

# Study examining the relationship between socio-cultural determinants and diabetes mellitus in Burkina Faso

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## ABSTRACT

**Background & objectives:** Cultural beliefs, traditional behaviors, and social factors are significant elements that influence health and illness outcomes. This also applies to chronic conditions such as Diabetes Mellitus, which necessitates ongoing management. Objective of this study was to comprehend the wider socio-cultural context as crucial background knowledge for providing good care to individuals with diabetes. **Methods:** We conducted interviews with 25 individuals diagnosed with diabetes using the 'Explanatory Model Interview Catalogue'. **Results:** The signs of Diabetes do not typically appear early, leading to their frequent disregard until they begin to significantly disrupt an individual's daily life. Adhering to the dietary recommendations proved to be the most challenging aspect of managing diabetes, primarily due to cultural obstacles. It is advisable to do a cultural assessment at the initial assessment in order to identify any cultural concerns related to care. This will help in developing interventions that are culturally relevant and acceptable, and also in evaluating their effectiveness. **Conclusions:** Cultural values, beliefs, practices, and family patterns can serve as indicators for designing diabetes treatment strategies. The cultural assessment should prioritize factors that are pertinent to the presenting issue, essential intervention, and collaborative evaluation.

**Key words:** Diabetes, Cultural determinants, Care barriers, Cultural assessment, Rural Burkina Faso

## INTRODUCTION

By 2025, the global adult population is projected to grow by 64%, and more than 35% of them are expected to develop diabetes. This will result in a nearly 122% increase in the number of people with diabetes.<sup>1,2</sup>

Over the past ten years, there has been a significant rise in the occurrence of diabetes in Burkina Faso. To effectively manage diabetes, individuals must undertake a series of intricate and interconnected steps, including modifying their diet, adhering to medication regimens, engaging in regular physical activity, quitting tobacco use in any form, and regularly monitoring blood glucose levels. Social and cultural beliefs, as well as traditional practices, have an impact on diabetes prevention and care at all

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levels, influencing perceptions about diabetes, its assessment and diagnosis, seeking healthcare, and expectations from the healthcare system.<sup>3,4</sup> Given that numerous social and cultural elements have an impact on these activities, comprehending the wider social and cultural environment can provide crucial background knowledge for providing successful diabetes care.<sup>5</sup>

Diabetes care providers must obtain the essential skills to evaluate and comprehend the socio-cultural aspects related to diabetes prevention and management. In light of this, the current study aimed to investigate the social and cultural factors and their potential impact on diabetes prevention and management in India. Additionally, the study aimed to develop a comprehensive framework to assist healthcare providers in culturally assessing individuals with diabetes.

## MATERIALS AND METHODS

The study was a qualitative investigation carried out in a rural area of Burkina Faso. Data were gathered through comprehensive interviews. The study participants consisted of 25 individuals diagnosed with type II Diabetes Mellitus who were actively undergoing therapy. Obtained written consent from participants and ensured the confidentiality of their information.

We employed the Explanatory Model Interview Catalogue (EMIC) semi-structured interview guidelines. Participants were initially queried regarding their understanding of health and disease in a broad sense, followed by more detailed inquiries about their understanding of the causes and prevention of Diabetes mellitus. The following inquiries focused on social and cultural practices, aiming to document the possible impacts of these activities on

the prevention and management of diabetes in rural India. The questions were designed to be open-ended in order to allow the interviewer to delve deeper into issues that are of particular interest to the study. This methodology was employed due to its utility in examining the significance of the sickness and comprehending the social and cultural influences that impact the provision of healthcare.<sup>6</sup>

Permission was acquired from the Institutional Ethics Committee of Institute for Health Science Research, Bobo-Dioulasso, Burkina Faso. The interviews were done by skilled researchers in the local language, with a duration of approximately 30 to 40 minutes. Every interview was meticulously recorded, and subsequently, the tapes were transcribed and systematically categorized. The data was used to construct category headings. The category system's apparent accuracy was confirmed by two separate researchers, who then made small improvements to it after debate.

## RESULTS

Among the 25 study respondents, there were 15 males and 10 females. The age of the individuals ranged from 36 to 62 years, and all of them were from rural areas. Additionally, five of them were illiterate. All respondents were taking medication for diabetes.

