



## Review of Motivational Interviewing And Psychological Consulting In Diabetic Patients Admitted To Hospitals

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### Abstract

**Background and Objective:** Motivational interviewing (MI) has recently become a topic of great interest in the diabetes behavioral field, attracting multiple research studies' attention. This concept is about improving one of the most essential aspects of behavior modification, self-efficacy, to promote effective diabetes control. In diabetes-affected subjects, self-efficacy is critical in predicting self-care actions. In this narrative review, we focused on the current literature on motivational interviewing for diabetes patients in hospitals.

**Methods:** this was a narrative review study.

**Results:** Our study revealed that applying the MI method and raising individuals' motivation might increase self-efficacy. To improve health and quality of life, diabetic organizations might adopt the MI approach to address the increasing self-efficacy in diabetic patients. It is suggested that MI can help modify the physical condition of patients as well as blood sugar and systolic blood pressure control along with long-term positive outcomes in the prevention of psychological disorders like depression. Research has proposed application of MI would finally result in life quality improvement in diabetic patients; while there might be some reconsideration for type 1 diabetes as MI has been shown to have lower efficacy for this group of patients.

**Conclusion:** Hospitals that provide healthcare to diabetic patients could implement the MI approach to help improve the medical condition of admitted patients and increase their quality of life, boosting self-efficacy in diabetic patients. This should be considered for hospital healthcare providers' education in order to target diabetic individuals with MI.

**Keywords:** Motivational interviewing, Diabetes Mellitus, Self-efficacy, hospital

## Background and Objective

Diabetes impairs affected individuals' quality of life and causes interruptions in their daily routines as a result of illness, disability, early retirement, or might lead to productivity loss<sup>1</sup>. On the other hand, effective management of diabetes improves the quality of life and productivity<sup>2</sup>. Type 2 diabetes care necessitates a commitment to health-promoting behaviors to achieve behavioral adjustments; thus, interventions that can assist and empower these individuals must be given special consideration<sup>3</sup>. In the previous two decades, the global incidence of diabetes has risen dramatically, from over 300 million in 1985 to more than 230 million in 2004 and 382 million in 2013. Diabetic individuals are expected to reach 592 million by 2035, according to the International Diabetes Federation. Regardless of the fact that both types 1 and 2 diabetes are on the rise globally, type 2 diabetes has a higher prevalence. This might be linked to growing obesity rates, decreased physical activity rates, and aging, all of which are considered consequences of industrialization<sup>4,5</sup>.

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More recent studies have sought out more hidden aspects of the decreased quality of life in diabetic individuals. Some personal characteristics of an individual might affect the extent of the decreased quality of life. A recent study has shown that the quality of life of diabetic patients is influenced by emotional intelligence<sup>6</sup>, and also sociodemographic factors are known to be influential<sup>7</sup>.

Even though diabetes is a primary cause of mortality, multiple studies have revealed that the number of diabetic deaths is underreported. In the United States, diabetes was the seventh-largest cause of death in 2018. According to a recent study, diabetes is considered to be the cause of 5.1 million fatalities per year (8% of global deaths in 2013). According to estimates, diabetics accounted for 11% of global medical costs in 2013<sup>1</sup>.

Regular insulin injections, pharmaceutical costs, restricted diet, frequent infections, and the higher chance of hospitalization owing to disease complications are all problems diabetic patients face. It may also limit prospects for marriage, childbearing, and employment. These limits influence these people's mental health<sup>8,9</sup>. Moreover, thinking about problems with longevity and shorter life expectancy as a result of illness and its unintended repercussions evokes negative emotions. The hormones generated as a result of these negative emotions may boost blood sugar levels, perhaps leading to diabetic complications in the future. Indeed, negative emotions (such as sadness, anxiety, anger, and so on) can lead to secondary hormone secretion problems, which can influence diabetes<sup>8-10</sup>.

