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FAMILY VOICES IN DIABETES RISK: EXPLORING THE ROLE OF COMMUNICATION IN SHAPING HEALTH DECISIONS

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Abstract. Diabetes mellitus (DM) is a chronic disease that impacts individuals and families, with risk perceptions influencing preventive actions and health management, especially within families. While much research focuses on individual knowledge of diabetes risk, the role of family communication in shaping these perceptions remains underexplored. This study investigates how family communication influences diabetes risk perceptions and health decisions regarding prevention and treatment. Using the Risk Perception Attitude Framework (RPAF), the study analyzes the relationship between individual and family risk perceptions and their impact on preventive behaviors. Qualitative data were collected through in-depth interviews with ten informants from families with a history of diabetes in Surakarta, Central Java. Findings show that genetic factors, lifestyle, and personal experiences influence diabetes risk perceptions. Family communication raises awareness of diabetes risk and encourages preventive actions. The study suggests integrating family communication into community-level diabetes prevention and management programs.

Keywords: *Diabetes Mellitus; Family Communication; Risk Perception; Health Decision-Making; Preventive Behavior*

INTRODUCTION

Diabetes mellitus (DM) is a chronic disease that affects millions of people worldwide and poses a significant public health challenge due to its long-term impact on quality of life, health outcomes, and healthcare systems (Alshahrani et al., 2023; Hossain et al., 2024). The prevalence of diabetes continues to rise, fueled by factors such as lifestyle changes, unhealthy diets, and lack of physical activity (Kovács et al., 2024). However, understanding and managing diabetes risk is not just an individual effort; it often involves family dynamics that play an important role in shaping health behaviors and decisions. Risk perception, in particular, is known to influence preventive measures and adherence to treatment, yet most existing studies have focused more on individual knowledge and behavior rather than communication processes within the family (Kamran et al., 2021; Thirsk & Schick-Makaroff, 2021; Yilma et al., 2022).

The role of family communication in shaping diabetes risk perception has rarely been studied. Effective communication within families can increase awareness about health risks, encourage behavior change, and improve prevention practices. Previous research has shown that individuals with a family history of diabetes tend to have higher risk perceptions (Soltero et al., 2021). However, more needs to be examined on how these perceptions are influenced or shared among family members and how this affects collective health decisions. Given the close-knit nature of family interactions, it is imperative to investigate how family discussions and shared experiences shape understanding and managing diabetes risk.

Diabetes mellitus is a disease that can be controlled because almost 90 percent is related to an unhealthy lifestyle; patients can live healthy with diabetes mellitus by being obedient and doing regular checks (Toharin et al., 2015). Research from Sam Ratulangi University states that low knowledge and attitudes about diet increase the risk of diabetes, which aligns with Wardiani and Suryatman's findings that family plays a role in shaping personality and social behavior (Wardiani

& Suryatman, 2018; Watta et al., 2020). This still seems to be a problem in alleviating diabetes in Indonesia.

The prevalence of diabetes mellitus in Indonesia ranks seventh highest in the world after China, India, the USA, Brazil, Russia, and Mexico (Megawati et al., 2020). Furthermore, Surakarta, as the center of the Solo Raya metropolitan area, is one of the areas with diabetes cases that fluctuate every year. The Central Java health profile shows the most significant percentage of people with DM in Surakarta City during the last 5 years (Dinas Kesehatan Jawa Tengah, 2019, 2020, 2021, 2022, 2023). Therefore, it is important to examine the family as part of the perception of diabetes risk in Surakarta.

This study aims to address the existing gap in research by exploring how communication within families influences perceptions of diabetes risk and the health-related decisions individuals make regarding prevention and treatment. While much of the existing research has concentrated on individual knowledge and behavior, this study focuses on the often-underexplored role of family dynamics in shaping attitudes toward health risks. Specifically, the study seeks to understand how family discussions, shared experiences, and the exchange of information among family members influence how diabetes risk is perceived and how these perceptions guide decisions related to disease management and prevention considering health is a basic human need (Pramana & Priastuty, 2023).

