

The Related Qualitative Study About Diabetes In The Eastern Region Of Indonesia: The Understanding, The Health Belief, And The Behaviors Of Diabetes Type 2 Patients

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Abstract. Diabetes has steadily increased in the last two decades. Studies show people's behavior in managing diabetes is very complex and influenced by cultural beliefs and values. This research describes the understanding, belief, and related behaviors toward the diabetes mellitus of Diabetes Mellitus type II patients in the Eastern region of Indonesia. The researchers grouped the participants in a semi-structured focus group. The group consisted of 12 participants aged between 45 and 55 years old. The focused group was useful to obtain the perspective, experience, and attitude about diabetes. The researchers analyzed the qualitative data with the Health Belief Model as the analytical framework to identify the patterns and the main findings. The analysis results found five primary themes related to understanding, belief, and diabetic behavior. The themes were: The diabetic understanding of the Eastern regional communities such as the cultural problem and the role of local beliefs to treatment diabetes. The tradition and the modern medical approach, the challenges of healthy lifestyle practice, the psychological impacts of diabetes on health, and the expectations and the challenges of the local health system. The researchers expect the findings could be the principle for developing more directed and effective interventions.

Keywords: Diabetes mellitus type II, Health belief, Healthy behavior, Health promotion, The Eastern region of Indonesia

1. INTRODUCTION

In the recent two decades, the prevalence of diabetes has increased significantly in regions of the world. Currently, the disease turns into a serious global health problem. (Rizqillah & Ma'rifah, 2020) Besides that, the prevalence of chronic diseases, such as hypertension and diabetes in Indonesia, also increased in recent decades. (Pramono et al., 2010) explain that Indonesia is the greatest state with the fourth rank and sixth rank of diabetes prevalence in the world. The prevalence is higher than 10 million patients. In Indonesia, community health behavior is more complex because of the multicultural and various ethnicities of various health service providers (Widayanti et al., 2020).

In other states, the community health behavior of managing chronic diseases, such as diabetes, is more complex and received by various cultures and values. (Basity & Iravani, 2014) The understanding, the belief, and the cultural values of the community become the key

elements to promote a successful diabetic intervention program. (Tucker et al., 2015) explain that the prevention of complications requires diabetes patients to adopt certain lifestyle changes and adhere to consuming medicine. The tendency of a patient to postpone or ignore the health care may lead to severe complications. (Jalilian et al., 2019)

The positive behavior of seeking health care, such as early symptom identification, visiting health care facilities, and effective medicine consumption adherence could improve diabetic care and relieve any severe complications. The behavior could also improve the quality of patients suffering from diabetes mellitus. (Espinosa & Espinosa, 2017) The excellent health-seeking behavior and the improved health quality of diabetes mellitus type II patients could make the patients live longer and healthier. (Tucker et al., 2015) explain every individual could participate to relieve the impacts of diabetes mellitus provide a significant contribution to the health of the diabetes mellitus case prevalence, and improve the health quality of the patients (Espinosa & Espinosa, 2017).

This model has six constructs: the health perception, the severity, the benefit, the hindrance, self-efficacy, and intention. (Janz & Becker, 1984) BHM perceives individuals with the preventive action, management, and diabetes medication could identify the severity and select any actions with the expected results. (Adejoh, 2014) explains high-risk communities with excellent cognition about diabetes risk could see the disease as a serious matter and realize the importance of healthy lifestyle implementation. They could also adjust their behaviors to live healthily by implementing diabetes prevention. Individuals with excellent beliefs could prevent diabetes and manage the problem. This matter leads to excellent self-management. HBM is useful for cross-cultural study but the constructs require further adaptation for each cultural group. (Yamamoto et al., 2012) explain that Indonesia has various ethnicities, understanding, cognition, and health beliefs about diabetes to design an effective prevention program for high-risk diabetes patients. In Indonesia, studies about diabetes are mostly oriented toward the self-management of patients in the urban area (Asril et al., 2019)