The majority of diabetes care is medical; nevertheless, the impact of psychological variables on chronic illnesses has been well documented<sup>10, 11</sup>. Diabetes, in comparison to other chronic diseases, necessitates greater lifestyle adjustments. As a result, psychological treatments may enhance many elements of

understanding the condition and adherence to treatment<sup>12, 13</sup>.

One of the most essential aspects of behavior modification to promote effective diabetes control is self-efficacy<sup>14</sup>. The extent of self-confidence necessary to efficiently do a certain behavior within one's competence is known as self-efficacy<sup>15</sup>. Blood glucose monitoring, nutrition, insulin injections, and exercise adherence are all predicted by self-efficacy<sup>16</sup>. Tharek et al.<sup>17</sup> discovered a link between stronger self-efficacy and better self-care in diabetic patients, concluding that self-efficacy is critical to optimal diabetes treatment.

As multiple distinct socioeconomic and personal variables are shown to be casual in leading to more experience of a decreased level of quality of life, researchers have tended to psychological interventions to improve quality of life, as well as a special method known as motivational interviewing that is the subject of our review. This method is been utilized in recent studies for diabetes patients more than any other disease due to its harmony with diabetes patients<sup>18</sup>. So that we aimed at reviewing the various aspects of this method for diabetes patients.

## Methods

This was a narrative review of the literature. The inquiry was conducted to include any publications released in the English language, regardless of date, that discussed the use of MI in addressing diabetic patients. PubMed, Scopus, and Google Scholar databases were used to search the libraries, using the phrases “motivational interview” and “diabetes” in the title or abstract. To maximize the identification of all articles that described MI for patients dealing with diabetes, the reference list of articles was also hand-searched for relevant records.

## Results

Based on the review of literature, our results are summarized in 3 subheadings “Motivational

interviewing Motivational Interviewing and " , " . "Diabetes", and "Review of Current evidence

### **Motivational interviewing:**

Motivational interviewing <sup>18</sup> is the most effective approach for assisting clients who are having difficulty changing their behavior. Motivational interviewing (MI) is a counseling technique used by healthcare professionals to assist patients to adhere to treatment suggestions<sup>19</sup>. MI's main goal is to modify subjects' perceptions of their disabilities so that they may overcome obstacles and change successfully<sup>20</sup>. Individuals' core drive is increased by MI, and they can investigate and resolve ambivalence<sup>16</sup>. MI not only increases motivation but also draws a person's attention to a certain issue, allowing for significant changes in numerous behavioral patterns<sup>21</sup>. Because of its versatility and capacity to apply to a variety of behavioral characteristics, motivational interviewing may be used both individually and in groups<sup>22</sup>. MI is more effective than standard intervention techniques in treating a variety of mental and physical problems, including type 2 diabetes<sup>23</sup>.

MI approach incorporates elements of the previously described therapy approaches to assist people in determining why change is essential to them and lead subjects to develop a strategy. MI specialists allow for ambivalence to arise and accept the subjects' doubt and apprehension regarding the change. To empower meaningful, long-term transformation, the emphasis of MI is on understanding the values and interests of the patient. MI specialists pay close attention to the language of change in an accepting and compassionate environment, emphasizing the client's autonomy and choice. These activities assist customers in developing a practical strategy as the change conversation progresses<sup>24</sup>.

The motivating interviewer places a greater emphasis on the customers' perspectives than on those of experts. Therapists avoid encouraging clients to adopt certain solutions that might lead

to a breakdown in the relationship. Instead, they use their subjects' interests to steer the dialogue toward a commitment to a specific action that would help them achieve good health and associated transformation goals in the long run<sup>21-23</sup>. Therapists use four stages to attain these goals: engaging, concentrating, evoking, and planning. These goals are sought in literature to be taught to medical practitioners working in hospitals as reviewed in a study by Kaczmarek et al.<sup>23</sup> along with its health outcomes on patients being visited for diabetes care in hospitals<sup>24</sup>.

