



Review article



Literature review on the role of religious-based prevention in diabetic foot wound patients

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Article Info	Abstract
Article History: Submitted: September 26th, 2025 Accepted: November 13th, 2025 Published: November 17th, 2025 Keywords: Religiusitas; Preventif; information; motivation; behaviour skill; luka kaki diabetik	The behavior of preventing diabetic foot ulcers in the community is still considered low. Diabetic foot ulcers are a complication of diabetes mellitus. Peripheral neuropathy that leads to disruption of peripheral blood flow, facilitating the occurrence of diabetic foot ulcers. This study aims to examine the effect of religiosity based on the Information, Motivation, and Behavior (IMB) model on the prevention of diabetic foot ulcers. The research method involves conducting a systematic review using databases such as PubMed, ResearchGate, International Journal of Academic Medicine and Pharmacy, British Journal of Nursing, National Public Health Journal, World Journal of Clinical, and ScienceDirect, with journal search limits between 2015 and 2025, in English and Indonesian, focusing on preventive efforts against diabetic foot ulcers. Research exploring variables related to preventive religiosity with IMB skills is considered effective in influencing motivation for behaviors that prevent diabetic foot ulcers. The conclusion is that a religiosity-based approach using IMB skills grounded in religiosity will change perspectives on complications of diabetes mellitus. This change in perspective builds both intrinsic and extrinsic motivation, thereby enhancing independent diabetic foot care preventive skills.

INTRODUCTION

Diabetic peripheral neuropathy is a blood flow disorder that facilitates the development of diabetic foot ulcers. Chronic diabetic foot ulcers may even require vulnus amputatum, which will affect body image and health-related quality of life (HRQoL) [1]. Most studies indicate poor knowledge and practice of foot care, with

scores of 38% and 40% for knowledge and practice, respectively. Diabetic foot ulcers are categorized as chronic wounds, with 15% of foot ulcers being incurable and requiring amputation. Therefore, there is a need for a prevention strategy based on information and motivation to improve foot wound care skills [2]. Diabetic foot ulcers are one of the most feared chronic complications of diabetes mellitus. The care

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of diabetic foot ulcers is often disappointing for medical personnel, patients, and families, and not infrequently ends in amputation, leading to disability or even death if sepsis occurs. Diabetic foot ulcers cause the majority of non-traumatic major and minor amputations worldwide. Diabetic patients are clinically complex with a multifactorial relationship between diabetic foot ulcers and lower extremity amputation or lower extremity amputatum (LEA). Several studies have shown the long-term outcomes of diabetes mellitus on lower extremity amputations (LEA) [3]. The relatively low compliance with treatment adherence, blood sugar control, physical activity, motivation, and information received by patients often leads to complications of diabetic foot ulcers [4].

Preventing diabetic foot ulcers requires a comprehensive approach that includes adequate information education, self-motivation, and preventive and sustainable behavioral changes [5]. Poor quality of information and motivation can affect foot wound care among people with diabetes mellitus, hence the need for to raise awareness to reduce the impact of morbidity and mortality [6]. In addition to the above factors, stress or depression due to prolonged and recurrent diabetic foot wound care can affect glycemic control. Health promotion interventions that only provide information (e.g., booklets, videos, face-to-face meetings) without the support of consistency and self-motivation of diabetic patients and evaluation of foot care behavioral skills by health workers or practitioners are unlikely to change health behavior [7]. Therefore, it is necessary to explore the factors that cause the low level of diabetic foot ulcer prevention behavior. There is a need for an information, motivation, and behavior skill (IMB) approach in diabetic foot care efforts [8]. The IMB model is an approach that prioritizes accurate and relevant information education that will encourage individuals to engage in these behaviors so that they become habits and increase

confidence in diabetic foot care. Diabetic foot care has become the new standard of foot wound care by maintaining and recognizing early signs of neuropathy (*hypoesthesia, hyperesthesia, and paresthesia*) and recognizing signs of arterial insufficiency such as *intermittent claudication*, ischemic pain at rest, or pain in ulcers. During physical examinations, it is also important to teach the *Semmes-Weinstein monofilament test* according to foot wound care guidelines [9].

