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Nursing Agency Power in the Care of Diabetic Foot Ulcer Patients Based on Orem Theory in Private and Government Hospitals

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Abstract

The nurse should have adequate nursing agency power in the provision of appropriate professional nursing care for diabetic foot ulcer (DFU) patients. However, there is a work environment that enables a nursing professional practice gap related to hospital type. The study that evaluates the nursing agency's power in the care of active and at-risk DFU patients, and the associated factors in private and government hospitals, is needed. The study examined the nursing agency's power in the care of active and at-risk DFU patients based on Orem's theory and identified the associated factors of nursing agency power level in private and government hospitals. The cross-sectional survey. was conducted in government and private hospitals. Of the total 915 nurses invited to participate in online surveys, 549 responded (response rate = 60.0%). Data was collected using a validated questionnaire from nurses working in the inpatient medical surgery ward of hospitals of a single healthcare cluster. There was only a significant difference in nursing agency power towards the component of knowledge between nursing in private and government hospitals (p=0.030). Experience is the strongest predictor of nursing agency power [B=133.05, (95%CI=67.99,198.12), p=<0.001]. The other predictors of nursing agency power were age, education level, length of work, and training in caring for risk and actual DFU. The improvement of nursing agency power in the care of DFU patients is very important for the nursing profession and patient care.

Keywords: *Diabetic Foot Ulcers; Hospital; Nursing;, Nursing Agency Power*

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1. Introduction

A diabetic foot ulcer (DFU) is a foot ulcer in a person with current or previously diagnosed diabetes mellitus (Van Netten et al., 2024). DFU is the foremost cause of hospital admissions in diabetes patients (Robbie et al., 2020). Patients with a DFU history have a high risk of having DFU (Bus et al., 2024; Van Netten et al., 2024). DFU contributes to significant global morbidity and mortality rates due to repeated hospital admissions (Jodheea-Jutton et al., 2022). The morbidity of DFU is high, with recurrence rates of 65% at 3-5 years (McDermott et al., 2023). DFU results in a major global burden for patients and the healthcare system (Bus et al., 2020). DFU affects not only the physical condition of the patients, but also the psychological condition (Kurnia et al., 2025). It is a major challenge for a hospital worldwide because it leads to significant consumption of healthcare resources, especially nursing resources.

Recently, there has been increasing nursing involvement in the more complex area of DFU care in the government and private hospitals. The role of nurses is very important in improving the various health conditions of patients. Managing and preventing DFU is the main priority for nurses to care for diabetes patients in the hospital (Hemmati Maslakpak et al., 2018). The appropriate DFU intervention is needed to improve the quality of life and reduce the incidence of amputations (Anggraini et al., 2020). The previous quasi-experimental study found that nursing care according to DFU patients' needs can increase patient independence in carrying out care, accelerate the healing phase of DFU, and significantly reduce the risk of amputation in patients (Hemmati Maslakpak et al., 2018).

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The nurse should have adequate nursing agency power to provide appropriate professional nursing care for DFU patients. Based on Orem's theory, nursing agency power is a set of developed and developing capabilities that the nurse exercises in the provision of nursing care for individuals or groups (Orem, 2001). Nurses with adequate nursing agency power will apply adequate nursing science in nursing practice. The nursing agency's power has a decisive impact on the accomplishment of duties, satisfaction, and achievement of professional goals (Sepasi et al., 2016). The quality of nursing agency power determines the nurses' legitimacy or lack of legitimacy to become the nursing agent in a specific, concrete situation (Orem, 2001, p. 133). The nursing agency power may be developed by maturing through specialized education, training of oneself to master the cognitive and practical operation of nursing practice, clinical experience in nursing practice situations under the guidance of advanced nursing, and clinical nursing experience in providing nursing to the person representing a range of types of nursing cases (Orem, 2001). There are several factors, namely basic condition factors such as age, gender, healthcare system, sociocultural factors, availability of resources, and external environmental factors that may influence nursing agency power (Orem, 2001, p. 289).

The system in the hospital must support the nursing agency's growth. The hospital should have qualified nurses and ensure that those nurses have the requisite power to provide nursing care (Pappas et al., 2023). However, important staffing gaps were reported more frequently at hospitals serving patients more likely to have medical complications, leaving the most vulnerable patients at risk (Simpson et al., 2023). The previous study has found that there were different nursing staff, caring quality, and the characteristics of patients they care for across different types of hospitals (Tynkkynen & Vrangbæk, 2018).

