

Original Research Article

Diabetes Distress in Patients with Type 2 Diabetes Mellitus of the Aceh Tamiang Regional Hospital

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Abstract: Non-communicable diseases such as diabetes mellitus is a problem that needs to be considered by all levels of society because the diseases often increase morbidity and mortality. Generally, sufferers often experience behavioral changes including frustration, aggressive behavior, non-compliance in terms of treatment, anxiety about complications, and obstacles in socializing. This disease causes the patients to experience more stress known as diabetes distress. The Research aims to determine the factors associated with diabetes distress in patients with type 2 diabetes mellitus at the Aceh Tamiang Regional Hospital. The Study was conducted from March to July 2021 among 101 patients with Diabetes Mellitus Type 2. Data processing was carry results showed that the average distress value of type 2 diabetes mellitus patients was 2.71 (SD = 0.411), elderly (79.2%), male (65.7%), highly educated (64, 4%), married status (88.1%), long had diabetes mellitus (52.5%), had complications (67.3%), used oral medication (88.1%), not adhering to treatment (51.5%), did not receive family support (68.3%). Consequently, nurses are needed to educate sufferers concerning the complications of the disease both physically and psychologically.

Keywords: Diabetes Mellitus, Diabetes Distress.

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1. INTRODUCTION

Diabetes mellitus is the most common cause of premature death, and its complications had led to amputation cases. In fact, records had showed that the disease is ranked the seventh position among the causes of death in the world (Liu *et al.*, 2020). Sufferers is often reported to have a high level of saturation which is related to psychosocial problems and psychological disorders including anxiety about survival, complications obtained from the disease, the process of self-acceptance, and feelings of guilt when managing treatment (BH Chew, Vos, Stellato *et al.*, & Rutten, 2017).

Diabetes is also a problem not only for individuals but also for families and communities. Adult sufferers experience serious psychological distress that affects their mental health (Anita, 2020; Wolde & Wondim, 2019), thereby make them dependent. For example, the disease often changes sufferers to become confused in self-care, feel frustrated

with situation, have aggressive behavior, and become ego-centric individuals (Quek *et al.*, 2019). Also, patients experience depression caused by feelings of boredom due to self-care, hence they feel failed and hopeless, feel limited, and lack motivation (Tareen & Tareen, 2017). Subsequently, studies indicated that sufferers generally experience diabetic distress because of low education, complications, being male, unmarried status, low income, diagnosed with diabetes mellitus for more than 5 years, have high cholesterol levels and high blood pressure (Alvani, Hosseini, & Zaharim, 2019; Gahlan, Rajput, Gehlawat, & Gupta, 2018).

Another study described the factors responsible for this distress as age, gender, education level, duration of disease, comorbidities, body mass index (BMI), blood sugar levels, blood pressure, number of complications, physical activity, diet, self-care, and family support (Parsa, Aghamohammadi, & Abazari, 2019; Anita, 2020; Binesh, Aghili, & Mehraban, 2021). However, the lack of public understanding about this distress and its management

has an impact on complications experienced by diabetics both physically and psychologically.

2. METHOD

This study was conducted from March 20 to June 19, 2021, and the data were collected by filling out a questionnaire through the assistance of the room nurse. The sample were 101 patients with type 2 diabetes mellitus who were treated in the General Hospital area of Aceh Tamiang Regency. Meanwhile, the inclusion criteria in sampling include, type 2 diabetes mellitus patients who have been diagnosed, the ones being re-treated, those who are > 18 years, without any symptoms of Covid-19, and are willing to be

respondents. The Research Ethics Committee of Syiah Kuala University Nursing Faculty Approved this Study.

3. STATISTIC ANALYSIS

The descriptive statistics for socio-demographic variables include age, gender, education, marital status, duration of suffering from diabetes mellitus, complications experienced, type of treatment taken, level of drug adherence, and family support. Also, the data analysis was carried out by using SPSS version 20 software.