Knowledge education is a fundamental motivator for behavioral change in terms of knowledge and skills. This researcher also stated that there was a change in the level of knowledge from 13.3% at the pre-test to 90% at the post-test, but this study did not mention the process of increasing behavioral change in the prevention of diabetic foot ulcers ([10]. Therefore, it is necessary to seek educational information that can influence people with diabetes to make decisions about good wound care behavior. One approach that is increasingly being considered in health interventions is strengthening the aspect of religiosity as part of a preventive strategy. Preventive religiosity contains spiritual well-being (SpWB), which is the internalization of life experiences deep within the individual, all of which are centered on issues that are perceived as most meaningful. Spiritual well-being has two dimensions, namely religious well-being (RWB) and existential well-being (EWB), which build harmonious relationships with the divine, other humans, and the environment [11]. With harmonious relationships, individuals will have a deeper understanding of maintaining their health and life. Despite best practices, many wounds fail to heal, and even if they do, the risk of recurrence of diabetic foot ulcers remains high. Beliefs about personal control, or influence, over ulceration are associated with better engagement in care [12].

Islamic religiosity based on harmonious relationships with God, other people, and

nature is a fundamental aspect in creating balance and success in life. Strong spiritual relationships influence behavior, work ethic, and motivation [13]. They will view illness as a test: In many verses of the Qur'an, Allah mentions that trials in life, including illness, are part of His destiny that must be faced with patience and trust in Him. Allah says: "And We will surely test you with something of fear, hunger, loss of wealth, lives, and fruits. And give good news to those who are patient." (Qur'an, Surah Al-Baqarah 2:155) and also rewards for those who are patient: In Islam [13].

METHOD

The research method used in this study was a literature review to obtain a comprehensive overview of religiosity, the IMB model, and diabetic foot wound care. To maximize the sensitivity of the search, the author used a combination of terminology related to the subject matter, namely spiritual well-being and the IMB model for the prevention of diabetic foot wounds. The electronic search yielded 18 English and Indonesian studies related to the prevention of diabetic foot ulcers using the IMB approach and the role of religiosity.

Literature Search Criteria

A systematic search of the following electronic databases published from 2015 to 2025 was conducted on seven databases: *PubMed*, *Researchgate*, *Science Direct*, *National Public Health Journal*, *British Journal of Nursing*, *International Journal of Clinical Medicine and Pharmacy*. The keywords searched were "religiosity, IMB model, diabetic foot ulcers." The search process was limited to articles in English and Indonesian. Studies were selected based on the following inclusion criteria: DM patients, religiosity, IMB model, diabetic foot care, randomized controlled trials/experiments. Studies published in languages other than English and non-empirical studies (i.e., reviews, case reports,

books, book reviews, commentaries, practice guidelines, conference abstracts, and dissertations) were excluded. The reference lists of the selected papers were also reviewed to ensure that all relevant papers were included.

Study Selection

The screening process was conducted in three stages. First, we identified 214 relevant articles using the PICO question: Can diabetic foot ulcers be prevented using the information, motivation, and behavior skills method with a religious approach? The next stage was screening using the to review the titles and abstracts of the studies found to filter out relevant studies, resulting in 55 journal articles. The third stage was to assess the feasibility by reading the articles to determine whether they met the inclusion and exclusion criteria. It was concluded that 18 articles were feasible, and the articles that met the criteria were included in the final review and meta-analysis by the researchers.

Table 1
Data Search Based

Database	Keywords	Number of articles found
PubMed	Religiosity	4
Researchgate	Diabetic foot ulcer	4
Science Direct	Religiosity	3
National Public Health Journal	Diabetic Foot Ulcers	3
International Journal of Academic Medicine and Pharmacy	Religiosity and Diabetic Foot Ulcers	1
British Journal of Nursing	Religiosity and Diabetic Foot Ulcers	1
World Journal of Clinical	Religiosity and Diabetic Foot Ulcers	2
Total		18