Respondents noted that cultural tradition and norms have a significant impact on how individuals perceive any illness. Survey participants emphasized that individuals residing in rural regions frequently resort to traditional cures for illnesses prior to seeking medical attention. The majority of the participants also expressed that there is a widespread belief associating diabetes with excessive

consumption of sweets and sugar. Chronic illnesses such as diabetes often go unnoticed until they reach an advanced stage, at which point access to care and treatment is typically neglected until it significantly disrupts the individual's daily life. A participant expressed that

"Although home remedies are often used for minor ailments, diabetes is not to be underestimated as it does not exhibit obvious symptoms nor does it impede daily functioning." Often, the management of diabetes is neglected, even after it has been recognized, until severe complications arise.

Respondents reported receiving food modification advice from their doctors. Nevertheless, numerous individuals perceived this as the most arduous. The primary obstacles to adhering to dietary guidance were judged to be religious festivals, rituals, and other social and cultural influences. One participant expressed their opinion -

"Sweets are traditionally made during festivals and it is customary to offer them as Prasad (offerings shared with other devotees after prayer), which we are obligated to accept."

Respondents indicated that in rural areas of India, it is customary to cook a shared dinner for the entire family. Many respondents expressed that it is burdensome to prepare a separate meal for a single individual with diabetes in the household. Respondents also encounter difficulties in consuming regular meals at brief intervals, as a result of their work schedule on agricultural fields. The typical eating regimen consists of consuming morning and evening tea, along with two meals per day, and perhaps indulging in evening snacks. A single male participant conveyed -

"I arrive at the farm early in the morning to begin my work. Typically, we have a morning tea break before starting our tasks." I bring my lunch with me and consume it between the time frame of 1 to 2 PM in the afternoon. Subsequently, I partake in my evening meal upon my return to my residence.

Respondents expressed that there was a lack of sufficient understanding among individuals residing in rural areas regarding diabetes. There is a lack of awareness regarding the accessibility of diabetes diagnosis, treatment, and care services. The family does not prioritize diabetes sufficiently due to the absence of overt clinical manifestations in the early stages. The lack of knowledge about diabetes management and the significance of consistent treatment has been identified as a significant obstacle, with the indirect cost of care being a crucial factor. According to one of the participants-

"We question the necessity of seeking medical attention when we do not experience any signs or symptoms of illness." If we visit the hospital, the entire duration of the day is consumed by the hospital visit, resulting in a loss of our earnings. We require funds to access medical care at hospitals and private practitioners, who also impose charges for their services.

Respondents frequently reported that individuals with diabetes who are undergoing traditional anti-diabetic treatment in modern medicine typically supplement their treatment with home medicines or herbal formulations. Participants were informed that this is a prevalent practice, however, many individuals who are undergoing alternative kinds of treatment disregard the conventional treatment provided by

contemporary medicine. A single participant recounted -

Since being diagnosed with diabetes 4 years ago, I have been consistently taking medicine. According to my uncle, taking an excessive amount of sweets is the primary cause of diabetes, whereas ingesting bitter foods can greatly assist in managing blood sugar levels. I adhere to a consistent regimen of taking my prescribed meds and consuming Neem juice on a daily basis, despite its intensely bitter taste.

Respondents frequently noted that individuals with diabetes, when seeking medical attention, experienced heightened levels of stress and struggled to adhere to the guidance provided by their healthcare providers. Participants cited communication or language issues and the inability of doctors or care providers to comprehend the social and cultural variables as one of the causes. A one participant expressed their opinion -

Physicians are consistently pressed for time due to the high volume of patients awaiting their attention. Oftentimes, we fail to comprehend the doctor's statements. Doctors often converse in English or other languages that are challenging for us to comprehend. The prescription document is likewise composed in the English language.

Female participants discussed a range of societal and cultural obstacles that hinder their ability to obtain healthcare. Women

## DISCUSSION

This study reveals that individuals in a rural community perceive and negotiate culture in various ways, which subsequently impact their attitudes concerning diabetes. The next paragraphs explain the several themes that arose

neglect their health and face inadequate familial support for their sickness management. Men also support women with diabetes in overcoming barriers to accessing healthcare and treatment, and adhering to medical recommendations. A female participant recounted-

"I exclusively work from home and do not engage in any agricultural labor." I am employed as a chef, responsible for preparing meals. Prioritizing the well-being of my children and husband, I must take into account their preferences and dietary choices when preparing meals. I am occupied throughout the day with household chores, leaving me with minimal personal time. My spouse is uninformed about the medications I am taking for diabetes due to his demanding work schedule. Frequently, I visit the hospital unaccompanied.

