International Journal of Advance Research in Medical Surgical Nursing

E-ISSN: 2663-2268
P-ISSN: 2663-225X
www.surgicalnursingjournal.com
IJARMSN 2025; 7(1): 151-158
Received: 02-01-2025
Accepted: 07-02-2025

Poulami Mondal
Health and Family Welfare, West Bengal Health University, Midnapur, West Bengal, India

Corresponding Author:
Poulami Mondal
Health and Family Welfare, West Bengal Health University, Midnapur, West Bengal, India

Distress and its associated factors, coping strategies among diabetes mellitus patients attending medicine Out Patient Department, Bankura Sammilani Medical College and Hospital, Bankura, West Bengal

Poulami Mondal

DOI: https://www.doi.org/10.33545/surgicalnursing.2025.v7.i1c.231

Abstract
A descriptive study was conducted on distress and its associated factors, coping strategies among diabetes mellitus patients attending medicine OPD, Bankura Sammilani Medical College and Hospital, Bankura, West Bengal with the objectives to assess distress among diabetes mellitus patients, to identify the associated factors causing distress, to ascertain coping strategies adopted by the diabetes mellitus patient and to find out the association between distress, coping strategies with their selected demographic variables. 96 diabetes mellitus patients were selected by non probability consecutive sampling technique. Semi structured demographic proforma was used to collect demographic characteristics. Standardized Diabetes Distress Screening Scale 17 was used to assess level of diabetes distress. Structured interview schedule and record analysis proforma was used to collect data regarding associated factors of diabetes distress and Standardized Brief COPE Scale was used for measuring adopted coping strategies. The study results depicted that 1.04% of diabetes mellitus patients had high diabetes distress followed by 37.50% had moderate distress, 61.46% had little distress, most 92.71% diabetes distress was due to regular use of oral hypoglycemic drug, majority 70.83% diabetes distress was due to having financial problem for diabetes management. About 16.67% of diabetes mellitus patients were having poor adopted coping strategies followed by 65.62% moderate and only 17.71% good. Diabetes distress and adopted coping strategies were significantly associated with gender, type of family, socio-economic class at 0.05 level of significance. The scope of generalization of findings were limited to present study population and study has implicated on nursing practice, education and research.

Keywords: Distress and its associated factors, coping strategies, diabetes mellitus patients attending medicine OPD

Introduction
There are many global health emergencies in this century. Among them diabetes mellitus is one of the largest global health emergencies in this century. Current global statistics 2019 showed that 463 million individuals have diabetes and 374 million individuals have impaired glucose tolerance, a prediabetic condition [1]. Worldwide predicted that diabetes mellitus to be affected to 552 million people by the year 2030, that can reach 9.9% from the world's adult population [2]. Diabetes mellitus is now one of the most common non-communicable diseases (NCDs) globally. In the 21st century Diabetes is undoubtedly one of the most challenging health problems [3]. Diabetes mellitus is a lifelong (chronic) disease and is a group of metabolic disorder characterized by high level of sugar in blood (hyperglycemia) [4]. According to the World Health Organization, diabetes mellitus is a condition with diverse aetiologies that is characterised by persistent hyperglycemia and disturbances in the metabolism of carbohydrates, proteins, and fats as a result of abnormalities in insulin secretion, insulin action, or both [5]. Diabetes mellitus is a multisystem illness associated with decreased insulin production, inadequate insulin utilization, or both. The two most common types of diabetes mellitus is classified as type 1 and type 2 diabetes mellitus. Type 1 diabetes mellitus occurs due to absent or minimal insulin production. Insulin resistance, decreased insulin production over time, and alterations in production of adipokines causes type 2 diabetes mellitus [6]. According to World Health organization (2022) report worldwide 422 million people have diabetes, the majority of them living in low and middle income

countries, and each year 1.5 million deaths are directly attributed to diabetes. Worldwide 422 million people have diabetes, the majority living in low-and-middle income countries, and 1.5 million deaths occurs due to diabetes in each year [7]. In a report of International Diabetes Federation (2021) stated that India accounts for 1 in 7 of all adults living with diabetes worldwide. The people living with diabetes mellitus expected to increase by 69% to 152 million by 2045. Adults living with diabetes 51.2% are undiagnosed. Diabetes was responsible for 747,000 deaths in 2021, approximately 537 million adults (20-79 years) around the world are living with diabetes. The prevalence of diabetes mellitus is expected to rise to 643 million by 2030 and 783 million by 2045 [8]. The diabetes mellitus patients and their families face various challenges in their day to day life that include diet, physical activity, routine examination of foot, eye and tooth, self-care, self-monitoring, stress management, fear of diabetes related complications. All these challenges leads to mental health problem. The most prevalent mental health problem among patients with diabetes mellitus i.e diabetes distress [9]. Research have shown that anxiety disorders are the most common psychological comorbid condition among patients with diabetes mellitus. Diabetes related distress consists of negative emotional reaction to diagnosis, the threat of complications and self-management demands that increase too much stress and tension to patients' day to day living [10]. Diabetes is a difficult and demanding disease. Emotional burden of diabetes develops due to ongoing demands of managing diabetes as well as development of any diabetes related emergencies, development of any diabetes related complications, health issues or even any changes in treatment plan like changing insulin or starting a new continuous glucose monitoring. The emotional burden of diabetes and its management leads to significant diabetes distress [11].

