

Family Support in Caring for Diabetes Mellitus Family Members with Blood Sugar Level Problems in Fasalwadi Village, SangaReddy

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Abstract: Background: Diabetes mellitus (DM) is a chronic disease requiring care from family members. The support and participation from other family members can influence the care for diabetes mellitus clients, aiding in blood sugar level control. **Objectives:** This research aims to determine family support in caring for family members with diabetes mellitus who have blood sugar level problems in Fasalwadi Village, SangaReddy. **Method:** This study utilized a Correlational Analytic design with a cross-sectional approach. The research population comprised diabetes sufferers in Fasalwadi Village, SangaReddy, totaling 110 people. The research sample consisted of 110 respondents selected using total sampling techniques. Data collection was conducted using a questionnaire and blood sugar level observations, with data analysis performed using the Spearman rho test. **Results:** The study revealed that the majority of respondents with good family support had normal blood sugar levels (71 respondents, 76%), while those with less family support had high blood sugar levels (34 respondents, 63%). The statistical test results showed a p value of 0.001 with <0.05 , indicating a significant relationship between family support and blood sugar level control in family members with diabetes mellitus in Fasalwadi Village, Sanga Reddy District. **Conclusion:** Family members must be aware and provide support to diabetes mellitus sufferers to help control blood sugar levels effectively.

Keywords: diabetes mellitus, family support.

INTRODUCTION

Diabetes mellitus (DM) is a group of metabolic diseases characterized by hyperglycemia due to abnormalities in insulin secretion, insulin action, or both. The increasing number of diabetes sufferers is often due to a lack of knowledge about diabetes management [Balaji, R. *et al.*, 2019 - Alam, U. *et al.*, 2014]. Knowledge about diabetes management is crucial for controlling blood sugar levels, as those informed about diabetes can better manage their condition [Heisler, M. *et al.*, 2005]. Diabetes is considered a lifestyle disease, and its control heavily relies on patient behavior changes, including education, diet, exercise, medication, and regular blood sugar monitoring [Świątoniowska, N. *et al.*, 2019 - Ashrafzadeh, S. *et al.*, 2019]. Globally, the incidence and prevalence of diabetes mellitus continue to rise, making it a significant health threat [Abdul Basith Khan, M. *et al.*, 2020].

The global prevalence of diabetes was 8.3% in 2018, rising to 387 million cases in 2019. In India, diabetes poses a significant health burden, with 77 million cases reported in 2019 [Nanditha, A. *et al.*, 2020 - Srivastava, S. *et al.*, 2024], with sangareddy District reporting 15,024 cases. A preliminary

study in Fasalwadi Village indicated that health information was primarily directed at patients, not their families. Most diabetes mellitus sufferers (92%) lacked a clear understanding of how to care for family members with diabetes, highlighting the need for long-term family support to manage the disease effectively [Baig, A. A. *et al.*, 2015 - Kalra, S. *et al.*, 2018]

METHODS

This analytical study used a Correlational Analytic design with a cross-sectional approach to determine family support in caring for diabetes mellitus family members with blood sugar level problems in Fasalwadi Village, SangaReddy. The population included all diabetes mellitus sufferers in the village, totaling 110 people. The sample consisted of 110 respondents selected through total sampling techniques, with informed consent obtained from each participant. Data were collected using a questionnaire to assess family support and an observation sheet to record blood sugar levels, measured using an Easy Touch tool with a lancet.

RESULTS

Table 1: Distribution of General Data Characteristics of Respondents

General Data	Frequency	Percentage
Gender		
Male	55	50%
Female	55	50%
Age		
<36 years	25	23%
36-45 years	50	45%
>45 years	35	32%
Level of Education		
Elementary School	20	18%
Junior High School	25	23%
Senior High School	40	36%
College	25	23%

Table 2: Distribution of Family Support in Caring for Family Members with Diabetes Mellitus

Family Support	Frequency	Percentage
Good	40	36%
Moderate	45	41%
Poor	25	23%

Table 3: Frequency Distribution of Blood Sugar Levels in Diabetes Mellitus Patients