Another female participant stated

"Typically, women in a household are the last ones to eat among all family members." They find it quite difficult to adhere to the recommendations of doctors. The issue arises when there is an excessive number of individuals residing in the household, particularly in the case of a joint family.

Furthermore, it was noted that the participants, including female participants, lacked awareness regarding gestational diabetes or diabetes occurring during pregnancy.

about the impact of cultural variables on diabetes, as identified in the study.

## Perceptions regarding the causes, treatment, and management of diabetes in individuals

Sociocultural influences exert a significant impact on individuals'

perception of their general well-being, sickness, and associated habits. In Indian culture, there is a strong tradition of relying on home remedies, self-administered medication, and herbal treatments for addressing illnesses.<sup>7</sup> It is not unusual to encounter ritual healings performed by spiritual healers. Ayurveda, the traditional Indian medical system, has long been embraced by the Indian society. According to Ayurveda, a person remains healthy as long as their bodily fluids are in a condition of balance. Any disruption in this equilibrium can lead to illness. In Ayurveda, diabetes is known as 'Madhumeha' and is said to be caused by factors such as sedentary lifestyle, lack of physical activity, excessive sleep, and overconsumption of yogurt, meat, and soup made from domestic, aquatic, and marshy land animals. It is also associated with the consumption of immature or non-aged grains, jaggery, and sweets.<sup>8</sup>

The study further emphasizes that social influences influence individuals' perceptions of diabetes. Consistent with the results of this study, previous studies have also observed that Indian people commonly believe that diabetes is caused by consuming too many sweets. Additionally, there is a misconception that consuming bitter vegetables or herbs can lower blood sugar levels. Important risk factors for diabetes, such as stress, genetic predisposition, and hereditary factors, are often overlooked.<sup>9</sup> There is a prevailing belief that smoking and alcohol consumption have no connection to diabetes mellitus or its consequences. Diabetes is not regarded as a socially unacceptable or stigmatized condition, nor are the disease and its complications considered to be serious as they often manifest in the later stages.

### **Perceptions on nutrition and dietary practices**

Culture, religion, and economic factors significantly influence food habits and behaviors. Oil and sugar are essential components of the customary Indian diet. The cultural dimensions of dietary behaviors encompass the recognition and techniques of food preparation, choice of seasonings, and timing and frequency of meals.<sup>10</sup> Meals represent the ceremonial and communal aspects. Many communities carefully avoid consuming a non-vegetarian diet. Fasting is a common tradition observed by Hindus and Muslims. India is renowned for its diverse religious celebrations. Candies and sweets heavy in fat are essential symbols of festivals and celebrations. Confectioneries are commonly exchanged and presented as a customary practice at the majority of celebrations.<sup>11</sup>

Effective dietary management is a crucial element of the comprehensive treatment provided to individuals with diabetes.<sup>12</sup> This study revealed that a major obstacle to diabetes management was the inability to adhere to dietary recommendations as a result of sociocultural views. A sedentary lifestyle is a significant risk factor for Diabetes, in accordance with dietary choices. Another study found that almost 50% of adolescents, particularly those aged 15-19, lead a sedentary lifestyle. Girls exhibited a higher prevalence of a sedentary lifestyle in comparison to boys, which can be related to social and cultural reasons. Among a cohort of 26 individuals with diabetes, approximately 10.4% exhibited a sedentary lifestyle.

### **Attitudes and convictions toward the act of seeking medical care**

The decision-making process for disease management is intricately connected to one's socio-cultural background and the resources at their disposal. Socio-cultural factors play a significant role in



determining access to healthcare services and how families engage with healthcare professionals. Consistent with the findings of this study, previous research has also noted that diabetes is not perceived as a stigmatized illness by individuals and communities.<sup>13</sup> The majority of individuals do not have a favorable response to programs aimed at preventing, detecting, and providing care for diabetes. The obstacles encompass cultural beliefs, shifting priorities, and restricted access to services. Low health literacy, inadequate awareness regarding diabetes services, misconceptions about diabetes, insufficient family and social support, and limited patient involvement are among the cultural-influenced determinants responsible for the program's limited success. Some false beliefs lead to patients wasting time on folk medicines. This leads to a postponement in the provision of diabetic care until the signs and symptoms of certain complications become apparent.<sup>14,15</sup>