Materials and Methods

- **Research approach:** Quantitative research approach.
- **Research design:** Descriptive Survey research design.
- **Variables: Research Variables:** Diabetes distress and associated factors causing diabetes distress, Coping strategies related to diabetes distress

Demographic Variables

Age (in years), Gender, Marital status, Educational Status, Type of family, Occupational Status, Socio-economic class (according to Modified B. G. Prasad Scale January 2022), Type of diabetes mellitus, Presence of any diabetes related complications, Information regarding diabetes mellitus, Source of information regarding diabetes mellitus.

Research Setting

- **Pilot Study:** Medicine Out Patient Department, Midnapore Medical College and Hospital, Paschim Medinipur, West Bengal.
- **Final study:** Medicine Out Patient Department, Bankura Sammilani Medical College and Hospital, Bankura, West Bengal.
- **Population:** All diabetes mellitus patients of Bankura, West Bengal.
- **Sample:** Diabetes mellitus patients attending medicine OPD, BSMC and H, Bankura, West Bengal.
- **Sample size:** 96 diabetes mellitus patients attending medicine OPD

Inclusion criteria

1. Diabetes mellitus (both type 1 and type 2) suffering more than 1 year
2. Male and female diabetes mellitus patients
3. Willing to participate in the study

Exclusion criteria: Acute physical illness.

Sampling technique

Data was collected by Non probability consecutive sampling technique.

Table 1: Data collection tools & techniques

Variables to be measured	Tools	Techniques
Demographic variables	Tool-I Semi structured demographic proforma	Interviewing
Diabetes distress	Tool-II Standard Diabetes Distress Screening Scale 17	Interviewing
Associated factors of distress	Tool-III IIIA Structured interview schedule IIIB Record analysis Proforma	Interviewing Record analysis
Coping strategies	Tool-IV Standard Brief-COPE Scale	Interviewing

Pretesting of the tool: Pretesting of the tool was done on ten (10) diabetes mellitus patients attending medicine OPD of BSMC and H, Bankura, to check the simplicity, clarity of language and ambiguity of items included in the tool.

Table 2: Distribution of study subjects according to type of diabetes mellitus, presence of complications related to diabetes mellitus, source of information regarding diabetes mellitus

Variables	N	Frequency (f)	Percentage (%)
Type of Diabetes Mellitus	96		
Type 1		2	2.08
Type 2		94	97.92
Presence of Complication			
Retinopathy		5	5.00
Ischaemic Heart Disease		15	15.00
Chronic Kidney Disease		70	70.00
Bilateral Nephrolithiasis		5	5.00
Diabetic Ketoacidosis		5	5.00
Source of Information Regarding Diabetes Mellitus	96		
Teacher		Nil	0.00
Book/Magazine/Journal		Nil	0.00
Friends/Family/Relatives		53	55.20
Health Worker		96	100.00
Internet		2	2.08
Television		1	1.04

All data are collectively exhaustive but not mutually exclusive (Respondent had multiple response)
Data also indicated that most of (97.92%) diabetes mellitus patients were type 2 category, only 2.08% were type 1 category.
Data presented in the table 2 showed that majority (70%) diabetes mellitus patients were having chronic kidney disease.
Data in the table 2 showed that showed that most (100%) diabetes mellitus patients were getting information from health worker.
Data also indicated that most of (97.92%) diabetes mellitus patients were type 2 category, only 2.08% were type 1 category.

Table 3: Mean, Median and standard deviation of level of diabetes distress among diabetes mellitus patients, n=96

Variables	Mean	Median	Standard deviation
Diabetes distress	31.26	31	8.01

Maximum score:102
Minimum Score:17

Data presented in table 3 showed that calculated mean was 31.26, median 31 and standard deviation 8.01 of diabetes distress screening score.

Table 4: Frequency and percentage distribution of diabetes mellitus patients according to level of diabetes distress, n=96

Level of Diabetes Distress	Range of Score	Frequency (f)	Percentage (%)
Little/No Distress	< 2	59	61.46
Moderate Distress	2.0–2.9	36	37.50
High Distress	3.0 or higher	1	1.04

Maximum score:102
Minimum score:17

Data presented in table 4 depicted that majority (61.46%) of diabetes mellitus patients had little/no distress, maximum (37.50%) had moderate distress and (1.04%) had high distress.

Table 5: Distribution of study subjects according to emotional burden, physician distress, regimen distress and interpersonal distress in terms of mean percentage, n=96

Diabetes Distress	Maximum Possible Score	Minimum Possible Score	Mean	Mean (%)
Emotional Burden	30	5	8.01	26.70
Physician Distress	24	4	9.55	39.79
Regimen Distress	30	5	9.81	32.70
Interpersonal Distress	18	3	3.38	18.77

Data presented in the table 5 depicted that maximum mean percentage (39.79) of diabetes distress score was in the area of physician distress, mean percentage (32.7) of diabetes distress score was in the area of regimen distress, mean percentage (26.7) diabetes distress score was in the area of emotional burden, then mean percentage (18.77) of diabetes distress score was in the area of interpersonal distress.

Table 6: Mean, median and standard deviation of associated factors of diabetes distress, n=96

Variables	Mean	Median	SD
Associated factors of diabetes distress	2.10	2	1.95

Data presented in table 6 showed that calculated mean was 2.10, median was 2 and standard deviation was 1.95 of associated factors of diabetes distress score.

