

Factors And Conditions of Recognition of People with Diabetes Using Alternative Health Care (AHC) In Sambas, Indonesia

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ABSTRACT

Background: Alternative Health Care (AHC) is one of medication that famous among Indonesian. One of ethnic that have high cultural belief is Malay who have their own unique concoction and decoction for solve their disease. Understanding factors and condition using AHC among Malay culture can be one of deeply exploring for develop nursing cultural care.

Purpose: The aims of study is to explore and understand the factors and conditions using AHC among people living with diabetes in Kalimantan Barat

Methods: The method of study is qualitative study using ethnography study to explore universe of factors and conditions using AHC among persons living with diabetes. The setting is in Sambas, Kalimantan Barat with total respondents in this study are 45 respondents. They are diabetes people, their families, health care providers, health care volunteers and community leaders.

Results: The results of this study are first, internal factors such as feeling comfortable, motivations to be healthy, effectiveness of AHC, knowledge of AHC, respect to old people and respect to culture, second, social and community factors such as social belief, community support, information from society, and social practice. Third, economy and accessibility factors such as ready in community, easy to get, cheap and traditional healer can come to house.

Conclusion: For culture underpinning, collaboration between traditional and professional health care provider should be improved to find holistic view of diabetes people management, to see the impact of each medication treatment that the persons with diabetes do. Moreover, this study also found in some special case that if the body feel good means there is no body problem condition although they live with diabetes, but if the body feel uncomfortable means should be gotten treatment because it influences their all life such as their work, their stress and their community activities.

Keywords: Factors, conditions, alternative health care, diabetes

1. INTRODUCTION

Diabetes is chronic disease that lead to serious problems such as decrease the quality of life, disability and death (Sun et al., 2022). Diabetes have two type, there are diabetes type 1 and diabetes type 2 (Safitri et al., 2021). The percentages of diabetes prevalence grow up in the world that study from International Diabetes Federation (IDF) shows about 536.6 million diabetes people year 2021 its predict increasing about 46% (783.2) million in 2045 (Sun et al., 2022). This trend of diabetes estimates more than 60% people in Asia living with diabetes (53.6%), then follow from Western Pacific about 52.8% and South-East Asia are 51.3% which is one in two people aged 20 -79 years old have not aware with their diabetes status that is 44.7% or 239.7 million people (Ogurtsova et al., 2022). These conditions are described by particular rise of chronic disease that lead to higher premature mortality, stroke and coronary heart disease in South-East Asia (Tanoey & Becher, 2021).

The risk factors of diabetes are unhealthy eating behavior, age, obesity, physical inactivity, history of diabetes in family and smoking (Uloko et al., 2018). The other study explained that risk factors for diabetes are age, level of cholesterol and obesity (Yan, 2023). The level of knowledge is one of factor that related diabetes which is influence of health education intervention (Maru et al., 2020). Study from developing countries found that the general population has low level of knowledge about diabetes (Kayyali et al., 2019). To improve people with diabetes compliance for their prevention and their care, the knowledge of diabetes and how to face their life are important (Asif, 2014).

The management of diabetes are complete oral, injection controlled diabetes treatment and nearly 70% of patients in Indonesia do not reach the diabetes treatment target (Salwa Kamilia Cahyaning Hidayat, 2022). Diabetes is a complex, incurable, chronic illness that requires strict adherence to medical treatment regimen and the objective of diabetes management is to maximize comfort, diminish symptoms, and prevent complications (Id et al., 2019). To attain these objectives, patients must make lifestyle modifications, such as engaging in regular exercise, maintaining an ideal body weight, modifying their eating patterns, and self-monitoring their blood sugar levels, however, maintaining lifestyle modifications is difficult and consequently, some diabetic patients utilize alternative health care (AHC) in their treatment regimens (Wanchai & Phrompayak, 2017)

The complexity of health-related behavior in Indonesia is heightened by its multicultural and ethnically varied nature, as well as the presence of diverse health providers. Similar to other low- and middle-income nations, informal health providers or nonconventional health providers play a substantial role in delivering health services, despite the presence of formal health providers that are widely accessible (Widayanti et al., 2020). The group of nonformal health providers commonly referred to as traditional health providers can be classified into distinct categories based on their therapeutic approaches. These categories include biologically based therapies, which involve the utilization of natural substances in traditional treatments; physical therapies, encompassing techniques such as acupuncture, acupressure, and cupping therapy; physical therapies without the use of tools, such as massage; and mind-body therapies, which involve practices like hypnotherapy and meditation (Widayanti et al., 2020)

AHC encompasses a wide range of medical systems, healthcare practices, and products that are distinct from traditional medicine. (Lee et al., 2022). AHC is any health care treatment or system that is not generally recognized in modern biomedicine, or therapies that are typically offered in replacement of or as an alternative to conventional therapies (Rao, 2021). Types of AHC are Natural and mind-body AHCs, there are vitamins, minerals, herbs, and probiotics are natural goods, the other such as yoga, chiropractic, and osteopathic manipulation are among the many mind-body disciplines taught by qualified practitioners then ayurvedic medicine, traditional Chinese medicine, homeopathy, and naturopathy are other alternative health techniques that may not fit into these two categories (Wanchai & Phrompayak, 2017). Diabetics are increasingly using AHC to control their disease and its consequences and the high rate of AHC usage and related hazards among diabetes patients in poor nations (Kifle, 2021). From systematic review study explained that It is clear that the main reasons for AHC use in all populations are a positive attitude toward AHC, that is the perceived benefit and safety of AHC, and a negative attitude toward AHC, a dissatisfaction with AHC (Tangkiatcumjai et al., 2020). A major concern is that patients' blood sugar levels may not be controlled if they choose alternative medicine over conventional medicine where in contrast, if they choose to use both methods simultaneously, the risk of adverse drug reaction or additional complications may increase (Wanchai & Phrompayak, 2017).