4. RESEARCH RESULT

a. Summary of Respondents Characteristics

Table 1: Summary of Patient Characteristics and Condition (n=101)

No	Variable	Frequency (f)	Percentage (%)
1	Age		
	Adult	21	20.8
	Elderly	80	79.2
2	Gender		
	Male	66	65.3
	Female	35	34.7
3	Education		
	Low	36	35.6
	High	65	64.4
4	Marital Status		
	Married	89	88.1
	Single	12	11.9
5	Length of Suffering DM		
	≤ 10 Years	53	52.5
	> 10 Years	48	47.5
6	Disease Complications		
	Yes	68	67.3
	No	33	32.7
7	Treatment Type		
	Oral	89	88.1
	Insulin	12	11.9
8	Medication Adherence		
	Adhere	49	48.5
	Not Adhere	52	51.5
9	Family support		
	Support	32	31.7
	Does not support	69	68.3
10	Diabetes Distress		
	High	31	30.7
	Low	70	69.3

Out of the 101 patients given a questionnaire, the majority of respondents were elderly (79.2%), people with diabetes mellitus who were male (65.3%), the ones having higher education level (64.4%), with married status (88.1%), suffering from Diabetes Mellitus for less than 10 years (52.5%), suffering complications due to the disease (67.3%), using oral medications (88.1%), not adhering to treatment (51.5%), not getting family support (68.3%), and the ones with a low distress level (69.3%).

5. DISCUSSION

In this study, the Distress in Type 2 Diabetes Mellitus patients were described and the result showed that the ones with low distress are 69.3%, the majority were elderly with 79.2%, the sufferers that mostly experienced diabetes distress were male (65.3%), the ones with a high education level are 64.4%, has a married status (88.1%), long-suffering from Diabetes Mellitus for less than 10 years (52.5%), experiencing complications of Diabetes mellitus (67.3%), using oral medications (88.1%), not adhering to treatment

(51.5%), and not receiving family support (68.3%). This result is in accordance with Anita, (2020) which explained that the older a person is, the higher the risk of developing diabetes mellitus because insulin resistance in old age causes problems of productivity in the blood. Similarly, Tan *et al.*, (2017) described that the average age of people with Diabetes Mellitus experiencing distress is (mean=44.1), the most gender is male (67.1%), experiencing comorbid (67.1%), and taking insulin (69.9%). Furthermore, (Williams, Clay, Ovalle, Atkinson, & Crowe, 2020) found that the average age of people with Diabetes mellitus experiencing distress was 72 years, female (68.92%), with married status (60.81%).

According to Huynh *et al.*, (2021), the majority of patients experiencing diabetes distress are >59 years old (56.8%), female (65%), suffering from Diabetes Mellitus < 5 years (42.9%), having married status (60.7 %), higher education (38.7%), middle income (86.3%), and taking oral medication (72.2%). This result showed that the increase in someone's age is closely related to the changes in that person. Therefore, patients with diabetes mellitus are often vulnerable to experiencing distress because they are not aware of the insignificant changes thereby feeling no need to regulate nutrition or intake needed by the body such as sugar. For example, elderly people have more fat tissue than muscle, hence the lack of activity in elderly diabetics worsens the condition of the disease and also causes distress.

However, (B. Chew, Mohd-sidik, & Shariff-ghazali, 2015) stated that age and gender did not affect the incidence of diabetes distress. Similarly, (Al-Zahrani *et al.*, 2021) and (Binesh *et al.*, 2021) stated that gender had no relationship with diabetes distress. Therefore, it was concluded that women experience more distress due to many external factors, namely culture, diet, and socioeconomic status, which makes them to be confused to regulate their diet even when they are sick. According to (Ramkisson, Pillay, & Sartorius, 2016) and (Ogurtsova *et al.*, 2017), education level and treatment type have no relationship with the incidence of diabetes distress in patients with type 2 diabetes mellitus.

