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Gender, Occupation, Family Support and Self Care Behavior in Diabetes Mellitus Patients

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ABSTRACT

It is estimated that cases of diabetes mellitus will continue to increase between 2030 and 2045. To prevent serious complications, good self-care behavior is essential, including maintaining a balanced diet, engaging in physical activity, conducting regular blood sugar checks, consistently taking medication, practicing proper foot care, and avoiding smoking. This article examines the relationship between gender, occupation, and family support on self-care behavior in diabetes mellitus patients at Kudus Community Health Center A. Using a quantitative correlational design with a cross-sectional approach, data were collected from 61 respondents using standardized questionnaires (HDFSS and SDSCA) and bivariate analysis was carried out using the Spearman Rank Correlation Test. The results showed a significant relationship between family support and self-care behavior among diabetes mellitus patients (p = 0.003). However, there was no correlation between gender, occupation, and self-care behavior with p > 0.05.

KEYWORDS
Gender; occupation; family support; self care behavior; diabetes mellitus

INTRODUCTION

Diabetes Mellitus is nicknamed *the mother of all diseases* because, if not properly controlled, it can lead to serious complications (Lavenia, 2024) . Diabetes mellitus is a major contributor to the increasing global mortality rate, accounting for nearly half of all deaths worldwide (WHO, 2023) . An estimated 537 million adults (aged 20–79 years) were living with diabetes, and this number is projected to rise to 643 million by 2030 and 783 million by 2045 (IDF, 2022) .

According to the 2023 Health Profile of Kudus Regency, there were 18,329 recorded cases of diabetes mellitus. In Kudus Regency, the Kudus City sub-district ranked sixth in the number of diabetes mellitus cases, with 1,960 reported patients. One of the health centers in the Kudus City sub-district recorded 642 diabetes mellitus cases in 2023 (Dinkes Kudus, 2023). In the Kudus A Health Center, 633 diabetes mellitus cases were recorded in 2024 (Kudus Health Office, 2024) .

The results of an initial data collection survey, obtained from the person in charge of non-communicable disease management at Health Center A, showed that in 2024, several risk factors were identified among diabetes mellitus patients. These included smoking habits in 98 male patients, lack of physical activity in 219 individuals, excessive waist circumference in 75 men and 108 women, dyslipidemia in 389 patients, an unbalanced diet in 167 individuals, body mass index (BMI) exceeding normal limits in 132 patients, and poor eating habits in 389 individuals.Based on these findings regarding diabetes mellitus risk factors, the researcher selected the working area of UPTD Health Center A in Kudus as the research location.

The number of diabetes mellitus cases continues to increase each year, partly because some patients are still unable to perform proper self-care independently (Srywahyuni et al., 2021). In fact, self-care behavior among Indonesian society remains

suboptimal. Based on research conducted by Sihotang (2023), it was found that most diabetes mellitus sufferers have low self-care behavior with a percentage of 51.9% (Sihotang et al., 2023). If patients with diabetes mellitus cannot carry out self-care properly, it will have a bad impact in the future (Zarei et al., 2022).

One of the efforts that can be applied to diabetes patients in order to achieve well-being and prevent complications is by implementing self-care behavior (Chettiar & Terte, 2022). Self-care is essential for improving well-being and quality of life. For patients with diabetes mellitus, proper self-care helps maintain normal blood glucose levels, prevent complications, and reduce morbidity and mortality (Endra Cita et al., 2019).

Self-care behavior in diabetes mellitus patients is influenced by factors such as gender, age, and family support. The study found that most women are homemakers who play an important role in managing daily health care and tend to have more time and responsibility in monitoring diabetes treatment at home (Ayu et al., 2024). Family support helps motivate diabetes mellitus patients to perform proper self-care. This support includes emotional encouragement, appreciation, facilitation, and family participation, which enable patients to manage self-care more effectively (NWY Marlinda et al., 2019) . The family is the closest support system for patients; therefore, its role is essential in ensuring the continuity of independent self-care among diabetes mellitus patients. (Aryanto et al., 2024) .