The rural area become pay attention from government now that having unique consideration in treatment and prevention among people with diabetes. There is increasing number of diabetes prevalence in rural area then urban area about 2-4% in Indonesia (Dany et al., 2020). Mostly studies focus on incidence of diabetes in rural area Costelloe et al., 2015; Kalichman et al., 2017; Pellowski, 2013). The rural are in West Kalimantan (Kalimantan Barat) have strong belief that influences their practice and care where West Kalimantan is part of "heart of Borneo", this island is famous with natural resources for example products from agriculture, forest and water (Sada et al., 2019). This study will explore people with diabetes experiences in Sambas, part of West Kalimantan, although this study cannot be concluded to every demographic with have different geographic area, but the result of this study can illustrate the essence, structure and possible concerns for people with diabetes in West Kalimantan. In the study of systematic review showed that people with diabetes in rural area have not yet explored their integrated barriers for diabetes care such as transportation, provider stigma and discrimination, confidentiality concerns, and affordability or lack of health insurance (Jennifer A Pellowski, 2013). The research has showed that people with diabetes in rural have delay treatment that lead to advantage stages of complications then in urban area (Jia et al., 2020).

2. METHODS

2.1 Research design

This study is appropriate to use focus ethnography as methodology because the aims of this study are beside understanding person and cultural group perspectives, this study also want to analyse cultural group who use AHC how they structure it as their experiences. Based on Polit & Beck (2010) described that focused ethnographies are exhaustive, fine-grained studies of small units within a group, and the underlying assumption of the ethnographer is that every human group eventually evolves a culture that shapes the members' worldview and experience structure. It is essential for the researcher to deeply understand the culture, belief and social behaviour based on the variety of participants' viewpoints in order to set future improvements and the needs for community to be healthier. The concept of a focused ethnographic study emerged as a new methodology to answer specific sets of questions required by policymakers, programme planners, or project implementation teams in order to make future decisions regarding social, public health, and activities involving public-private partnerships (Pelto et al., 2013).

Furthermore, the use of focused ethnography method will convince the persons holistic and its relationship with the truth give a chance to find health challenges from personal point of view about cultural group in using AHC. Social, cultures, belief, and cultural recognition have major influences in understanding persons using AHC. Understanding the emerging cultural recognition in using AHC in cultural group can give much information for planning of community health empowerment and strengthen social behaviour lifestyle based on their cultures. In this study, the researcher provided the position using AHC to enhance cultural recognition in health care services system that supported by health care providers, local government, and other stakeholders related these cases. Explored of factors and condition in recognition for using AHC among diabetes people showed in this study.

2.2 Setting and samples

Sambas was chosen for research for numerous reasons. This study seeks to examine diabetic patients' cultural recognition of AHC. Many cultures practice AHC at Sambas. After growing up in Malay culture, the researcher has various advantages when collecting data or observing in the field. Overall population is 629.905, with 0.16% poor index in 2022. The regency has 19 sub-districts. Sambas' main religion is Islam. Many ethnicities live there, with Malay values. Malay with Sambas dialect is the daily language and has unique characteristics. This study was conducted at Primary Care Unit (PCU) or Puskesmas Sungai Baru, Sambas and Sungai Baru community under head of village, Sambas, where purposive sampling was used to select four villages. This study was conducted in Sambas, Kalimantan Barat, Indonesia, where the researcher observed, explored, and understood community activities, services, and AHC practices. Researchers selected the community setting through exploratory studies.

Data collection in this study have three types of data collecting such as participant observation, in-dept interview, and focus group discussion (FGD). In this study, the researcher used matrix data collection as a guide for collecting data which consist of research questions, data needed, methods of data collection, procedure of data collection and sources of data. The total of informants in this study are 45 respondents for in-dept interview. For FGD there are 4 diabetes people, 4 HCP-professional, 4 families of diabetes, 4 HCV, and 5 community leaders. For observation, there are 9 participants who did AHC.

The key informants in this study are about 29 respondents:

(Do AHC in diabetes persons)

- a) 12 Diabetes persons who doing AHC in Malay community
- b) 12 HCP (3 Traditional HCP and 9 Professional HCP)
- c) 5 Families of diabetes persons who doing AHC

The general informants in this study are about 16 respondents:

(Knowing and interact with persons living with diabetes that using AHC)

- a) 5 Health volunteers
- b) 11 Malay community leader

2.3 Measurement and data collection

Participant observation, in-depth interviews, and focus group discussions (also known as FGD) are the three methods of data collection that are utilized in this study. In the course of this investigation, the researcher utilized matrix data collection as a guide for the purpose of gathering information. This matrix included research questions, data that was required, methods of data collection, procedures for data collection, and sources of data.

2.4 Data analysis

Data management was a component of the analysis of the data. Transcripts were created and triangulated using the information obtained from the in-depth interview, observation, and focus group discussion. The transcript of the interview was transcribed as quickly as possible after the conclusion of each interview. The data from the interview was transferred onto a laptop, and the folder containing the transcript was sorted into two categories: those participants who had diabetes and those who were involved in the study. Initially, the researcher conducted the transcription from the recorder, and then, as a result of the ATLAS program version 7.5.16, they would transcribe the transcription into words.

2.5 Trustworthiness/rigor (applies to qualitative studies)

The research can be trusted of its finding using trustworthiness. The quality of research study remained a problem to evaluate. Most criticism was about the subjective, high risk of bias and cannot generalize in qualitative research. The researcher have cultural familiarity, the researcher employed bracketing techniques to minimize personal bias during data collection and analysis. Therefore, plenty of researchers developed to convince the quality of the qualitative studies, and it was called trustworthiness. Trustworthiness can be used to characterize the quality of the data, interpretation, and methodologies that will be employed in the study. In this qualitative research, the researcher saw to understand the world of AHC in diabetes persons from participant's perspective. Therefore, in was important for researcher to ensure the result finding truly reflect

the reality experienced by participants. Credibility, transferability, dependability, and conformability are the four pillars that make up trustworthiness in a study (Adler, 2022).

