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The Role of Family Support in Foot Care Compliance among Patients with Type 2 Diabetes Mellitus

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Abstract

Background: Type 2 Diabetes Mellitus (DM) is a chronic disease with a high risk of diabetic foot complications. During the COVID-19 pandemic, limited access to health services increased the importance of family-based self-care. This study aimed to analyze the relationship between family support and foot care adherence among patients with type 2 DM. **Methods:** A cross-sectional design was employed with 30 respondents selected through accidental sampling. Data were collected using a family support questionnaire and a foot care observation sheet. The Chi-square test was applied with a significance level of 0.05. **Results:** The results showed a significant relationship between family support and foot care adherence (p = 0.001). **Conclusion:** Strong family support improves patients' adherence in performing routine foot care.

Keywords: DM, Family Support, Compliance, Foot Care.

1. Introduction

Diabetes mellitus type 2 is Wrong One disease No infectious with continued prevalence increase globally. The International Diabetes Federation reports that global DM prevalence reached 9.3% in population adults (IDF, 2019). In Indonesia, the prevalence of DM is increasing from 6.9% in in 2013 to 10.9% in 2018 (Riskesdas, 2018).

The latest data in 2015 shown by the Indonesian Endocrinology Association (PERKENI) stated that the number of DM sufferers in Indonesia had reached 9.1 million people. With this figure, Indonesia was ranked 5th in the world, or rose two ranks compared to the 2013 IDF data which was ranked 7th in the world with 7.6 million people suffering from DM (Perkeni 2020) .

Complications chronic frequent happen is potential diabetic foot ulcers cause amputation (American Diabetes Association [ADA], 2020). On time COVID-19 pandemic, DM patients are included group prone to with risk more complications high (PERKENI, 2020). Support family become factor important in increase compliance patient to maintenance self, including foot care (Friedman, 2013).

Based on research conducted by (Guan et al., 2020) in China and (Onder et al., 2020) in Italy, it was shown that older patients with chronic diseases, including diabetes, have a higher risk of contracting COVID-19 and dying. SARS-CoV-2 infection in those with diabetes may trigger a higher stress condition, with a greater release of hyperglycemic hormones, for example, glucocorticoids and catecholamines, which cause increased blood glucose levels and abnormal glucose variability (Suardi, Wirda, Ernawati, Dina Oktaviana, & Dewiyanti, 2021) .

Diabetic foot care education involving the family is also crucial, given that diabetes is a hereditary disease that places family members at risk. Family involvement can be part of prevention efforts and early exposure of families at risk to diabetes and its management, particularly efforts to prevent diabetic foot complications (Suardi, 2025). (Sari & Haroen, 2016) .

Research results by Purnamayanti & Deva (2020) This educational approach has a positive impact during the COVID-19 pandemic, increasing understanding of the importance of foot care without requiring face-to-face lectures from healthcare professionals. The pre-score in this study was 11.48, while the post-score after the intervention was 13.08. Video instruction can be recommended for preventing foot complications in DM patients, both individually and with the assistance of family members, and can be applied daily.

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Based on background behind said, research This aim analyze connection support family to compliance foot care on type 2 DM patients.

2. Materials and Methods

This study employed an analytic survey design with a cross-sectional approach. The population consisted of 67 patients with type 2 Diabetes Mellitus in the working area of Bulukunyi Community Health Center. A total of 30 respondents were selected using an accidental sampling technique. The research instruments included a family support questionnaire based on a Likert scale and a foot care observation sheet developed according to standard operating procedures (SOP). Data were analyzed using the Chi-square test with a significance level set at 0.05.

3. Results

Characteristics Response

Table 1. Characteristics Respondents Based on Age, Duration of DM Suffering, Income, and GDS in Takalar Regency

Respondent characteristics	n	Mean (min-max)	Elementary School
Age (Years)	30	56.10 (41 -7 9)	± 9,586
Duration of DM Suffering (Years)	30	4.90 (1-14)	± 3,726
Income (Rp)	30	1,550,000 (1 million - 4 million)	± 699137,400
GDS	30	298.77 (239 - 418)	± 51,187

Based on Table 1 above show that from 30 respondents, average respondents aged 56.10 year with age lowest 41 year And age oldest is 79 years, for the average duration of suffering from DM is 4.90 years, with the lowest duration being 1 year and the longest being 14 years, for the average income earning Rp. 1,550,000, with the lowest income being Rp. 1,000,000, and the highest being Rp. 4,000,000, while for the average GDS is 298.77 mg/dL, with the lowest GDS being 239 mg/dL and the highest GDS being 418 mg/dL.

Family Support

Table 2. Distribution frequency respondents based on Family Support for Type 2 Diabetes Mellitus Patients in Takalar Regency

Family Support	n	%
Good	25	83.3
Not enough	5	16.7
Total	**30**	**100.0**

Based on Table 2 above show that from 30 respondents, good family support, namely as much as 25 respondents (83.3 %) and Lack of family support that is as much as 5 respondents (16.7 %).