This research is important to reveal the health understanding of diabetes type II patients in the Eastern region of Indonesia. Diabetes mellitus becomes an urgent issue that requires specific attention based on the geographical and unique cultural context. A comprehensive understanding of the perception, beliefs, and behavior of the patients is crucial to designing an appropriate intervention within the local context. This qualitative research reveals the understanding, health beliefs, and behaviors of DM type II patients in the Eastern region of Indonesia. The local cultural and environmental context could provide a significant contribution toward the differences in the understanding and diabetes management. The

researchers expected the research results to share various perspectives and contexts as the principles for developing an effective and sustainable intervention strategy. The increased prevalence of diabetes mellitus type II in the Eastern region of Indonesia encourages researchers to promote this research. The researchers expect this research to contribute toward a comprehensive understanding of the health challenges by the local community. This research could also become the preventive, educational, and guided care effort to realize health policy innovation at the local level.

This research reveals the understanding of the experience of diabetes mellitus type II patients in the Eastern region of Indonesia comprehensively. The researchers revealed their understanding of diabetes, health beliefs, and the disease managerial behavior.

2. METODE

This qualitative study was conducted in the eastern region of Indonesia to comprehensively explore the understanding, health beliefs, and behaviors of patients with type II diabetes mellitus. The study involved 12 participants aged 45–55 years, selected using purposive sampling based on their experiences and cultural backgrounds. Data were collected through in-depth interviews using a semi-structured interview guide, complemented by field observations. The interviews focused on participants' perceptions of diabetes, self-care practices, and sociocultural influences. Data analysis was performed using thematic analysis, with independent coding conducted by two researchers to enhance credibility, supported by data triangulation. Trustworthiness was ensured through strategies addressing credibility and dependability, including peer debriefing and independent analysis. Ethical considerations were strictly observed, with informed consent obtained from all participants, confidentiality and anonymity maintained throughout the study. Limitations of the study include the restricted age range of participants and the single research setting, which may limit the generalizability of the findings to other age groups and populations.

3. RESULT AND DISCUSSION

a. Result

1) Theme 1: The Diabetes Understanding in the Community of Eastern Region of Indonesia about Cultural Problems

This research revealed that the community understanding in the Eastern region of Indonesia about diabetes had significant variety. Some respondents perceived diabetes as a significant life burden while others were not aware of the disease complexity.

P5 OP : I must live on although I find it burdening and painful.

P6 TP : I have no idea what disease it is.

P7 RE : I cannot do my activity due to the dead pain.

P8 WT : I am not sure what disease it is.

2) Theme 2: The Role of Local Belief in Medicating Diabetes: The Differences between Tradition and Modern Medical Approaches

Most participants strongly participated in the local traditional diabetes medication with some traditional herbs, spiritual practices, and traditional rites. Most patients accepted the modern medical approach seen from the health facility visitation, the conventional medication understanding, and the administration of medicine prescriptions. The emerging challenges of integrating the local belief and the modern medical approaches.

P1 AM : I drink the herb from my family but I rarely see the doctor.

P2 BS : Sometimes I combine or drink the local herb or medicine (the traditional medication) with the modern medication of the doctor.

P3 DM : I find the benefits of the traditional herb but I cannot ignore the suggestions from my trusted doctor.

P4 LK : Diabetes is a life test for me to overcome. Thus, I drink the traditional herb but sometimes I see the doctor.

P5 OP : heretofore, I drink the herbs or see the doctor.

3) Theme 3: The Challenges of Healthy Lifestyle Practices

This research comprehended the challenges of the participants while adopting a healthy lifestyle to manage diabetes. The difficulty of healthy dietary patterns and routine exercise receives some influence from the limited access to the required meals, time allotment, and space. From the psychological aspect, the problem dealt with social stigmatization and participant motivation.

P4 LK : Sometimes I find it difficult to alter my healthy meals in this region.

P5 OP : I rarely exercise and have difficulties due to my tight schedule.

P6 TP : I find it inconvenient in this condition.

P7 RE : Some people humiliate me but I only think about how to get fully recovered.

4) Theme 4: The Psychological Impacts of Diabetes on Routine Activity

The main finding covers social stigmatization, stress, anxiety, and life quality change. The participants reported their isolated experience and anxiety toward the negative perception from the surrounding community. Complex disease management becomes a source of stress and high anxiety to influence the participants in the routine activity.

P9 PR : Many people think my disease is dangerous.