To date, no studies have examined the nursing agency power based on Orem's theory in the care of active and at-risk DFU patients, and the associated factors in private and government hospitals. The components of nursing agency power are knowledge of social, interpersonal, and professional technological areas of nursing operation, intellectual and practical skill, willingness to provide nursing care, and ability to manage oneself as the essential professional operative element in nursing practice situations (Orem, 2001).

Previous cross-sectional studies have investigated and found the various levels of knowledge and attitude toward the management of DFU among nurses (Alkhatieb et al., 2022; Alsaigh et al., 2022; Farzaei et al., 2023; Hu & Jiang, 2024; Mafusi et al., 2024; Sari et al., 2022; Sukri et al., 2020; Td et al., 2023). In this study, knowledge was defined as the power to understand nursing practical science needed in the provision of care of DFU patients, skill was defined as the power to apply the nursing practical science into nursing practice when providing care to DFU patients, willingness was defined was as a power in being ready to provide nursing care needed of DFU patients, and self-professional management was defined as a power to manage self as a professional nurse to give the best nursing care to patients.

The purpose of the study was to (1) evaluate the nursing agency power in the care of active and at-risk DFU patients based on Orem's theory in the government and private hospitals, and (2) determine the associated factors of nursing agency power.

2. Method

The cross-sectional survey study was designed. The study involved every nurse working in the medical surgery ward of two government and two private hospitals of a single healthcare cluster in Central Java, Indonesia. Convenience sampling was used to select the sample. The inclusion criteria included being a nurse on duty in the study period in the medical-surgical setting of the hospitals where the study was conducted, and the nurses who had a license and gave informed consent. Data of nurses from the human resource department at the hospitals was reviewed to validate the eligibility criteria. All potential eligible nurses invited to participate can freely choose to agree or disagree on the online consent form. Of the total 915 nurses invited to participate in online surveys, 549 responded (response rate = 60.0%). A total of 549 nurses who agreed to become participants could continue to fill out the questionnaire, while 366 nurses who did not agree were not included in the study.

The nurses' characteristics were determined as independent variables, and nursing agency power as the dependent variable. The nursing agency power and the nurses' characteristics that may be associated with nursing agency power were measured using a questionnaire. Since no nursing agency questionnaire is valid and reliable, we designed a self-evaluation questionnaire. We designed a questionnaire in Google Forms in the Indonesian language. The questionnaire, which included two sections, was developed and validated by the authors. The questionnaire included two sections. The first section of the questionnaire focused on nursing. This section was developed based on Orem's theory that there are conditioning factors that will influence the nursing agency's power (Orem, 2001). This study identified age, gender, health care system (hospital type where the nurses work), and sociocultural factors such as

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education level, the length of work experience, experience in caring for DFU patients, and training experience in the care of active and at-risk DFU patients. The second section focused on nursing agency power in the care of active and at-risk lDFUcer patients. This section was developed based on Orem's theory that that are several power components of nursing agency power such as knowledge of all three areas of nursing operation (social, interpersonal, professional technologic), intellectual and practical skill specific to three areas, willingness to provide nursing care, and ability to manage self as the essential professional operative element in nursing practice situation (Orem, 2001). We also used the guidelines for diabetic foot ulcer management and prevention from the International Working Group of Diabetic Foot (IWGDF) and Wound, Ostomy, and Continence Nurse Society (WOCN) (Bonham et al., 2022; Bus et al., 2020) as a basis for the second section of the questionnaire because the study used a DFU case. The nursing agency power level was assessed according self-evaluation numeric rating scale of 0-10 (0=very inadequate, 10=very adequate) for each question. The nursing agency power consisted of 83 questions divided into 4 sections: knowledge (24 questions), skill (24 questions), willingness (24 questions), and self-professional management (11 questions). The total score range of nursing agency power was 0-830 (knowledge=0-240, skill=0-240, willingness=0-240, self-professional management=0-110).