Foot Care

Table 3. Distribution frequency respondents based on Foot Care for Type 2 Diabetes Mellitus in Takalar Regency

Foot Care	n	%
Done	21	70
Are not done	9	30
Total	**30**	**100.0**

Based on Table 3 above show that from 30 respondents, who underwent foot care, namely as much as 21 respondents (70 %) and Foot Care that is not done is as much as 9 respondents (30 %).

Role Support Family To Compliance Foot Care On Diabetes Mellitus Patients Type 2

Table 4. Analysis Connection Family Support for Foot Care in Type 2 Diabetes Mellitus Patients in Takalar Regency

Family Support	Foot Care				Total		P
	Done		Are not done				
	n	%	n	%	n	%	
Good	21	70	4	13.3	25	83.3	0.0 01 *
Not enough	0	0	5	16.7	5	16.7	
Total	21	70	9	30	30	100.0	

* *Fisher's Exact Test*

Based on Table 4 above show that from 30 respondents, 25 respondents had good family support (83.3%), and Family Support Good with Foot care is done that is 21 respondents (70 %) and those with family support Good with Foot care is not done 4 respondents (13.3 %), while from 5 respondents who have family support not enough with Foot Care was carried out by no respondents and for Family Support not enough with Foot care was not carried out by 5 respondents (16.7%).

Results statistical test using Fisher's Exact Test obtained P0 value ,0 01 more small from α value = 0.05. This show that There is Connection Family Support with Foot Care for Type 2 Diabetes Mellitus Patients During the Covid-19 Pandemic in the Bulukunyi Community Health Center Work Area, Takalar Regency.

4. Discussion

Support family which includes support emotional, informational, instrumental, and award contribute to improvement motivation And compliance patient in do foot care. Results This in line with theory Friedman (2013) stated that that family is system supporters main in management disease chronic. On time pandemic, involvement family the more important Because limited interaction direct with power health.

Research by Vivi Yunita Putri, Rani Lisa Indra, and Susi Erianti (2019) on Factors related to foot care practices in DM patients at the Rejosari Community Health Center stated that there is a relationship between family support and foot care with a p value of 0.001. The results of the study that have been conducted with good family support who carry out good foot care are 26 people (18.6%) and carry out poor foot care are 6 people (13.4%), while those who receive less family support carry out good foot care are 32 people (39.4%) and carry out poor foot care are 36 people (28.6%).

Research by Dian Prawesti and Dewi Ratnawati (2015) Family support increases gangrene prevention efforts (Foot Care) in diabetes mellitus patients with the results obtained p value of 0.000. From the tabulation results, those who have insufficient family support with insufficient prevention (foot care) are 4 people (100%), sufficient family support with insufficient prevention (foot care) are 10 people (15.6%), sufficient family support with sufficient prevention (foot care) are 54 people (84.4%), good family support with sufficient prevention (foot care) are 2 people (20%), and good family support with good prevention (foot care) are 8 people (80%).

Further research in line with the above research is research conducted by Plores L Sianutri (2018) on the relationship between family support and foot care in diabetes mellitus patients at Padang community health centers. It shows that family support is categorized as good (82.5%) and there is a relationship between family support and foot care in diabetes mellitus patients with a p-value of 0.000. Research conducted by Miftachus Sidiq (2017) on the relationship between family support and foot care compliance in DM patients at Malang City Hospital with the results obtained a p-value of 0.004 which is less than the alpha value of 0.005.

Based on the researcher's assumption, the results of this study indicate that of the 30 respondents who had good family support and did foot care, there were 21 respondents (70%), which means there is a relationship between family support and foot care because the family has an important role for patients because with the fulfillment of family support in doing foot care, patients will be enthusiastic and more regular in doing foot care well. In this study, there were 4 respondents (13.3%) who had good family support but did not do foot care, these respondents did foot care but not according to the SOP, which was determined on objective criteria that said to do foot care if according to the SOP and not do if not according to the SOP. From these conditions it shows that there are other factors that cause patients not to do foot care seen from the characteristics of respondents who have an education that has not completed elementary school as many as 8 respondents (26.7%) and elementary school as many as 10 respondents (33.3%) from the low education factor due to lack of knowledge and understanding of foot care and also caused by work where the respondents have jobs as housewives but also play a role as farmers so that the respondents are busy with their daily routines that have to do two roles at once, causing respondents not to do foot care according to SOP. While those with less family support with foot care not done as many as 5 respondents (16.7%) these respondents do foot care but not in accordance with the specified SOP, this is also influenced by the low education factor, because education can increase a person's knowledge and understanding, so that respondents are less in

doing foot care. of the 5 respondents whose foot care is not done shows that family support, encouragement and motivation are very influential on patients in doing foot care routinely and regularly. This research aligns with research by Sari, Haroen, and Nursiswati (2016), which found that family support for diabetes mellitus patients plays a crucial role in improving foot care behavior. As diabetes mellitus patients progress, many experience complications due to the condition, so family involvement is essential, as they serve as caregivers at home.