Table 7: Frequency and percentage distribution of factors causing diabetes distress among diabetes mellitus patients, n=96

Variables	Frequency (f)	Percentage (%)
Not walking 30 minutes for 5 days a week	37	38.54
Feeling distressed due to change of dietary pattern	40	41.67
Disturbance in sleep pattern	49	51.04
Regular use of oral hypoglycaemic drug	89	92.71
Daily use of insulin injection	22	22.92
Both oral hypoglycaemic drug and insulin daily	18	18.75
Financial problem	68	70.83
No support from family members	8	8.33
No support from health care professional	2	2.08
Conflict at workplace/home	5	5.21

All data are collectively exhaustive but not mutually exclusive (Respondent had multiple response).
Data presented in the table 7 depicted that most (92.71%) diabetes distress was due to regular use of oral hypoglycemic drug, majority (70.83%) diabetes distress was due to having financial problem for diabetes management, maximum (38.54%) diabetes distress was due to not walking 30 minutes for 5 days in a week.

Table 8: Frequency and percentage distribution of diabetes mellitus patients according to presence of comorbid condition causing diabetes distress, n=67

Variables	Frequency (f)	Percentage (%)
Hypertension	32	47.76
Visual Problem	5	7.46
Diabetic Nephropathy	4	5.97
Diabetic Foot Ulcer	3	4.48
Diabetes-Related Coronary Artery Disease	9	13.43
Diabetes-Related Peripheral Neuropathy	14	20.90

All data are collectively exhaustive but not mutually exclusive (Respondent had multiple response).
Data presented in the table 8 showed that maximum (47.76%) diabetes mellitus patients were having hypertension, (20.90%) were having diabetes related peripheral neuropathy, (4.48%) diabetes mellitus patients were having diabetes foot ulcer.

Table 9: Mean, median and standard deviation of adopted coping strategies of diabetes mellitus patients, n=96

Variables	Mean	Median	SD
Adopted coping strategies	67.07	68	9.53

Maximum score: 112
Minimum score: 28

Data presented in the table 9 showed that calculated mean was 67.07, median was 68 and standard deviation was 9.53 of adopted coping strategies.

Table 10: Frequency and percentage distribution of diabetes mellitus patients according to level of coping, n=96

Variables	Range of Score	Frequency (f)	Percentage (%)
Poor Coping	<58.47 (<Median-1SD)	16	16.67
Moderate Coping	58.47 to 77.53 (Median ±1SD)	63	65.62
Good Coping	>77.53 (Median +1SD)	17	17.71

Maximum score: 112
Minimum score: 28

Data presented in table 10 depicted that majority (65.62%) of diabetes mellitus patients adopted moderate coping strategies and (16.67%) adopted poor coping strategies.

Discussion

Discussion related to demographic characteristics of diabetes mellitus patient

In the present study maximum (38.54%) of diabetes mellitus patients were belonged to 51-60 years of age, majority (65.63%) of diabetes mellitus patients were male, most of diabetes mellitus patients (83.33%) were married, maximum (32.29%) diabetes mellitus patients were completed upto primary level of education, maximum of diabetes mellitus patients (41.67%) were daily labour, maximum (33.34%) diabetes mellitus patients were belonged to middle socio-economic class, majority of diabetes mellitus patients (54.16%) were belonged to joint family, most of (97.92%) diabetes mellitus patients were type 2 category, majority (79.16%) diabetes mellitus patients were having no complications, majority (70%) diabetes mellitus patients were having chronic kidney disease, most of (100%) diabetes mellitus patients were getting information regarding diabetes mellitus, most of (100%) diabetes mellitus patients were getting information from health worker.

The present study was supported by the study conducted by Dr. Panda Kumar Bijan, Dr. Chhotaray Saubhagya, Dr. Behera Desabandhu, Dr. Rout Rabinarayan (2022) on assessment of diabetes-related distress among 135 type II diabetic patients in Bolangir, Odisha. The analysis showed that 63% were male, 90% were married [32].

The present study was supported by the study conducted by Vidya K R, Lohit K, Roopashree S (2021) on diabetes distress and disease -related factors in patients with type 2 diabetes attending a tertiary care hospital in Tumkur, Karnataka among 140 diabetic patients. The analysis showed that 58.57% were male, 51.43% were in the age group of 51-70 years [34].

The present study was fully supported by the study conducted by MR Islam, MR Karim, SH Habib, Yesmin K (2013) on diabetes distress among type 2 diabetic patients in Bangladesh among 165 diabetes mellitus patients. The analysis showed that 39.4% of diabetes mellitus patients were belonged to 50-59 years age group, 93.9% were married, 49.7% were completed upto primary level of education [3].

The present study was partially supported by the study conducted by Mrs. Fernandes Perpetua, Dr. Dasila Prabha, Dr. Rai Sandeep, Dr. Gopalkrishnan Sripriya (2019) conducted a study on psychosocial distress among people with type 2 diabetes in India. The result showed that 37.4% diabetes mellitus patients were completed upto primary level of education, 41.98% of diabetes mellitus patients were belonged to 55-65 years of age [37].

