



Presenting the quality of life model related to the health of patients with type 2 diabetes based on disease perception, BMI and demographic characteristics with the mediating role of self-care behaviors

Ahmad. Pourrostami¹
Mohammad Reza. Zarbakhsh Bahri^{2*}
Sobhan. Bahram³

1. PhD student Health Psychology, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran
2. *Corresponding author: Associate Professor, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran
3. Assistant Professor, Department of Medical Sciences, Mazandaran University of Medical Sciences, Mazandaran, Iran

Email: m.zarbakhsh@toniau.ac.ir | Received: 13.01.2023 | Acceptance: 29.12.2023

Journal of Applied Family Therapy

eISSN: 2717-2430
http://Aftj.ir

Vol. 4, No. 5, Pp: 353-377
Winter 2023

Original research article

How to Cite This Article:

Pourrastami, A., Zarbakhsh Bahri, & Bahram, S. (2023). Presenting the quality of life model related to the health of patients with type 2 diabetes based on disease perception, BMI and demographic characteristics with the mediating role of self-care behaviors. *aftj*. 4(5), 353-377.



© 2023 by the authors. Licensee Iranian Association of Women's Studies, Tehran, Iran. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0 license) (<http://creativecommons.org/licenses/by-nc/4.0/>)

Abstract

Aim: The aim of this study was to provide a health-related quality of life model for patients with type 2 diabetes based on disease perception, BMI and demographic characteristics with the mediating role of self-care behaviors. **Method:** The research method was descriptive-correlation type. The statistical population of the research was type 2 diabetes patients who had visited the hospitals of Tankabon and Ramsar. The sample of the study was 350 patients with type 2 diabetes who were selected by available sampling method. Data were collected using health-related quality of life questionnaires (Baroghs et al., 2004), disease perception (Weinman et al., 1996), self-care behaviors (Tobert et al., 2000), body mass index, and demographic characteristics questionnaire. Data analysis was done by structural equation modeling method. **Results:** The findings showed that the structural model of the health-related quality of life of patients with type 2 diabetes based on disease perception, BMI and demographic characteristics (age, education level, age of disease onset, duration of disease) with the mediating role of self-care behaviors fits with experimental data. **Conclusion:** Therefore, since the quality of life is considered an important health outcome, it is necessary to consider it as a main issue in the care of different patients, including patients with diabetes.

Keywords: health-related quality of life, type 2 diabetes, disease perception, BMI, demographic characteristics, self-care behaviors

Introduction

Since diabetes has very strong behavioral and emotional components, daily diabetes management is not simple for patients and often leads to psychological pressures, significantly affecting the patient's quality of life (Shayeghian et al., 2013). According to existing studies, the most important underlying factor for mortality in diabetic patients is the lack of self-care. Self-care leads to improved general health of the patient, active participation in the self-care process, and ultimately a reduction in healthcare costs (Bigdeli et al., 2015). The extent of patients' readmissions and the individual and societal consequences of self-care have necessitated the examination and identification of factors associated with self-care (Klinsinger, 2018) and health-related quality of life in diabetic patients, turning it into a research necessity. This approach can be beneficial for enhancing the knowledge of healthcare providers, including psychologists, psychiatrists, and other therapeutic groups, enabling them to implement educational and supportive interventions for patients and their families, thereby reducing the burden of stress and anxiety patients feel about their physical condition. It can also help create a supportive environment that leads to the improvement of their quality of life. Considering the short-term and long-term complications and the considerable costs of this disease, the present study aimed to determine the role of predictive factors for health-related quality of life in these patients and ultimately presented a structural model based on illness perception, body mass index, and demographic characteristics with the mediating role of self-care behaviors.

Method

The research method was descriptive-correlation type. The statistical population of the research was type 2 diabetes patients who had visited the hospitals of Tankabon and Ramsar. The sample of the study was 350 patients with type 2 diabetes who were selected by available sampling method. Data were collected using health-related quality of life questionnaires (Baroghs et al., 2004), disease perception (Weinman et al., 1996), self-care behaviors (Tobert et al., 2000), body mass index, and demographic characteristics questionnaire. Data analysis was done by structural equation modeling method.

Results

The findings showed that the structural model of the health-related quality of life of patients with type 2 diabetes based on disease perception, BMI and demographic characteristics (age, education level, age of disease onset, duration of disease) with the mediating role of self-care behaviors fits with experimental data.

Conclusion

The current research aimed to present a model of health-related quality of life for patients with type 2 diabetes based on illness perception, body mass index, and demographic characteristics, with the mediating role of self-care behaviors. The findings indicate that the overall fit of the model is confirmed, and the structural model and measurement model have suitable quality in explaining the research variables.