The results of this study are in line with research conducted by Rembang, Katuk and Malara (2017) which showed that good family support can increase patients' abilities and interest in carrying out foot care. This research aligns with research by Ismonah and Anita Putri Oktaviani (2019), which states that education significantly influences a person's behavior. A person with a higher level of education will behave differently from a person with a lower level of education. Increased knowledge is not solely achieved through formal education; it can also be achieved through non-formal education. A person's knowledge of an object also contains positive and negative aspects. These two aspects will determine a person's attitudes and actions toward an object, both positive and negative (Suardi, Razak, et al., 2021)

5. Conclusions

There is connection significant between support family with compliance foot care on type 2 DM patients during COVID-19 pandemic in the region Work Community Health Center Bulukunyi Takalar.

Conflict of Interest

The authors declare no conflicts of interest.

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References

American Diabetes Association. (2020) . Standards of medical care in diabetes 2020. Diabetes Care, 43(Suppl. 1), S1-S212.

Friedman, M. (2013). Family nursing: Research, theory, and practice. Pearson.

Galandjindjinay, A., Wahyuni, E., Thalib, A., & Mustafa, S. R. (2024). The effect of blended learning methods on diabetic foot care on knowledge and skills to prevent the risk of diabetic foot injuries in patients with type II diabetes mellitus. *Innovative Approaches in Health Science Journal, 1*(1), 1–6. https://doi.org/10.64871/qqy2ny79

Guan, Wei- jie , WJ, Ni, ZY, Hu, Y., Liang, WH, Ou , CQ, He, JX, Liu, L., Shan, H., Lei, CL, Hui , DSC, Du, B., Li, LJ, Zeng , G., Yuen, KY, Chen, RC, Tang, CL, Wang, T., Chen, PY, Xiang, J., … Zhong , NS (2020). Clinical characteristics of coronavirus disease 2019 in China. *New England Journal of Medicine, 382* (18), 1708–1720. https://doi.org/10.1056/NEJMoa2002032

Ismonah , & Oktaviani , Anita Putri , AP (2019). The Influence education to behavior foot care on diabetes mellitus patients . *Journal Nursing And Health Society* , 8(1), 33-41.

International Diabetes Federation. (2019) . IDF diabetes atlas (9th ed.). Brussels: IDF.

Onder , Graziano , G., Rezza , G., & Brusaferro , S. (2020). Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA, 323* (18), 1775-1776. https://doi.org/10.1001/jama.2020.4683

PERKENI. (2020) . Guidelines management And prevention of diabetes mellitus Type 2 in Indonesia. Jakarta: PB PERKENI.

Purnamayanti , NKD, & Deva, GTB (2020). *Empowerment Student Nurse*

Prawesti , Dian , D., & Ratnawati , Dewi , D. (2015). Support family increase effort prevention gangrene (foot care) on diabetes mellitus patients . *Journal Knowledge Nursing* , 3(1), 45-53.

Princess , Vivi Yunita , VY, Indra , Rani Lisa , RL, & Erianti , Susi , S. (2019). Factors related to with practice foot care on diabetes mellitus patients at the Community Health Center Rejosari . *Journal Nursing* , 11(2), 85-92.

Online Based For Detection Early Diabetic Foot Complications in Period Covid19 pandemic . 5.

Riskesdas . (2018) . Report national research health 2018 basis . Ministry Indonesian Health .

Rembang , Y. , Y., Katuk , M. , M., & Malara , R. , R. (2017). Connection support family with ability foot care on diabetes mellitus patients . *Journal Indonesian Nursing* , 20(2), 120-127.

Sari. CWM, Haroen . H., Nursiswati . (2016) . *The influence of educational programs foot- based care family to behavior foot care on diabetes mellitus patients type 2. Journal Nursing Padjadjaran* , 4(3), 150-158.

Sianutri , Plores L , PL (2018). Connection support family with foot care on diabetes mellitus patients at Padang Health Center . *Journal Health Medicine* , 10(1), 21-28.

Sidiq , Miftachus , M. (2017). Relationship support family to compliance foot care on Diabetes mellitus patients at Malang City Hospital. *Journal Nursing Clinical* , 5(2), 101-109.

Suardi. (2025). *Effectiveness of Leaflet-Based Education for the Elderly on Knowledge of Covid-19 Prevention* . *2* (2).

Suardi, S., Razak, A., Amiruddin, R., Ishak, H., Salmah, U., & Maria, IL (2021). Effectiveness of diabetes self-management education against diet behavior in patients with type 2 diabetes mellitus: A literature review. *Open Access Macedonian Journal of Medical Sciences* , *9* (E), 364–368. https://doi.org/10.3889/oamjms.2021.6033

Suardi, Wirda, Ernawati, Dina Oktaviana, & Dewiyanti. (2021). Implementation of Educational Support and Its' Related Factors Associated with Random Blood Sugar among Type 2 Diabetes Mellitus Patients During Covid-19. *Ijnhs.Net* , *4* (4), 594–601.

Sulfikar, A., Rajab, A., Thalib, A., & Musyawir, A. (2024). Strengthening diabetes self-management skills in people with diabetes mellitus in Kapasa Raya Village. *Journal of Evidence-Based Community Health, 1*(1), 7–10. https://doi.org/10.1234/kwnypf33