To explore this, the study adopts the Risk Perception Attitude Framework (RPAF) (Rimal & Real, 2003), which examines how individuals and families understand the risks associated with diabetes and how these understandings influence preventive actions. Previously, Stephen Rains and colleagues piloted a risk perception attitude framework as a message tailoring tool to promote self-protective behaviors against diabetes (Rains et al., 2019). The research specifically focuses on families with a history of diabetes mellitus in Surakarta, Central Java, to uncover how family communication impacts risk perceptions and decisions surrounding preventive measures. This approach considers how factors such as genetic background, lifestyle, and past experiences with diabetes shape the way families discuss and address diabetes risk within the household.

RESEARCH METHOD

This study uses a qualitative approach (Saldana, 2011) to understand how family communication influences diabetes risk perception and decision-making related to prevention and treatment. Participants in this study are families with a history of diabetes residing in Surakarta, Central Java. A total of 10 informants were purposively selected (Palinkas et al., 2015) from three primary health center areas (Puskesmas) with the highest diabetes cases in Surakarta, ensuring the study's relevance to the topic. Data were collected through in-depth interviews (Given, 2008) with family members using a semi-structured interview guide. The interviews were conducted comfortably (Miles et al., 2014), lasting 45 to 60 minutes, to allow participants to share their experiences and perspectives. All interviews were recorded, and the transcriptions were analyzed to identify key themes related to risk perception and the role of family communication.

Data were analyzed (Yin, 2018) using the Risk Perception Attitude Framework (RPAF) to understand how diabetes risk perceptions are shaped through family communication. The analysis was conducted inductively, identifying themes related to the influence of genetic factors, lifestyle, and personal experiences on risk perception. To ensure the validity and reliability of the data, source triangulation (Creswell & Poth, 2018) was used by comparing perspectives from various family members, and the interview results were verified through member checking. This study adhered to ethical research principles by ensuring that all participants provided written informed consent before their involvement in the interviews. Additionally, to maintain confidentiality and integrity, all collected data were securely stored and accessible only to authorized researchers. The study also took steps to ensure that participants' identities were protected, and all data were used solely for the purpose of this research.

RESULT AND ANALYSIS

3.1. Risk Perception in families with a History of diabetes mellitus

The findings from this study reveal the pivotal role of family communication in shaping diabetes risk perception and influencing the actions taken to prevent and manage the disease. The study highlights that the way family members communicate about health risks, particularly diabetes, significantly impacts how these risks are understood and how individuals respond. In families where open and supportive communication takes place, members are more likely to develop a clearer understanding of the disease and feel motivated to adopt health-promoting behaviors.

3.2. Responsive

Families who perceive a high risk of diabetes, especially those with a family history of the disease, are more likely to engage in proactive behaviors. These families openly communicate about the dangers of diabetes and take steps to prevent it. They regularly discuss health-related topics such as diet, exercise, and the importance of medical check-ups. As a result, they tend to adopt a healthy lifestyle, maintain regular medical visits, and make dietary adjustments to reduce the risk of diabetes. In this group, family members are actively involved in preventing the disease, demonstrating a clear commitment to health and well-being.

3.3. Anxious

Some families acknowledge the high risk of diabetes but are responsive in a way that does not lead to active preventive actions. Although they understand the potential consequences of diabetes, they avoid taking the necessary steps to prevent it. These families may discuss the risk of diabetes in theory, but they hesitate or fail to take concrete actions, such as changing their eating habits or starting an exercise regimen. Their responsiveness is more emotional than practical, often driven by uncertainty or a lack of confidence in making lifestyle changes. This avoidance of action results from ambivalence or fear, even though the risk is clearly understood.

The findings from this study underscore the pivotal role of family communication in shaping diabetes risk perceptions and influencing the actions taken to manage and prevent diabetes. The analysis reveals how different levels of communication within families impact how risk is perceived and how effectively families take preventive actions. This process can be understood through the Risk Perception Attitude Framework (RPAF), proposed by Rimal and Real (2003), emphasizing the dynamic relationship between risk perception, emotions, and behavior (Rimal & Juon, 2010; Rimal & Real, 2003).

3.4. Role of Family Communication in Risk Perception

Effective family communication is essential in shaping how family members understand and respond to the risk of diabetes. Families who engage in open, frequent discussions about health-related topics, especially diabetes, are more likely to develop a shared understanding of the risks associated with the disease. This collective awareness plays a crucial role in motivating preventive behaviors, as family members begin to recognize the importance of taking action together to manage their health. In families with a high perception of diabetes risk, these conversations often center around genetic predispositions, lifestyle factors, and the consequences of inaction, which serve to heighten the urgency of adopting healthier behaviors.