The validity of the questionnaire was established before data collection by an expert team, including a nurse manager who manages patients with DFU and a nurse practitioner who specializes in DFU patient care. The instrument was modified based on the comments of this expert team. The validity and reliability of the questionnaire were assessed using the data of the first 30 subjects. The reliability coefficient for the entire set of nursing agency power questions (Cronbach's Alpha) was found to be 0.98. The reliability coefficient for nursing agency power sub-sections, such as knowledge, was 0.95, for skill was 0.95, for willingness was 0.98, and for self-professional management was 0.97. All of the items in the questionnaire had a calculated correlation coefficient more than the table correlation coefficient value (>0.361).

Data collection was conducted over a 3-month period starting in early August 2022. The online survey using Google Forms was given to all participants to collect data. All participants were invited to complete the questionnaires from August to October 2022. All analyses were based on complete data.

The data were analysed using SPSS for Windows software version 23.00. Descriptive statistics of frequencies and percentages were used to determine the distribution of categorical data of nurses' characteristics, while means and standard deviations were used to determine the nursing agency's power and its components. Pearson's chi-square test was used to investigate the categorical data of nurses' characteristics differences between government and private hospitals, while the Mann-Whitney U test was used to investigate the numerical data of nurses' nursing agency power difference between private and government hospitals. Due to differences in nurses' characteristics between hospital types, the study used linear regression analysis separately on data obtained from private and government hospitals. Bivariate and multivariate linear regression analysis were used to determine which factors (age, gender, education level, length of work, training, and experience) were associated with nursing agency power. A two-sided p-value of less than 0.05 was considered statistically significant.

This study was approved by the Ethics Committee of Saint Elisabeth Hospital (No. 031/EA/KEPK-RSE/VIII/2022) and the Ethics Committee of Banyumas Regional Public Hospital (No.192/KEPK-RSUDBMS/VIII/2022). All participants had provided informed consent before participating in the study.

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3. Results and Discussion

Study Participants Characteristics

A total of 549 nurses participated in this study, of which 277 nurses came from private hospitals and 272 nurses from government hospitals. The study participants' characteristics from private and government hospitals are shown in Table 1. There were significant differences in age, gender, education level, length of work as a nurse, and training in the care of active and at-risk DFU patients between nurses from private and government hospitals.

The study found that the government hospital had more male nurses, aged over 40 years, with a bachelor's degree in nursing education, more than 10 years of work experience, and who had undergone training in caring for patients with high risk and actual diabetic foot ulcers. Following a previous study, there were differences in the characteristics of nursing staff in private and government hospitals (Tynkkynen & Vrangbæk, 2018). The nursing characteristics, such as age, gender, education, and healthcare system factors, that may influence nursing agency power (Orem, 2001, p. 289) in the government and private hospitals.

The difference in the resource management system in both hospitals may affect the differences in staff characteristics and professionalism in the care of patients (Adongo et al., 2025). Government

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hospitals have more concern in developing their nursing resources through education and training. In addition, the large number of diabetes cases with diabetic foot ulcer cases in government hospitals provides more opportunities for experience in caring for patients with these cases.

Nursing agency power

The score of nursing agency power and its components are shown in Table 2. The mean score of nursing agency power and its components in government hospitals was higher than in private hospitals. However, only the knowledge of nursing agency power component score was significantly different between government and private hospitals (p=0.03).

The study found that the nursing agency's power of nurses in government hospitals tended to be higher compared to private hospitals, especially in the knowledge power component that may influence the service quality. Nursing agency power components, including willingness, knowledge, skills, and self-professional management, need to continue to be improved wherever nurses work, both in private and government hospitals.

Table 1. Characteristics of participants in private and government hospital

Characteristics	Total n=549	Private hospital n=277 Frequency (%)	Government hospital n=272 Frequency (%)	P
Age				
• ≤40 years	425	227 (53.4)	198 (46.6)	0.01
• >40 years	124	50 (40.3)	74 (59.7)	
Gender				
• Male	97	28 (28.9)	69 (71.1)	0.000
• Female	452	249 (55.1)	203 (44.9)	
Education level				
• Diploma	264	167 (63.3)	97 (36.7)	0.000
• Bachelor	285	110 (38.6)	175 (67.4)	
Length of work				
• <10 years	257	160 (62.3)	97 (37.7)	0.000
• ≥10 years	191	117 (40.1)	175 (59.9)	
Training in the care of DFU patients				
• No	358	194 (54.2)	164 (45.8)	0.017
• Yes	191	83 (43.5)	108 (56.5)	
Training in the care of patients at-risk of DFU				
• No	371	199 (53.6)	17 2(46.4)	0.031
• Yes	178	78 (43.8)	100 (56.2)	
Experience in caring for DFU patients				
• No	40	22(55.0)	18(45.0)	0.559
• Yes	509	255(50.1)	254(49.9)	