Several related studies have been conducted by previous researchers. Research conducted by Noviyanti et al., (2021) measured the self-care behavior of DM patients through education and support for self-management with *simple random sampling.* (Noviyanti et al., 2021) . Meanwhile, research by Nurhayati et al., (2022) measured family support with self-management behavior using *simple random sampling.* (Nurhayati et al., 2022). Meanwhile, research by Aryanto et al., (2024) measured family support with the quality of life of DM sufferers by taking *cluster random sampling.* (Aryanto et al., 2024). The difference between this study and the studies above is that different sampling techniques, and the variables to be studied. This study differs from previous ones in terms of the sampling technique and the variables examined. None of the previous studies have explored the relationship between gender, occupation, and family support with self-care behavior in patients with diabetes mellitus. This study uses purposive sampling, allowing researchers to select respondents based on specific inclusion and exclusion criteria and to analyze these relationships more deeply.

Nurses play an important role in helping diabetes mellitus (DM) patients manage self-care. They provide nursing care and support to improve patients' quality of life. As advocates and educators, nurses give information about diabetes, its complications, and the importance of controlling blood sugar levels. They also act as motivators, counselors, and facilitators to encourage patients, provide emotional support, and help them create effective self-care plans (Syakura, 2022). Because many diabetes mellitus patients depend only on healthcare providers and neglect self-care, this study examines the

relationship between family support and self-care behavior.

METHODS

This research is a quantitative research with an Analytical Correlation research design, with *a Cross Sectional approach.* The Independent Variable in this study is gender, occupation, and family support, and the dependent variable is *self-care behavior.* This study was conducted at the Health Center A in Kudus. The research process began with data collection on December 24, 2024, then continued with research on April 14-30, 2025.

The population in this study consisted of all diabetes mellitus patients recorded as of December, totaling 72 individuals. The required sample was 61 respondents, selected using a non-probability purposive sampling technique. The inclusion criteria were patients diagnosed with diabetes mellitus who visited Health Center A Kudus, were able to read, write, and understand Indonesian, and were willing to participate by providing informed consent. The exclusion criteria were patients who did not complete the questionnaire or had communication difficulties.

The questionnaire used in this study related to family support for diabetes mellitus patients was the Hensarling Diabetes Family Support Scale (HDFSS) questionnaire developed by (Hensarling, 2009). This questionnaire was tested for validity, obtaining a content validity index (CVI) of 1.00, with calculated r-values ranging from 0.31 to 0.93, all exceeding the r-table value of 0.58. The reliability test showed a Cronbach's alpha coefficient of 0.96.

The questionnaire used in this study to assess the self-care behavior of diabetes mellitus patients was the Summary of Diabetes Self-Care Activities (SDSCA). This questionnaire developed by (Toobert et al., 2000) . This instrument has been tested for validity and reliability by (Sh et al., 2019) demonstrated r-values greater than the r-table, ranging from 0.205 to 0.297, with a content validity index (CVI) of 0.98 and a Cronbach's alpha coefficient of 0.72. Both questionnaires were originally developed in English and were back-translated by the researcher. Content validity was assessed by experts, specifically nursing lecturers..

Univariate and bivariate data analysis used in this study. By interpreting the results of respondent characteristics from age, gender, education level, occupation. In the study, a normality test was carried out using *Kolmogorov Smirnov,* the data results were not normally distributed with a $p < 0.05$ so that a bivariate analysis was carried out using the *Spearman Rank Correlation Test* with a significant value of $a = 0.05$, This study has passed the research ethics review of the Health Research Ethics Commission of the Muhammadiyah University of Kudus number 234 / Z-7 / KEPK / UMKU / II / 2025.

