

# Relationship between family support and compliance in diabetes mellitus patients

*by* Liza Pristianty

---

**Submission date:** 05-Apr-2022 11:43AM (UTC+0800)

**Submission ID:** 1802082080

**File name:** Pharmaceutical\_Education\_-Devi.pdf (266.67K)

**Word count:** 1775

**Character count:** 10386

IAI SPECIAL EDITION

1  
RESEARCH ARTICLE

# Relationship between family support and compliance in diabetes mellitus patients

Devi Nur Zafirah, Liza Pristianty, Abdul Rahem, Yuni Priyandani  
Faculty of Pharmacy, Universitas Airlangga, Surabaya, East Java, Indonesia

## Keywords

Compliance  
Diabetes mellitus  
Family support

## Correspondence

Yuni Priyandani  
Faculty of Pharmacy  
Universitas Airlangga  
Surabaya  
East Java  
Indonesia  
yuni-p@ff.unair.ac.id

## Abstract

9  
**Background:** Indonesia holds fourth place in the world with the highest number of patients with diabetes mellitus (DM), and the province of East Kalimantan is in third place with the city of Bontang. The existence of distance restrictions during the COVID-19 pandemic led to restrictions on the number of outpatients in health facilities, so family support had a prominent role in drug therapy adherence in DM patients. **Aim:** This study aims to determine the relationship between family support and adherence to antidiabetic drug therapy in DM patients. **Methods:** This observational cross-sectional research conducted from May to June 2021 at the Pupuk Kaltim Hospital, Bontang city, used a purposive sampling technique. It enrolled 104 DM outpatients who completed a validated questionnaire instrument to measure family support and drug therapy adherence. **Results:** Data analysis showed a significant relationship between family support and drug therapy adherence ( $p=0.009$ ) and the emotional support dimension ( $p=0.0001$ ), while the three other dimensions (informational support, instrumental support, and reward support) were not significant. **Conclusion:** Family support, especially emotional support, is associated with adherence to antidiabetic drug therapy in DM patients.

## 2 Introduction

Diabetes mellitus (DM) is a chronic disease that occurs when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin produced (American Diabetes Association, 2020). Indonesia is in the top five estimates of countries with the most diabetes sufferers in 2000 and 2030. A person is diagnosed with diabetes if the HbA1c value is more than 6.5%, GDP is more than 126mg/dL, GD2PP is more than 200mg/dL. Besides family history, risk factors for developing diabetes include overweight or obesity, ethnicity, comorbidities, physical inactivity, and lifestyle (Mamahit *et al.*, 2018). DM cannot be controlled if left unchecked and can cause other dangerous complications. DM management consists of non-pharmacological therapy (lifestyle changes and physical activity) and pharmacological therapy (oral antidiabetic drugs and insulin) (Kementerian Kesehatan RI, 2019; Mamahit *et al.*, 2018).

Treatment success is influenced by patient compliance with prescribed medications related to time, dose, and

frequency. Adherence is also paramount in therapy outcomes (Rasdianah *et al.*, 2016). Based on the theory developed by Lawrence Green (2005), behavioural causes are affected by three factors, i.e. predisposing, enabling, and reinforcing factors. Family support, which is part of the reinforcing factor, is a form of service behaviour carried out by the family (Liliyanti M L Sangian *et al.*, 2017). It consists of four dimensions: emotional support, informational support, instrumental support, and appreciation support (Liliyanti ML Sangian *et al.*, 2017; Sutini, 2018).

## 8 Methods

This research is observational with a cross-sectional design. This study was carried out at the Pupuk Kaltim Bontang Hospital between May and June 2021, with ethical clearance obtained before data collection. Data were obtained from answers to the questionnaires completed by DM outpatients treated at the Pupuk Kaltim Bontang Hospital.

### Population, sample, sampling technique, and sample size

The population in this study consisted of DM outpatients treated with oral antidiabetic drugs/insulin at the Pupuk Kaltim Hospital Bontang Hospital who met the inclusion criteria. The sampling technique in this study was purposive, with a minimum of 96 respondents.

### Inclusion and exclusion criteria

Inclusion criteria were DM outpatients taking oral antidiabetic drugs/insulin for at least one month at the Pupuk Kaltim Bontang Hospital, aged 17 years and above, living with a family (not alone), understanding Indonesian, willing to participate in the study. Exclusion criteria were patients who could not read.

### Method of collecting data

Data were collected using the Adherence to Refills and Medication Scale (ARMS) validated by Suwardiman to measure the variables (Suwardiman, 2011).

### Data processing

Descriptive analysis was carried out for demographic data, family support profiles, and compliance profiles. Furthermore, normality tests and correlation analyses using Spearman's test were performed. A value of  $p < 0.05$  was considered significant.

## Results

A total of 104 DM outpatients treated at the Pupuk Kaltim Bontang Hospital responded to this study. Table I shows the sociodemographic characteristics of participants.