Table 2. Nursing agency power in private and government hospital

Nursing agency power	Private hospital Mean (SD)	Government hospital Mean (SD)	P
Nursing agency power	599.11 (126.75)	619.70 (107.23)	0.131
• Willingness	181.19 (37.78)	186.48 (31.56)	0.077
• Knowledge	167.08 (42.12)	175.31 (37.88)	0.030
• Skill	166.36 (41.54)	173.86 (37.01)	0.058
• Self-professional management	84.47 (16.86)	84.08 (14.07)	0.217

Abbreviation: SD, standard deviation

Valid knowledge is one component of the nursing agency. Practical nursing knowledge in the care of diabetic foot ulcer patients is needed by nurses to be able to design and provide appropriate

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care for patients. This body of knowledge facilitates the capabilities of nurses to attach meaning to things encountered in concrete nursing practice situations. In concrete situations of nursing practice, nurses engage in the collection of information to make sense of the patient's situation. Practical knowledge of caring for DFU patients can be obtained by nurses during their education period (Sari et al., 2022).

It seems that the study results show that government hospitals have a system that is more supportive of increasing the nursing agency power of nurses compared to private hospitals. The government hospitals were more supportive of creating professionalism in nurses. Nursing agency power is really needed by a nurse in designing an appropriate care system for patients with a risk or actual risk of DFU. The hospital, as a place where a nurse works to provide nursing services, can influence the development of nursing agency power.

Factors associated with nursing agency power

The factors associated with adequate nursing agency power in government hospitals and private hospitals were shown in Table 3. Based on bivariate analysis, the experience in caring for diabetic foot ulcer patients in government hospitals was the strongest predictor of nursing agency power [B=133.05, (95%CI=67.99, 198.12), p=<0.001]**.** The other predictors of nursing agency power were age, education level, length of work, and training in caring for risk and actual DFU. However, based on multivariate analysis, among all subjects' characteristics, only the experience in caring for DFU patients was significantly associated with nursing agency power [B=120.74, (95%CI=57.14, 184.33), p=<0.001]**.** Similar to government hospitals, experience in caring for DFU patients was the strongest predictor of nursing agency power in private hospitals. The education level, training in caring for risk, and actual diabetic foot ulcer patients were also other predictors for nursing agency power in private hospitals (p=0.030).

The study found that only the level of education, training in caring for patients with actual and risk of DFU, as well as experience in caring for patients with DFU influenced nursing agency power in both private and government hospitals. Following the Orem theory, the study found that nursing agency power was developed by nurses through education, training of self to master the cognitive and practical operations of nursing practice, clinical experiences in nursing practice situations under the guidance of advanced nursing practitioners in providing nursing to persons representing a range of types of nursing cases. The level of education, patient care training, and experience caring for patients can help nurses increase their nursing agency power.

Table 3. Analysis of factors associated with nursing agency power in private and government hospitals