RESULTS AND DISCUSSION

Respondent Characteristics

Table 1. Characteristics of Respondents of Diabetes Mellitus Patients at Health Center A in Kudus (n=61)

Characteristics	f	%	Mean	Min-max	Median	SD
Age			44,02	34-58	42	7,63
Gender						
Female	51	83.6				
Male	10	16.4				
Level of education						
SD	10	16.4				
Junior High School	29	47.5				
High School	16	26.2				
S1	6	9.8				
Occupation						
Civil Servant	2	3.3				
Self-employed	12	19.7				
Laborers	12	19.7				
Housewife	29	47.5				
Others	6	9.8				
Total	**61**	**100**				

Based on the research results from a total of 61 respondents, the age range of diabetes mellitus patients in the study sample was between 34 and 58 years. The average age of respondents was 44.02 years, with a median age of 42.00 years. This indicates a relatively even distribution around the age of 42. The standard deviation was 7.63, suggesting that the ages of most respondents did not vary widely from the average age. Age is also relevant to the issue of *self-care,* where as individuals get older, they begin to face problems in terms of managing chronic diseases independently.

This is supported by the results of a study conducted by (Nora et al., 2025) which obtained results from 68 respondents aged 31-50 years, seeing that the vulnerable age of 35-45 years had symptoms of decreased physiological body function. In this age range, all lifestyle patterns that were carried out during their youth will begin to have an effect when they enter middle adulthood. Another study was also conducted by (Muhammad Hannan, 2021) as a person gets older, there will be changes in physiological function and body anatomy in people with diabetes mellitus in terms of blood glucose control tolerance and increasing insulin retention in the body.

The results of the study showed that the majority of respondents, 51 respondents (83.6%) were female. Women have factors that can make them more at risk of suffering from diabetes mellitus than men, namely physiological and hormonal factors (Latiifah, 2020).

This is in accordance with research conducted by (Rosita et al., 2022) that women suffer more from diabetes mellitus than men with a percentage of 56.1%. Physically, women have the potential for a greater increase in body mass index, the menstrual cycle that occurs, menopause that occurs so that the body easily accumulates fat due to hormonal processes, the body will send hunger signals which cause the body's metabolism to not receive direct

calorie intake and operate as a whole so that there is an increase in blood sugar. Another study was conducted by (Susanti et al., 2024) with a percentage of 87.5% women, 12.5% men. That there are several factors that make women more likely to get diabetes mellitus than men. The presence of hormonal factors, lifestyle, menstruation, menopause, especially in pregnant women who have the potential for gestational diabetes.

Based on the results of the study, the majority of respondents, 29 respondents (47.5%) had a junior high school education level. The level of education is one of the factors that also influences the understanding and knowledge of patients regarding diabetes mellitus and the process of independent self-care. A low educational background does not necessarily mean that a patient has poor knowledge or understanding. With consistent encouragement and support from the family, patients can be helped to carry out proper self-care effectively (R. Marlinda et al., 2022).

Similar research was also conducted by (Putri, 2024) The percentage of respondents with low education levels was 40%. Education is one of the supporting factors in understanding a disease. However, it should not be considered the sole determinant of a patient's ability to perform self-care properly. Patients with low levels of education require encouragement and support from their families, so that families can assist in ensuring the patient's self-care is carried out consistently and correctly.

The results of the study showed that the majority of respondents, 29 respondents (47.5%) were housewives. When viewed from a social and economic perspective, they have a major role in daily health management. Patients with housewife status tend to have more time and role in managing and supervising diabetes mellitus treatment at home (Ayu et al., 2024).

Research conducted by (Anggi Amalia Cinta Lestari, 2024), there were 26.1% of respondents with housewife status. Housewife work makes patients have more time to pay attention to their illness, compared to patients with working status who tend to have limited time. Housewives will always do a lot of physical activities at home, such as washing clothes, cleaning the house, cooking, and several other activities, so that with the many body movements that occur, the insulin work system increases so that blood glucose levels decrease. If insulin is not sufficient in terms of converting sugar into energy, diabetes mellitus will arise.

