The Relationship Between Knowledge and Belief in Traditional Medicine Among Patients with Diabetes Mellitus

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ARTICLE INFORMATION	ABSTRACT

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Introduction: A majority of individuals with diabetes mellitus (DM) prefer traditional medicine due to its perceived lack of negative side effects. Patients with good knowledge tend to have high beliefs in treatments that offer minimal side effects and significant benefits. This research aims to determine the relationship between knowledge and the level of belief in traditional medicine.

Methods: This quantitative study employed a descriptive analytic method with a cross-sectional approach. The population in this study were 100 DM patients with total of 80 DM patients were recruited using purposive sampling technique. Data collection performed by using valid and reliable knowledge and belief in the use of traditional medicine questionnaires. Data analysis was performed using the Spearman rank test to determine the correlation between knowledge and the level of belief in traditional medicine.

Results: A total of 55 patients (68.8%) demonstrated good knowledge, and 59 patients (73.8%) exhibited high belief in the use of traditional medicine. A significant relationship was found between knowledge of traditional medicine and the level of belief in traditional medicine, with a significance value of 0.0001 and a correlation coefficient of 0.735.

Conclusion: There is a significant relationship between knowledge of traditional medicine and the level of belief in traditional medicine. Hospital can improve healthcare services by providing education, such as increasing the number of posters about DM treatment, both traditional and medical.

Keywords: Belief; Diabetes Mellitus; Knowledge; Traditional Medicine

INTRODUCTION

According to a report from the World Health Organization (2024), there has been a global increase in the prevalence of diabetes mellitus

(DM) over the past three decades, not only in high-income countries but also in low- and middle-income countries. Globally, it is estimated that 422 million individuals are living with diabetes, with the largest proportion residing in low- and middle-income countries. Diabetes is also the direct cause of 1.5 million deaths annually. This trend of increasing diabetes cases and prevalence has continued in recent decades. In 2019, the prevalence of diabetes among the 20-79 age group was recorded at 9.3%. Meanwhile, in Indonesia, with a population of 179.72 million, ranks fifth in the world in the number of diabetes sufferers, with 19.47 million people. Thus, the prevalence of diabetes in Indonesia is 10.6% (Perkumpulan Endokrinologi Indonesia, 2021).

Traditional medicine has become an integral part of healthcare systems in various parts of the world, in both developing and developed countries. Several factors contribute to its popularity, including the increasing incidence of chronic diseases, challenges in the effectiveness of conventional treatments, and the availability of information about traditional treatment alternatives. In fact, traditional medicine is also utilized in the management of DM in various populations (Retta et al., 2023). Preference for traditional medicine to manage high blood glucose levels is commonly found in people with DM. The reasons underlying this choice include the perception that traditional medicines have a better side effect profile. Additionally, easy availability, relatively low cost, and perceived safety in use are attractive factors. This phenomenon is also related to the increasing public awareness of more natural treatment approaches, which is reflected in the increased use of traditional medicines utilizing natural ingredients (Hamzah, 2019).

Traditional medicine is defined as medicine that utilizes materials sourced from nature, including plants (both cultivated and wild), animals, minerals, or mixtures of these various sources (Kumontoy et al., 2023).

Traditional medicine refers to health practices, approaches, knowledge, and beliefs incorporating plant-, animal-, and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being (Iriondo-DeHond et al., 2019). Non-drug therapy management in people with DM can be done using herbal medicine.

Individual preferences for certain treatment modalities correlate with their level of familiarity with these treatments. Well-informed patients tend to show a preference for therapeutic interventions that have proven safety and efficacy profiles (Harahap et al., 2017). Within the framework of cognitive psychology, beliefs can be considered as cognitive schemas that influence how individuals process information. The level of confidence in a belief will modulate the strength of its influence on attitudes and perceptions. The consequence of this cognitive process is the formation of unique mental representations in each individual (Retta et al., 2023).