### **Motivational Interviewing and Diabetes:**

Comprehensive and empirical care models, such as the chronic care model and MI, provide common medical instructions that fulfill the requirements of patients with chronic conditions while operating within the context of an evidence-based healthcare system<sup>11,22</sup>. Patients with this attitude feel they are in charge of their own care. This entails teaching patients self-management by equipping them with information, motivation, and self-assurance, all of which may be achieved via MI. Motivational interviewing is an effective strategy for fulfilling patients' emotional needs and creating a strong therapeutic alliance with healthcare practitioners in long-term therapy <sup>11</sup>.

In this context, MI attracted a growing acceptance as a fully effective approach with an extensive capability in diseases-management<sup>11</sup>. Several studies, including a large-scale trial in 35 primary healthcare centers in Spain, have shown the effectiveness of MI in the lowering of blood lipids in patients with dyslipidemia<sup>25</sup>. Systematic reviews of MI application for weight loss have reported a significant and moderate weight loss in 37.5% and 54.2% of cases, respectively<sup>26</sup>. A recent study in Iran implies the effectiveness of MI in reducing the weight of obese or overweighted patients<sup>27-31</sup>. As a result, MI has become well-known across many medical disciplines as a pioneering and effective

strategy for achieving behavioral change in patients in the area of healthcare.

#### Review of Current evidence:

The impact of MI on diabetes control was highlighted in a review study. The bulk of the studies in the review study conducted by Christie et al. demonstrate that individuals suffering from type 2 diabetes can improve their metabolic control using MI. In people with type 1 diabetes, MI only resulted in a temporary improvement<sup>31</sup>. According to a review of research conducted in China, MI is the most effective psychological intervention for type 2 diabetes<sup>32</sup>. Researchers examined the impact of MI on self-management, blood sugar improvement, and psychological status in individuals with type 2 diabetes in a study with 250 participants in 2012. Individual MI and usual care groups were assigned to the participants at random. The intervention comprised a variety of MI approaches. Nurses provided routine care to the control group. In a three-month follow-up, the case groups showed significant improvements in self-management, self-efficiency, life quality, and glycosylated hemoglobin value<sup>33</sup>.

The effectiveness of group MI vs. group cognitive-behavioral training in improving physical conditions in 93 people with type 2 diabetes was studied in a study in Iran. The mean body mass index in the MI and cognitive-behavioral training groups decreased considerably as compared to the control group. These data demonstrated that in these patients, MI and cognitive-behavioral training were effective weight-control therapy. In addition, MI may be a superior blood sugar management technique to cognitive-behavioral training<sup>34</sup>.

The effectiveness of diabetic self-management teaching via MI was evaluated in a study on the elderly in rural areas. Although both MI and control groups showed a drop in hemoglobin A1C, the difference was significant in the case group ( $p=0.015$ ) but not in the control group ( $p=0.086$ ). Furthermore, there was a significant

difference in HbA1c levels between patients with high self-efficacy and subjects with poor self-efficacy<sup>35</sup>.

In a study of type 2 diabetes patients in Denmark, with a one-year follow-up, the long-term effects of utilizing MI by general doctors were demonstrated. Patients' perceptions of illness and their involvement in diabetes control and prevention improved as a result of study<sup>36</sup>.

Another research on nurses using MI found that it helped lower systolic blood pressure, reduce depression, and screen for problems in type 2 diabetes patients<sup>37</sup>. The use of MI by nurses has been proven to be helpful in type 2 diabetes patients' self-care<sup>38</sup>, as well as diabetic patients hospitalized for cancer<sup>39</sup>.

#### Discussion:

While we focused on reviewing different aspects and benefits of MI for hospitals, other reviews are also provided for MI utilization for diabetes patients. A meta-analysis study has shown that motivational interviewing is beneficial in lowering HgbA1C but not depressed symptoms in people with type 2 diabetes, according to a meta-analysis. Motivational interviewing is vital for diabetes care and beneficial in glucose control but has little effect on depressive symptoms decrease in people with type 2 diabetes<sup>40</sup>. This could help hospitals with decreasing the required visits of diabetic patients due to diabetes complications.