The Description of Family Support and Self Care Behavior

Table 2. Analysis Variables Support Family and Self Care Behavior (n=61)

Variable	f	%
Family Support		
Good	45	73.8
Not Good	16	26.2
Self Care Behavior		
Good	44	72.1
Not Good	17	27,9
Total	61	100

Based on the research that has been conducted, from 61 respondents, the majority of 45 (73.8%) respondents received good family support. Most families have a close relationship with the patient. The family always takes the time to provide support related to the management of diabetes mellitus sufferers.

This is in line with research conducted by (Suhailah et al., 2023) which states that families can provide full support due to the closest relationship with fellow family members. In addition, researchers also argue that in addition to close relationships, families always pay attention and always remind everything related to patient care, this is in line with research conducted by (Zanzibar & Akbar, 2023) that people with diabetes mellitus need support and enthusiasm within the family and always pay attention to other family members will have a greater sense of security and comfort so that it can create motivation in the sufferer. Research conducted by (Rahmi et al., 2020) It explains that those closest to diabetes mellitus patients need to provide emotional support to help improve the patients' self-care behavior.

Based on the research conducted 44 (72.1%) respondents have good self-care behavior. This is in accordance with research conducted by (Dentaningtyas & Ika Silvitasari, 2024) which states that the majority of DM patients plan their diet well, regularly consume fruits and vegetables. The recommended fat diet for diabetes mellitus patients is to replace high-fat foods with types of foods containing vegetable oil. One of the factors that causes blood sugar levels to rise is a lack of physical activity. Research conducted by (Article et al., 2024) . Most respondents maintain their diet by preferring foods that are high in protein.

Gender Relationship with Self Care Behavior in Diabetes Mellitus Patients

Table 3. Relationship between Gender and Self Care Behavior in Diabetes Mellitus Patients (n=61)

Gender	Self Care						Coefficient correlation	P value
	Not Good		Good		Total			
	n	%	n	%	n	%		
Woman	12	23.5	39	76.5	51	83.6	0.219	0.091
Man	5	50	5	50	10	16.4		
Total	**17**	**27.9**	**44**	**72.1**	**61**	**100**		

Based on table 3, majority Respondent Woman own behavior good self care a total of 51 respondents (83.6%), while on man found between respondents who have behavior self care Good And not enough Good both of them a total of 5 respondents (50%). Found p value 0.091 which means No There is connection meaningful between gender and behavior self care diabetes mellitus patients with level correlation weak with coefficient correlation 0.219.

These results are supported by previous studies which found that gender is not the sole factor influencing self-care behavior; other factors may play a more significant role. Further research is needed to identify individual factors that contribute to self-care, in order to improve education and intervention strategies. (Graven et al., 2021) .

Women have certain factors that may put them at a higher risk of developing diabetes mellitus compared to men, namely physiological and hormonal factors (Latiifah, 2020). From a gender perspective, women tend to have a higher overall health status score compared to men, although the overall level remains relatively low (Bischof et al., 2023) .

Occupation Relationship with Self Care Behavior in Diabetes Mellitus Patients

Table 4. Relationship between Occupation and Self Care Behavior in Diabetes Mellitus Patients (n=61)

Occupation	Self Care						Coefficient correlation	P value
	Not Good		Good		Total			
	n	%	n	%	n	%		
Housewife	6	20.7	23	79.3	29	47.5	0.419	105
Laborer	5	41.7	7	58.3	12	19.7		
Self-employed	4	33.3	8	66.7	12	19.7		
Civil servant	0	0	2	4.5	2	3.3		
Other	2	33.3	4	66.7	6	9.8		
Total	17	27.9	44	72.1	61	100		

Based on Table 4, the majority of respondents work as housewives, with 23 respondents (79.3%) demonstrating good self-care behavior, while 6 respondents (20.7%) showed inadequate self-care behavior. The p-value was 0.491, indicating a not statistically significant relationship between gender and self-care behavior in diabetes mellitus patients. However, the correlation was very weak, with a correlation coefficient of 0.419. From a social and economic perspective, housewives play a major role in managing daily health care. Patients with housewife status tend to have more time and responsibilities in managing and supervising diabetes mellitus treatment at home. Nevertheless, occupation is not the only factor influencing self-care behavior (Ayu et al., 2024).