In summary, the result of the present study demonstrates that the structural model of health-related quality of life for patients with type 2 diabetes, based on illness perception, body mass index, and demographic characteristics, with the mediating role of self-care behaviors, fits the empirical data. As every research has its

limitations, it is necessary to mention some of these and propose solutions. For instance, one of the limitations of this research was the use of a non-probabilistic (convenience) sampling method; it is recommended that future studies use random sampling methods. Also, since this research was cross-sectional, it poses limitations in terms of interpretations and causal attributions of the variables under study, and it is suggested that longitudinal studies be conducted to examine the stability of correlations of the current research variables over time. Given that the primary focus of healthcare professionals treating diabetic patients is on their physical issues, and despite the high percentage of reported psychological problems in these patients, it is recommended that more attention be paid to the psychological issues of these patients alongside regular medical visits. To this end, greater collaboration between physicians and psychologists is advised, so that individuals with psychological problems can be referred to a psychologist.

References

- Akbari, H., Dehghani, F., & Salehzadeh, M. (2019). The relationship between self-care behaviors and demographic factors in type 2 diabetic patients. *Journal of Modern Psychological Research*, 14(54), 11-21. (In Persian)
- Aryan, V., Forouz, M. S., Montazeri, A., & Yavari, P. (2012). Investigating the relationship between quality of life related to health and glycemic control in type 2 diabetic individuals. *Iranian Journal of Endocrinology and Metabolism*, 14(4), 318-324. (In Persian)
- Association, A. D. (2020). 1. Improving care and promoting health in populations: Standards of Medical Care in Diabetes—2020. *Diabetes care*, 43(Supplement_1), S7-S13.
- Atadokht, A., Besharati, H., & Mokhtari, A. (2019). The role of illness perception in predicting the quality of life of type 2 diabetic patients. *The Fifth National Conference on Positive Psychology Innovations*. (In Persian)
- Baji, Z., Zamani-Alavijeh, F., Nouhjah, S., & Haghighi-Zadeh, M. H. (2014). Self-care behaviors and related factors in women with type 2 diabetes. *Iranian Journal of Endocrinology and Metabolism*, 16(6), 393-401. (In Persian)
- Baqerian-Sararoudi, R., Bahrami-Ehsan, H., & Sanaei, H. (2008). The relationship between history of myocardial infarction and cognitive infarct-like features. *Research in Psychological Health*, 2(2), 29-39. (In Persian)
- Bigdeli, M. A., Hashemi Nazari, S. S., Khodakaram, S., Broodati, H., Mafi, H., Jafari, Z., et al. (2016). Investigating factors associated with self-care behaviors in patients with type 2 diabetes. *Journal of Mazandaran University of Medical Sciences*, 25(125), 61-72. (In Persian)
- Broadbent, E., Petrie, K. J., Main, J., & Weinman, J. (2006). The brief illness perception questionnaire. *Journal of psychosomatic research*, 60(6), 631-637.
- Burroughs, T. E., Desikan, R., Waterman, B. M., Gilin, D., & McGill, J. (2004). Development and validation of the diabetes quality of life brief clinical inventory. *Diabetes spectrum*, 17(1), 41-49.
- Compean Ortiz, L. G., Gallegos Cabriales, E. C., Gonzalez Gonzalez, J. G., & Gomez Meza, M. V. (2010). Self-care behaviors and health indicators in adults with type 2 diabetes. *Revista latino-americana de enfermagem*, 18, 675-680.
- Cui, W., Zack, M. M., & Wethington, H. (2014). Health-related quality of life and body mass index among US adolescents. *Quality of Life Research*, 23(7), 2139-2150.