Despite the increasing incidence of diabetes, there are shreds of evidence that many diabetic individuals do not follow glucose, blood pressure, or cholesterol management recommendations. These healthcare gaps highlight the need for experts to enact behavioral change in all aspects of diabetes treatment (including nutrition, physical exercise, medication adherence, and blood glucose management). Compensation for the negative repercussions of inadequate diabetes control necessitates a comprehensive training program as well as motivating support. Diabetes

management is a lifelong endeavor. The benefit of regular examinations is not as large as pharmacological compliance, and it is critical to engage patients in diabetes management. Valid study data on the effectiveness of MI in diabetic care and behavioral change-facilitation exist, emphasizing the usefulness of this approach<sup>11</sup>. Although the majority of research showed good results, several studies found MI to be ineffective for diabetic patients when used by general doctors<sup>28</sup> and diabetes educators<sup>29</sup>.

Diabetes can be managed if the patient sees himself as a key part of the treatment team rather than as someone who has to be cared for by the diabetes treatment team<sup>4</sup>. Motivation and adherence to therapy instructions are essential challenges for today's psychiatrists in the treatment of mental illnesses or chronic diseases. These are critical components of therapeutic success because even the most effective therapy will be ineffective if the patient is unwilling to accept it<sup>30</sup>.

### Conclusion:

In persons with diabetes, self-efficacy is critical in predicting self-care actions. These findings show that applying the MI method and raising individuals' motivation might increase self-efficacy. To improve health and quality of life, hospitals giving healthcare services to diabetic patients might adopt the MI approach and increase self-efficacy in persons with diabetes. This should be considered for the education of the healthcare providers of the hospitals to target diabetic patients with MI.

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### Conflict of interest:

None.

### References

1. Breton MC, Guénette L, Amiche MA et al. Burden of diabetes on the ability to

work: a systematic review. *Diabetes Care*. 2013, 36: 740–9

2. Hisashige A. The effectiveness and efficiency of disease management programs for patients with chronic diseases. *Glob J Health Sci*. 2012, 5: 27–48
3. Greene J, Hibbard JH, Alvarez C, Overton V. Supporting patient behavior change: approaches used by primary care clinicians whose patients have an increase in activation levels. *Ann Fam Med*. 2016, 14: 148–54
4. Kasper DL, Fauci AS, Hauser SL, Longo DL, Jameson JL, et al. *Harrison's principles of internal medicine*. (19th edn). Mc Graw Hi education, 2015, New York, USA.
5. Wild S, Roglic G, Green A, Sicree R, King H. Global Prevalence of Diabetes: Estimates for the year 2000 and projections for 2030. *Diabetes Care*. 2004, 27(5): 1047-1053.
6. Moradi F, Tourani S, Ziapour A, Abbas J, Hematti M, Moghadam EJ, Aghili A, Soroush A. Emotional intelligence and quality of life in elderly diabetic patients. *International quarterly of community health education*. 2021 Oct;42(1):15-20.
7. Kang N, Liu X, Liao W, Tu R, Sang S, Zhai Z, Hou J, Wang C, Wang X, Li Y. Health-related quality of life among rural adults with type 2 diabetes mellitus: a cross-sectional study. *European Journal of Public Health*. 2021 Jun;31(3):547-53.
8. Centers for Disease Control and Prevention, 2011. National diabetes fact sheet: national estimates and general information on diabetes and prediabetes in the United States, 2011. Atlanta, GA: US department of health and human

