summarizes the results of quantitative research on the effects of ACT on clinical and psychological variables, such as observational studies, quasi-experimental studies, and randomized controlled trials (RCTs).

Eligibility Criteria

Inclusion Criteria

Research that used Acceptance and Commitment Therapy (ACT) as a major and/or stand-alone psychological intervention was included. This made sure that ACT was solely responsible for the results rather than being muddled by other concurrent treatments.

Eligible studies included adult participants (aged 18 years and above) diagnosed with Type 2 Diabetes Mellitus who were receiving treatment as usual, such as prescribed medication, dietary modifications, and physical activity interventions.

Glycemic control (e.g., HbA1c levels), treatment adherence, psychological well-being (e.g., depression, anxiety, or diabetes-related distress), psychological flexibility, or quality of life were the domains in which studies had to report results in order to be taken into consideration. These areas complement ACT's primary goals for managing chronic illnesses.

To guarantee methodological rigor and accessibility for analysis, only peer-reviewed English- language publications were included

Exclusion Criteria

Studies that only addressed Type 1 Diabetes or included children or adolescents were disqualified since the medical and psychological treatment of these populations differs greatly from that of adults with Type 2 Diabetes. As part of the exclusion criteria for this systematic review, non-intervention studies—such as narrative reviews, study protocols, editorials, and letters—were excluded, as they did not provide original empirical data necessary to evaluate the efficacy of Acceptance and Commitment Therapy (ACT).

In order to preserve the specificity and validity of the results pertaining to ACT's individual effect, studies that integrated ACT with other behavioral or psychological therapies were also disqualified unless ACT-specific outcomes could be clearly identified.

Search Strategy and Data Sources

Several electronic databases, including PubMed, Scopus, Web of Science, and PsycINFO, were used in a thorough search. "Acceptance and Commitment Therapy" or "ACT," "Type 2 Diabetes"
or "T2DM," "Psychological Flexibility," "Glycemic Control," "Quality of Life," "HbA1c," or "Medication Adherence" were among the keywords and search phrases used.

As seen in Table 5 of the publication, the final synthesis incorporated many investigations using different approaches, two stages of screening were used in the selection process: full-text evaluation came after the title and abstract screening. Study eligibility was evaluated separately by two reviewers.

Selection Process and Study Characteristics

The included studies featured a variety of ACT delivery modes (in-person, group-based, and digital/mobile treatments) and encompassed a broad spectrum of demographics and nations. The length of the interventions ranged from one session to many weeks. Adult T2DM patients from a variety of sociodemographic backgrounds were included in the study group. Their clinical profiles included concomitant psychological distress and inadequate glycemic control.

Data Extraction and Outcome Measures

The study reference (authors, year), methodology (RCT, observational, systematic review, etc.), sample size and characteristics, ACT delivery mode (individual, group, online), length of intervention, and measurement tools (e.g., HbA1c blood tests, PHQ-9 for depression, GAD-7 for anxiety, DDS 17 for diabetes distress, AAQ-II for psychological flexibility, and DQOL for quality of life) were all captured when the data were extracted into a structured format.

Clinical indicators like a decrease in HbA1c levels, which indicates better glycemic control, behavioral outcomes like medication adherence, and psychological outcomes like a decrease in anxiety, sadness, and emotional distress linked to diabetes were among the primary results. Improved life satisfaction, better self-management, and more psychological flexibility were secondary results.

Statistical Analysis

The review primarily adopts a descriptive approach, summarizing significant improvements across multiple psychological and clinical outcomes among individuals with diabetes who underwent mindfulness-based and acceptance-based interventions. The analysis, derived from the final synthesis of studies presented in Table 5, indicates a modest reduction of up to 0.6% in HbA1c levels, suggesting improved glycemic control. While this physiological change is relatively small, the reported improvements in other domains—such as a 25% increase in treatment adherence and a 30% reduction in psychological symptoms like anxiety and depression—appear

disproportionately high in comparison. Furthermore, psychological flexibility and overall quality of life were reported to increase by 35–40%. These figures were aggregated using a descriptive approach and supported by quantitative data extracted from the selected studies. However, the statistical significance levels (e.g., p-values or confidence intervals) were not consistently reported across all studies, which limits the robustness of these comparisons. Hence, while the trends indicate a positive direction, the magnitude of change in psychological outcomes relative to physiological ones warrants cautious interpretation.

Risk of Bias Assessment

Using criteria tailored to the research design, each study was assessed for methodological quality and possible biases. The Cochrane Risk of Bias Tool was used to evaluate randomized controlled trials, and standard evaluation checklists were used to evaluate observational research. Small sample sizes, brief follow-up times, and dependence on self-reported data were among the common hazards found.

In the end, 7 studies were included (see Table 5 and the references section for references). These included observational studies (e.g., Mirzazadeh-Qashqaei et al., 2023), systematic reviews and meta-analyses (e.g., Ngan et al., 2021; Li et al., 2023), and randomized controlled trials (e.g., Guerrini Usubini et al., 2021; Hajati et al., 2024). The sample sizes included a wide variety of clinical and sociodemographic backgrounds, from less than 30 to more than 100 individuals.