- Cutler, R. L., Torres-Robles, A., Wiecek, E., Drake, B., Van der Linden, N., Benrimoj, S. I. C., & Garcia-Cardenas, V. (2019). Pharmacist-led medication non-adherence intervention: reducing the economic burden placed on the Australian health care system. *Patient preference and adherence*, 13, 853.
- Docherty-Skippen, S. M., Hansen, A., & Engel, J. (2019). Teaching and assessment strategies for nursing self-care competencies in Ontario's nursing education programs. *Nurse Education in Practice*, 36, 108-113.
- Ekseer, M., Raeisi, Z., Mehrabi, H., & Soltanizadeh, M. (2020). The impact of body mass index, tobacco use, and alcohol consumption on successful aging with the mediation of quality of life in type 2 diabetic elderly individuals. *Journal of Social Psychology*, 8(Special Issue), 71-86. (In Persian)
- Ekseer, M., Raeisi, Z., Mehrabi, H., & Soltanizadeh, M. (2021). A proposed model of the role of diabetes risk factors in successful aging with the mediation of quality of life in type 2 diabetic elderly individuals. *Islamic Lifestyle with Health Emphasis*, 5(1), 11-22. (In Persian)
- Esmaeili-Shad, B. (2020). The effectiveness of self-care education on quality of life, self-care behaviors, and blood glucose in elderly people lacking self-care behaviors. *Aging Psychology*, 6(1), 11-21. (In Persian)
- Fanakidou, I., Zyga, S., Alikari, V., Tsironi, M., Stathoulis, J., & Theofilou, P. (2018). Mental health, loneliness, and illness perception outcomes in quality of life among young breast cancer patients after mastectomy: the role of breast reconstruction. *Quality of Life Research*, 27(2), 539-543.
- Ghasemi-Ghazvini, S., & Kiani, G. (2018). The relationship between body mass index, perceived stress, and quality of life related to health and its comparison among adolescent girls and boys. *Iranian Journal of Nutrition and Food Sciences*, 13(1), 31-39. (In Persian)
- Jyvakorpi, S. K., Urtamo, A., Strandberg, A. Y., von Bonsdorff, M., Salomaa, V., Kivimäki, M., ... & Strandberg, T. E. (2020). Associations of overweight and metabolic health with successful aging: 32-year follow-up of the Helsinki Businessmen Study. *Clinical Nutrition*, 39(5), 1491-1496.
- King, M. (2011). *UK has 'worst quality of life in Europe'*. The Guardian. Being. United States: Princeton University Press.
- Kleinsinger, F. (2018). The unmet challenge of medication nonadherence. *The Permanente Journal*, 22.
- Kuwahara, A., Nishino, Y., Ohkubo, T., Tsuji, I., Hisamichi, S., & Hosokawa, T. (2004). Reliability and validity of the Multidimensional Health Locus of Control Scale in Japan: relationship with demographic factors and health-related behavior. *The Tohoku journal of experimental medicine*, 203(1), 37-45.
- Lonbro, S., Petersen, G. B., Andersen, J. R., & Johansen, J. (2016). Prediction of critical weight loss during radiation treatment in head and neck cancer patients is dependent on BMI. *Supportive Care in Cancer*, 24, 2101-2109.
- Mac-Ikemenjima, D. (2019). *Measuring youth quality of life in Sub-Saharan Africa: Exploring the role of qualitative methods*. Springer.
- Mahdilouei, P., & Ziaie-Rad, M. (2019). Self-care status and its relationship with sociodemographic and clinical characteristics in adolescents and young adults with type 1 diabetes. *Journal of Diabetes Nursing*, 7(1), 714-727. (In Persian)
- Mirzaei Alavijeh, M., Azami, F., Jalilian, F., & Heydarnia, A. (2019). Self-care behaviors related to blood glucose control and associated factors in women with