Previous phenomenological studies indicate that respondents mentioned both internal and external factors affecting their self-care practices. These include neglecting self-care due to lack of awareness, insufficient energy or motivation, and economic difficulties that force them to work overtime. As a result, the respondents' overall well-being is disrupted because they tend to ignore their mental health (George et al., 2024) .

Relationship Between Family Support and Self Care Behavior in Diabetes Mellitus Patients

Table 5. Relationship between Family Support and Self Care Behavior in Diabetes Mellitus Patients (n=61)

Family support	Self Care						Coefficient correlation	P value
	Good		Not Good		Total			
	n	%	n	%	n	%		
Good	37	82,2	8	17,8	45	100	0,377	0.003
Not Good	7	43,8	9	56,3	16	100		
Total	**44**	**72,1**	**17**	**27,9**	**61**	**100**		

The results of this study indicate that there is a Relationship between Family Support and *Self-Care Behavior* in Diabetes Mellitus Patients at Puskesmas A Kudus. This is indicated by the results of the study with a P value of 0.003 <0.05, which means that there is a significant relationship with a relationship strength of 0.377, which means a low correlation level which is in the coefficient interval of 0.20-0.399. The relationship has a positive correlation direction, which means it is in the same direction. The greater the family support given, the greater the self-care behavior carried out in diabetes mellitus patients.

This is in line with research conducted by (Hijriana et al., 2023) with a P value of 0.004 that there is a relationship between family support and self-care. The support provided by the family creates motivation for diabetes mellitus patients, with that support patients feel cared for, receive information related to the disease they are suffering from. So that with this, patients can go through problems in the treatment process and self-care. Family support is the closest unit to patients. The role of the family and the support provided can improve self-care in diabetes mellitus patients.

Research conducted by (Puspitasari et al., 2024) with a P value of 0.000 showed that family support is very important for patients with diabetes mellitus in helping to improve patient self-care. The role and function of the family are very important in terms of providing support to sick family members. The family has a big role in providing emotional support, appreciation, instrumental, facilitation. Patients become more active in terms of doing *self-care* independently.

Similar research was also conducted by (W Faswita, JD Nasution, 2022) with a P value of 0.007 that There is a relationship between family support and self-care compliance. When family members are consistently present and supportive, patients are more likely to perform self-care independently and effectively. It is important for families to understand each other's conditions and improve coordination regarding family health, working together toward the same goal.

Research Limitations

Although this research was conducted properly, there are several limitations. One of the limitations is the relatively small sample size, with fewer than 100 respondents. Studies with larger sample sizes are expected to produce more robust results. Additionally, this research employed a quantitative method with a cross-sectional approach, meaning the data were collected at a single point in time. Therefore, there is a possibility that further in-depth qualitative studies are needed to better explore and understand the variables discussed.

CONCLUSION AND RECOMMENDATION

The results of this study revealed a significant positive relationship between family support and self-care behavior among diabetes mellitus patients. This correlation indicates that higher levels of family support are associated with better self-care behavior. However, no significant relationship was found between gender or occupation and self-care behavior in diabetes mellitus patients.

It is recommended that Health Center A in Kudus develop family-based interventions to emphasize the importance of family support in improving the health and well-being of patients.

Ethics Approval and Consent to Participate

This study has obtained ethical approval from the Health Research Ethics Committee of Muhammadiyah University of Kudus, with approval number 234/Z-7/KEPK/UMKU/II/2025.