2.6 Ethical considerations.

The ethical considerations was approval from International Research Board (IRB) Khon Kaen University (KKU) with references number HE662266 accepted on 7 June 2024, with record no. 4.3.0249/2566.

3. RESULTS

A ethnographic study was conducted to explore and identify the factors and conditions in using Alternative Health Care (AHC) among diabetes people in Sambas, West Borneo, Indonesia including cultural belief people living with diabetes in Malay ethnic, cultural recognized using AHC among people with diabetes in diabetes' people perspective, health care providers' perspective, community leaders' perspective, families with diabetes' perspective, health care volunteers' perspective, factors and conditions contribute for choosing AHC among people with diabetes. Data was collected from 45 informants which was started from June – November 2024.

The results are structured according to the research objectives and themes that emerged from the analysis. The findings highlight the interplay between internal, social, community, economic, and accessibility factors in shaping diabetes management among the participants.

Theme 1: Internal factors of persons with diabetes

1. Feeling comfortable with traditional medicine

Participants expressed a preference for traditional medicine due to its perceived natural benefits and the absence of severe side effects. Many individuals reported feeling physically comfortable after using herbal remedies, even if they experienced minor discomforts such as bitterness or nausea.

"I learned about this from older people who suggested drinking insulin leaf tea. It is very bitter, and I am unsure about the exact dosage. However, I follow their recommendation—three leaves boiled down into one glass. While it can cause stomach discomfort, I feel better overall after drinking it." (P10-DM-7)

"People here believe that traditional care helps them feel better, allowing them to continue working without seeking other treatments." (P7-CL-5a)

"Because medicinal leaves are natural and easy to obtain, some people with diabetes feel more comfortable using alternative or traditional treatments. When they find these methods effective, they tend to believe in them and share their experiences with others. People here are easily influenced by personal experiences, so if someone feels comfortable with an alternative or traditional remedy, they will tell others, who may then be encouraged to try it as well." (P-10-CL-6b)

This preference for traditional remedies aligns with previous studies that highlight the role of comfort and familiarity in healthcare decision-making, especially in communities with strong cultural beliefs in natural medicine. The past study explored that people with diabetes seek traditional care for a variety of reasons, including the fact that it is typically less expensive, that it is located closer to their homes, and that they are more at ease with traditional medicine (Sunarto et al., 2019).

2. Motivation to maintain health

In Malay culture, health and wellness are closely linked to spiritual beliefs and holistic balance. Many participants expressed a strong motivation to use traditional medicine because it aligns with their cultural understanding of health and disease prevention.

"Traditional medicine is still practiced here, passed down through generations as part of the community's cultural identity and belief in maintaining a healthy body." (P1-CL-1)

"I learned about traditional medicine from my community. After trying it, I felt it suited my body. I want to control my blood glucose and prevent complications, so I use these remedies to stay healthy." (P5-DM-2)

These findings indicate that cultural heritage plays a motivating role in the choice of diabetes management practices. In Malay culture, health was closely entwined with spiritual beliefs and holistic balance where inspiring people to embrace traditional medicine as a form of illness prevention and wellness. Participants' decisions in managing their health, including diabetes, were much influenced by their cultural background and own experiences with traditional medicines.

3. Effectiveness of AHC

Participants reported that they preferred bitter herbal remedies due to the belief that bitterness lowers blood glucose levels. Many individuals trusted ancestral knowledge and herbalists (tabib) to provide safe and effective treatments.

"People say that foods and drinks with a bitter taste are good for lowering blood glucose levels." (P3-DM-11)

"In my opinion, as a traditional healer, remedies passed down from older generations, such as decoctions and concoctions, are effective in treating diabetes and helping patients achieve normal blood glucose levels." (P2-HCP-6)

The belief in the effectiveness of traditional medicine remains strong, despite limited scientific validation. These findings emphasize the need for further research into the safety and efficacy of herbal remedies. This review study addresses toxicity-related problems and main safety concerns resulting from the use of herbal medical products as well as some significant difficulties in efficient safety monitoring of them (Ekor, 2014)

4. Knowledge of AHC

Alternative healthcare (AHC) encompasses a wide range of treatments and practices that fall outside the scope of conventional medicine. These approaches often emphasize holistic well-being, recognizing the interconnectedness of the body, mind, and spirit. This study highlights the community's beliefs and practices regarding AHC, demonstrating its positive influence on perceptions of diabetes management among individuals living with the condition.

"We learn about traditional or alternative care through word of mouth. We often meet friends during Saro'an, where we talk and share experiences. During these gatherings, people suggest remedies for diabetes, such as drinking gambir (gambier) and sirih (betel). They say these are good for managing diabetes. We talk about diabetes and its treatments." (FGD-DM)

"I have been treating patients with medicinal plants for 14 years. My patients come not only from this village but also from overseas, including Malaysia and Thailand. However, I always complete my treatment with doa (prayers) and ask Allah for guidance, because I believe that there is no strength without His help." (P4-HCP-7)

"The alternative care I provide to patients comes from natural learning—understanding the interaction between plants, animals, and diseases. The traditional medicine I practice also incorporates doa (prayers) or mantras rooted in spirituality and Islam. In fact, every culture has its own healing practices. For example, the Dayak ethnic group and the Malay community, like us here, have inherited medical knowledge from our ancestors, influenced by Islamic beliefs." (P1-HCP-3)