- type 2 diabetes. *Iranian Journal of Endocrinology and Metabolism*, 21(3), 145-152. (In Persian)
- Moghimi, N., Moradi, G., Amiri, S., & Saeedi, A. (2020). Quality of life in rheumatoid arthritis patients and its relationship with body mass index in Sanandaj: A cross-sectional study. *Iranian Journal of Epidemiology*, 16(1), 30-37. (In Persian)
- Moghimirparvar, N., Moradi, G., Amirzadeh, P., & Saeedi, A. (2017). Quality of life related to health and its relationship with glycemic control in type 2 diabetic patients. *Iranian Journal of Endocrinology and Metabolism*, 19(1), 1-10. (In Persian)
- Moses, M., & Olenik, N. L. (2019). Perceived impact of caregiver's participation in diabetes education classes on implementation of self-care behaviors. *Journal of the American Pharmacists Association*, 59(4), S47-S51.
- Mozloomi-Mahmoudabad, S., Raeisi, Z., Mehrabi, H., & Saeedpour, N. (2019). Self-care status and its associated factors in type 2 diabetic patients referred to Yazd research center in 1393. *Journal of Shahid Sadoughi University of Medical Sciences*, 25(10), 770-779. (In Persian)
- Najafi Ghazalje, T., Aydi, M., & Haqani, S. (2019). Understanding the illness experience of hospitalized patients with heart failure in selected medical centers of Iran. *Journal of Nursing and Midwifery*, 17(2), 91-101. (In Persian)
- Nasihatkan, A., Pishva, A., Habibzadeh, F., Tabatabaei, M., Taherghashghaizadeh, M., Hojjat, F., & Hafezi, I. (2012). Determining the reliability and validity of the Persian version of the Diabetes Quality of Life (DQOL) clinical questionnaire. *Iranian Journal of Diabetes and Metabolism*, 11(5), 483-487. (In Persian)
- Nazari-Ghazvini, N., Nammadari, K., Qarishian, M., & Amini, M. (2010). Investigating the relationship between time perspective (time values) and adherence to self-care behaviors in type 2 diabetic patients. *Clinical Psychology and Personality*, 17(43), 1-10. (In Persian)
- Nie, R., Han, Y., Xu, J., Huang, Q., & Mao, J. (2018). Illness perception, risk perception and health promotion self-care behaviors among Chinese patient with type 2 diabetes: A cross-sectional survey. *Applied Nursing Research*, 39, 89-96.
- Oh, H., & Ell, K. (2016). Depression remission, receipt of problem-solving therapy, and self-care behavior frequency among low-income, predominantly Hispanic diabetes patients. *General hospital psychiatry*, 41, 38-44.
- Qasemi-Qazvini, S., & Kiani, G. (2018). The relationship between body mass index, perceived stress, and health-related quality of life and its comparison between adolescent girls and boys. *Iranian Journal of Nutrition and Food Technology*, 13(1), 31-39. (In Persian)
- Rahimi-Mashkaleh, S., Masoudnia, E., & Niksirat, H. (2017). Quality of life related to health and its relationship with glycemic control in type 2 diabetic patients. *Diabetes and Metabolic Disorders Journal*, 17(2), 87-96. (In Persian)
- Salimani, Z., Barati, H., Mazafari-Joyin, A., Arshadi-Moghaddam, H., & Mohammadi, M. (2016). Investigating the quality of life in diabetic patients in Sabzevar in 2016. *Military Caring Sciences*, 3(4), 264-271. (In Persian)
- Sarafino, E. (2011). *Health Psychology* (Persian Translation: F. Shafiei, E. Mirzaei, H. Eftekhari Ardabili, G. Garmaroudi, S. A. Ahmadi Abhari, A. Montazeri, et al.). Tehran: Roshd. (In Persian)
- Shayeghian, Z., Barati, H., Mozaffari-Joyin, A., Arshadi-Moghaddam, H., & Mohammadi, M. (2017). Quality of life assessment in diabetic patients in Sabzevar in 1395. *Military Caring Sciences*, 3(4), 264-271. (In Persian)

- Tashimo, Y., Ihara, Y., Yuasa, K., Shinji, S., Saito, Y., Katsuta, H., ... & Takahashi, K. (2019). Acute stage longitudinal change of quality of life from pre-to 3 months after surgical treatment in head and neck cancer patients. *Asian Pacific Journal of Cancer Prevention: APJCP*, 20(10), 3129.
- Toobert, D. J., Hampson, S. E., & Glasgow, R. E. (2000). The summary of diabetes self-care activities measure: results from 7 studies and a revised scale. *Diabetes care*, 23(7), 943-950.
- Vaezi, A. A., Fallah-Tefteh, B., & Moshtagh-Eshagh, Z. (2017). Investigating background factors associated with self-care behaviors in type 2 diabetes patients referred to Yazd research center in 1393. *Journal of Shahid Sadoughi University of Medical Sciences*, 25(10), 770-779.
- Vaske, I., Kenn, K., Keil, D. C., Rief, W., & Stenzel, N. M. (2017). Illness perceptions and coping with disease in chronic obstructive pulmonary disease: Effects on health-related quality of life. *Journal of health psychology*, 22(12), 1570-1581.
- Wang, L., Li, X., Wang, Z., Bancks, M. P., Carnethon, M. R., Greenland, P., ... & Zhong, V. W. (2021). Trends in prevalence of diabetes and control of risk factors in diabetes among US adults, 1999-2018. *Jama*, 326(8), 704-716.
- Weinman, J., Petrie, K. J., Moss-Morris, R., & Horne, R. (1996). The illness perception questionnaire: a new method for assessing the cognitive representation of illness. *Psychology and health*, 11(3), 431-445.
- World Health Organization. (2019). *Global action plan on physical activity 2018-2030: more active people for a healthier world*. World Health Organization.
- Zanjani, F., Mohammad Khan Kermanshahi, S., & Gholami-Fesharaki, M. (2021). The effect of a health promotion support program on the quality of life of type 2 diabetic patients. *Qom University of Medical Sciences Journal*, 15(4), 296-305. (In Persian)
- Zahraysi, S., Amini, S., & Saeibi, S. (2018). The relationship between illness perception, cognitive fusion, and quality of life in women with multiple sclerosis. *Psychological Studies*, 14(2), 25-40. (In Persian)