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REFERENCES

Anggi Amalia Cinta Lestari. (2024). Hubungan Kadar Gula Darah Dengan Tekanan Darah Pada Pasien Diabetes Melitus Tipe 2. *Analis Kesehatan Sains*, *13*(1), 265–273. https://doi.org/10.36568/anakes.v13i1.99

Article, O., Access, O., Hendra, A. L., Bachtiar, S., & Fauziyah, N. (2024). *HUBUNGAN SELF CARE DENGAN KADAR GULA DARAH PADA PASIEN DIABETES MILITUS (DM) DI DESA DUKUHMAJA*. *2*, 27–39.

Aryanto, T. A., Sulastyawati, S., Pujiastuti, N., & Hidayah, N. (2024). Hubungan Dukungan Keluarga dengan Kualitas Hidup Penderita Diabetes Melitus. *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan)*, *9*(1), 63. https://doi.org/10.30829/jumantik.v9i1.16986

Ayu, S. A., Achmad, V. S., Wijayaningsih, K. S., & Nurajizah, R. S. (2024). Peran Kemandirian Kesehatan Keluarga Terhadap Kontrol Diri pada Individu Penderita Hipertensi. *MAHESA : Malahayati Health Student Journal*, *4*(3), 907–927. https://doi.org/10.33024/mahesa.v4i3.13921

Bischof, A. Y., Steinbeck, V., Kuklinski, D., Marques, C. J., & Bohlen, K. (2023). What is the association between gender and self - perceived health status when controlling for disease - specific conditions ? A retrospective data analysis of pre - and post - operative EQ - 5D - 5L differences in total hip and knee arthroplasty. *BMC Musculoskeletal Disorders*, 1–12. https://doi.org/10.1186/s12891-023-07026-0

Chettiar, S., & Terte, I. de. (2022). Self-care behaviours. *The Psychological Resilience Treatment Manual*, 47–78. https://doi.org/10.4324/9781003256779-3

Dentaningtyas, F. A., & Ika Silvitasari. (2024). Gambaran Self Care Pada Penderita Diabetes Mellitus Di Prolanis Puskesmas Kartasura. *JHN: Journal of Health and Nursing*, *3*(1), 7–17. https://doi.org/10.58738/jhn.v3i1.583

Dinkes Kudus. (2023). Dinas Kesehatan Kabupaten Kudus. Profil Kesehatan Kabupaten Kudus. Kudus: Dinas Kesehatan Kabupaten Kudus. 2023. *Dinas Kesehatan Kabupaten Kudus*, *15*. https://dinkes.kuduskab.go.id/info-grafis-3/

Dinkes Kudus. (2024). *Infografis Tahun 2024*. Dinas Kesehatan Kabupaten Kudus. https://dinkes.kuduskab.go.id/infografis-tahunan-2024/

Endra Cita, E., Antari, I., Keperawatan, P. S., & Tinggi Ilmu Kesehatan Madani Yogyakarta, S. (2019). Perawatan Diri (Self Care) Pada Pasien Diabetes Melitus Tipe II. *Jurnal Kesehatan Madani Medika*, *10*(2), 85–91.

George, J., Nkabinde-Thamae, & Downing, C. (2024). Self-care practices among professional nurses employed in primary health care clinics. *South African Family Practice*, *66*(1), 1–8.

https://doi.org/https://doi.org/10.4102/safp.v66i1.5955

Graven, L. J., Abbott, L., Dickey, S. L., & Schluck, G. (2021). The influence of gender and race on heart failure self-care. *Chronic Illness*, *17*(2), 69–80. https://doi.org/10.1177/1742395319843163

Hensarling, J. (2009). Development and Psychometric Testing. *Dissertation*, *14*(May), 259–268.