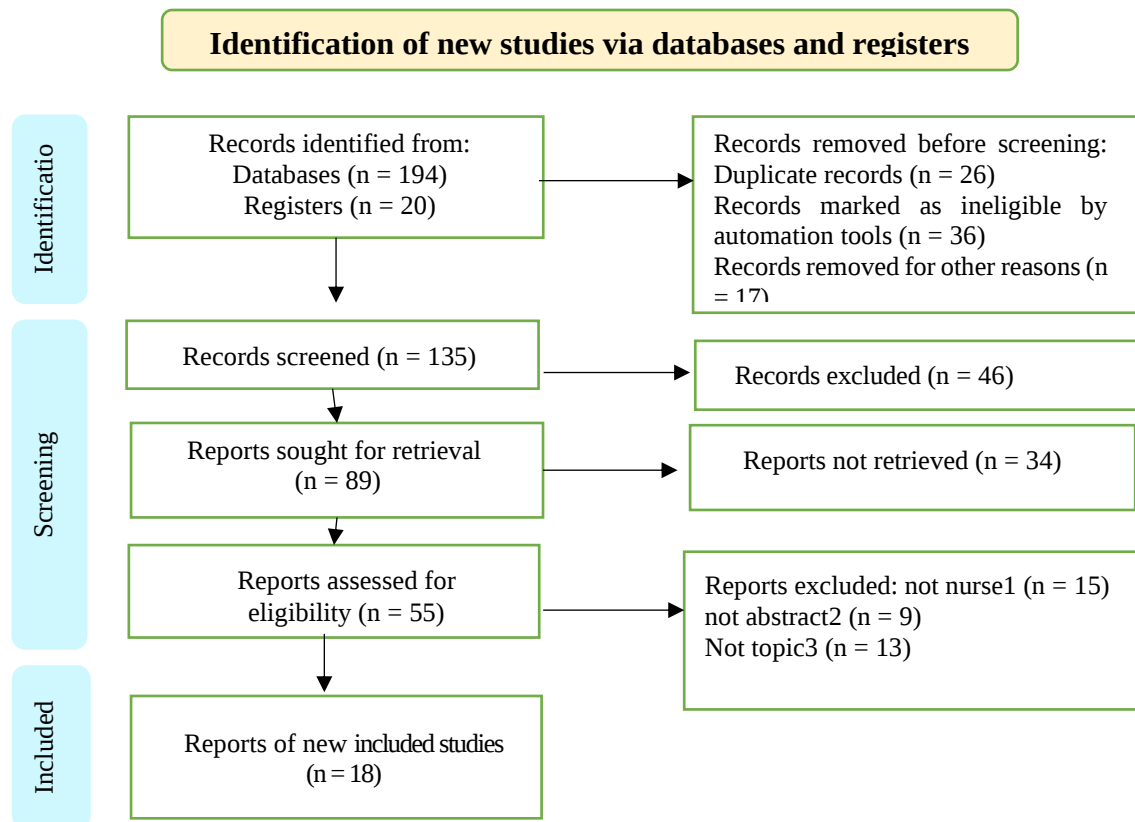


Figure 1
Flow Diagram of the Search Process Using Prisma Analysis

RESULTS

Table 2
Summary of Included Papers

No	Title	Purpose	Design and sample	Instrument	Results	Country
1	On the Role of Spirituality and Religiosity in Type 2 Diabetes Mellitus Management—A Systematic Review Panagiota Darvyri, (PubMed)	To evaluate the impact of spirituality/religiosity on T2DM management.	Systematic review of qualitative studies on spirituality and T2DM.	Studies evaluated using the Newcastle-Ottawa Scale and a qualitative checklist.	A positive relationship between spirituality/religiosity and T2DM management. Studies focusing on women with low socioeconomic status and African American women.	Greece
2	Implementation of spiritual care in patients with diabetic foot ulcers : a literature review. Sumarno Adi Subrata	Development of spiritual interventions for to prevent spiritual crises in diabetic foot ulcers	Literature review	Research journal study	Spiritual care is very important for patients with diabetic foot ulcers. Nurses play a key role in providing spiritual care.	English