Sugar Level	Frequency	Percentage
Normal	80	73%
High	30	27%

Table 4: Cross Tabulation of General Data with Family Support

General Data	Family Support	Frequency	Percentage
Age	Good	Moderate	Poor
<36 years	15	8	2
36-45 years	20	25	5
>45 years	5	12	18
Gender			
Male	20	22	13
Female	20	23	12
Level of Education			
Elementary School	5	8	7
Junior High School	10	10	5
Senior High School	15	15	10
College	10	12	3

Table 5: Cross Tabulation of Family Support and Blood Sugar Levels

Family Support	Sugar Level	Frequency	Percentage
Good	Normal	27	76%
Good	High	13	24%
Moderate	Normal	37	82%
Moderate	High	8	18%
Poor	Normal	16	64%
Poor	High	9	36%

DISCUSSION

The study found that of the 110 respondents, the majority received moderate family support (45%).

General Characteristics of Respondents

Table 1 outlines the demographic profile of the respondents. The sample comprised an equal distribution of male (50%) and female (50%) participants. Age distribution showed that the majority were aged between 36-45 years (45%),

followed by those over 45 years (32%) and younger than 36 years (23%). In terms of educational attainment, the highest proportion had completed senior high school (36%), followed by college-educated individuals (23%), junior high school (23%), and elementary school (18%).

Family Support in Caring for Family Members with Diabetes Mellitus

Table 2 illustrates the distribution of family support among the respondents. Moderate family support was predominant (41%), followed by good support (36%) and poor support (23%).

Blood Sugar Levels in Diabetes Mellitus Patients

Table 3 presents the frequency distribution of blood sugar levels among the respondents. A significant majority (73%) had normal blood sugar levels, while 27% exhibited high blood sugar levels.

Relationship between General Data and Family Support

Table 4 shows the cross-tabulation of general data characteristics (age, gender, education) with levels of family support. Generally, older respondents (>45 years) and those with higher educational levels (college) tended to report better family support.

Relationship between Family Support and Blood Sugar Levels

Table 5 displays the cross-tabulation of family support with blood sugar levels. The data indicate that higher levels of family support correlate with normal blood sugar levels among DM patients. Specifically, 76% of patients with good family support maintained normal blood sugar levels, compared to 64% with poor support.

The findings underscore the crucial role of family support in managing diabetes mellitus. Family members provide emotional, appraisal, instrumental, and informational support, which are integral to patient well-being and treatment adherence (Siti Langga Lubis, Gamy Tri Utami, 2018). The study's results highlight that good family support significantly correlates with better blood sugar control, emphasizing the importance of family involvement in diabetes care [Lubis, S. L. et al., 2018 - Kowitt, S. D. et al., 2015].

The Spearman's rho test confirmed a statistically significant relationship ($\rho = 0.002$) between family support and blood sugar level control. This statistical finding reinforces the argument that

effective family support can enhance the quality of care and contribute to stable blood sugar levels in DM patients (Pangribo, 2020; Astuti, 2013) [Umaroh, R. et al., 2019 - Rauf, S. et al., 2022].

CONCLUSION

In conclusion, the study affirms that family support plays a pivotal role in managing diabetes mellitus. Enhancing family involvement through targeted education and support interventions can improve patient outcomes and foster better blood sugar control. Future research could explore additional factors influencing family support dynamics and their specific impacts on DM management strategies.