**Table I: Distribution of age, gender, length of suffering from Diabetes Mellitus**

Demographics	Information	n (%)
Age (year)*	Adult (26 – 45)	11 (10,6)
	Seniors (46 – 65)	86 (82,7)
	Elderly (> 65)	7 (6,7)
Gender	Male	54 (51,9)
	Female	50 (48,1)
Long suffering from Diabetes Mellitus	1 – 5 year	33 (31,7)
	6 – 10 year	49 (47,1)
	> 10 year	22 (21,2)
<b>Total</b>		<b>104 (100)</b>

Family support profile rated as good was as follows: emotional support 98 (94.2%), informational support 96 (92.3%), instrumental support 98 (94.2%), and appreciation support 95 (91.3%). The results of overall family support obtained from 104 respondents were as follows: 89 (85.6%) had good family support, and 15 (14.4%) had sufficient family support. Most participants, 82 (78.8%), had good compliance, and 22 (21.2%) had sufficient compliance. None of them showed good adherence (Table II).

**Table II: Relationship between family support and therapeutic adherence**

Variable	r	p
Emotional support	0.445	0.0001
Informational support	0.164	0.097
Instrumental support	0.043	0.667
Achievement support	0.147	0.136
Family support	0.256	0.009

## Discussion

Age is among the factors that affect the decline in all body systems, including the endocrine system, which causes insulin resistance, thereby increasing the risk of DM (Setiyorini & Wulandari, 2017). Men have a lot of fat accumulation around the abdomen, causing central obesity, which is at risk of causing metabolic disorders that can lead to diabetes (Setiyo Nugroho & Musdalifah, 2020). The longer the illness, the lower the compliance (Balqis, 2018).

Emotional support can be done by listening to the complaints felt by the patient, giving praise for what is done, and always being there when needed (Ihsan & Rahmadiyah, 2018). The results demonstrated a relationship between emotional support and adherence to antidiabetic therapy, in line with previous findings showing that family support, especially emotional support, can reduce diabetes distress, an emotional reaction related to the disease (Khasanah, 2018; Rahmi et al., 2018).

Informational support is the assistance provided in the form of advice, input, direction, or information needed (Suwardiman, 2011). According to Friedman (1998), instrumental support is an economic and a healthcare function applied by the family to sick family members, while appreciation support is when the family acts as a feedback guidance system, guides, and becomes an intermediary in solving problems and a source of member identity validator. The results show no relationship between informational, instrumental, and appreciation support and compliance to antidiabetic therapy, in agreement with previous research that

could not demonstrate a significant relationship between those three variables and DM treatment adherence (Ulfah, 2011).

## Conclusion

This study could demonstrate a significant relationship between emotional family support and adherence to drug therapy in DM outpatients at the Pupuk Kaltim Hospital, Bontang City.

## Ethical consideration

Health Research Ethics Committee with Ethical Approval No. 16/LE/2021.