	Bivariate analysis				Multivariate analysis			
	Private hospital		Government hospital		Private hospital		Government hospital	
	B (95%CI)	p	B (95%CI)	p	B (95%CI)	p	B (95%CI)	p
Age	10.32 (-28.71, 49.35)	0.603	-2.21 (-38.89, 0.54)	0.009	19.27 (-34.37, 72.92)	0.480	-0.82 (-3.83, 2.18)	0.589
Gender	23.62 (-26.12, 73.37)	0.351	-5.94 (-35.41, 23.53)	0.692	11.54 (-36.66,59.75)	0.638	-3.25 (-40.14, 33.63)	0.862
Education level	35.91 (5.52, 66.31)	0.021	40.97 (15.45, 65.70)	0.002	32.38 (2.59,62.17)	0.033	25.90 (-6.11, 57.92)	0.112
Length of work	-0,095 (-2.01, 1.82)	0.922	-3.01 (-4.67, -1.36)	0.000	-0.96 (-3.58, 1.65)	0.470	-0.45 (-3.57, 2.65)	0.771
Training in the care of DFU patients	57.22 (25.15, 89.30)	0.001	60.43 (35.23, 85.62)	0.000	27.15 (-27.62, 81.94)	0.330	35.59 (-18.68, 89.87)	0.197
Training in the care of patients at risk of DFU	57.75 (25.07, 90.43)	0.001	9.76 (-0.11, 19.65)	0.053	26.15 (-29.36, 81.67)	0.354	31.98 (-23.63, 87.60)	0.258
Experience in caring DFU patients	120.86 (67.20, 174.52)	0.000	29.30 (13.12 ,43.49)	0.000	100.24 (45.81, 154.67)	0.000	120.74 (57.14, 184.33)	0.000

Abbreviation: CI, confidence interval

The bachelor's level of education was more common in government hospitals. The higher the level of education, the better the knowledge obtained. The previous study showed that nurses who have high professional education can improve the outcome of DFU patients. Nursing education has integrated theories into practice; however, a lack of agreement in the available literature acts as

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a barrier to getting good knowledge (Subrata & Phuphaibul, 2019). The large number of nurses who have bachelor's education contributes to all components of nursing agency power so that the level of nursing agency power in government hospitals is higher than in private hospitals. Nurses need to be motivated to continue to improve their education so that their nursing awareness power increases. Different from the previous study, the private hospital is more supportive of increasing nursing professionalism (Adongo et al., 2025; Pires et al., 2018).

Training in caring for patients with actual and at-risk DFU was also found to be associated with nursing agency power in private and government hospitals. The higher effect of training was found in government hospitals. The number of nurses who had undergone this training in government hospital was greater than in private hospitals. Nurses need to be allowed to develop themselves through training so that their nursing power increases. Training could affect the components of nursing agency power (AbdElshafy et al., 2024). The nurses who participated in training in the care of actual and at-risk diabetic foot ulcer patients were found to have more willingness, knowledge, skills, and self-professional management.

The study found that experience caring for DFU patients had a significant influence and was the biggest predictor of the level of nursing agency power, although the number of nurses who had experience caring for ulcer patients did not differ significantly in the two hospitals. The experience of caring for DFU patients further influences the level of nursing agency power. All components of nursing agency power, namely willingness, knowledge, skills, and professional self-management, are influenced by the nurse's experience. The complexity of the conditions of patients treated by nurses in government hospitals provides a deeper experience when treating DFU patients. The previous study explained that the conditions of patients treated in private and government hospitals differ significantly; patients in government hospitals tend to have lower financial conditions, more disease complications, and are older, so the problems encountered by nurses are more complex (Tynkkynen & Vrangbæk, 2018). It seems that the condition of DFUr patients who are treated by nurses at this government hospital provides a better experience in increasing nursing agency power; however, this research does not look at variations in the condition of DFU patients who have been treated by these nurses. Experience in caring for DFU patients with various conditions needs to be given to all nurses to provide benefits in increasing nursing agency power.

4. Conclusions and Suggestions

The nursing agency's power of nurses in government hospitals in the care of active and at-risk DFU patients tended to be higher compared to private hospitals, especially in the knowledge power component. The predictors of nursing agency power were caring experience, age, education level, length of work, and training in caring for risk and actual DFU. Thus, there needs to be an effort to improve the nursing agency power level in the hospitals through increased education, training, and opportunities for nurses to care for patients with DFU. Further research is needed to identify appropriate interventions to improve nursing agency power in hospitals.

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6. References

AbdElshafy, R., Elsayed, S., & Moawad, E. B. (2024). Effect of Foot Care Training Program on Knowledge and Practices of Nurses Caring for Diabetic Geriatric Patient. Mansoura Nursing Journal, 11(1), 15–25. https://doi.org/10.5455/medarh.2022.76.190-197

Adongo, A. A., Mokulogo, R. K., Bodpii, D. N., Akazili, J., & Yar, D. D. (2025). A patient-centred comparison of the public and private healthcare service quality: insights from the SERVQUAL model. Discover Health Systems, 4(1), 137. https://doi.org/10.1007/s44250-025-00317-4

Alkhatieb, M., Abdulwassi, H., Fallatah, A., Alghamdi, K., Al-Abbadi, W., & Altaifi, R. (2022). Knowledge of diabetic foot among nurses at a tertiary hospital in Saudi Arabia. Medical Archives, 76(3), 190.