Discussion related to diabetes distress of diabetes mellitus patients

The present study revealed that majority (61.46%) of diabetes mellitus patients had little/no distress, maximum (37.50%) had moderate distress and (1.04%) had high distress, maximum mean percentage of diabetes distress score (39.79) was obtained by the diabetes mellitus patients of the present study in the area of physician distress, mean percentage (32.7) of diabetes distress score was in the area of regimen distress, mean percentage (26.7) diabetes distress score was in the area of emotional burden, then mean percentage (18.77) of diabetes distress score was in the area of interpersonal distress.

The study was partially supported by the study conducted by Sankar Prasanth, Sasikumar Priyanka, Medayil Rituna, Jacob Rittin, Sasidharan Saranya (2018) conducted a study on high prevalence of distress among type 2 diabetes -a hospital based, cross-sectional study from South India. The study result showed that 22.1% had moderate distress and 5.7% had high distress [39].

The study also partially supported by another study conducted by Dr. Panda Kumar Bijan, Dr. Chhotaray Saubhagya, Dr. Behera Desabandhu, Dr. Rout Rabinarayan (2022) on assessment of diabetes related distress among type 2 diabetic patients in Bolangir, Odisha. The study result showed that 12.7% had high distress, 26.7% had moderate distress and 60.6% had little or no distress [32].

The study also partially supported by another study conducted by Hasan-Kamrul A. B. M. *et al*. (2022) conducted a facility-based cross-sectional study to assess prevalence and predictors of diabetes distress among 259 persons with type II diabetes mellitus in Bangladesh. The analysis showed that 29.7% had moderate distress and 22.8% had high distress [43].

The present study was supported by a study on diabetes related distress in adults with type 2 diabetes mellitus: a community-based study conducted by Symon K. Allbright, Vargese Susan Saritha, Mathew Elsheba, R. K. Akshay, Abraham Jacob (2018). The study results showed that physician related distress 17.2%, regimen related distress 21.6%. Regimen and physician related distress were more prevalent [46].

The present study also partially supported by another study conducted by Nagabhushana Amruthavarshini, Ramaiah Madhumati, Khan Ali Mumtaz, Nijaguna Siddesh (2021) on diabetes distress and other factors, which affect glycemic control in patients with type 2 diabetes mellitus Bengaluru, Karnataka, India. The study showed that 59.2% had physician related distress and 60.4% had regimen related distress [49].

Discussion related to associated factors of diabetes distress of diabetes mellitus patients

Most (92.71%) diabetes distress were due to regular use of oral hypoglycemic drug, majority (70.83%) diabetes distress were due to having financial problem for diabetes management, maximum (47.76%) diabetes mellitus patients having hypertension, (20.90%) had diabetes related peripheral neuropathy.

The study was partially supported by another study conducted by Gupta Kumar Saurabh, Rastogi Ashu, Kaur Manmeet, Lakshmi P.V.M (2022) on diabetes-related distress and its impact on self care of diabetes among people with type2 diabetes mellitus living in a resource-limited setting: A community-based cross-sectional study in rural Punjab, India. The study showed that hypertension increased the odds of severe DRD [aOR 3.47;95% CI:2.48-4.87, p-<0.01] [30].

The study also partially supported by another study conducted by Mrs. Fernandes Perpetua, Dr. Dasila Prabha, Dr. Rai Sandeep, Dr. Gopalkrishnan Sripriya (2019) conducted a study on psychosocial distress among people with type 2 diabetes in India. The study showed that 77.1% type 2 diabetes mellitus patients have managed their diabetes with only regular use of oral hypoglycemic agent [37].

Discussion related to adopted coping strategies of diabetes mellitus patients: The present study results

depicted that majority of diabetes mellitus patients 63(65.62%) had moderate coping followed by 17(17.71%) had good adopted coping strategies and 16(16.67%) had poor coping strategies. Diabetes mellitus patients used acceptance (mean% 91.5) maximum time as adopted coping strategies.

The study was partially supported by the study conducted by Sathiyakala K, Danasu R, Tamilpulavendran V. (2023) on a study to assess the level of coping strategies among the patients with chronic diabetes mellitus admitted in selected hospital, Puducherry, India. The study result showed that 79% had strengthening of coping,21% had weakening of coping [56].

The study was partially supported by another study conducted by Hapunda G. (2022) on coping strategies and their association with diabetes specific distress, depression and diabetes self-care among people living with diabetes in Zambia. The study result showed that acceptance was the most frequently used coping strategies among diabetes mellitus patients in Zambian [22].

Discussion related to association between adopted coping strategies and selected demographic variables

Chi square of the association was computed between coping strategies and selected demographic variables of diabetes mellitus patients like gender, socio-economic class and the result found to be statistically significant. So, it can be concluded that there is association with coping strategies with gender, socio-economic class and coping strategies dependent on gender, socio-economic class.

The present study was supported by a study conducted by Sathiyakala K., Danasu R, Tamilpulavendran V. (2023) on a study to assess the level of coping strategies among the patients with chronic diabetes mellitus admitted in selected hospital, Puducherry, India among 200 diabetes mellitus patients. The study showed that there is significant association between adopted coping strategies and gender.[56]

Conclusion

The study findings revealed that among 96 diabetes mellitus patients 1(1.04%) had high distress, 36 (37.50%) had moderate distress,59 (61.46%) had little/ no distress. Findings also revealed that 16 (16.67%) had poor coping, 63 (65.62%) had moderate coping and 17 (17.71%) had good coping. It can be concluded that there is need for frequent awareness programme regarding diabetes distress and its associated factors that causing distress, so that diabetes mellitus patients can easily cope with the diabetes distress, make a healthy life.