No	Title	Purpose	Design and sample	Instrument	Results	Country
3	(British Journal of Nursing) Potential influences of religiosity and religious coping strategies on people with diabetes. Charity N. Onyishi, -World Journal of Clinical Cases	Understanding the potential relationship between religiosity and coping strategies in patients with diabetes mellitus	Descriptive analysis Literature review	Study objective religion coping strategies and diabetes management	The results of the reviewed studies show several religious mutual aid strategies for managing chronic diseases such as diabetes. These studies do show a relationship between religiosity and diabetes management and suggest that religious mutual aid strategies can have a positive impact on diabetes management; however, they report some negative effects. Therefore, we propose a pathway for the development of religion-oriented interventions and support frameworks for diabetes management.	China
4	Meta-analysis of patient education in preventing and re reducing the incidence or recurrence of adult diabetes foot ulcers. (Science Direct)	Understanding the effectiveness of patient education in preventing and reducing the incidence or recurrence of diabetic foot ulcers.	Meta-analysis RCT	Meta-analysis after educational intervention results are presented as relative ratios (RR)	Analysis based on a short intensive educational approach showed a statistically significant effect. Meta-analysis after educational intervention, the results are presented as relative ratios (RR) with corresponding 95% confidence intervals (CI). There was a decrease in the risk of DFU	United Kingdom

No	Title	Purpose	Design and sample	Instrument	Results	Country
					events in the intervention group when compared to the control group. The results showed high heterogeneity (91%), indicating variation among the studies. The 45-minute intensive education session consisted of discussions on proper footwear use and foot hygiene.	
5	Effectiveness of Health Education Program Regarding Foot Self-care on Risk for Developing Foot Ulcer Among Patients with Diabetes (American Journal of Nursing Science)	To evaluate the effectiveness of a health education program on self-care foot care for the risk of developing foot ulcers in diabetic patients	Quasi-experiment	structured interview questionnaire, Structured Knowledge Questionnaire, Self-Care Confidence Scale, Foot Self-Care Behavior Scale	The effectiveness of the self-care education program has been approved in improving patient knowledge, self-care confidence, behavior, and in turn reducing the risk of healing foot ulcers.	Egypt
6	The effectiveness of foot care education intervention for people living with diabetes mellitus: An umbrella review (science direct)	To determine whether the intervention is education compared to usual care, intensive care compared to usual care, patient education in diabetic foot care, structured education on foot self-care, and structured education aimed at health workers.	A systematic review of randomized and non-randomized studies, with or without meta-analysis; (vi) the parameters of this review include all types of health services (such as acute care, primary health care, community care, etc.), and all studies	Nottingham Assessment of Functional Foot-care (NAFF) questionnaire, [Behavioral Risk Factor Surveillance System (BRFSS) Foot Care History questionnaire [“Self-Care Foot Care Observation Guide” ; “Diabetic Foot Care Scale” and “Diabetic Self-Care Foot Care Behavior Scale”	This intervention has a positive effect in reducing the risk of amputation and foot wounds in diabetic patients. Without providing effective and consistent preventive and prophylactic foot care, foot care management will remain a challenge. Since poor foot care behavior is known to increase the risk of wounds, amputations, and death, it is necessary to	Iran

No	Title	Purpose	Design and sample	Instrument	Results	Country
			included are reviewed without restrictions related to geographic location, racial or gender characteristics, or other cultural factors		better understand the extent to which foot care education interventions can change behavior and improve self-management of this condition. McInnes found that daily foot checks are the most common prophylactic measure for foot wounds. Diabetic patients' knowledge of foot care can be improved through health education.	
7	The Effect of Supportive Education on Foot Care Knowledge in Type 2 Diabetes Mellitus. (Researchgate)	To determine the effect of supportive education on knowledge about diabetic foot care in patients with type 2 diabetes mellitus.	Quasi-experimental pre-post test design,	questionnaire instrument on knowledge of foot care in DM	With the effect of supportive education on knowledge of diabetic foot care in DM patients, you can apply this supportive education in the care of DM patients.	Indonesia
8	Foot Care Education, Health Seeking Behavior and Disease Outcome in Patients with Diabetic Foot Ulcer: Results from the Multi Center Evaluation of Diabetic Foot Ulcer in Nigeria Study (International Journal of Foot and Ankle)	To determine the relationship between diabetes foot care education, health-seeking behavior, and DFU outcomes.	Multidisciplinary Evaluation of Diabetic Foot Ulcers in Nigeria is an observational study of patients with type 1 or type 2 diabetes mellitus hospitalized for DFU in six healthcare institutions	Monofilament ABI Relevant Laboratory & Imaging Studies Barefoot Walking	Foot care education has a positive impact on patients and DFU clinical outcomes. Therefore, it is important to encourage healthcare workers to periodically provide adequate foot care education to their patients.	Nigeria
9	Spiritual well-being and treatment adherence in patients with Type 2	Identifying the correlation between treatment adherence	Correlational design	Patient information form on treatment adherence and	The level of spiritual well-being in type 2 diabetic patients is moderate, and as the level of	Turkey