- services, centers for disease control and prevention, 201(1), pp.2568-2569.
9. Sajadinejad M, Asgari K, Molavi H, Kalantari M, Adibi P. Psychological Issues in Inflammatory Bowel Disease: An Overview. *Gastroenterol Res Pract*. 2012.
  10. Nakash O, Levav I, Aguilar-Gaxiola S, Alonso J, Andrade L.H, et al. Comorbidity of common mental disorders with cancer and their treatment gap: Findings from the World Mental Health Surveys. *Psycho-Oncology*. 2014, 23(1): 40-51.
  11. Douaihy A, Kelly TM, Gold MA . Motivational Interviewing, A guide for medical trainees. Oxford University Press, 2014, New York, USA.
  12. El-Bassel N, Jemmott JB 3rd, Landis JR, Pequegnat W, Wingood GM, et al. Intervention to influence behaviors linked to risk of chronic diseases: a multisite randomized controlled trial with African-American HIV-serodiscordant heterosexual couples. *Arch Intern Med*. 2011, 171(8): 728-736.
  13. Hagger MS, Hardcastle SJ, Chater A, Mallett C, Pal S, et al. Autonomous and controlled motivational regulations for multiple health-related behaviors: between- and within-participants analyses. *Health Psychol Behav Med*. 2014, 2(1): 565-601.
  14. Graffigna G, Barello S, Libreri C, Bosio CA. How to engage type-2 diabetic patients in their own health management: implications for clinical practice. *BMC Public Health*. 2014, 14: 648
  15. Hailu FB, Moen A, Hjortdahl P. Diabetes self-management education (DSME) – effect on knowledge, self-care behavior, and self-efficacy among type 2 diabetes patients in Ethiopia: a controlled clinical trial. *Diabetes Metab Syndr Obes*. 2019, 12: 2489–99
  16. Miller WR, Rollnick S. *Motivational Interviewing: Helping People Change* (3rd edition). Guilford Press, New York, NY, USA, 2012.
  17. Tharek Z, Ramli AS, Whitford DL et al. Relationship between self-efficacy, self-care behaviour and glycaemic control among patients with type 2 diabetes mellitus in the Malaysian primary care setting. *BMC Fam Pract*. 2018, 19: 39
  18. Kaczmarek T, Kavanagh DJ, Lazzarini PA, Warnock J, Van Netten JJ. Training diabetes healthcare practitioners in motivational interviewing: a systematic review. *Health psychology review*. 2021 May 25:1-20.
  19. Szczekala K, Wiktor K, Kanadys K, Wiktor H. Benefits of motivational interviewing application for patients and healthcare professionals. *Pol J Public Health*. 2018, 128: 170–3
  20. Majd Abadi MM, Vakilian K, Safari V. Motivational interview on having Pap test among middle-aged women – a counseling service in primary care. *Fam Med Prim Care Rev*. 2018, 2018: 101–5
  21. Minkin A, Snider-Meyer J, Olson D et al. Effectiveness of a motivational interviewing intervention on medication compliance. *Home Healthc Nurse*. 2014, 32: 490–6
  22. Lavoie KL, Moullec G, Lemiere C et al. Efficacy of brief motivational interviewing to improve adherence to inhaled corticosteroids among adult asthmatics: results from a randomized controlled pilot feasibility trial. *Patient Prefer Adherence*. 2014, 8: 1555–69