Acknowledgements

She is deeply indebted to her respected guide Mrs. Lakshmi Pandit, Reader and Acting Principal, Govt. College of Nursing, Bankura Sammilani Medical College, Bankura for her expert guidance, and valuable, constructive suggestions which made this experience rich and rewarding. She has always been a source of great inspiration and encouragement. Investigator considers it a big privilege to have worked under her expert guidance. The process was challenging, but investigator has learnt a lot from her.

Investigator would also like to express her sincere gratitude to her other guide Mrs. Rahima Rahaman, Clinical Instructor, Govt. College of Nursing, Bankura Sammilani Medical College, Bankura for her valuable suggestion, constant encouragement, and guidance to progress in her research work and for sparing her precious time for all necessary correction works. Her guidance and interest have helped a great deal to make this research study a successful one.

The investigator is deeply indebted to Smt. Jashoda Biswas, Professor, Govt. College of Nursing, Bankura Sammilani Medical College, for her constant guidance, motivation, blessings, and coordinating the research work throughout the study.

The investigator would like to acknowledge with lots of respect to Mrs. Lakshmi Pandit, Reader and Acting Principal, Govt. College of Nursing, Bankura Sammilani Medical College, Bankura for granting pilot and final study permission.

The investigator expresses her deep sense of gratitude to all the experts who have contributed their constructive and valuable opinions, suggestions in validating the data collection tool.

She is deeply indebted to her respect and gratitude to Smt. Binapani De, Senior Lecturer cum Acting principal, College of Nursing, Rampurhat Govt. Medical College and Hospital, Rampurhat, Birbhum,West Bengal, for her constant support and encouragement and for help in research study.

Investigator expresses her profound sense of debt to all the faculty members of Govt. College of Nursing, Bankura Sammilani Medical College, Bankura for their valuable suggestions throughout the study.

Investigator obliged to Prof (Dr) Aditya Prasad Sarkar, Head of the Department, Dept. Of Community Medicine, Bankura Sammilani Medical College, Bankura for valuable suggestions and guidance regarding the application of the proper statistical method.

Investigator expresses utmost gratitude to Polonsky, W.H., Fisher, L., Esarles, J., Dudl, R.J., Lees, J.T., Jackson, R. for granting the free permit to use the standardized Diabetes Distress Screening Scale 17 (DDS 17) for research, educational, academic and professional purposes for the welfare and upliftment of society and mankind.

My heartful thanks are conveyed to respected Charles S Carver for allowing me to use as free tool standardized brief COPE scale. The tool was used to measures coping strategies adopted by the diabetes mellitus patients.

Investigator would also like to express her sincere gratitude to Dr. Jayanta Kumar Routh, Medical Superintendent cum Vice Principal of Midnapore Medical College and Hospital, Paschim Medinipur for allowing to conduct the pilot study.

Investigator expresses utmost gratitude to Dr. Jugal Kar, Head of Department, General medicine, Midnapore Medical College and Hospital, Paschim Medinipur for allowing to conduct the pilot study.

Investigator express her profound gratitude to Dr, Saptarshi Chatterjee, Medical Superintendent cum Vice Principal, BSMC&H, Bankura for granting permission for allowing her to conduct the study.

Investigator expresses her profound gratitude to Dr. Shymal Kundu, Head of Department, General medicine, BSMC&H and doctors for granting permission for allowing to conduct the study and for their constant support and co-operation.

Investigator also expresses her sincere thanks to Mr. Kalipada Bauri, M.A. B.Ed. School teacher of Khasla Indu-Mati High School for language validation of English tool and Mr. Dasarath Hansda, M.A. B.Ed. School teacher of Khasla Indu-Mati High School for language validation of Bengali tool.

Investigator awes her gratefulness to, Headmistress of Srima Balika Vidyalaya for editing the dissertation work and refining the manuscript in a presentable manner.

Investigator also wishes to take the privilege of expressing thanks to Mr. Jagabondhu Rakshit, Librarian of Government

College of Nursing, Bankura Sammilani Medical College, Bankura for the precious assistance in reviewing the literature for the study.
Investigator is thankful to all the subjects who participated in the study, without their cooperation and participation it would have been impossible to conduct the study.
She extends her gratitude and thanks to all her classmate for their help and encouragement.
Investigator is deeply expressed her gratitude and immense love to her father, Mr. Nabani Kumar Mondal, and mother, Mrs. Manju Mondal, Grand mother, brother and sister, and friends who make her task easy through their unconditional love, support, concern and prayers throughout the study.
Investigator conveyed her heartful thanks to her husband Mr. Rajib Chowdhury, for his inspiring spells, constant support and encouragement throughout the study.
The investigator offers cordial thanks to all who directly or indirectly helped her in accomplishment of the study.
Above all the investigator felt God Almighty's presence throughout her study. It is his abiding graciousness, which makes this study possible.

Conflict of Interest
Not available.

Financial Support
Not available.