No	Title	Purpose	Design and sample	Instrument	Results	Country
	Diabetes in Turkey. (PubMed)	and spiritual well-being in patients with Type 2 Diabetes		spiritual well-being	spiritual well-being increases, adherence to treatment () will also increase.	
10	Study protocol for a randomized controlled trial to test for preventive effects of diabetic foot ulceration by telemedicine that includes sensor-equipped insoles combined with photo documentation (PUBMED)	The main objective of this study is to compare the incidence of DFU during the study period between patients who only received education on routine foot care and patients who continued daily foot temperature measurements with sensor-equipped insoles, together with an application-based warning system and self-imaging of the feet for the development of new ulcers.	This open-label trial will randomize 300 high-risk patients with diabetes and advanced polyneuropathy, who do not have severe peripheral angiopathy, into two groups with a 1:1 ratio. At the screening visit, the study will record past medical history using a foot documentation sheet recommended by the Foot Care Group of the German Diabetes Society.	At the screening visit, the study researchers will record the medical history using the foot documentation sheet recommended by the Foot Care Group of the German Diabetes Society.	The telemedicine structure implemented in our study consists of a remote server as the core controller at the study center and a smartphone application (SPDFA) as the data collection terminal. SPDFA is used to perform appropriate interventions for patients and to collect interactive patient feedback during the intervention period. This approach will evaluate the effectiveness of reducing activities to delay or even avoid the development of DFU. Based on this concept, efficiency and timely intervention will increase significantly. In addition, our alarm algorithm with a gradual alarm level can test and verify various temperature warning measurements (in addition to simply measuring the temperature difference	Germany

No	Title	Purpose	Design and sample	Instrument	Results	Country
					between the corresponding left and right sensor locations), the time interval between two alarm levels, individual corrections based on baseline data, or even different asymmetry thresholds.	
11	Awareness and factors influencing the prevention of diabetic foot ulcers (DFU) among diabetic patients. (NHANES)	Found influence factor prevention DFU	Cross-sectional study	The National Health and Nutrition Examination Survey (NHANES) 2011-2018 (n=1278)	This study indicates that there is still room for improvement in the knowledge and behavior of diabetic patients to proactively prevent DFU	Indonesia
12	Development of Efficacy-Based Foot Care by Family Models to Family Behavior in the Prevention of Diabetic Foot Ulcers N. Nursalam, Nuh Huda, Tintin Sukartini 2020	Development of a family-based behavioral model for the prevention of diabetic foot ulcers	Cross-sectional approach - Multistage cluster Partial Least Squares (PLS) - Path analysis - Focus group discussions and expert discussion	Random sampling - Questionnaire: Modified NIHM Family Efficacy Scale and Foot Care Behavior Scale for Diabetes (FCBS) - Data analysis: Structural Equation Modeling (SEM) based on variance or	The family-based foot care development model has a significant influence on family behavior in preventing DFU. Family factors are the strongest factors influencing family-based foot care efficacy, so families with strong efficacy play an important role in improving family behavior in preventing diabetic foot ulcers.	Indonesia
13	Knowledge and practice about <i>foot care</i> and the prevalence of neuropathy among a sample of type 2 diabetic patients in Erbil, Iraq, Hemin Jawad	Understanding knowledge of diabetic neuropathy in diabetic foot care	Design: Cross-sectional Subjects: 250 T2DM patients aged ≥ 18 years Variables: Level of foot care and	Instrument: Michigan Neuropathy Screening Instrument Analysis: Chi-square test	The results of the study showed that the average knowledge and practice scores were $6.1 \pm SD 2.6$ and $5.8 \pm SD 2.1$, respectively. The majority of participants had poor knowledge scores and	Iraq