A study conducted by Hamzah (2019) indicated that the level of literacy about herbal medicine influences the preference for treatment modalities. Respondents with good literacy levels in herbal medicine showed a greater tendency to utilize these treatments in addressing health problems. Research conducted by Suharmiati et al. (2020) indicated a significant positive correlation between an individual's level of knowledge about herbal medicine and their level of belief in these treatment modalities. These findings imply that the higher a person's level of knowledge regarding herbal medicine, the greater their tendency to choose herbal medicine as an alternative option in healthcare. This research aims to determine the relationship between knowledge of traditional medicine and the level of belief in traditional medicine .

METHOD

This research was conducted from January 6th to 31st, 2025 . This quantitative study employed a descriptive analytic design with a cross-sectional approach. The population in this study consisted of 100 DM (Diabetes Mellitus) patients . Sampling was conducted using a non-probability purposive sampling technique, resulting in a sample size of 80 patients.

The independent variable in this study was knowledge about traditional medicine, while the dependent variable was the level of belief in traditional medicine. Knowledge and belief in the use of traditional medicine were measured using valid and reliable self-made questionnaires with coefficient correlation range 0,481 - 0,997 and alpha Cronbach 0,782. The analysis was performed using the Spearman rank test to determine the correlation between knowledge about traditional medicine and the level of belief in traditional medicine.

This research has passed ethical review by the Health Research Ethics Committee of the Faculty of Nursing, Universitas Islam Sultan Agung with number 1358/A.1-KEPK/FIK-SA/XI/2024 and obtained research permission from Bhakti Asih Brebes Hospital with number 025/(UM)RSBA/I/2025.

RESULTS

A total of 80 respondents were obtained. The research results indicate that the majority of respondents were predominantly in the age group of ≥ 60 years, with 41 respondents (50.7%), while the smallest age group was 19-44 years, consisting of 13 individuals or 16.4%. The majority of DM (Diabetes Mellitus) patients who use herbal medicine are

Table 1. Respondent Characteristics (n = 80)

Characteristics	n	(%)
Age (year)		
19 – 44	13	16,4
45 – 59	26	32,9
≥ 60	41	50,7
Gender		
Male	61	76,3
Female	19	23,7
Level of Education		
Elementary	11	13,8
Middle	20	25
High	17	21,2
College	32	40
Job		
Civil Servants	7	8,8
Self-Employed	8	10
Household	49	61,2
Laborers	10	12,5
Private Employee	6	7,5
Income		
$\leq 2.000.000$	49	61,3
3.000.000 – 5.000.000	29	36,2
5.000.000 – 10.000.000	2	2,5
Total	**80**	**100**

female, totaling 61 respondents (76.3%). A significant portion of DM patients using anti-diabetes herbal medicine have a high level of education, specifically college graduates (bachelor's degree), with 32 respondents (40%). Housewives (IRT) constitute the majority of DM patients, accounting for 49 respondents (61.2%). The majority of DM patients have an income categorized as $\leq$ 2,000,000 IDR, with 49 respondents (61.3%) falling into this income bracket. The detail is on Table 1

Table 2 shows that the majority of respondents have good knowledge with 55 respondents (68.8%). In addition, the majority of respondents also have high belief in the use of herbal medicine, with 59 respondents (73.8%).

Table 2. The frequency distribution of research variables (n=80)

Variables	n	(%)
Knowledge About Traditional Medicine		
Good	55	68,8
Moderate	17	21,3
High	8	10,0
Traditional Medicine Beliefs		
Good	59	73,8
Moderate	11	16,2
High	10	10
Total	**51**	**100**

Table 3. Relationship Between Knowledge and The Level of Belief in Traditional Medicine
(n = 80)

Knowledge	Level of Belief in Traditional Medicine						Total		r	p
	Good		Moderate		High					
	n	%	n	%	n	%	n	%		
Good	40	50,0%	6	7,5%	0	0%	46	57,5 %		
Moderate	6	7,5 %	0	0 %	2	2,5 %	8	10,0 %	0, 735	0,0001
High	13	14,2 %	0	0 %	15	18,25%	26	32,5 %		

In this study, data analysis was performed using the Spearman's Rank Correlation Test. Based on statistical tests using the Spearman Rank test, a Sig value of $0.000 < 0.05$ was obtained with an r value = 0.735 and a positive correlation direction. The Sig value of $0.000 < 0.05$ signifies that the research hypothesis is accepted. Meanwhile, the r value = 0.735. The analysis results can be seen in Table 3.