"I learned about using honey (madu) for wound care management through my education, particularly at the Muhammadiyah institution, where honey is commonly used for wound treatment. Honey has been proven effective for wound care, especially kelulut honey (madu kelulut) and Trigona honey (madu Trigona), which I frequently use in my practice." (P10-HCP-8)

"Patients often ask how to take herbal remedies alongside medical treatments. I advise them not to take both at the same time but to leave a gap between them. However, many patients don't inform us about the herbs they use. Some take packaged herbal products, not just decoctions or concoctions. From what I know, certain concoctions can help lower blood glucose levels, but their potential negative effects on the body also need to be considered." (P7-HCP-2)

Participants gained knowledge about alternative medicine primarily through social interactions and oral traditions. Traditional healthcare practices were commonly discussed during social gatherings (Saro'an) and religious events. These findings highlight the importance of community knowledge-sharing networks in shaping healthcare practices. The previous study showed that Herbal medicine has had a rebirth for both health concerns and as part of a bioeconomy for areas rich in traditional knowledge and biodiversity (Lindberg et al., 2023)

5. Respect for elders and cultural heritage

This research highlights the deep-rooted influence of traditional and alternative medicine in community healthcare, particularly in managing diabetes. The use of medicinal plants and natural remedies, such as insulin leaves and *madu tanah* (ground honey), is shaped by knowledge passed down through generations and shared within local communities. Many individuals, including healthcare practitioners, respect and trust these traditional practices because they originate from elders and ancestors who have relied on them for decades. This intergenerational transmission of knowledge reinforces the belief that herbal preparations, such as decoctions and concoctions, are effective in regulating blood glucose levels and treating diabetes. Traditional healers, guided by the wisdom of older generations, see these remedies as not only alternative treatments but also a vital part of their cultural and historical identity. Additionally, traditional medicine in Sambas is strongly influenced by Malay ethnic and religious beliefs, which have been preserved and passed down as part of the community's healthcare traditions. The deep respect for ancestral wisdom encourages the continued use of these remedies, further integrating them into daily healthcare practices. These findings emphasize that the persistence of traditional medicine is driven by trust in older generations and a strong cultural heritage, making it an essential part of healthcare in the community.

"The use of insulin leaves and madu tanah (ground honey) as alternative medications comes from the knowledge shared by our community. They give us advice, which we deeply respect. These traditional medicines are already well-known here, and we also try using them." (P5-Kel-5)

"In my opinion, as a traditional healer, the knowledge passed down from elders, ancestors, and generations before us such as the use of decoctions and concoctions is effective in treating diabetes and helping to normalize blood glucose levels in diabetic patients." (P2-HCP-6)

"Traditional medicine has been passed down from our ancestors, particularly in Sambas, where it originates from Malay

ethnic healing practices influenced by religious beliefs. This tradition has been preserved and adopted across generations.” (P1-HCP-3)

These findings highlight the importance of community knowledge-sharing networks in shaping healthcare practices. These findings suggest that cultural preservation and traditional health practices are intertwined. Similar study in Myanmar that Myanmar traditional medicine is truly an inherited profession, the development of which has interrelations with convictions and the sociocultural system (Wah Oo et al., 2020)

6. Respect to culture

The study highlights the strong integration of cultural beliefs with health care practices, emphasizing the importance of collaboration between modern medical professionals and traditional healers. Alternative medicine, such as the use of medicinal leaves, decoctions, and concoctions, is deeply rooted in the local culture and remains widely accepted by communities.

“I strongly recognize the importance of alternative health care because it is inseparable from the local culture. Medicinal leaves are an example, as they can be found easily around us” (P9-CL-6a).

“Decoctions and concoctions are unique aspects of Malay culture” (P13-CL-8).

“Here, patients with diabetic foot ulcers use honey. Research supports its effectiveness in wound care, as the key principle of wound management is to keep the wound moist. Another alternative I commonly use is papaya latex, which is an affordable option for patients. Traditional health care providers are still trusted by many patients, and we deeply respect them. I also collaborate with the PCU. Traditional health care providers play a role in offering spiritual support and motivation” (P10-HCP-8).

“For me, it is acceptable for patients to choose either herbal treatments or medical medication. As we know, traditional health care providers are also part of our system, and we should collaborate with them and respect their treatments, as long as they do not contradict modern medicine” (P8-HCP-4).

The study emphasized the important link between cultural values and medical procedures and supports a cooperation between medicine and alternative healing approaches. Local culture still revolves around alternative therapies including medicinal plants and decoctions, which are much welcomed by the people. The study in Ghana showed that the influences of culture to be traditional care practice with the one reason was inadequate current medical dominated model for diabetes who were exist to emphasis of psychosocial aspects including value, attitude and belief (Korsah et al., 2022).

Summary:

This study examined how traditional medicine was deeply integrated with diabetes communities' healthcare practices and how internal factors affect treatment decisions. Participants trusted herbal treatments, typically passed down through generations, to manage their disease, preferring bitter botanicals to regulate blood glucose levels. Malay culture values cultural history, respect for elders, and the holistic relationship between health and spirituality, which encourages people to practise traditional medicine. Social interactions and oral traditions spread alternative healthcare information, highlighting the role of community networks in therapeutic procedures. Many participants used these natural medicines despite inadequate scientific validation, underlining the necessity for modern medical professionals and traditional healers to collaborate to offer comprehensive care.

Theme 2: Social and community factors

1. Social belief and cultural identity

Cultural beliefs shaped diabetes management in profound ways, with herbal medicine, traditional massage (pijet), and decoctions being deeply embedded in Malay identity.