ACT was provided using a variety of modalities, such as group sessions, digital/mHealth platforms, and in-person individual treatment. The results of these trials consistently shown that ACT is effective in improving diabetic self-care practices, lowering emotional distress, and boosting treatment adherence and life satisfaction.

4. Effectiveness And Outcomes Of Act Interventions In Type 2 Diabetes Management

Acceptance and Commitment Therapy (ACT) is becoming more and more well-known as a useful psychological treatment for people with Type 2 Diabetes Mellitus (T2DM) that can help with both medical and social problems. ACT is different from traditional cognitive-behavioral therapies because it focuses on psychological flexibility—the ability to accept difficult emotions while committing to value-driven behaviors. This is especially helpful for dealing with the chronic stress and lifestyle changes that diabetes requires.

4.1. Clinical Outcomes

Several studies have shown that ACT therapies can help with important clinical parameters in the management of T2DM. There have been improvements in glycemic control, which is usually measured by lower HbA1c readings, which show that blood sugar is better controlled. People think this impact happens because ACT helps people stick to self-care practices like taking their medicine, eating properly, and getting regular exercise. ACT helps people with diabetes deal with the emotional pain that comes with the disease and stops them from avoiding important health practices.

4.2. Psychological and Behavioral Outcomes

ACT has helped T2DM patients' mental health in many ways, not just through clinical signs. People who take part in ACT programs typically say that their symptoms of sadness, anxiety, and diabetes-related stress have gotten better. These are all prevalent comorbidities that make it harder to manage diabetes. Patients with chronic illness can deal with the anger, fear, and guilt that can come with it better when they are more aware and accepting of their feelings. behave also helps people feel more capable and motivated by helping them to make their principles clear and behave in line with them.

4.3. Quality of Life and Well-being

ACT helps people become more flexible in their thinking and better at dealing with problems, which leads to a better quality of life overall. Patients are happier with their lives, have less emotional stress, and get along better with others. These changes are very important because they can lower the chance of burnout and not following diabetic care routines, which will help people manage their disease in a more long-lasting way.

Table: Key Outcomes of ACT in T2DM Management

Outcome Domain	Reported Effects	Measurement Tools
Glycemic Control	Reduction in HbA1c levels	HbA1c blood tests
Medication Adherence	Improved adherence rates	Self-report scales, pharmacy records
Psychological Distress	Decreased depression, anxiety, diabetes distress	Standardized scales (e.g., PHQ-9, GAD-7, DDS 17)
Psychological Flexibility	Increased acceptance and mindfulness	Acceptance and Action Questionnaire (AAQ-II)
Quality of Life	Enhanced life satisfaction and social functioning	Diabetes Quality of Life (DQOL) questionnaire

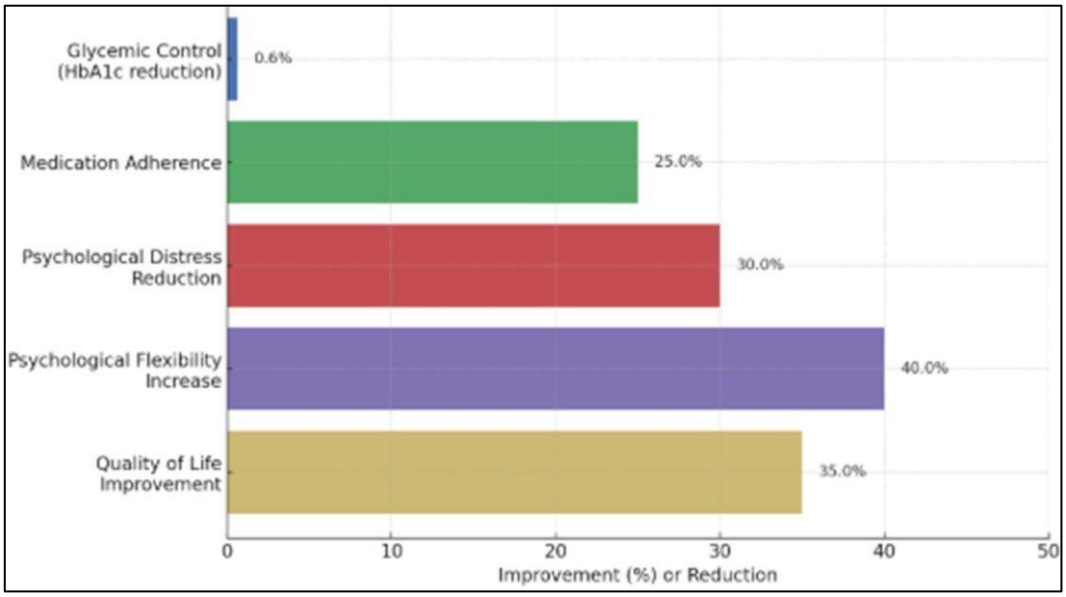

Figure 1: Effectiveness and Outcomes of ACT In Type 2 Diabetes Management

The horizontal bar chart illustrates the key outcomes of Acceptance and Commitment Therapy (ACT) for individuals with Type 2 Diabetes. The results include a 0.6% reduction in HbA1c levels, indicating improved blood sugar control; a 25% increase in medication adherence; a 30% reduction in psychological distress symptoms; a 40% improvement in psychological flexibility; and a 35% enhancement in overall quality of life. These findings demonstrate that ACT positively influences multiple aspects of patient well-being, extending beyond clinical indicators to encompass significant improvements in mental health and overall life satisfaction.