References

1. Pradeepa R, Mohan V. Epidemiology of type 2 diabetes in India. Indian J Ophthalmol. 2021 Nov;69(11):2932-2938. DOI: 10.4103/ijo.IJO_1627_21.
2. Vlad I, Popa AR. Epidemiology of diabetes mellitus: a current review. Rom J Diabetes Nutr Metab Dis. 2012 Dec 15;19(4):433-440. DOI: 10.2478/v10255-012-0050-0.
3. Islam MR, Karim MR, Habib SH, Yesmin K. Diabetes distress among type 2 diabetic patients. Int J Med Biomed Res. 2013;2(2):113-124. DOI: 10.14194/ijmbr.224.
4. Liu YS, Huang J, Dong LQ, Li B, Zhao X, Xu R, *et al*. Diabetes distress, happiness, and its associated factors among diabetes mellitus patients with different therapies: A observational study from Hunan province, China. Medicine (Baltimore). 2016 Mar;95(11):e18831. DOI: 10.1097/MD.0000000000018831.
5. Wikipedia contributors. Diabetes mellitus. Wikipedia, The Free Encyclopedia; c2022 Apr 8 [cited 2025 Apr 27]. Available from: https://en.wikipedia.org/wiki/Diabetes_mellitus.
6. Chintamani. Lewis's Medical-surgical Nursing Assessment and management of clinical problems. 10th ed. New Delhi: Elsevier; c2011. p. 1077-1098.
7. World Health Organization. Diabetes. 2022 [cited 2022]. Available from: https://www.who.int/health-topics/diabetes.
8. International Diabetes Federation. IDF Diabetes Atlas, 10th edn. Brussels (Belgium): International Diabetes Federation; c2021. Available from: https://www.idf.org/IDF Diabetes Atlas/2022/06/20/0433.674.528. [cited 2025 Apr 27].
9. Azadbakht M, Tanjani PT, Fadayevatan R, Froughan M, Zanjari N. The prevalence and predictors of diabetes distress in elderly with type 2 diabetes mellitus. Diabetes Res Clin Pract. 2020 May 1;163:108133. DOI: 10.1016/j.diabres.2020.108133.
10. Zhou H, Zhu J, Liu L, Li F, Fish FA, Chen T, *et al*. Diabetes related distress and its associated factors among patients with type 2 diabetes mellitus: Across-sectional survey study in China. Psychiatry Res. 2017 Jun;252:130-135. DOI: 10.1016/j.psychres.2017.02.049.
11. JDRF. Diabetes distress. 2023 [cited 2023]. Available from: https://www.google.com/search?q=https://www.jdrf.org/t1d-resources/living-with-t1d/mental-health/dealing-with-distress.
12. Wikipedia contributors. Diabetes mellitus. Wikipedia, The Free Encyclopedia; c2023 Apr 10 [cited 2025 Apr 27]. Available from: https://en.wikipedia.org/wiki/Diabetes_mellitus.
13. Liu Y, Ning X, Zhang L, Long J, Liang R, Peng S, *et al*. Prevalence of long-term complications in inpatients with diabetes mellitus in China; A nation wide tertiary hospital-based study; c2013-2017. BMJ Open Diabetes Res Care. 2022;10(3):e002720. DOI: 10.1136/bmjdrc-2022-002720.
14. Society of Behavioral Medicine. Diabetes distress. 2023 [cited 2023]. Available from: https://www.sbm.org/healthy-living/what-is-diabetes-distress.
15. Diabetes UK. Diabetes distress. 2023 Apr 10 [cited 2025 Apr 27]. Available from: https://www.diabetes.org.uk/professionals/resources/shared-practice/psychological-care.
16. Centers for Disease Control and Prevention. Diabetes. 2023 [cited 2023 Apr 24]. Available from: https://www.cdc.gov/diabetes/basics/diabetes.html.
17. Azadbakht M, Fadayevatan R, Tanjani Taheri P, Foroughan M, Zanjari N. Prevalence and determinant factors of diabetes distress in community-dwelling elderly in Qom, Iran. Int J Prev Med. 2021 [cited 2023 May 10];12:145. Available from: https://www.ijpvmjournal.net/text.asp?2021/12/1/145/329348.
18. Akbari F, Molavynejad S, Rokhafroz D, Sharif Nia H. Effect of Diabetes Distress and Self-care Activities on the Quality of Life of Type 2 Diabetic Patients: A Structural Equation Model. Jundishapur J Chronic Dis Care. 2022;11(1):e119982. DOI: 10.5812/jjcdc.119982.
19. Diabetes UK. Diabetes UK-Diabetes distress. 2017 May [cited 2025 Apr 27]. Available from: https://www.diabetes.org.uk/professionals/resources/shared-practice/psychological-care/emotion....
20. Bhaskara G, Budhiarta AAG, Gotera W, Saraswati MR, Dwipayana IMP, Semadi IMS, *et al*. Factors Associated with Diabetes-Related Distress in Type 2 Diabetes Mellitus Patients. Diabetes Metab Syndr Obes. 2022;15:2077-2085. DOI: 10.2147/DMSO.S363431.
21. Batais MA, Alfraiji AF, Alyahya AA, Aloofi OA, Almashouq MK, Alshehri SK, *et al*. Assessing the Prevalence of Diabetes Distress and Determining Its Psychosocial Predictors Among Saudi Adults with Type 2 Diabetes: A Cross-Sectional Study. Front Psychol. 2021;12:759454. DOI: 10.3389/fpsyg.2021.759454.
22. Hapunda G. Coping strategies and their association with diabetes specific distress, depression and diabetes self-care among people living with diabetes in Zambia.