23. Kaczmarek T, Kavanagh DJ, Lazzarini PA, Warnock J, Van Netten JJ. Training diabetes healthcare practitioners in motivational interviewing: a systematic review. *Health psychology review*. 2021 May 25;1-20.
24. Li Z, Chen Q, Yan J, Liang W, Wong WC. Effectiveness of motivational interviewing on improving Care for Patients with type 2 diabetes in China: A randomized controlled trial. *BMC health services research*. 2020 Dec;20(1):1-9.
25. Perula LA, Bosch JM, Julia Boveda J, Campinez M, Barragan N, et al. Effectiveness of Motivational Interviewing in improving lipid level in patients with dyslipidemia assisted by general practitioners: Dislip-EM study protocol. *BMC Family Practice*. 2011, 12: 125.
26. Barnes RD, Ivezaj V. A systematic review of motivational interviewing for weight loss among adults in primary care. *Obes Rev*. 2015, 16(4): 304-318.
27. Mirkarimi K, Mostafavi F, Eshghinia S, Vakili MA, Berdi Ozouni-Davaji R, et al.. Effect of Motivational Interviewing on a Weight Loss Program Based on the Protection Motivation Theory. *Iran Red Crescent Med J*. 2015, 17(6): e23492.
28. Jansink R, Braspenning JE, Keizer E, Van Der Weijden T, Elwyn G, Grol R. No identifiable Hb1Ac or lifestyle change after a comprehensive diabetes programme including motivational interviewing: A cluster randomized trial. *Scand J Prim Health Care*. 2013, 31: 119-127.
29. Welch G, Zagarins SE, Feinberg RG, Garb GL. Motivational Interviewing Delivered by Diabetes Educators: Does It Improve Blood Glucose Control Among Poorly Controlled Type 2 Diabetes Patients? *Diabetes Res ClinPract*. 2011, 91(1): 54-60.
30. Chanut F, Brown TG, Donguier M. Motivational interviewing and clinical psychiatry. *Can J Psychiatry*. 2005, 50(11): 715-721.
31. Christie D, Channon S. The potential for motivational interviewing to improve outcomes in the management of diabetes and obesity in pediatric and adult populations: a clinical review. *Diabetes Obes Metab*. 2014, 16(5): 381-387.
32. Chapman A, Liu S, Merkouris S, Enticott JC, Yang H, et al. Psychological interventions for the Management of Glycemic and Psychological Outcomes of Type 2 Diabetes Mellitus in China: A Systematic Review and Meta-Analyses of Randomized Controlled Trials. *Front Public Health*. 2015, 3: 252.
33. Chen SM, Creedy D, Lin HS, Wollin J. Effects of motivational interviewing intervention on self-management, psychological and glycemic outcomes in type 2 diabetes: a randomized controlled trial. *Int J Nurs Stud*. 2012, 49(6): 637-634.
34. Poursharif H, Babapur J, Zamani R, Besharat MA, Mehryar AH, et al. The effectiveness of motivational interviewing in improving health outcomes in adults with type 2 diabetes. *Procedia Social Behavioral Sciences* 5: 2010, 1580-1584.
35. Hawkins SY. Improving glycemic control in older adults using a videophone motivational diabetes self-management intervention. *Res Theory Nurs Pract* 24(4): 217-232.
36. Rubak S, Sandbek A, Lauritzen T, Borch-Johnsen K, Christensen B.

General practitioners trained in motivational interviewing can positively affect the attitude to behaviour change in people with type 2 diabetes. *Scand J Prim Health Care*. 2009, 27(3): 172-179.

37. Gabbay RA, Añel-Tiangco RM, Dellasega C, Mauger DT, Adelman A, et al. Diabetes Nurse Case Management and Motivational Interviewing for Change (DYNAMIC): Results of a 2-year Randomized Controlled Pragmatic Trial. *J Diabetes*. 2013, 5(3): 349-357.
38. Dellasega C, Gabbay R, Durdock K, Martinez-King N. Motivational interviewing (MI) to change type 2DM self-care behaviors: a nursing intervention. *Journal of diabetes nursing*. 2010;14(3):112.
39. Leak A, Davis ED, Houchin LB, Mabrey M. Diabetes Management and Self-Care Education for Hospitalized Patients with Cancer. *Clin J Oncol Nurs* 13(2): 205-210.
40. Berhe KK, Gebru HB, Kahsay HB. Effect of motivational interviewing intervention on HgbA1C and depression in people with type 2 diabetes mellitus (systematic review and meta-analysis). *PloS one*. 2020 Oct 23;15(10): e0240839.

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