No	Title	Purpose	Design and sample	Instrument	Results	Country
	Sabre and Ali Shakir Daoud		peripheral neuropathy		moderate practice scores (38% and 40%, respectively). The percentage of neuropathy was 31.20% ($P < 0.05$), meaning that the highest incidence of neuropathy was among those with low knowledge and practice scores for foot care.	
14	Psychological interventions for treating foot ulcers and preventing their recurrence in people with diabetes (Review). Cochrane Library, MC Gloin, 2021)	The aim was to identify the prevalence of type 2 diabetes and the influence of knowledge, perceptions, and sociocultural factors on adherence to diabetes management plans.	The review used a narrative approach.	Synthesizing evidence from published research and literature reviews from 2016 to 2019, thirty-two studies were included in the literature review. The prevalence rate of poorly controlled type 2 diabetes is associated with many negative consequences among patients in Jordan.	The importance of factors beyond the individual level in terms of social, cultural, organizational, and policy influences such as eating habits, religious beliefs, and lack of continuity of care were identified as key factors affecting adherence to diabetes management plans. Recognition of the various determinants of patient health among healthcare professionals can broaden the scope of interventions to seek to change social norms and values.	Jordan
15	Effectiveness of Health Education Program in Knowledge, Attitudes, and Practice of Diabetic Septic Foot Patients to Prevent Foot Ulcers at King	Assessing the effectiveness of health education programs in knowledge, attitudes, and practices of diabetic foot care	Quasi- experimenta l	Knowledge questionnaire on DM in 60 DM patients from 2018 to 2021	The study concluded that there was a significant increase in patients' knowledge, attitudes, and practices regarding diabetic foot care	Saudi Arabia

No	Title	Purpose	Design and sample	Instrument	Results	Country
	Fahd General Hospital Jeddah, Kingdom of Saudi Arabia .(Researchgate)				after the training program.	
16	Barriers to good glycemic control levels and adherence to diabetes management plan in adults with Type-2 diabetes in Jordan: a literature review (PubMed)	Lifestyle changes and adherence to diabetes treatment plans	Literature review	This review uses a narrative approach and synthesizes evidence from studies and literature reviews published between 2006 and 2019.	The findings of this review indicate that patient compliance is influenced by various determining factors. Patient misunderstanding of diabetes, beliefs about treatment, lack of awareness, and negative attitudes towards diabetes are several intrapersonal factors that hinder diabetes management.	Jordan
17	Factors influencing self-management and health-related quality of life in low-income patients with diabetes: a predictive model (Pahn et al., 2025)	The results of this study can be used to develop a support system for low-income diabetes patients and provide a basis for improving health-related quality of life.	In this study, we adopted a cross-sectional research design using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the relationship between self-management practices, hemoglobin A1c levels, and health-related quality of life in low-income patients with diabetes.	In PLS-SEM, the analysis is conducted in two stages: evaluation of the measurement model (outer model) and the structural model (inner model) (Hair et al., 2011). The first stage, assessment of the measurement model, evaluates the reliability and validity of the measurement indicators, while the second stage assesses the relationships between latent variables in the	The structural model was found to be suitable for predicting health-related quality of life, with self-efficacy and self-management showing significant effects (). Among the two, self-management has a greater impact on health-related quality of life. Therefore, intervention strategies that combine self-efficacy, knowledge, and self-management are expected to contribute to improving health-related quality of life in low-income	South Korea

No	Title	Purpose	Design and sample	Instrument	Results	Country
				structural model.	diabetes patients. Future research should explore ways to integrate psychosocial support with self-management interventions to better meet the specific needs of this population.	
18	Potential influences of religiosity and religious coping strategies on people with diabetes (WJCC)	Understanding the role of religion and beliefs in diabetes mellitus management	Literature review on religion and religious strategies in diabetes mellitus approaches	Searching, evaluating, selecting, and synthesizing quantitative and qualitative articles published in English	The role of religion is very good in building a mental attitude in efforts to prevent diabetes mellitus	Nigeria

DISCUSSION

A systematic review of research studies shows that belief in the IMB model plays a fundamental role in life motivation, meaning that a person's level of belief and religiosity can provide meaning, hope, and internal motivation to take care of the body as a mandate from God, the creator of life [14]. Patients with high levels of belief and religiosity tend to take care of their health, be patient in their illness, and be able to cope with stress or anxiety caused by diabetes. Second, it indirectly strengthens behavioral skills, as spiritually strong patients are more open, disciplined, and eager to practice diabetic foot wound prevention skills. They tend to adapt more easily to a healthy lifestyle. Third, as a mediator, for example, if two patients are both given education on diabetes mellitus management, patients with high spirituality show greater compliance in daily foot care [11].