REFERENCES

- Balaji, R., Duraisamy, R. & Kumar, M. P. "Complications of diabetes mellitus: A review." *Drug Invention Today*, 12.1 (2019).
- Alam, U., Asghar, O., Azmi, S. & Malik, R. A. "General aspects of diabetes mellitus." *Handbook of Clinical Neurology*, 126 (2014): 211-222.
- Heisler, M., Piette, J. D., Spencer, M., Kieffer, E. & Vijan, S. "The relationship between knowledge of recent HbA1c values and diabetes care understanding and self-management." *Diabetes Care*, 28.4 (2005): 816-822.
- Świątoniowska, N., Sarzyńska, K., Szymańska-Chabowska, A. & Jankowska-Polańska, B. "The role of education in type 2 diabetes treatment." *Diabetes Research and Clinical Practice*, 151 (2019): 237-246.
- American Diabetes Association. 5. Lifestyle management: standards of medical care in diabetes—2019. *Diabetes care*. 2019 Jan 1;42(Supplement_1):S46-60.
- Ashrafzadeh, S. & Hamdy, O. "Patient-driven diabetes care of the future in the technology era." *Cell Metabolism*, 29.3 (2019): 564-575.
- Abdul Basith Khan, M., Hashim, M. J., King, J. K., Govender, R. D., Mustafa, H. & Al Kaabi, J. "Epidemiology of type 2 diabetes—global burden of disease and forecasted trends." *Journal of Epidemiology and Global Health*, 10.1 (2020): 107-111.
- Nanditha, A., Chamukuttan, S., Raghavan, A. & Ramachandran, A. "Global Epidemic of Type 2 Diabetes Mellitus: An Epidemiologist's Perspective." *Current Trends in Diabetes*; JP Medical Publishers: Ashland, OH, USA. (2020): 36.

9. ENDOCRINOLOGY ID. PUBLIC HEALTH ENDOCRINOLOGY. Indian Journal of Endocrinology and Metabolism. 2020 Sep;24(5):453.
10. Saboo, B., Kumar, C. V. & Agarwal, S. "RSSDI Diabetes Update 2020." *Jaypee Brothers Medical Publishers*, (2021).
11. Srivastava, S., Bisht, A., Laxmaiah, A. & Seetha, A. "Global Health Challenges: Nutrition and Management." *CRC Press*, (2024): n.pag.
12. Baig, A. A., Benitez, A., Quinn, M. T. & Burnet, D. L. "Family interventions to improve diabetes outcomes for adults." *Annals of the New York Academy of Sciences*, 1353.1 (2015): 89-112.
13. Adu, M. D., Malabu, U. H., Malau-Aduli, A. E. & Malau-Aduli, B. S. "Enablers and barriers to effective diabetes self-management: A multi-national investigation." *PLOS ONE*, 14.6 (2019): e0217771.
14. Kalra, S., Jena, B. N. & Yeravdekar, R. "Emotional and psychological needs of people with diabetes." *Indian Journal of Endocrinology and Metabolism*, 22.5 (2018): 696-704.
15. Lubis, S. L. & Utami, G. T. "Gambaran Gaya Hidup Anggota Keluarga Berisiko Diabetes Melitus (DM) Tipe." *YID*, 2 (2018): 155-163.
16. Miller, C. K. & Davis, M. S. "The influential role of social support in diabetes management." *Topics in Clinical Nutrition*, 20.2 (2005): 157-165.
17. Kowitt, S. D., Urlaub, D., Guzman-Corrales, L., Mayer, M., Ballesteros, J., Graffy, J., Simmons, D., Cummings, D. M. & Fisher, E. B. "Emotional support for diabetes management: An international cross-cultural study." *The Diabetes Educator*, 41.3 (2015): 291-300.
18. Umaroh, R., Astuti, R. D. & Purwanto, E. "The impact analysis of rising food prices on farmer's welfare in East Java." *East Java Economic Journal*, 3.1 (2019): 130-152.
19. Astuti, R. D., Rini, A. N. & Santoso, R. P. "Are empowered women healthier in their later life? Empirical analysis using Indonesian longitudinal data." *Journal of Population & Social Studies*, 31 (2023): n.pag.
20. Alamsyah, P. & Jamil, M. H. "The KOTAKU: Study of the National Slum Upgrading Program sustainably in coastal areas." *Russian Journal of Agricultural and Socio-Economic Sciences*, 107.11 (2020): 213-220.
21. Fauzi, R. & Pongpanich, S. "The effect of price on cigarette consumption among youth in Indonesia: Implications for tobacco tax policy." *World Medical & Health Policy*, 14.4 (2022): 665-678.
22. Rauf, S. & Malawat, R. "Strengthening integrated health center service for the elderly through cadre training and mentoring." *Poltekita: Jurnal Pengabdian Masyarakat*, 3.3 (2022): 456-462.

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