From these results, it can be concluded that there is a relationship between knowledge

about traditional medicine and belief in traditional medicine , with a coefficient value of 0.735. This means that knowledge of traditional medicine has a good relationship with the belief in traditional medicine among diabetes mellitus patients at Brebes Hospital. The positive direction of the relationship indicates that the better the knowledge about traditional medicine, the higher the belief in traditional medicine.

DISCUSSION

Knowledge in Traditional Medicine

The research results show that most DM patients have good level of knowledge in traditional medicine, patients goes beyond simply being aware of or using traditional remedies. It encompasses a comprehensive understanding that allows for informed decisions and safer practices, ideally integrated with conventional medical care.

Knowledge is an essential component of healthy living behaviors. The use of

questionnaires and structured interviews aims to explore the level of knowledge of DM (Diabetes Mellitus) patients (Ismail, 2015). The influence of mass media in disseminating health information has triggered a shift in public behavior towards the use of herbal medicines as substitutes for prescription drugs. Concerns about the negative impacts of medical drugs, especially with chronic use, are a significant factor in this change. Good understanding is an essential foundation for individuals in determining responses that will shape attitudes and actions based on the

information received (Madania & Papeo, 2021).

A comprehensive understanding of diabetes mellitus management is a crucial factor in the effectiveness of handling this condition. Patients with adequate knowledge levels tend to show positive attitudes and high levels of adherence to recommended treatment regimens (Ofili et al., 2025). This is consistent with the research by Kusnanto et al. (2019), which found that the higher a person's level of knowledge about herbal medicine, the greater the likelihood they will consider herbal medicine as an option in managing diabetes mellitus.

Hamzah (2019) research shows that the level of knowledge about herbal medicine is positively correlated with preference for this treatment modality. Respondents who have a deep understanding of herbal medicine tend to prefer it as a solution for their health problems. A study by Wulandari et al. (2021) indicated a positive correlation between an individual's level of understanding of herbal medicine and their preference for this treatment modality. These findings underscore that the higher a person's level of knowledge about herbal medicine, the greater their tendency to choose it as an additional option.

A study conducted by Ramadhiani et al. (2022) indicated that there is a positive correlation between the level of knowledge about herbal medicine and the preference for using herbal medicine as the primary choice in DM management. Research conducted by Wen et al. (2019) showed a positive correlation between the level of knowledge of diabetes mellitus patients and their tendency to choose herbal medicine. These findings indicate that patients who have a better understanding of diabetes and its various treatment options, including herbal medicine, are more likely to consider or use herbal medicine. In relation to these findings, health professionals have a crucial role in providing comprehensive education to patients about herbal medicine. This education must include accurate and evidence-based information regarding the effectiveness, safety, and potential side effects of various types of herbal medicines. Thus, patients can make more informed and wise decisions regarding their treatment choices.

Based on a comprehensive analysis of research data, it was identified that the respondents' level of knowledge was in the high category, thus enabling them to have a good capacity to understand and process the information conveyed. Observations made by researchers and quantitative research results show a positive correlation between an individual's level of knowledge about herbal medicine and their preference for choosing herbal medicine as a therapy modality.

Research conducted by Merdekawati (2016) showed that the public's level of knowledge about traditional medicine is in the sufficient category, with a percentage of 56%. Factors influencing the use of traditional medicine include ease of obtaining it (44%), information sources based on experience (38%), and the belief that traditional medicine is effective in curing mild illnesses (50%). The most common dosage form of traditional medicine used is decoctions of medicinal plants (65.5%). The majority of the community (58%) use traditional medicine until cured, and most (98%) do not experience side effects after consuming traditional medicine. However, this study also found that most respondents (73.7% or 126 respondents) did not know the name or content of the traditional medicine they consumed. Nevertheless, most respondents (98.8% or 169 respondents) felt positive effects after consuming traditional medicine.