P10 NG : Sometimes I found myself neglected.

P11 JE : I am feeling lazy to meet other people due to this disease.

P12 SR : My activities are limited because many people know this disease.

5) Theme 5: The Expectations and the Challenges of Local Health System

The researchers spotted the intention to improve the other accessibility, health care quality, and especially diabetes socialization.

P7 RE : I find it rare for people to discuss about this disease via socialization. It is also far to get health access.

P8 WT : I find limited socialization about diabetes.

P9 PR : specific attention from the government for this disease is important, for example from the hospital or public health care unit.

P10 NG : The government must pay attention to the community's understanding and the community must be aware of the disease.

P12 SR : The public health care disease is quite far so the government must pay attention to this problem.

b. Discussion

1) Theme 1: The understanding of diabetes by the Eastern regional community of Indonesia about the cultural problems

The understanding differences between the community groups occur due to the access limitation toward health information. A poor understanding of diabetes may receive some influence from traditional beliefs. This matter may remain firm in the community. Ledord et al (2019) also found the same pattern regarding the diabetic understanding variety in a community (Ledford et al., 2019).

2) Theme 2: The Role of Local Belief to Medicate Diabetes: the Differences between Tradition and Modern Medical Approach

In this research, the researchers explored the roles of local beliefs to medicate diabetes patients in the Eastern region of Indonesia. This theme reflects the dichotomy between the traditional and the modern medical approach to managing diabetes patients in the region. Some participants had a dilemma in deciding the medication method. This finding shows the complexity of aligning the traditional and modern approaches to managing diabetes. Yunita Sari et al (2022) found some misunderstanding of DM and the management of Javanese patients. The research showed that DM patients find it difficult to manage their dietary patterns due to cultural practices and beliefs. The research also found that the patients could cope with the stress by integrating culture and religion.

3) Theme 3: The Challenges in Practicing the Healthy Lifestyle

This research comprehensively investigates the encountered challenges by the participants in adopting healthy lifestyles as part of diabetic management. Some primary findings, including the challenges, also influenced lifestyle changes such as healthy dietary patterns and routine exercise. The participants found it difficult to integrate healthy dietary patterns and routine activities especially while having limited access to consume the required meals. The other hindrances were the time allotment and space to promote consistent routine exercises. The participants also encountered both physical and psychological hindrances. Some participants reported their socially stigmatized experiences with diabetes. This matter influences their motivation to adopt a healthy lifestyle. Chesla et al (2009) also found similar challenges in implementing healthy lifestyles in various cultural contexts. The study contributes to the global understanding of the influential factors of a healthy lifestyle in the diabetic patient population (Chesla et al., 2009).

4) Theme 4: The Psychological Impacts of Diabetes on the Daily Routines

This research describes the significant impacts of diabetes from the routine psychological aspect of the patients. The primary finding found that social stigmatization, stress, anxiety, and life quality change. The participants reported the stigmatized experience from the surrounding community. This matter made the patients isolated and anxious toward the negative perception. The complex disease management stressed and made them anxious. The physical limitation and habitual changes influenced the participants to promote daily routine activities. (Jones et al., 2016) also confirmed the

findings and asserted the psychological challenges of diabetes patients from both global and local phenomena. The relevance between the current research and the previous study indicates the consistency of diabetic impacts from psychological aspects on various populations.

5) Theme 5: The Expectations and Challenges of the Local Health System

This research revealed the related participant perceptions and challenges within the local health system about diabetes management. The findings found the expectation to improve the accessibility and the quality of the health services, especially diabetes socialization. The challenges include limited resources, lack of community understanding about diabetes, and coordination problems between the health care provider and the community. Crossen et al (2022) also found a comprehensive understanding of the challenges of the local health system especially diabetes and the applicable strategies to improve primary-level care (Crossen et al., 2022).