Alsaigh, S. H., Alzaghran, R. H., Alahmari, D. A., Hameed, L. N., Alfurayh, K. M., & Alaql, K. B. (2022). Knowledge, awareness, and practice related to diabetic foot ulcer among healthcare workers and diabetic patients and their relatives in Saudi Arabia: a cross-sectional study. Cureus, 14(12). https://doi.org/10.7759/cureus.32221

Anggraini, R., Agushyibana, F., & Rachma, N. (2020). Intervention in The Elderly Patients With Type 2 Diabetes Mellitus With Diabetic Foot Ulcer A Systematic Review. Jurnal Keperawatan Respati Yogyakarta, 7(3). https://doi.org/10.35842/jkry.v7i3.548

Bonham, P. A., Brunette, G., Crestodina, L., Droste, L. R., González, A., Kelechi, T. J., Ratliff, C. R., & Varnado, M. F. (2022). 2021 Guideline for Management of Patients With Lower-Extremity Wounds Due to

Copyright ©Autor, 2026. Jurnal Keperawatan Respati Yogyakarta, p-ISSN: 2088-8872; e-ISSN: 2541-2728

Diabetes Mellitus and/or Neuropathic Disease: An Executive Summary. Journal of Wound, Ostomy and Continence Nursing, 49(3), 267–285. https://doi.org/10.1097/WON.0000000000000860

Bus, S. A., Lavery, L. A., Monteiro-Soares, M., Rasmussen, A., Raspovic, A., Sacco, I. C. N., van Netten, J. J., & on the Diabetic Foot, I. W. G. (2020). Guidelines on the prevention of foot ulcers in persons with diabetes (IWGDF 2019 update). Diabetes/Metabolism Research and Reviews, 36, e3269. https://doi.org/10.1002/dmrr.3269.

Bus, S. A., Sacco, I. C. N., Monteiro-Soares, M., Raspovic, A., Paton, J., Rasmussen, A., Lavery, L. A., & van Netten, J. J. (2024). Guidelines on the prevention of foot ulcers in persons with diabetes (IWGDF 2023 update). Diabetes/Metabolism Research and Reviews, 40(3), e3651. https://doi.org/10.1002/dmrr.3651

Farzaei, M., Shahbazi, S., Gilani, N., Ostadrahimi, A., & Gholizadeh, L. (2023). Nurses' knowledge, attitudes, and practice with regards to nutritional management of diabetes mellitus. BMC Medical Education, 23(1), 192. https://doi.org/10.1186/s12909-023-04178-4

Hemmati Maslakpak, M., Shahbaz, A., Parizad, N., & Ghafourifard, M. (2018). Preventing and managing diabetic foot ulcers: application of Orem's self-care model. International Journal of Diabetes in Developing Countries, 38(2), 165–172. https://doi.org/10.1007/s13410-017-0570-5

Hu, L., & Jiang, W. (2024). Assessing perceptions of nursing knowledge, attitudes, and practices in diabetes management within Chinese healthcare settings. Frontiers in Public Health, 12, 1426339. https://doi.org/10.3389/fpubh.2024.1426339

Jodheea-Jutton, A., Hindocha, S., & Bhaw-Luximon, A. (2022). Health economics of diabetic foot ulcer and recent trends to accelerate treatment. The Foot, 52, 101909. https://doi.org/10.1016/j.foot.2022.101909

Kurnia, A., Prahastyo, A. J. F., Khoiriyah, K., & PS, D. N. R. (2025). What are the Psychological Issuues of Diabetic Ulcer Patients. Jurnal Keperawatan Respati Yogyakarta, 12(1). https://doi.org/10.35842/jkry.v12i1.804

Mafusi, L. G., Egenasi, C. K., Steinberg, W. J., Benedict, M. O., Habib, T., Harmse, M., & Van Rooyen, C. (2024). Knowledge, attitudes and practices on diabetic foot care among nurses in Kimberley, South Africa. South African Family Practice, 66(1), 5935.