When families with high-risk perceptions communicate openly about diabetes, they express concerns not only about the hereditary aspects of the disease but also about their daily habits and lifestyle choices. These discussions often highlight the need for immediate changes, such as improving diet, increasing physical activity, and seeking regular medical check-ups. As a result, family members become more aware of the steps they can take to prevent diabetes and manage their health more effectively. By framing these behaviors as proactive measures that can directly reduce their risk, family communication fosters a sense of responsibility and control over their health outcomes.

This shared perception of high risk aligns with the Risk Perception Attitude Framework (RPAF), which posits that those with a heightened perception of risk are more motivated to take preventive actions. According to the framework, when families view diabetes as a serious threat, they are more likely to believe that their actions can help mitigate potential harm. This belief in their ability to reduce risk encourages individuals to engage in behaviors that they believe will protect their health (Littlejohn et al., 2021), such as adopting a healthier diet, exercising regularly, and ensuring they undergo routine health screenings. These proactive behaviors, driven by a collective sense of urgency and responsibility, demonstrate how family communication can be a key factor in shaping health decisions and behaviors in families with high-risk perceptions of diabetes.

Moreover, the emotional aspect of these conversations further reinforces the family's commitment to prevention. As family members share their concerns and experiences related to diabetes, the emotional weight of the disease often fuels a collective determination to act. This emotional engagement enhances the motivation to take preventative steps, making family discussions about health risks not just informational but also emotionally resonant, prompting decisive action toward managing diabetes risk.

3.5. RPAF: Risk Perception, Emotions, and Behavior

The Risk Perception Attitude Framework (RPAF) by Rimal and Real (2003) proposes that individuals' attitudes toward risks are shaped by their perceptions of risk and emotional responses to those risks. In diabetes, family communication influences the cognitive (knowledge and awareness) and emotional (fear, anxiety, hope) aspects of risk perception (Shinan-Altman et al., 2024).

High-Risk Perception: Families who view diabetes as a significant threat (high-risk perception) are more likely to take proactive preventive actions. This finding aligns with the Risk Perception Attitude Framework (RPAF), which suggests that individuals who perceive a higher risk are more likely to feel a sense of personal responsibility toward managing their health. These families often believe that their actions can directly impact their risk, motivating them to adopt preventive behaviors. This heightened awareness and sense of responsibility drive them to make informed decisions about lifestyle changes, including diet, exercise, and regular health check-ups.

In these families, discussions about diabetes are not only informational but also emotionally charged, which helps to solidify a shared understanding of the disease. These conversations often include personal stories, experiences of family members who have been affected by diabetes, and collective reflections on the potential consequences of inaction. As a result, family members feel a greater sense of urgency to take preventive measures, reinforcing the importance of these behaviors in maintaining their health.

Moreover, the emotional engagement in these discussions plays a crucial role in shaping behavior. Family members who feel emotionally connected to the issue of diabetes risk—whether through direct experience or empathetic understanding—are more likely to internalize the need for lifestyle changes. This emotional investment encourages a stronger commitment to making proactive choices, such as adopting healthier eating habits, increasing physical activity, and staying consistent with medical check-ups. The shared emotional investment in managing diabetes risk transforms awareness into tangible actions, making these families more resilient in their approach to preventing the disease.

Emotional Responses to Risk: According to the Risk Perception Attitude Framework (RPAF), emotions such as fear, anxiety, or hope play a significant role in shaping health behaviors. In families who display responsive behaviors—where they recognize the risk of diabetes but fail to take concrete actions—emotional barriers often hinder their ability to act. These families are typically aware of the potential consequences of diabetes, yet they may feel overwhelmed by negative emotions such as fear of change, uncertainty about how to manage the disease, or even feelings of helplessness. Such emotions can create internal conflicts, where the cognitive understanding of the risks is overshadowed by emotional responses that prevent proactive decision-making.

Fear, in particular, can manifest in several forms within these families. For instance, fear of the lifestyle changes required to manage diabetes or the uncertainty of how to navigate the complexities of treatment can cause individuals to avoid confronting the issue altogether. This avoidance is often linked to a sense of powerlessness—if family members feel they lack the tools or knowledge to manage diabetes effectively, they may choose not to act. Similarly, anxiety about the potential impact of the disease on their health or the health of loved ones can lead to procrastination or denial, further delaying preventive measures.