Hijriana, I., Yusnita, Y., & Wati, S. (2023). Hubungan Dukungan Keluarga dan Self Care Management dengan Kualitas Hidup Penderita Diabetes Mellitus. *Jurnal Keperawatan*, *15*(2), 653–660. https://doi.org/10.32583/keperawatan.v15i2.883

IDF. (2022). *IDF Diabetes Atlas: Global, regional and country-level diabetes prevalence estimates for 2021 and projections for 2045*. Diabetes Research and Clinical Practice. https://diabetes-indonesia.net/2022/02/idf-diabetes-atlas-global-regional-and-country-level-diabetes-prevalence-estimates-for-2021-and-projections-for-2045/

Latiifah, I. R. N. (2020). Hubungan Antara Karakteristik Responden Dengan Kader Glukosa Darah Puasa Pada Penderita Diabetes Melitus Tipe 2 Di Puskesmas Purwosari Surakarta. *Universitas Muhammadiyah Surakarta*, 1–20.

Lavenia, A. (2024). *Perkenalan dengan: Diabetes, Ibu dari Segala Penyakit*. CXO Media. https://www.cxomedia.id/general-knowledge/20240409132309-55-180211/perkenalan-dengan-diabetes-ibu-dari-segala-penyakit

Marlinda, N. W. Y., Nuryanto, I. K., & Noriani, N. K. (2019). Hubungan Dukungan Keluarga Dengan Perawatan Diri (Self Care Activity) Pada Pasien Diabetes Melitus Tipe 2. *Jurnal Riset Kesehatan Nasional*, *3*(2), 82–86. https://doi.org/10.37294/jrkn.v3i2.182

Marlinda, R., Rahayu Ningrum, D. C., Nofia, V. R., & Trisnadewi, E. (2022). Hubungan Dukungan Keluarga Dengan Self-Care Pada Pasien Diabetes Melitus Tipe Ii Dengan Komplikasi Ketoasidosis Diabetikum (Dka). *Jurnal Kesehatan Saintika Meditory*, *5*(1), 105. https://doi.org/10.30633/jsm.v5i1.1500

Muhammad Hannan. (2021). *Gambaran Kualitas Hidup Pasien Diabetes Mellitus*. *2*(2), 32–38.

Nora, P., Gultom, N., Harahap, F., Edi, S., & Sipahutar, H. (2025). *Hubungan Antara Jenis Kelamin dan Usia pada Penyakit Diabetes Melitus di Puskemas Kota Medan Tahun 2024-2025*. *14*(1), 142–150. https://doi.org/10.56013/bio.v14i1.3960

Noviyanti, Li. Wi., Suryanto, S., & Rahman, R. T. (2021). Peningkatan Perilaku Perawatan Diri Pasien melalui Diabetes Self Management Education and Support. *Media Karya Kesehatan*, *4*(1), 67–77. https://doi.org/10.24198/mkk.v4i1.30747

Nurhayati, C., Veronika, F., Ambarsari, N., Rustini, S. A., & Farida, I. (2022). Hubungan Dukungan Keluarga Dengan Self Menagement Pada Penderita Dm Tipe 2. *Jurnal Ilmiah Keperawatan Stikes Hang Tuah Surabaya*, *17*(01), 38–43. http://journal.stikeshangtuah-sby.ac.id/index.php/jlk

Puspitasari, W., Roudotul Jannah, T., Ikhlasul Amal, A., Arifin Noor, M., Sultan Agung Alamat, I., & Raya Kaligawe Km, J. (2024). Analisis Motivasi Dan Dukungan Keluarga Dengan Self Care Management Pada Pasien Diabetes Mellitus Di Rsi Banjarnegara: Studi Cross Sectional. *Jurnal.Stikes-Ibnusina.Ac.Id*, *2*(1), 123–136. https://jurnal.stikes-ibnusina.ac.id/index.php/an-Najat/article/view/1062

Putri, N. A. (2024). Hubungan Tingkat Pendidikan Dengan Ativitas Self Care Pada Penderita Diabetes Mellitus Tipe 2 di Puskesmas Karangmalang. *Jurnal Ners Universitas Muhammadiyah Semarang*, *8*, 1076–1083.