## References

- American Diabetes Association. (2020). *Standards of Medical Care in Diabetes 2020* (M. C. Riddle, G. Bakris, L. Blonde, A. J. M. Boulton, & D. D'Alessio (eds.); Vol. 43, Issue January)
- Balqis, S. (2018). Hubungan Lama Sakit Dengan Kepatuhan Minum Obat Pada Pasien Hipertensi Di Dusun Depok Ambarketawang Gamping Sleman Yogyakarta. *Skripsi*. Universitas 'Aisyiyah. Yogyakarta. <http://eprints.ums.ac.id/id/eprint/20683>
- Darmawan, A. A. K. N. (2016). Faktor - Faktor Yang Mempengaruhi Perilaku Kunjungan Masyarakat Terhadap Pemanfaatan Pelayanan Posyandu Di Desa Pemecutan Kelod Kecamatan Denpasar Barat. *Jurnal Dunia Kesehatan*, 5(2), 29–39
- Friedman, M. Marilyn. (1998). *Keperawatan Keluarga : Teori dan Praktik*. EGC, Jakarta
- Ihsan, M., & Rahmadiyah, D. C. (2018). Hubungan Dukungan Emosional Keluarga Klien DM Tipe 2 Dengan Pemanfaatan Fasilitas Pelayanan Kesehatan Di Kecamatan Tebet. *Jurnal Riset Kesehatan Nasional*, 2(2), 133. <https://doi.org/10.37294/jrkn.v2i2.108>
- Kementerian Kesehatan RI. (2019). *Infodatin : Pusat Data Informasi Kementerian Kesehatan RI*. Jakarta
- Khasanah, U. (2018). Hubungan Dukungan Keluarga Terhadap Kepatuhan Penatalaksanaan Pengelolaan Diabetes Mellitus pada Lansia Klub Prolanis di Puskesmas Kecamatan Ciracas Jakarta Timur. *Indonesian Journal of Nursing Sciences and Practice*, 70–82
- Liliyanti M L Sangian, Wowiling, F., & Malara, R. (2017). Hubungan Dukungan Emosional Keluarga Dengan Penerimaan Diri Pada Lansia Di Desa Watutumou III. *E-Jurnal Keperawatan (e-Kp)*, 5(2)
- Mamahit, G., Katuuk, M., & Hamel, R. (2018). Dukungan Keluarga Dengan Kepatuhan Terapi Insulin Pasien Diabetes Melitus Tipe 2. *E-Jurnal Keperawatan (e-Kep)*, 6(1)
- Nugroho, E. R., Warlisti, I. V., Bakri, S., & Kendal, P. (2018). Hubungan Dukungan Keluarga Dengan Kepatuhan Kunjungan Berobat Dan Kadar Glukosa Darah Puasa Penderita Diabetes Melitus Tipe 2 Di Puskesmas Kendal 1. *Diponegoro Medical Journal (Jurnal Kedokteran Diponegoro)*, 7(4), 1731–1743
- Rahmi, H., Malini, H., & Huriani, E. (2018). 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>
- Rasdianah, N., Martodiharjo, S., Andayani, T. M., & Hakim, L. (2016). Gambaran Kepatuhan Pengobatan Pasien Diabetes Melitus Tipe 2 di Puskesmas Daerah Istimewa Yogyakarta. *Indonesian Journal of Clinical Pharmacy*, 5(4), 249–257. <https://doi.org/10.15416/ijcp.2016.5.4.249>
- Setiyo Nugroho, P., & Musdalifah. (2020). Hubungan Jenis Kelamin dan Tingkat Ekonomi dengan Kejadian Diabetes Melitus di Wilayah Kerja Puskesmas Palaran Kota Samarinda Tahun 2019. *Borneo Student Research (BSR)*, 1(2), 2020. <https://journals.umkt.ac.id/index.php/bsr/article/view/483>
- Setiyorini, E., & Wulandari, N. A. (2017). Hubungan Lama Menderita Dan Kejadian Komplikasi Dengan Kualitas Hidup Lansia Penderita Diabetes Mellitus Tipe 2. *Seminar Nasional dan Gelar Produk (SenasPro)*. 75-82
- Sutini. (2018). Hubungan Dukungan Keluarga Dengan Kualitas Hidup Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis Di RSUD Dr. Harjono Kabupaten Ponorogo. *Skripsi*. Universitas Muhammadiyah Ponorogo
- Suardiman, D. (2011). Hubungan Antara Dukungan Keluarga Dengan Beban Keluarga Untuk Mengikuti Regimen Terapeutik Pada Keluarga Klien Halusinasi Di RSUD Serang. *Tesis*. Universitas Indonesia. Depok
- Ulfah, M. (2011). Hubungan Dukungan Keluarga Dengan Kepatuhan Minum Obat Pada Pasien Tuberkulosis (Tbc) Di Wilayah Kerja Puskesmas Pamulang Kota Tangerang Selatan Tahun 2011. *Skripsi*. Fakultas Kedokteran Dan Ilmu Kesehatan Universitas Islam Negeri (Uin) Syarif Hidayatullah

# Relationship between family support and compliance in diabetes mellitus patients

## ORIGINALITY REPORT

12%

SIMILARITY INDEX

8%

INTERNET SOURCES

11%

PUBLICATIONS

0%

STUDENT PAPERS

## PRIMARY SOURCES

- 1** Tri Mochartini. "Relationship Between Family Support and Drug Compliance in Pulmonary Tuberculosis Patients", KnE Life Sciences, 2022  
Publication 4%
- 2** [ijhmcr.com](http://ijhmcr.com)  
Internet Source 2%
- 3** Alwiyah Mukaddas, Amelia Rumi, Tri Yulianti. "Effect of Metformin Therapy on Low Density Lipoprotein (LDL) Levels in Type 2 Diabetes Mellitus Patients at Undata Hospital in Palu City Central Sulawesi", Jurnal Farmasi Galenika (Galenika Journal of Pharmacy) (e-Journal), 2022  
Publication 1%
- 4** [eurjmedres.biomedcentral.com](http://eurjmedres.biomedcentral.com)  
Internet Source 1%
- 5** [ejournal.unuja.ac.id](http://ejournal.unuja.ac.id)  
Internet Source 1%
- 6** [id.123dok.com](http://id.123dok.com)  
Internet Source 1%

---

7

nursing.ui.ac.id

Internet Source

1 %

---

8

Islamiyah Islamiyah, Umi Rachmawati Wasil Sardjan. "Depresi Postpartum Berhubungan dengan Motivasi Pemberian Asi Eksklusif Satu Bulan Pertama pada Bayi", Jurnal Keperawatan Silampari, 2021

Publication

1 %

---

9

www.arcjournals.org

Internet Source

1 %

---

---

Exclude quotes      Off

Exclude matches      Off

Exclude bibliography      On

# Relationship between family support and compliance in diabetes mellitus patients

---

GRADEMARK REPORT

---

FINAL GRADE

**/0**

GENERAL COMMENTS

**Instructor**

---

PAGE 1

---

PAGE 2

---

PAGE 3

---