“I know this traditional medication such as family or neighbor and also from person to person because people here belief that herbs are good for solving diabetes and I belief of them then try it” (P3-DM-11)

“Mostly diabetes patients control their condition in PCU, as general from health care provider and society, they are accepted of alternative or traditional medication in this village because those traditional such as decoction and concoction are the cultural or tradition that famous in this community that being alternative for their medicine” (P5-HCP-12)

“Mostly people use traditional care such as traditional massage and decoction of medical leaves which is the most. Because there are already being the cultural identity in Sambas area and already be ingrained since along time ago about traditional massage and decoction for health” (P1-HCV-1)

“Such as papaya shoots that is traditionally which is boiled with water and bitter taste, we belief that bitter medication is good for diabetes as diabetes medication that traditional care and decoction or concoction are cultural identity medication” (FGD-FAM)

These findings reinforce that health beliefs and cultural identity are inseparable in the Malay community. With herbal medicines, traditional massage, and decoctions firmly ingrained in local identity, cultural beliefs play a major part in diabetes control within the Malay population. Believing they would help to control diabetes, participants trust and depend on these alternative treatments, including passed down generations' bitter decoctions. These customs not only serve as cures but also as essential components of the cultural legacy of the society, therefore strengthening the inescapable link between cultural identity and health ideas in the area.

2. Community support

The research findings highlight the strong cultural practice of using traditional medicine within the community, supported by both local authorities and healthcare practitioners. The availability of herbal medicine in capsule form, approved by the village head, provides an accessible alternative for those who struggle with traditional decoctions. Community trust in ancestral remedies and family advice plays a crucial role in sustaining these practices, as individuals seek alternative treatments alongside conventional healthcare. This demonstrates the importance of integrating community beliefs and traditional knowledge with modern healthcare approaches to support diabetes management and overall well-being.

"This month, I bought medicine from Sambas. There are people from the health sector selling herbs in capsules. They have received permission from the village head to sell the medicines in the village. I also purchased the herb because it is legal and has approval from the village authorities. Since I cannot drink the bitter decoction, this herb in capsule form is a solution for me." (P1-DM-1)

"I know that people in this community are familiar with alternative or traditional remedies, such as decoctions and concoctions, passed down from their close family members as part of their tradition. The community trusts their family and values their advice, often following their suggestions. They believe that their ancestors had medicines for various diseases. So, the cultural practice of trusting and following family advice remains strong here." (P6-HCP-13)

"Most of the diabetes patients here use alternative or traditional medicine because they truly want to be cured of their diabetes and are willing to try these treatments. As a result, the cultural practice of using traditional medicine, which is passed down through generations, remains strong. I understand why, in addition to managing their condition at the PCU, patients also seek alternative medicine — they do so because they want to be cured and believe in the natural traditions handed down by their ancestors." (P9-HCP-5)

The village head's permission of herbal capsules shows that traditional medicine is widely used to treat diabetes, supported by community trust and local authorities. These generations-old, culturally-based diabetic control strategies show the need of merging traditional knowledge with modern healthcare. Seeking information support and providing information support were the most frequent categories exchanged among diabetes people (Da Moura Semedo et al., 2023)

3. Information from society

The community plays a vital role in shaping healthcare decisions, particularly regarding traditional medicine for diabetes management. Knowledge of alternative treatments, such as herbal remedies and madu tanah (ground honey), is passed down through generations and shared among families, reinforcing trust in ancestral wisdom. While healthcare providers focus on medication adherence and blood glucose monitoring, they acknowledge patients' reliance on traditional medicine and respect their choices. However, due to the lack of formal training on traditional treatments, healthcare providers do not actively promote them. This dynamic highlights the strong influence of societal knowledge in shaping health practices and the need for collaboration between modern healthcare and traditional medicine.

"At the PCU, we provide patients with health promotion on diabetes management, focusing on medication adherence and routine blood glucose monitoring. However, we do not provide information about traditional medicine, as patients typically learn about it from the community. We respect patients' choices regarding their treatment but emphasize the importance of monitoring their progress. If training on traditional medicine becomes available, we would be willing to share that information, but we have not received such training yet." (P7-HCP-2)

"In this community, we believe in and have knowledge of alternative or traditional medicine, passed down from our ancestors through generations. Families share information about traditional remedies, and many people feel comfortable using them, believing in their effectiveness. Those for whom these treatments work, InshaAllah, often experience stable blood glucose levels." (P10-CL-6b)

"The use of insulin leaves and madu tanah (ground honey) as alternative treatments comes from the knowledge shared within our society. The community provides advice on these traditional remedies, and we deeply respect their wisdom. These treatments are already well-known here, and we have also tried using them." (P5-Kel-5)

Many individuals learned about diabetes treatments through informal discussions, rather than from healthcare providers. These findings suggest that modern healthcare interventions should integrate community-based education programs.

4. Social practice

The research findings highlight the strong influence of social practices in shaping healthcare choices within the community, particularly regarding traditional medicine. Knowledge of herbal treatments, such as insulin leaves and decoctions, is passed down through generations and shared through social networks, reinforcing trust in traditional remedies. Traditional healthcare providers (tabib) play a crucial role in guiding patients, as they are respected for their expertise in preparing herbal treatments and offering spiritual support through doa-doa (prayers). Community members widely accept and practice these traditional methods, believing in their effectiveness, while also incorporating lifestyle habits such as avoiding sweet foods and engaging in physical activities like walking to their gardens. Although professional healthcare providers focus on modern treatment approaches, they acknowledge and respect the community's reliance on traditional medicine. This dynamic underscores how social practices shape health behaviors, demonstrating the need for collaboration between modern healthcare systems and culturally embedded traditional practices.