Based on Huynh *et al.*, (2021) and Sodikin & Rusana (2019), marital status and length of suffering have no relationship with the incidence of distress in type 2 Diabetes Mellitus patients. Moreover, Hu, Li, & Zhang, (2020) stated that age, gender, occupation, smoking behavior, and complications are the main causes of this distress in adolescents, while the treatment type has no relationship with the incidence of the distress. (Chlebowy, Batscha, Kubiak, & Crawford, 2019; Zamaa & Sainudin, 2019) described that medication adherence of diabetics has a relationship with the distress. While (Rahmi, Malini, & Huriani,

2020) found that family support had a relationship with diabetes distress in type 2 diabetes mellitus patients.

6. CONCLUSION

Conclusively, the result showed that the majority of respondents have a low diabetes distress value, with male gender, having higher education, and experience complications while suffering from diabetes mellitus. Also, they have very low or even no adherence on the use of oral drugs in medication, and their family does not give support needed during the treatment.

REFERENCES

- Al-Zahrani, J., Shubair, M. M., Aldossari, K. K., Al-Ghamdi, S., Alroba, R., Alsuraimi, A. K., ... El-Metwally, A. (2021). Association between prehypertension and psychological distress among adults in Saudi Arabia: A population-based survey. *Saudi Journal of Biological Sciences*, (xxxx). <https://doi.org/10.1016/j.sjbs.2021.06.014>
- Alvani, S. R., Hosseini, S. M. P., & Zaharim, N. M. (2019). Prediction of diabetes distress among adults with type 2 diabetes. *International Journal of Diabetes in Developing Countries*, 3(5), 1–5. <https://doi.org/10.1007/s13410-019-00745-y>
- Anita, D. C. (2020). Distress Pada pasien Diabetess Mellitus Dan Faktor Biologis Yang mempengaruhinya. In *Revista Brasileira de Medicina* (Vol. 62). Retrieved from https://persi.or.id/wp-content/uploads/2020/11/materi_drroay_web071120.pdf
- Binesh, M., Aghili, R., & Mehraban, A. H. (2021). Occupational balance in people with type-2 diabetes: A comparative cross-sectional study. *British Journal of Occupational Therapy*, 84(2), 122–129. <https://doi.org/10.1177/0308022620963745>
- Chew, B. H., Vos, R. C., Stellato, R. K., & Rutten, G. E. H. M. (2017). Diabetes-related distress and depressive symptoms are not merely negative over a 3-year period in Malaysian adults with type 2 diabetes mellitus receiving regular primary diabetes care. *Frontiers in Psychology*, 8(OCT), 1–8. <https://doi.org/10.3389/fpsyg.2017.01834>
- Chew, B., Mohd-sidik, S., & Shariff-ghazali, S. (2015). Negative effects of diabetes – related distress on health-related quality of life: an evaluation among the adult patients with type 2 diabetes mellitus in three primary healthcare clinics in Malaysia. *Health and Quality of Life Outcomes*, 13(187), 2–16. <https://doi.org/10.1186/s12955-015-0384-4>
- Chlebowy, D. O., Batscha, C., Kubiak, N., & Crawford, T. (2019). Relationships of Depression, Anxiety, and Stress with Adherence to Self-Management Behaviors and Diabetes Measures in African American Adults with Type 2 Diabetes. *Journal of Racial and Ethnic Health Disparities*,