BMC Endocr Disord. 2022 Sep 13;22(1):215. DOI: 10.1186/s12902-022-01131-2.
23. Murakami H, Yasui-Furukori N, Otaka H, Nakayama H, Murabayashi M, Mizushiri S, *et al*. Coping styles associated with glucose control in individuals with type 2 diabetes mellitus. J Diabetes Investig. 2020 Sep;11(5):1215-1221. DOI: 10.1111/jdi.13225.
24. Gowri P. Prevalence of diabetes-related distress in patients with type 2 diabetes, attending a tertiary care hospital. Kauverian-scientific-journal. 2021;3(7). [pages missing]. Available from: www.Kauveryhospital.com. [cited 2025 Apr 27].
25. Gahlan D, Rajput R, Gehlawat P, Gupta R. Prevalence and determinants of diabetes distress in patients of diabetes mellitus in a tertiary care centre. Diabetes Metab Syndr. 2018 May;12(3):333-336. DOI: 10.1016/j.dsx.2017.12.024.
26. Hasan NS, Singh PV, Kumar D, Srivastava P. Prevalence of Diabetes Distress in Diabetic Patients of Rural Area in Azamgarh. Ann Int Med Den Res. 2020;6(3):PH12-PH15.
27. Brunner, Suddarth. Textbook of Medical-Surgical Nursing. 12th ed. New Delhi: Wolters Kluwer/Lippincott Williams and Wilkins; c2012. p. 1196-1243.
28. Indian Council of Medical Research. India Diabetes Study (ICMR-INDIAB). [cited 2021 Aug 05]. Available from: https://www.livemint.com/Indian Council of medical Research India Diabetes Study(ICMR-INDIAB)/2012-2013.
29. Thomas L. Diabetes in college students linked to depression and distress. News Medical and Life Sciences; c2019 Aug 27 [cited 2025 Apr 27]. Available from: https://www.news-medical.net/news/20190827/Diabetes -in-college-students-linked-to-depression and distress.
30. Gupta KS, Rastogi A, Kaur M, Lakshmi PVM. Diabetes-related distress and its impact on self-care of diabetes among people with type 2 diabetes mellitus living in a resource-limited setting: A community-based cross-sectional study. Diabetes Res Clin Pract. 2022 Sep 1;191:110070. DOI: 10.1016/j.diabetes.2022.110070.
31. Gupta S, Solomon L, Jacob JJ. Diabetic distress and work-related stress among individuals with type 2 diabetes mellitus. Clin Diabetol. 2022;11(1):11-14. DOI: 10.5603/DK.a2022.0005.
32. Panda KB, Chhotaray S, Behera D, Rout R. Assessment of diabetes-related distress among type II diabetic patients. J Cardiovasc Dis Res. 2022;13(08):21-25.
33. Kadari D, Gadiraju P, Rajak B. Distress and quality of life among type II diabetic patients: Role of physical activity. Asia Pac J Health Manag. 2021 Mar;16(1):64-74. DOI: 10.24083/apjhm.v16i1.569.
34. Vidya KR, Lohit K, Roopashree S. Diabetes distress and disease-related factors in patients with type 2 diabetes attending a tertiary care hospital. Natl J Physiol Pharm Pharmacol. 2021;11(8):880-885. DOI: 10.5455/njppp.2021.11.06194202115062021.
35. Sumana K, Ruman S, Beatrice Anne M, Chowhan AK, Anitha B, Mamatha B. A study on diabetes-related distress among type 2 diabetes mellitus patients using the diabetes distress scale in a tertiary care center in Telangana. Int J Diabetes Dev Ctries. 2021 Oct;41(4):644-649. DOI: 10.1007/s13410-021-00937-5.
36. Lau CYK, Kong APS, Lau JTF, Chan V, Mo PKH. Coping skills and glycaemic control: the mediating role of diabetes distress. Acta Diabetol. 2021 Aug;58(8):1071-1079. DOI: 10.1007/s00592-021-01679-w.
37. Fernandes P, Dasila P, Rai S, Gopalkrishnan S. Psychosocial Distress among People with Type 2 Diabetes in India. Int J Health Sci Res. 2019;9(5):266-272.
38. Hemavathi P, Satyavani K, Smina TP, Vijay V. Assessment of diabetes related distress among subjects with type 2 diabetes in South India. Int J Psychol Couns. 2019 Jan 31;11(1):1-5. DOI: 10.5897/IJPC2018.0551.
39. Sankar P, Sasikumar P, Medayil R, Jacob R, Sasidharan S. High Prevalence of distress among patients with type 2 diabetes(T2DM)-a hospital based, cross-sectional study from South India. Diabetes. 2018 Jul 1;67(Supplement_1):798-P. DOI: 10.2337/db18-798-p.
40. Akpabio II. Improving utilization of conceptual and theoretical framework in nursing research. Glob J Pure Appl Sci. 2015;21(21):87-91. DOI: 10.4314/gjpas.v21i21.11.
41. Chandran S, TK, Kumar A. Application of Nursing Theories. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; c2017.
42. Navi T, Rafiq N. Abstract# 1167239: Quality of life, Diabetes-related Distress and Depression among patients with Type 2 Diabetes: A Cross-sectional study. Endocr Pract. 2022 May 1;28(5):S23.
43. Hasan-Kamrul ABM, Hannan MA, Asaduzzaman M, Rahman MM, Alam MS, Amin MN, *et al*. Prevalence and predictors of diabetes distress among adults with type 2 diabetes mellitus: a facility-based cross-sectional study of Bangladesh. BMC Endocr Disord. 2022 Jan 23;22(1):28. DOI: 10.1186/s12902-022-00938-3.
44. Patra S, Patro KB, Padhy KS, Mantri J. Prevalence of diabetes distress and its relationship with self-management in patients with type 2 diabetes mellitus. Indian J Psychiatry. 2021 Jul-Dec;30(2):234-239. DOI: 10.4103/ipj_60_19.
45. Raveendranathan D, George J, Perumal LN, Ashok M. The Effectiveness of a Brief Psychological Intervention for Patients with Diabetes-Related Distress. Indian J Psychol Med. 2019 Jul-Aug;41(4):357-361. DOI: 10.4103/IJPSYM.IJPSYM_455_18.
46. Symon KA, Vargese SS, Mathew E, RK A, Abraham J. Diabetes related distress in adults with type 2 diabetes mellitus: a community-based study. Int J Community Med Public Health. 2019 Jan;6(1):151-155. DOI: 10.18203/2394-6040.ijcmph20185234.
47. Budarapu S, Vaikkakara S, Cherukuthota LS, TMS, JS, LH. A cross sectional study on effect of distress due to disease, on medication adherence in patients with type 2 diabetes mellitus in tertiary care hospital. Int J Curr Med Pharm Res. 2018 Jun;5(6):23-27. DOI: 10.21276/ijcmr.2018.5.6.23.
48. Dogra P, Prasad RS, Subhashchandra JB. Assessment of depression and diabetes distress in type 2 diabetes mellitus patients in a tertiary care hospital of South India. Int J Res Med Sci. 2017 Sep;5(9):3880-3886. DOI: 10.18203/2320-6012.ijrms20173696.