"Since medicinal leaves are easy to find, many people here use them as an alternative to insulin for managing diabetes. Most people are familiar with insulin use, but they often prefer insulin leaves for their treatment, which is considered acceptable by professional healthcare providers. Traditional healthcare providers, such as Mr. X, have a deep understanding of these alternative treatments and are knowledgeable about traditional medicine." (P10-CL-6b)

"Many people here rely on decoctions prepared by traditional healthcare providers, as they have expertise in selecting the right herbal mixtures for each patient and often accompany the treatment with doa-doa (prayers). Additionally, people avoid eating sweet foods. Insulin leaves are well-known in this community because they have been widely used and are believed to help regulate blood glucose levels effectively." (P7-CL-5a)

"Alternative healthcare is widely accepted in this society. Most people prefer using herbs, believing they are natural and beneficial. Additionally, walking to their gardens has become a regular form of exercise, contributing to their overall well-being." (P1-Kel-1)

"My mother and I learned about traditional medicine from people in our community. When others were cured using traditional remedies, my mother decided to try them as well. Traditional medicine is already well-known in this village, with various types of medicinal leaves available. However, those who truly understand its use are tabib (traditional healthcare providers), who have specialized knowledge in preparing herbal concoctions and decoctions based on specific diseases. We strongly believe in traditional medicine and trust the expertise of the tabib, who are highly respected in our community." (P3-Kel-3)

The research underlined the importance of social practices in affecting healthcare choices, as traditional medicine is widely practiced and passed down through generations, especially through social networks and authoritative healthcare professionals. Modern healthcare providers respect the community's historic dependence on herbal cures and lifestyle routines, even as they focus on medical treatments.

Theme 3: Economy and accessibility factors

1. Availability of traditional medicine

Traditional healthcare resources, such as herbal plants and local healers, were easily accessible within the community.

"The alternative health care such as traditional massage, medication leaves can be access easily because ready in this village" (P1-Kel-1)

"I and my mom know about traditional medication from people around here. So, there are persons who cure using traditional medication then my mom try to use it and traditional medication here already famous in this village. Many kind of traditional medication and medical leaves here, but the persons who more understand about it are tabib or traditional health care provider that have specific knowledge about concoction and can make decoction based on the disease that people's problem. We really belief of traditioan medication and tabib who already famous here" (P3-Kel-3)

Now, check blood glucose level should pay, before it was free. But in drug store, there have blood glucose checking, we have to pay about Rp.10.000 per ones. For traditional medicine if we use insulin leave, we are no need to pay and usually ready around us" (FGD-FAM)

The community has a great supply of traditional medicine where local healers and herbal plants are readily available, which makes it a preferred choice for management of diabetes. Unlike the rising costs of contemporary healthcare, such blood glucose monitoring, traditional remedies like insulin leaves were sometimes favored because of their low cost and availability.

2. Cost – effectiveness

Participants emphasized that traditional medicine was more affordable than modern medical treatments.

"Tabib can call to come house and cheap, because patients usually lazy to come to PCU to control their blood glucose level"

(P4-HCV-4)

"Now, check blood glucose level should pay, before it was free. But in drug store, there have blood glucose checking, we have to pay about Rp.10.000 per ones. For traditional medicine if we use insulin leave, we are no need to pay and usually ready around us" (FGD-FAM)

This study highlighted herbal remedies like insulin leaves free or cheap compared to the costs for services like blood glucose monitoring, participants underlined that traditional medicine is more reasonably priced than modern treatments. Many in the community choose traditional medicine because of its low cost and simplicity, home visits by tabib, or traditional healers, are especially popular.

3. Home visit by traditional healers

Many patients preferred calling tabib to their homes rather than visiting medical facilities.

"We usually call nurses to take care our family who have wound to do wound care with diabetes. We do not go to PCU, we only use wound care with nurses who usually take care of wound care. They can call to come to house. He also uses honey for wound care" (FGD-HCV)

"Tabib (traditional healers) can be called to visit patients at home, and their services are affordable. Many patients prefer this option because they are often reluctant to go to the PCU for blood glucose monitoring." (P4-HCV-4)

"Patients with ulcers usually call a mantri (nurse) to visit their homes for treatment. These nurses bring their own medical supplies, including honey for wound care, and they also have knowledge of natural remedies." (P4-HCV-4)

Many patients prefer calling tabib (traditional healers) or nurses to their homes for treatment rather than attending medical facilities, finding it more convenient and economical. This preference for house visits is a reflection of the community's trust in traditional healers as well as the comfort that comes with receiving individualized care in an environment that is familiar to them. In addition, the utilization of natural medicines, such as honey for the treatment of wounds, exemplifies the continuous reliance on cultural customs in conjunction with contemporary medical methods.

Summary:

The study findings indicate that diabetes management among the Malay ethnic community is shaped by internal, social, and economic factors. Cultural beliefs, traditional medicine, and community support play crucial roles in healthcare decisions. While modern medical interventions are available, traditional remedies remain highly trusted and widely practiced due to accessibility, affordability, and cultural significance.

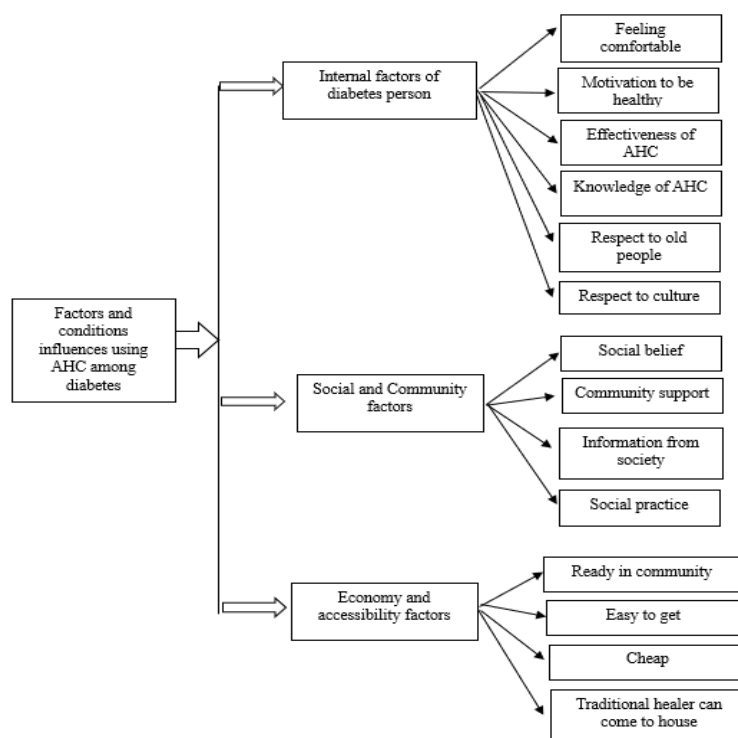


Diagram 4.1 Factors and condition influence using AHC among persons with diabetes