Based on research conducted by Utami et al. (2018), the majority of respondents (65.7% or 67 people) had a good level of knowledge about traditional medicine. This group of respondents was dominated by individuals who were in their productive age and had a senior high school education level. This level of education is thought to contribute to their ability to access and understand

information related to traditional medicine. Research conducted by Fauziah et al. (2021) showed that the level of knowledge of about traditional medicine is classified as sufficient, with a percentage of 63%. These results indicate that the community has an adequate understanding of the benefits of traditional medicine.

Level of Belief in Traditional Medicine

The research results show that most DM sufferers have a high level of belief in traditional medicine, with 59 respondents (73.8%), patients signify a strong conviction in the efficacy and potential benefits of traditional remedies and practices for managing their condition. This belief is prevalent in many parts of the world, with studies indicating that a significant proportion of DM patients utilize TM, often alongside conventional medical treatments.

This is in line with research conducted by Kristianto et al. (2022), which found a relationship between knowledge and belief in traditional medicine. Similarly, Utami et al. (2018) research indicates that there is a relationship between knowledge and belief in traditional medicine.

However, respondents' preferences for using traditional medicine are not entirely determined by these factors. There are other factors that have been proven to have a significant influence, including beliefs inherited from family, information obtained from the surrounding environment (neighbors), exposure through electronic media, and direct interaction with traditional medicine sellers (Perdana, 2012). According to Gorman & Anwar (2023), public preference for treatment modalities is strongly influenced by belief systems inherited from generation to generation. Beliefs rooted in tradition play an important role in determining individual choices regarding treatment approaches they deem appropriate. These findings are consistent with Chali et al. (2021) which

investigated the factors influencing public preference for traditional medicine in DM patients. The study showed a p-value of < 0.05, indicating a significant influence between belief in traditional medicine and the selection of therapy modalities in that population.

Based on the researchers' assumption, the majority of respondents who have a negative health culture only rely on medical treatment because of the belief that this treatment is sufficient to normalize blood sugar levels, without considering its potential side effects. In addition, family experiences that teach the use of medical and traditional medicine for DM management also influence respondents' preferences.

Relationship Between Knowledge and The Level of Belief in Traditional Medicine

Based on result there is a relationship between knowledge about traditional medicine and belief in traditional medicine .

The theory explained by Mubarak in Notoamodjo (2014), knowledge is defined as a cognitive representation formed in the human mind as a result of processing information through the five senses. This knowledge acquisition process is closely related to experiences gained throughout life. Therefore, efforts to improve the quality of human resources can be optimized by enhancing knowledge. Societies with broad knowledge and insight have greater potential to make positive contributions in various aspects of life. Furthermore, knowledge in the field of health, particularly related to medicine, holds crucial significance. Increased knowledge in this area enables individuals to understand and utilize health information more effectively. For example, understanding traditional medicine can be a relevant alternative in maintaining daily health.

Research conducted by Nurwahyuni et al. (2018) shows that the majority of diabetes mellitus patients who use herbal medicine

have an adequate level of knowledge. In addition, there is a significant positive correlation between patients' level of knowledge and their level of belief in the use of herbal medicine in managing DM.

In the context of belief in herbal medicine, Agustini et al. (2023) argues that a good level of knowledge is positively correlated with the level of belief and interest of patients in this treatment modality. Studies have shown that DM patients who receive adequate information through family support tend to choose herbal medicine as an alternative, with a proportion reaching 38.3%. Further data analysis reveals a significant relationship between patients' level of knowledge and their level of belief in choosing herbal medicine as part of DM management. Research by Zaidi et al. (2022) demonstrates that knowledge has a significant influence on an individual's level of belief in choosing herbal medicine. These findings indicate that the higher a person's level of knowledge about herbal medicine, the greater their tendency to choose it as an alternative treatment.

CONCLUSION

There is a significant correlation between the level of knowledge about traditional medicine and the level of belief in traditional medicine . The implication of these findings is that polyclinics have the potential to optimize the quality of health services through the implementation of educational programs. One recommended strategy is to increase the quantity of informative visual materials, such as posters, containing comprehensive information on diabetes mellitus management, using both traditional and conventional medical approaches.

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