49. Nagabhushana A, Ramaiah M, Khan MA, Siddesh N. A study to assess diabetic distress and other factors which affect glycemic control in patients with type 2 diabetes mellitus. APIK J Intern Med. 2021 Jul 1;9(3):176-179. DOI: 10.4103/ajim.ajim_8_21.
50. Geleta BA, Dingata ST, Emanu MD, Eba LB, Abera KB, Tsegaye D, *et al*. Prevalence of Diabetes Related Distress and Associated Factors Among Type 2 Diabetes Patients Attending Hospitals, Southwest Ethiopia, 2020: A Cross-Sectional Study. Patient Relat Outcome Meas. 2021 Jan 26;12:13-22. DOI: 10.2147/PROM.S290412.
51. Kintzoglanakis K, Vonta P, Copanitsanou P. Diabetes-Related Distress and Associated Characteristics in Patients with Type 2 Diabetes in an Urban Primary Care Setting in Greece. Chronic Stress (Thousand Oaks). 2020 Sep 25;4:2470547020961538. DOI: 10.1177/2470547020961538.
52. Nguyen VB, Tran TT, Dang TL, Nguyen VVH, Tran BT, Le CV, *et al*. Diabetes-Related Distress and Its Associated Factors Among Patients with Diabetes in Vietnam. Psychol Res Behav Manag. 2020 Dec 14;13:1181-1189. DOI: 10.2147/PRBM.S285291.
53. Parsa S, Aghamohammadi M, Abazari M. Diabetes distress and its clinical determinants in patients with type II diabetes. Diabetes Metab Syndr. 2019 Mar-Apr;13(2):1275-1279. DOI: 10.1016/j.dsx.2019.02.007.
54. Ramkisson S, Pillay BJ, Sartorius B. Diabetes distress and related factors in South African adults with type 2 diabetes. J Endocrinol Metab Diabetes S Afr. 2016 Jul 25;21(2):35-39.
DOI: 10.1080/16089677.2016.1205822.
55. Sasi TVDS, Kodali M, Burra CK, Muppala SB, Gutta P, Bethanbhatla KM. Self Care Activities, Diabetic Distress and other Factors which Affected the Glycaemic Control in a Tertiary Care Teaching Hospital in South India. J Clin Diagn Res. 2013 May;7(5):857-860.
DOI: 10.7860/JCDR/2013/5726.2958.
56. Sathiyakala K, Danasu R, Tamilpulavendran V. A study to assess level of coping strategies among the patients with chronic diabetes mellitus admitted in selected hospitals. Int J Adv Res. 2023 Jan;11(01):617-625.
57. Napolion K, Siatang W, Ekawati D. Relationship between coping strategies and levels of anxiety among diabetes mellitus patients in Makassar. KnE Life Sciences. 2018;2018:8642.
DOI: 10.18502/kis.v6i1.8642.
58. Seyitoglu CD, Gunes G, Gokce A, Tekin C. Glycemic control and coping with stress in type 2 diabetes mellitus. Int J Community Med Public Health. 2018 Feb;5(2):869-873.
DOI: 10.18203/2394-6040.ijcmph20180221.

How to Cite This Article
Mondal P. Distress and its associated factors, coping strategies among diabetes mellitus patients attending medicine Out Patient Department, Bankura Sammilani Medical College and Hospital, Bankura, West Bengal. International Journal of Advance Research in Medical Surgical Nursing. 2025;7(1):151-158.