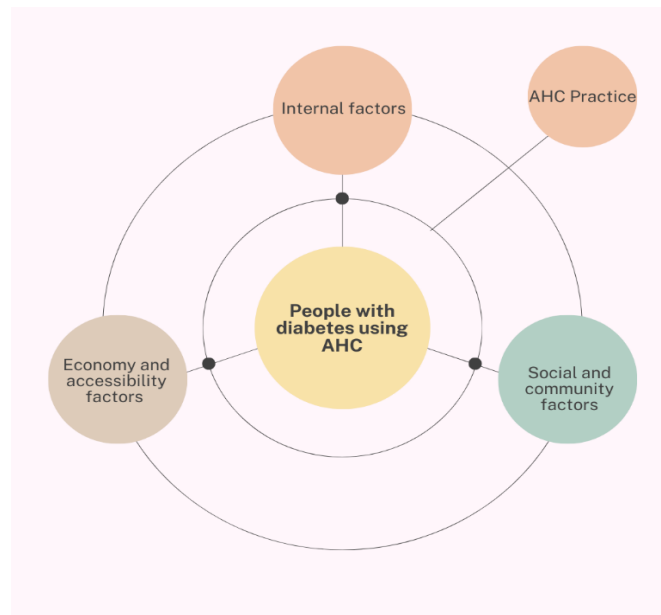


Diagram 4.2 Model of factors contributing AHC usage among diabetes people

4. DISCUSSION

Theme 1: Feeling comfortable with traditional medicine

1. Feeling comfortable with traditional medicine

The recognition using AHC among persons living with diabetes is influenced by condition what they feel after using AHC such as their experiences to be healthy, feeling comfortable, decrease their blood glucose level, their body feel good, not feel dizziness and they have power to work and do daily activity also their perspective to be ok. Mostly their patients feel better and feel comfortable using traditional medicine or massage. They belief using traditional medicine can help patients to be cure from their diabetes. This supported by research in 2021 the patients have a positive attitude, and most of them have experience of using AHC but most patients report that they have rather little awareness in this field (Jafari et al., 2021).

2. Motivation to maintain health

Mostly participants explored that persons living with diabetes using AHC because they would like to try other medication beside medical medication that as alternative treatment for them. They try many things to be healthy and cure from their disease. They tried what people say and if they feel comfortable, they will continue to drink it. The motivation to be better condition, lead them to explored many treatments beside medical treatment. In medical treatment, some participants explained that bored to drink medication everyday and worry about the effects of medical medication to their kidney and other organs. A common assumption is that low motivation is a result of a lack of knowledge of the risks of poorly-managed diabetes. However, although knowledge is important to manage diabetes it's not sufficient for effective diabetes self-management (Swanson & Maltinsky, 2019)

3. Effectiveness of AHC

The effectiveness of AHC such as Insulin leave which are famous in this society have many positive responses from professional HCP, traditional HCP, and the persons living with diabetes itself. The effect of AHC which are believed improve positive condition for diabetes people enhance the recognition for using AHC beside medical treatment. Not only use traditional medicines, mostly diabetes persons solve their sign and symptoms of their disease such as dizziness, body uncomfortable with traditional massage. Further evidence was supported by Usai (2021) that traditional medicine attributed to easy accessibility, low cost and a longstanding history of effectiveness and safety (Usai et al., 2021). Some of AHC have scientific proven about the effectiveness buy some they do not have scientific proven and the effect of that traditional medication to people body. More study about safety and scientific research should be done for proven and see the effectiveness of kinds in AHC.

4. Knowledge of AHC

One of factor to recognize practice AHC is having knowledge of AHC. Similar study that explained poor knowledge about diabetes, a family history of diabetes, lower income, and a farming occupation were identified as strong predictors of herbal medicine use (Lema et al., 2024).

5. Respect for elders and cultural heritage

Diabetes patients' social and religious commitments, determined by kinship and religion, also affected diabetes management behaviors (Suglo & Evans, 2020). Respect to old people suggestion is one of religious commitment in this society. Respect to old person is one of cultural belief which have positive effect and will get 'tulah' if we do not respect to old people, 'tulah' means getting worse condition or bad life until they belief the complication of diabetes because of 'tulah' where they do not listen the advices of their old people.

6. Respect to culture

Culture the 'heart' of society in this village. They really respect to their culture and life with culture identity such as clothes, food, massage, until traditional medication. Culture which are common practiced by society is one of condition to make good relationship each other. By respecting their culture means they respect each other. By listening each other, they respect the culture. By doing the commonly use in community, they respect the culture.

Theme 2: Social and community factors

1. Social belief and cultural identity

The result of the study explored that participants in this study have social belief for recognizing the usage AHC among person living with diabetes. Diabetes patients' social and religious commitments, determined by kinship and religion, also affected diabetes management behaviours (Suglo & Evans, 2020).

2. Community support

Positive social support has been shown to influence diabetes self-management practices such as eating a healthy diet, exercising, and monitoring blood glucose (Johnson et al., 2019). Getting support for persons living with diabetes improve their perspective and motivation to be cured by their disease.