Rahmi, H., Malini, H., & Huriani, E. (2020). Peran Dukungan Keluarga Dalam Menurunkan Diabetes Distress Pada Pasien Diabetes Mellitus Tipe II. *Jurnal Kesehatan Andalas*, *8*(4), 127–133. https://doi.org/10.25077/jka.v8i4.1129

Rosita, R., Kusumaningtiar, D. A., Irfandi, A., & Ayu, I. M. (2022). Hubungan Antara Jenis Kelamin, Umur, Dan Aktivitas Fisik Dengan Diabetes Melitus Tipe 2 Pada Lansia Di Puskesmas Balaraja Kabupaten Tangerang. *Jurnal Kesehatan Masyarakat (Undip)*, *10*(3), 364–371. https://doi.org/10.14710/jkm.v10i3.33186

Sh, S., Hsu, Y. Y., Toobert, D. J., & Wang, S. T. (2019). The Validity and Reliability of The Summary of Diabetes Self-Care Activities Questionnaire: An Indonesian Version. *Indonesian Nursing Journal of Education and Clinic (Injec)*, *4*(1), 25. https://doi.org/10.24990/injec.v4i1.229

Sihotang, E. M., Tini, & Purwanto, E. (2023). The Relationship between Family Support and Self-Care Behavior on Diabetes Mellitus Patients. *Formosa Journal of Science and Technology*, *2*(5), 1243–1262. https://doi.org/10.55927/fjst.v2i5.4027

Srywahyuni, A., Amelia, D., & Zulita, O. (2021). Analisa Diabetic Self Care Menggunakan Summary of Diabetes Self Care Activities (SDSCA) Pada Penderita Diabetes Melitus. *REAL in Nursing Journal*, *4*(3), 148. https://doi.org/10.32883/rnj.v4i3.1487

Suhailah, D., Hasneli, Y., & Herlina. (2023). Gambaran dukungan keluarga pada penderita diabetes melitus di wilayah kerja Puskesmas Sail Kota Pekanbaru. *Jurnal Ilmu Kesehatan Dan Gizi (JIG)*, *1*(1), 55–70.

Susanti, N., Raniah, S., Sari, N. C., & Agustin, A. M. (2024). *KEJADIAN PENYAKIT DIABETES MELITUS DI UPT PUSKESMAS STABAT*. *8*, 6355–6361.

Syakura, A. (2022). Peran Perawat dalam Meningkatkan Kemandirian Penderita Diabetes Melitus yang Mengalami Ulkus Dekubitus di RSUD Mohammad Noer Pamekasan. *Professional Health Journal*, *4*(1), 88–96. https://doi.org/10.54832/phj.v4i1.292

Toobert, D. J., Hampson, S. E., & Glasgow, R. E. (2000). The Summary of Diabetes Self-Care. *Diabetes Care Journal*, *23*(7), 943–950.

W Faswita, JD Nasution, E. E. (2022). *Abstrak Pendahuluan Diabetes Melitus (DM) adalah penyakit endokrin dan metabolik dengan insiden dan kecenderungan genetik yang tinggi yang sangat memengaruhi kualitas hidup pasien dan*

keturunannya .(Hua et al ., 2021) DM juga merupakan penyakit kronis. *2*(2), 110–118.

WHO. (2023). WHO discussion group for people living with diabetes. *World Health Organizatio Website*, *March*, 1–16. https://iris.who.int/bitstream/handle/10665/374810/9789240081451-eng.pdf?sequence=1

Zanzibar, & Akbar, M. A. (2023). Dukungan Keluarga Dengan Kualitas Hidup Pasien Diabetes Mellitus Tipe Ii. *Cendekia Medika: Jurnal Stikes Al-Ma`arif Baturaja*, *8*(1), 107–113. https://doi.org/10.52235/cendekiamedika.v8i1.227

Zarei, L., Saleh, R. O., Arziev, I. A., Al-Gazally, M. E., Mahmudiono, T., Piri, N., Shokri, S., & Huldani, H. (2022). Investigating the factors affecting self-care behaviors in diabetic patients: A systematic review. *Journal of Biological Research (Italy)*, *95*(1). https://doi.org/10.4081/jbr.2022.10261