The RPAF suggests that emotional responses can sometimes dominate rational decision-making processes, leading to inaction despite the cognitive awareness of risk. This emotional overload often prevents individuals from translating their knowledge into proactive health behaviors. In the case of diabetes, emotional responses like fear or uncertainty may overshadow the recognition that lifestyle changes and early interventions can significantly reduce the risk of developing the disease or managing its progression. Thus, families may avoid discussing the topic or delay taking necessary steps, which ultimately reinforces their vulnerability to the disease.

The study highlights that, in families with responsive behaviors, addressing these emotional barriers through supportive communication and education is crucial. By creating an environment where family members feel understood and supported, these emotional barriers can be mitigated, allowing individuals to move beyond fear and uncertainty and take the necessary actions to prevent or manage diabetes.

3.6. Exploring the Connection Between Communication, Risk Perception, and Health Behaviors

The study findings indicate that the level and quality of family communication play a crucial role in shaping how risks are perceived and in influencing health behaviors. In families with proactive behaviors, communication serves as a powerful catalyst in developing an informed and shared understanding of diabetes risk. These families actively engage in discussions about the disease, often sharing personal experiences, medical advice, and lifestyle tips that reinforce the importance of managing diabetes risk. This shared awareness strengthens their collective commitment to prevention and health maintenance. As a result, they are more likely to adopt health-promoting behaviors, such as making healthier food choices, increasing physical activity, and scheduling regular health check-ups. The constant communication within these families fosters a strong sense of responsibility and urgency, driving them to take consistent and proactive actions to manage their diabetes risk.

The Risk Perception Attitude Framework (RPAF) by Rimal and Real suggests that risk perception is a dynamic process, shaped not only by cognitive awareness of health risks but also by how these risks are communicated within the family. When family members openly discuss the risks of diabetes, they are more likely to feel supported and empowered, which enhances their sense of control over their health. This emotional support strengthens their motivation to adopt preventive behaviors, as they perceive these actions as essential to managing the risks they face. Furthermore, the emotional resonance of these conversations—whether through shared concern, empathy, or solidarity—creates a more profound connection to the need for prevention.

However, without open and supportive communication, emotional barriers such as fear, denial, or uncertainty can hinder the adoption of healthy behaviors. For example, family members who recognize the high risk of diabetes may feel overwhelmed by the severity of the disease or unsure about how to navigate the necessary lifestyle changes. These emotional responses can lead to avoidance or procrastination in taking preventive steps, despite the understanding of the disease's potential consequences. The lack of effective communication can create emotional distance, reducing the likelihood that families will act on their knowledge and reinforcing the barriers to proactive health management.

CONCLUSION

This study highlights the crucial role of family communication in shaping diabetes risk perception and influencing health-related decisions regarding prevention and treatment. The findings suggest that family discussions about health risks, particularly diabetes, play an essential role in how individuals understand the disease and the actions they consider taking to manage or prevent it. Communication within families encourages a shared understanding of diabetes risk, fostering healthier lifestyle choices such as better diets, increased physical activity, and regular medical check-ups.

The Risk Perception Attitude Framework (RPAF) by Rimal and Real (2003) provides valuable insights into the dynamics of risk perception and behavioral responses. According to the framework, individuals' perceptions of risk are shaped by cognitive awareness and emotional responses. Families that engage in open communication about diabetes tend to develop a stronger sense of risk, which leads them to take preventive measures. In contrast, families with lower risk perceptions often display indifference or avoidance, resulting in a lack of action despite an understanding of the disease's risks. This indifference may stem from emotional barriers such as fear, uncertainty, or fatalism. The study's findings emphasize the need for interventions that enhance family communication as a central component of diabetes prevention and management. Strengthening family dialogues around health risks can empower families to take proactive and informed actions in managing their health. Moreover, addressing emotional barriers and promoting an open, supportive communication environment can help overcome avoidance behaviors and foster a more engaged and preventive approach to health.

In conclusion, this research highlights the integral role of family dynamics in shaping diabetes risk perceptions and influencing health behaviors. The findings suggest that integrating family communication into community-level diabetes prevention and management programs could improve health outcomes by fostering more informed and collective decision-making in households.

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