McDermott, K., Fang, M., Boulton, A. J. M., Selvin, E., & Hicks, C. W. (2023). Etiology, epidemiology, and disparities in the burden of diabetic foot ulcers. Diabetes Care, 46(1), 209–221. https://doi.org/10.2337/dci22-0043

Orem, D. (2001). Nursing. Concepts of Practice. In Edición. St. Louis Missouri: Mosby (6th ed.).

Pappas, S., Brosius, W., Hayes, R., Lawrence, M., McMichael, B., Zimmermann, D., & McCauley, L. (2023). Maximizing the potential value of the nursing workforce. Nursing Outlook, 102016. https://doi.org/10.1016/j.outlook.2023.102016

Pires, B. S. M., Oliveira, L. Z. F. de, Siqueira, C. L., Feldman, L. B., Oliveira, R. A., & Gasparino, R. C. (2018). Nurse work environment: comparison between private and public hospitals. Einstein (Sao Paulo), 16(4), eAO4322. https://doi.org/10.31744/einstein_journal/2018AO4322

Robbie, J., Tomkins, D., Mitchell, L., Saeed, M., David, M., & Tiwari, A. A. (2020). A 2-year prospective audit of patients admitted into an acute hospital from an outpatient podiatry clinic--trends and outcomes. The Diabetic Foot Journal, 23(4), 32–35.

Sari, Y., Upoyo, A. S., Sumeru, A., Yusuf, S., & Taufik, A. (2022). Nursing students' knowledge and attitude toward diabetic ulcer care and their contributing factors in Indonesia. International Journal of Nursing Sciences, 9(4), 496–503. https://doi.org/10.1016/j.ijnss.2022.09.013

Sepasi, R. R., Abbaszadeh, A., Borhani, F., & Rafiei, H. (2016). Nurses' perceptions of the concept of power in nursing: a qualitative research. Journal of Clinical and Diagnostic Research: JCDR, 10(12), LC10. https://doi.org/10.7860/JCDR/2016/22526.8971

Simpson, K. R., Spetz, J., Gay, C. L., Fletcher, J., Landstrom, G. L., & Lyndon, A. (2023). Hospital characteristics associated with nurse staffing during labor and birth: Inequities for the most vulnerable maternity patients. Nursing Outlook, 71(3), 101960. https://doi.org/10.1016/j.outlook.2023.101960

Subrata, S. A., & Phuphaibul, R. (2019). A nursing metaparadigm perspective of diabetic foot ulcer care. British Journal of Nursing, 28(6), S38--S50. https://doi.org/10.12968/bjon.2019.28.6.S38

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Sukri, M., Singh, A., Singh, L. H., bin Abdul Wahid, A. M., & Ortho, M. S. (2020). Knowledge and attitude of nurses towards diabetic foot care in a secondary health care centre in Malaysia. Med J Malaysia, 75(4), 391.

Td, P., Chinh, N. D., Ha, T. T. M., Thuy, M. T. T., & Notter, J. (2023). Nurses' wound care competency in a sample of hospitals in Northern Vietnam. British Journal of Nursing, 32(4), S10–S20.

Tynkkynen, L.-K., & Vrangbæk, K. (2018). Comparing public and private providers: a scoping review of hospital services in Europe. BMC Health Services Research, 18(1), 1–14.

Van Netten, J. J., Bus, S. A., Apelqvist, J., Chen, P., Chuter, V., Fitridge, R., Game, F., Hinchliffe, R. J., Lazzarini, P. A., Mills, J., & others. (2024). Definitions and criteria for diabetes-related foot disease (IWGDF 2023 update). Diabetes/Metabolism Research and Reviews, 40(3), e3654. https://doi.org/10.1002/dmrr.3654

Van Netten, J. J., Raspovic, A., Lavery, L. A., Monteiro-Soares, M., Paton, J., Rasmussen, A., Sacco, I. C. N., & Bus, S. A. (2024). Prevention of foot ulcers in persons with diabetes at risk of ulceration: a systematic review and meta-analysis. Diabetes/Metabolism Research and Reviews, 40(3), e3652. https://doi.org/10.1002/dmrr.3652

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