This study revealed that individuals with diabetes commonly resort to home treatments and herbal formulations. Consistent results were noted in numerous additional investigations. Individuals with diabetes who are undergoing conventional allopathic treatment often incorporate traditional herbal medicine into their regimen, viewing it as either a supplement or a complementary form of therapy. Additionally, individuals with diabetes commonly utilize prayer, acupuncture, massage, hot water therapy, biofeedback, and yoga as alternative treatments. It is common for diabetics to consume juices made from bitter herbs. The main reasons for using these remedies are the desire for early and maximum benefit. Health care providers need to have a clear understanding of these self-care practices in order to modify treatment strategies

and evaluate outcomes. Providers often lack awareness of patients' use of such medication. It is crucial for treating physicians to be informed that many diabetes patients may be using supplementary medication, which could potentially interfere with traditional medicines or have hazardous effects.

The assessment of the severity of a disease is frequently based on the level of pain, impairment, and discomfort encountered during everyday activities. Individuals tend to delay seeking medical attention until their ability to carry out daily tasks and functions is impacted. This study corroborates these observations. Diabetes care providers often become frustrated with diabetes patients who disregard blood sugar monitoring, a crucial tool for early detection and treatment of problems. Family and social support are strongly advised to ensure compliance with diabetic care. These factors have a significant impact on the provision of successful diabetic care.<sup>16,17</sup>

### **Interpersonal communication in the context of diabetes management**

Linguistic variations and regional vernaculars undergo continuous evolution within diverse cultural and societal contexts. These disparities can serve as a substantial impediment in communicating. Cultural beliefs and education have a significant impact on health literacy, which in turn affects a person's capacity to access, comprehend, and interpret health-related information and healthcare services.<sup>18,19</sup> When care providers fail to communicate effectively, it often leads to stress among both care providers and clients, reduced understanding of the disease, lower retention of information, decreased client satisfaction, and premature termination of care.<sup>20,21</sup> Our study also found that

language and communication difficulties between healthcare providers and individuals with diabetes pose significant obstacles to diabetes care. Utilizing the expertise of a proficient translator or a multilingual individual within the family can be beneficial in such circumstances. However, it is important to consider the matter of confidentiality. Patients, their family members, and other individuals in their support system should be provided with culturally adapted printed materials in their primary language to ensure that they have access to the necessary information. Diabetes care providers need to establish a collegial relationship with patients, establish connections with their family and friends, and adopt a supportive and personalized approach. This includes demonstrating respect, avoiding confrontation, and utilizing therapeutic silence and touch. Another study identified several challenges for primary healthcare providers in managing diabetes at the primary care level.<sup>22</sup> These challenges included a lack of clear guidelines (92.2%), limited availability of investigative facilities (69%), limited drug supply (68%), the perception that diabetes is difficult to manage at the primary care level (93.1%), and low patient confidence in primary care (72.4%).<sup>23</sup>

### **The relationship between women and diabetes**

Women in India are frequently regarded as the guardians of family values and tradition. The burden of preserving long-standing social and cultural traditions and transmitting them to younger generations can hinder their ability to effectively adopt new lifestyles, resulting in adverse health outcomes. This study demonstrated that women with diabetes encounter difficulties in adhering to the recommendations of diabetes care providers as a result of these social and cultural practices. Women often struggle

to adhere to the treatment recommendations provided by doctors, leading to a prevalence of self-medication among them. Moreover, around 7% to 17% of women in the reproductive age group are documented to experience gestational diabetes.<sup>24</sup> The successful management of diabetes during pregnancy is significantly impacted by cultural beliefs, behaviors, and the general social standing of women within the family.<sup>25</sup>

## **CONCLUSION**

In conclusion, enhancing diabetes treatment necessitates a more comprehensive comprehension of the sociocultural factors that influence it. Diabetes and its care are influenced by the long-standing traditions, conventions, and ethos observed in their culture for decades. Therefore, cultural values, beliefs, practices, and family patterns can serve as indicators for designing diabetes care. These approaches are expected to have a substantial effect on diabetes care as a whole. The cultural assessment should prioritize elements that are pertinent to the presenting problem, required intervention, and collaborative evaluation.

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## **AUTHORS' CONTRIBUTION**

All the authors have contributed equally.

## **CONFLICT OF INTEREST**

The authors declare no conflicts of interest.

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