3. Information from society

People living with diabetes often seek information about alternative healthcare approaches from various sources within their communities. This can include family members, friends, support groups, cultural practitioners, and even online forums. While these sources can offer valuable insights and personal experiences, the information shared may not always be evidence-based or aligned with current medical guidelines. Individuals who delay conventional medical care in favor of untested alternative remedies may get confused and engage in potentially dangerous actions (Wendt et al., 2015). It's crucial for individuals with diabetes to critically evaluate the information they receive and discuss it with their healthcare providers before making any decisions about incorporating alternative therapies into their diabetes management plan (Sugandh et al., 2023).

The prevalence of readily available but often unverified information highlights the need for improved communication and education within communities regarding diabetes management (Ernawati et al., 2021). It is important for healthcare professionals to initiate conversations with patients about alternative therapies, offering them trustworthy information regarding the possible advantages and disadvantages. Community health workers and diabetes educators can also contribute significantly by sharing evidence-based resources and encouraging open dialogue about how to safely and effectively combine complementary methods with standard medical practices. By fostering a culture of informed decision-making, individuals with diabetes can make empowered choices about their health, ensuring they receive the most appropriate and effective care (Gómez-Velasco et al., 2019).

4. Social practice

This study explored that community leaders recognized AHC among diabetes persons because it already be a social practice in their community. They belief that AHC as one of common traditional medication which are already belief in society such as decoction and concoction that they showed in daily life for diabetes disease and other disease. In 2018, a Saudi descriptive review examined the use of AHC among diabetic patients, finding that 17.4% to 64% of patients used it, with herbs and honey being the most popular treatments where the safety and efficacy of this treatment were also examined (Yaghmour et al., 2023).

Theme 3: Economy and accessibility factors

1. Availability of traditional medicine

This study explored that participants can recognize the AHC for persons with diabetes because its accessibility that are ready in community, easy to get, cheap and traditional HCP can come to home if they call. The high cost of contemporary medicines, availability and accessibility of traditional medicines, and advice from friends were the primary reasons questionnaire respondents used traditional medicines (Kasole et al., 2019a). AHC use in Africa is likely driven by affordability and accessibility. AHC use in Africa may be influenced by high medical costs and limited access (Tangkiatkumjai et al., 2020). Meanwhile, no report of these reasons was found in European populations where AHC may

not be cheap and easy to access in Europe, compared with medical medicine as users have to personally pay for AHC and it can be difficult to access (Tangkiatkumjai et al., 2020).

The participants also support their family who have diabetes to do traditional care because the medical leave can easy to get and cheap if they do treatment in tabib or doing massage with persons who can do massage. This may be due to environmental attitudes about what high-income earners should eat and a lack of knowledge about the main cause of diabetes. The main cause of diabetes in high-earners is inactivity (Eseadi et al., 2023).

2. Cost-effectiveness

The participants explained that the economy condition is one of the reasons why persons living with diabetes choose alternative health care. They also believe the medication not should be expensive to be cure from disease. There are benefits to nature, and one of those benefits is the ability to treat disease. A study that was quite similar to this one found that a lack of information about diabetes, a history of diabetes in the family, a lower income, and an agricultural vocation were all significant predictors of the use of herbal medication (Lema et al., 2024). The traditional medications are more natural, cheap and make them feeling comfortable. The indigenous vegetables and medicinal plant products were the ancient medicines that were utilized the most frequently today (Kasole et al., 2019b).

3. Home visit by traditional healers

Accessibility plays a significant role in the decision of some individuals with diabetes to utilize alternative healthcare, particularly when traditional healers offer home visits. In areas where geographical location, financial limitations, lack of transportation, and cultural or linguistic differences pose obstacles to accessing conventional medicine, the option of a traditional healer providing care at home can be highly desirable (Isiko, 2018). This is especially true in rural or underserved communities where access to doctors and clinics may be limited. The familiarity and trust often associated with traditional healers within these communities can further strengthen this preference. Home visits can also give a sense of individualized care and connection that may be absent in busy, impersonal professional settings. This accessibility, along with the perceived cultural significance of traditional therapeutic techniques, may overshadow concerns about scientific evidence or possible hazards connected with alternative therapies (Wendt et al., 2015).

5. CONCLUSION

This research aimed to explore and understand about factors and conditions among persons living diabetes using alternative health care (AHC) In Sambas, Indonesia. For culture underpinning, collaboration between traditional and professional health care provider should be improved to find holistic view of diabetes people management, to see the impact of each medication treatment that the persons with diabetes do. Moreover, this study also found in some special case that if the body feel good means there is no body problem condition although they live with diabetes, but if the body feel uncomfortable means should be gotten treatment because it influences their all life such as their work, their stress and their community activities.

This study examined how traditional medicine was deeply integrated with diabetes communities' healthcare practices and how internal factors affect treatment decisions. Participants trusted herbal treatments, typically passed down through generations, to manage their disease, preferring bitter botanicals to regulate blood glucose levels. Malay culture values cultural history, respect for elders, and the holistic relationship between health and spirituality, which encourages people to practise traditional medicine. Social interactions and oral traditions spread alternative healthcare information, highlighting the role of community networks in therapeutic procedures. Many participants used these natural medicines despite inadequate scientific validation, underlining the necessity for modern medical professionals and traditional healers to collaborate to offer comprehensive care.

The study findings indicate that diabetes management among the Malay ethnic community is shaped by internal, social, and economic factors. Cultural beliefs, traditional medicine, and community support play crucial roles in healthcare decisions. While modern medical interventions are available, traditional remedies remain highly trusted and widely practiced due to accessibility, affordability, and cultural significance.

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Author contribution

The authors contribute to develop research, data collection, analysis and writing finding of research.

Conflict of interest

There is a conflict of interest among authors.

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