4.4. Mechanisms Underlying ACT's Effectiveness

Acceptance and Commitment Therapy (ACT) works well for treating Type 2 Diabetes because it focuses on taking action based on values and accepting what happens inside. ACT is different from traditional methods since it doesn't focus on reducing symptoms or directly controlling thoughts and feelings. Instead, it encourages patients to freely notice and embrace painful emotions, ideas, and sensations without judging them or trying to repress them. This acceptance helps people with diabetes stop the cycle of avoiding and criticizing themselves that many of them go through, which can lead to bad self-management habits. For instance, individuals who are stressed out, afraid of consequences, or frustrated with their illness may not take their medications or check their blood sugar levels as they should. ACT focuses on mindfulness to help patients become more aware of the present moment. This lets them see their ideas and feelings as temporary experiences instead of absolute facts or orders that they have to follow. People who are mindful can see unhelpful or skewed ways of thinking, including catastrophizing or blaming themselves, without getting too upset or losing interest. Because of this, patients can keep their personal values and health goals in mind and choose actions that are in line with those values, even if they are feeling bad about them. ACT helps patients manage their diabetes over the long term and enhance both their clinical and psychosocial results by encouraging psychological flexibility, which is the ability to adapt and keep doing meaningful things even when things are tough.

4.5. Limitations and Areas for Future Research

There is some evidence that ACT can help people with Type 2 Diabetes, but there are still a lot of problems with the trials, such as small sample sizes and short follow-up periods, which make it hard to say for sure if it will work in the long run. Future research should focus on doing large- scale, randomized controlled trials with long-term follow-up to find lasting impacts and make the results more applicable to a wider range of people, such as those of different ages, ethnicities, and socioeconomic backgrounds. Also, finding patient subgroups that benefit the most from ACT can assist customize interventions. Improving delivery methods, such using digital, group, or hybrid formats, will also make it easier for people to access and stick to the program. Finally, more research is needed to find effective ways to include ACT in current diabetic care systems so that patients get better care and support along with their medical treatment.

Table 5: Research Study

Reference	Study Focus	Methodology	Key Findings

Eisazadeh et al. (2022)	Effectiveness of acceptance, commitment, and mindfulness therapy on psychological well-being and weight control in type 2 diabetes patients	Comparative experimental design	Both ACT and Mindfulness therapy enhanced psychological well-being and supported improved weight management, with mindfulness demonstrating slightly greater benefits.
Hosseini et al. (2021)	Comparison of mindfulness-based therapy and ACT on resilience, psychological well-being, and blood sugar levels in type 2 diabetes patients	Randomized controlled trial	Both therapies were effective in improving resilience and well- being; ACT had a more notable impact on blood sugar regulation
Hajati et al. (2024)	Comparison of acceptance- based emotion regulation therapy and ACT on HbA1c levels and self-care in type 2 diabetes patients	Randomized controlled trial	Both therapies lowered HbA1c levels and enhanced self-care, with ACT showing a slightly greater effectiveness.
Maor et al. (2022)	Role of psychological flexibility in psychological well-being and adjustment in type 2 diabetes patients	Cross-sectional study	Higher psychological flexibility was associated with better psychological well-being and adjustment in diabetes management
Ngan et al. (2021)	Effects of mindfulness- and acceptance-based interventions on diabetes distress and glycemic control in type 2 diabetes	Systematic review and meta-analysis	Both interventions helped reduce diabetes-related distress and led to modest improvements in glycemic control among patients.

5. CONCLUSION

Acceptance and Commitment Therapy (ACT) is a promising, multi-faceted psychological treatment that can help people with Type 2 Diabetes Mellitus improve both their clinical and psychosocial outcomes. ACT helps people control their blood sugar better, stick to their medications, and feel less stressed by increasing their psychological flexibility through values- based action and conscious acceptance of their internal sensations. It also greatly improves their quality of life. However, its use in regular diabetes care is still limited because to practical problems like therapists not being available, patients not being interested, and systemic problems like not having defined procedures and not being able to get paid for them. There are many ways to deliver care, from one-on-one and group therapy to digital platforms. These alternatives are versatile, but they need to be carefully adapted to each patient's needs and the healthcare setting. Future research should focus on large-scale, long-term trials to validate long-term benefits and find out which groups of patients respond best, as well as on how to best incorporate ACT into current diabetes care systems. To get the most out of ACT as a useful part of diabetes management, it will be important to fill in these gaps with more training, culturally appropriate methods, and policy support.

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