- 6(1), 71–76. <https://doi.org/10.1007/s40615-018-0500-3>
- Gahlan, D., Rajput, R., Gehlawat, P., & Gupta, R. (2018). Prevalence and determinants of diabetes distress in patients of diabetes mellitus in a tertiary care centre. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 12(3), 333–336. <https://doi.org/10.1016/j.dsx.2017.12.024>
 - Hu, Y., Li, L., & Zhang, J. (2020). Diabetes Distress in Young Adults with Type 2 Diabetes: A Cross-Sectional Survey in China. *Journal of Diabetes Research*, 2020, 6–8. <https://doi.org/10.1155/2020/4814378>
 - Huynh, G., Tran, T. T., Do, T. H. T., Truong, T. T. D., Ong, P. T., Nguyen, T. N. H., & Pham, L. A. (2021). Diabetes-related distress among people with type 2 diabetes in Ho Chi Minh City, Vietnam: Prevalence and associated factors. *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, 14, 683–690. <https://doi.org/10.2147/DMSO.S297315>
 - Liu, S. Y., Huang, J., Dong, Q. L., Li, B., Zhao, X., Xu, R., & Yin, H. F. (2020). Diabetes distress, happiness, and its associated factors among type 2 diabetes mellitus patients with different therapies. *Medicine*, 99(11), e18831. <https://doi.org/10.1097/MD.00000000000018831>
 - Ogurtsova, K., da Rocha Fernandes, J. D., Huang, Y., Linnenkamp, U., Guariguata, L., Cho, N. H., ... Makaroff, L. E. (2017). IDF Diabetes Atlas: Global estimates for the prevalence of diabetes for 2015 and 2040. *Diabetes Research and Clinical Practice*, 128(July 2018), 40–50. <https://doi.org/10.1016/j.diabres.2017.03.024>
 - Parsa, S., Aghamohammadi, M., & Abazari, M. (2019). Diabetes distress and its clinical determinants in patients with type II diabetes. *Diabetes and Metabolic Syndrome: Clinical Research and Reviews*, 13(2), 1275–1279. <https://doi.org/10.1016/j.dsx.2019.02.007>
 - Quek, J., Tan, G., Lim, K., Yap, C. K., Wong, M., & Soon, J. (2019). Diabetes distress and self-management in primary care in Singapore: explorations through illness perception. *International Journal Of Community Medicine And Public Health*, 6(2), 473. <https://doi.org/10.18203/2394-6040.ijcmph20190166>
 - 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>
 - Ramkisson, S., Pillay, B. J., & Sartorius, B. (2016). Diabetes distress and related factors in South African adults with type 2 diabetes. *Journal of Endocrinology, Metabolism and Diabetes of South Africa*, 21(2), 32–36. <https://doi.org/10.1080/16089677.2016.1205822>
 - Sodikin, & Rusana. (2019). Karakteristik dan faktor Yang Berhubungan Dengan Distres Diabetes Pada Penyandang DM Di Puskesmas Wilayah Pesisir Cilacap. *Jurnal Kesehatan Al-Irsyad*, XII(1), 40–46.
 - Tan, M. L., Tan, C. S., Griva, K., Lee, Y. S., Lee, J., Tai, E. S., ... Wee, H. L. (2017). Factors associated with diabetes-related distress over time among patients with T2DM in a tertiary hospital in Singapore. *BMC Endocrine Disorders*, 17(1), 1–6. <https://doi.org/10.1186/s12902-017-0184-4>
 - Tareen, R. S., & Tareen, K. (2017). Psychosocial aspects of diabetes management: Dilemma of diabetes distress. *Translational Pediatrics*. <https://doi.org/10.21037/tp.2017.10.04>
 - Williams, I. C., Clay, O. J., Ovalle, F., Atkinson, D., & Crowe, M. (2020). The Role of Perceived Discrimination and Other Psychosocial Factors in Explaining Diabetes Distress Among Older African American and White Adults. *Journal of Applied Gerontology*, 39(1), 99–104. <https://doi.org/10.1177/0733464817750273>
 - Wolde, A. K., & Wondim, M. G. (2019). Diabetic Distress Among Diabetic Patients in the Referral Hospital of Amhara Regional State, Ethiopia. *International Quarterly of Community Health Education*, 40(2), 105–114. <https://doi.org/10.1177/0272684X19857580>
 - Zamaa, M. S., & Sainudin. (2019). Hubungan Kepatuhan Pengobatan Dengan Kadar Gula Darah Sewaktu Pada Pasien Diabetes Mellitus Tipe II. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.1017/CBO9781107415324.004>

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