Increased knowledge of relevant and accurate material will influence self-skills behavior. Increased knowledge will improve quality of life (HQRL). However, increased knowledge is not always accompanied by adaptive attitudes (foot wound prevention measures). There are several reasons why health information is not always followed by concrete actions [15]. Low risk perception, for example, because one feels well and thinks that it will not happen to them (no symptoms of neuropathy yet), so it is still safe. An imbalance between benefits and obstacles, even though the benefits are known, but due to being busy and feeling tired, they are ignored. Lack of trust in the source of information; if the health information provided is not from a credible source, people will ignore it. Lack of support from the family environment and the community. A person's level of religiosity is the basis for every good or bad action. The literature review above states that religiosity does not directly influence the prevention of diabetic foot ulcers [16]. *Religiosity* forms the basis

for an individual's response to challenges or illness. If an individual has a high level of *religious and spiritual well-being*, they will make efforts to prevent diabetes, one of which is by increasing their knowledge and skills [17].

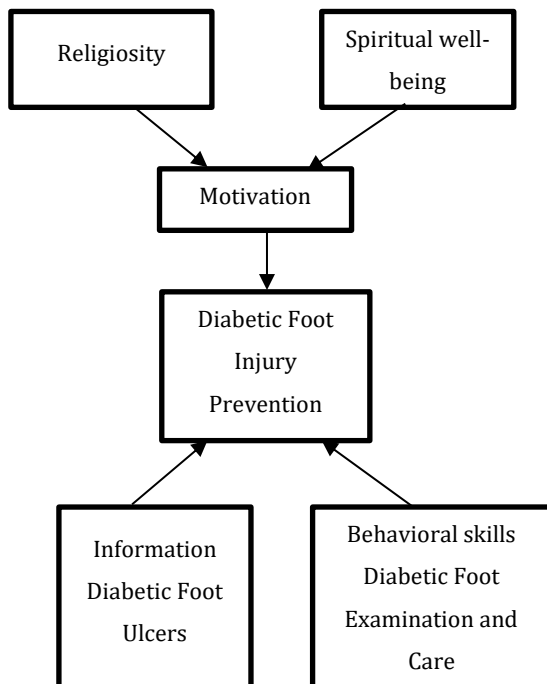


Figure 2
Concept Diagram

Weaknesses in religion-based prevention roles in diabetic foot ulcer patients .

The counterproductive possibilities that arise from *hyper-religiousness* and non-compliance with medical or nursing treatment for religious reasons, such as refusing treatment because of the belief that health and sickness are gifts from God, or viewing all experiences as God's punishment or blessing, are interpreted rigidly. However, it is necessary to have a high level of understanding by distinguishing between high religiosity and *hyper-religiosity*. High religiosity tends to result in *spiritual well-being*, where a healthy life by maintaining good health will

result in a good relationship with God and will be beneficial to the surrounding environment.

CONCLUSION

Religiousness and spiritual health have been proven to be the foundation of life for people who suffer from chronic diabetes. A strong religious foundation and belief will encourage individuals to take more responsibility for their health, including routine foot care, recognizing the early signs of complications, and complying with treatment and blood sugar control. The information, motivation, and behavior skills (IMB) approach provides a strong foundation for shaping behaviors that prevent diabetic foot ulcers. Accurate and appropriate information will build a person's intrinsic and extrinsic motivation to adapt to stressors or challenges faced in this case, diabetic foot wounds. However, since health and illness are gifts from above to prevent *hyperreligiosity*, relevant education must be provided to patients with diabetic foot ulcers. Relevant education should cover *spiritual well-being* (the principle of finding meaning in life) and continuous information on the prevention of diabetic foot ulcers.

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