4. CONCLUSION

Provide real conclusions, not just a summary/repetition of the findings. Draw conclusions about the adequacy of the theory in relation to the data. Indicate whether the data supported or refuted the theory. Indicate whether the conceptual model was a useful and adequate guide for the study

REFERENCES

- Adejoh, S. O. (2014). Diabetes knowledge, health belief, and diabetes management among the Igala, Nigeria. *SAGE Open*, 4(2). <https://doi.org/10.1177/2158244014539966>
- Asril, N. M., Tabuchi, K., Tsunematsu, M., Kobayashi, T., & Takehashi, M. (2019). Qualitative Rural Indonesian Study of Diabetes Knowledge, Health Beliefs, and Behaviors in Type 2 Diabetes Patients. *Health*, 11(02), 263–275. <https://doi.org/10.4236/health.2019.112023>
- Basity, S., & Iravani, M. R. (2014). Health Seeking Behavior of Diabetic Patients in Koohzar Village in Damghan city. *Medical Archives (Sarajevo, Bosnia and Herzegovina)*, 68(6), 384–388. <https://doi.org/10.5455/medarh.2014.68.384-388>
- Chesla, C. A., Chun, K. M., & Kwan, C. M. L. (2009). Cultural and family challenges to managing type 2 diabetes in immigrant Chinese Americans. *Diabetes Care*, 32(10), 1812–1816. <https://doi.org/10.2337/dc09-0278>
- Crossen, S. S., Bruggeman, B. S., Haller, M. J., & Raymond, J. K. (2022). Challenges and Opportunities in Using Telehealth for Diabetes Care. *Diabetes Spectrum*, 35(1), 33–42.

<https://doi.org/10.2337/dsi21-0018>

- Espinosa, P. P. J., & Espinosa, M. J. P. (2017). Health-Seeking Behavior and Quality of Life of Patients with Diabetes Mellitus in Iloilo, Philippines. *International Journal of Bio-Science and Bio-Technology*, 9(1), 103–112. <https://doi.org/10.14257/ijbsbt.2017.9.1.08>
- Jalilian, H., Pezeshki, M. Z., Torkzadeh, L., Javanshir, E., Moradi, A., & Khodayari-Zarnaq, R. (2019). Health care seeking behaviors in type 2 diabetic patients in East Azerbaijan. *Clinical Diabetology*, 8(6), 292–302. <https://doi.org/10.5603/DK.2019.0031>
- Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: A Decade Later. *Health Education & Behavior*, 11(1), 1–47. <https://doi.org/10.1177/109019818401100101>
- Jones, A., Olsen, M. Z., Perrild, H. J. D., & Willaing, I. (2016). The psychological impact of living with diabetes: Descriptive findings from the DAWN2 study in Denmark. *Primary Care Diabetes*, 10(1), 83–86. <https://doi.org/10.1016/j.pcd.2015.03.008>
- Ledford, C. J. W., Seehusen, D. A., & Crawford, P. F. (2019). Geographic and Race/Ethnicity Differences in Patient Perceptions of Diabetes. *Journal of Primary Care and Community Health*, 10. <https://doi.org/10.1177/2150132719845819>
- Pramono, L. A., Setiati, S., Soewondo, P., Subekti, I., Adisasmita, A., Kodim, N., & Sutrisna, B. (2010). Prevalence and predictors of undiagnosed diabetes mellitus in Indonesia. *Acta Medica Indonesiana*, 42(4), 216–223.
- Rizqillah, A. F., & Ma'rifah, A. R. (2020). Factors Influencing Health Seeking Behavior Among Type 2 Diabetes Mellitus Patients. 20(Icch 2019), 1–4. <https://doi.org/10.2991/ahsr.k.200204.001>
- Tucker, C. M., Ph, D., Lopez, M. T., Campbell, K., Ph, D., Daly, K., Nghiem, K., Rahimwilliams, B., & Ph, D. (2015). NIH Public Access. 25(1), 292–307. <https://doi.org/10.1353/hpu.2014.0044>
- Widayanti, A. W., Heydon, S., Norris, P., & Green, J. A. (2020). Lay perceptions and illness experiences of people with type 2 diabetes in Indonesia: a qualitative study. *Health Psychology and Behavioral Medicine*, 8(1), 1–15. <https://doi.org/10.1080/21642850.2019.1699101>
- Yamamoto, K., Mizoshita, M., & Akamatsu, R. (2012). Factors associated with intention to undergo specific health guidance among Japanese workers using health belief model. *Open Journal of Preventive Medicine*, 02(02), 183–189. <https://doi.org/10.4236/ojpm.2012.22027>