

PERCEIVED MENTAL HEALTH CARE NEEDS AND MENTAL HEALTH-RELATED SERVICE UTILIZATION AMONG ADULTS WITH DIABETES MELLITUS ATTENDING SELECTED HEALTH AND WELLNESS CENTERS IN WEST BENGAL, INDIA.

Mental Health Nursing

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ABSTRACT

Background: Diabetes mellitus is often associated with psychological distress and unmet mental health care needs. **Objective:** To assess psychological distress, perceived mental health care needs, and mental health-related service utilization among adults with type 2 diabetes mellitus attending selected NP-NCD facilities in West Bengal, and examine associated factors. **Methods:** A cross-sectional analytical study was conducted among 400 adults with type 2 diabetes mellitus attending selected rural and urban NP-NCD facilities under Health and Wellness Clinic in West Bengal from June 2023 to July 2024. Psychological distress was assessed using PHQ-9, GAD-7, and DDS-17. Perceived care needs and service utilization were assessed using a modified Perceived Need for Care Questionnaire. **Results:** Psychological distress was present in 58.5% of participants, with 25.5% experiencing depressive symptoms, anxiety symptoms, and diabetes distress concurrently. Counselling (38.3%) and information (36.8%) were the most frequently recognized care needs, while 51.8%–65.5% reported no perceived need across domains. Only 9.5% reported mental health-related consultation in the preceding 12 months, most commonly at primary health centers (73.7%) and with general medical practitioners (68.4%). Regression analyses identified associations between perceived care needs and selected sociodemographic and clinical characteristics. Bivariate analyses found associations between consultation and age, religion, education, family type, treatment regimen, complications, and physical activity ($p < 0.05$). **Conclusion:** Psychological distress was common, but mental health-related consultation was infrequent. Integrating psychological assessment, patient-centred counselling, and appropriate referral pathways into routine diabetes care may help address unmet needs.

KEYWORDS

Type 2 Diabetes Mellitus; Psychological Distress; Perceived Mental Health Care Needs; Service Utilization; West Bengal

INTRODUCTION

Diabetes mellitus is a chronic condition requiring sustained self-management and long-term engagement with health services. Beyond its physical complications, it is associated with depression, anxiety, and diabetes-related distress, which may affect treatment adherence, glycaemic control, and quality of life^[1,2]. The ICMR–INDIAB study estimated diabetes prevalence in West Bengal at 13.7% and prediabetes prevalence at 23.5%, underscoring the importance of comprehensive diabetes care in the state^[3]. An Indian systematic review estimated the pooled prevalence of diabetes distress at 33% (95% CI: 21–45%), although substantial variation existed across studies^[4].

Psychological distress does not necessarily translate into a perceived need for care. Adults with diabetes may require information, counselling, medication-related support, practical assistance, or help maintaining work-related functioning. Recognizing these needs is important because psychological difficulties may coexist with unrecognized or unmet support requirements. Assessing perceived mental health care needs can therefore help identify the types of assistance patients consider necessary and inform patient-centred diabetes management^[5].

Perceived care needs are also distinct from actual service utilization. Individuals who recognize a need for support may not consult a healthcare provider, while others may obtain assistance through general medical practitioners or alternative medicine providers rather than specialist mental health services. Examining mental health-related consultation alongside perceived needs and psychological distress can help clarify these distinct dimensions and identify potential gaps between recognized needs and service use. Such evidence is particularly relevant to settings where mental health support is delivered through multiple levels of healthcare^[6].

In West Bengal, the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) provides a platform for diabetes screening, treatment, and follow-up^[7]. Routine diabetes services offer opportunities to recognize psychological concerns and facilitate appropriate counselling or referral. However, evidence on perceived mental health care needs and mental health-related service

utilization among adults with type 2 diabetes mellitus attending selected NP-NCD facilities in West Bengal remains limited. Examining these outcomes alongside psychological distress may help inform the integration of psychosocial support into routine diabetes care^[8].

Accordingly, this study aimed to assess perceived mental health care needs and mental health-related service utilization among adults with type 2 diabetes mellitus attending selected NP-NCD facilities in West Bengal and examine their associations with sociodemographic and clinical characteristics. Psychological distress was assessed as a secondary outcome to contextualize participants' mental health concerns.

Methods

A quantitative cross-sectional analytical study was conducted from June 2023 to July 2024 among adults with type 2 diabetes mellitus (T2DM) attending selected public-sector healthcare facilities under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD) in West Bengal, India. Study areas were purposively selected based on NCD clinic availability, administrative feasibility, and accessibility. Rural participants were recruited from North 24 Parganas and Purba Medinipur districts, and urban participants from Bidhannagar Municipal Corporation.

Adults aged ≥ 30 years with documented T2DM for ≥ 6 months, residing in the study area for ≥ 1 year, and able to communicate in Bengali, Hindi, or English were eligible. Individuals with gestational diabetes, severe acute illness, or communication or cognitive difficulties preventing reliable responses were excluded.

Sample size was calculated using the single population proportion formula, assuming 30% psychological morbidity based on a previous Indian study^[4], 95% confidence, 5% absolute precision, and a design effect of 1.2. The minimum required sample was approximately 388; 400 participants were recruited. Six urban health centers under Bidhannagar Municipal Corporation and 14 rural centers across Barasat-I, Barasat-II blocks and Purba Medinipur district were randomly selected by lottery from eligible NP-NCD facilities under Health Wellness Clinic. ASHA-maintained patient lists were screened

for eligibility and ordered by registration sequence. Systematic sampling used a random start and selection of every fourth eligible individual was done. Selected participants were invited to the health centre; non-attendees were traced through home visits with ASHA workers. If a selected participant remained uncontactable, the next eligible individual was approached. No refusals or ineligible participants were encountered among those contacted. Recruitment continued until 20 participants were interviewed at each center.

Psychological distress was assessed using the Patient Health Questionnaire-9 (PHQ-9)^[9], Generalized Anxiety Disorder-7 (GAD-7)^[10], and 17-item Diabetes Distress Scale (DDS-17)^[11]. Participants were classified as meeting the study criteria if PHQ-9 ≥ 5 , GAD-7 ≥ 5 , or DDS-17 mean score ≥ 2.0 . These thresholds indicated symptoms or diabetes-related distress, not clinical diagnoses.

A modified Perceived Need for Care Questionnaire (PNCQ)¹⁰ assessed five domains: information, medication-related support, counselling, practical support, and ability to work and undertake daily activities. Originally developed by Meadows et al. to assess perceived mental health care needs and their fulfilment, it was adapted for adults with diabetes. Participants reported a recognized need for help, no perceived need, or already receiving help from their physician or another source. Those receiving help were further classified as having fully or partially met needs.

The questionnaire underwent forward and backward Bengali translation, expert review, and pilot pretesting. Inter-rater reliability was assessed using Cohen's kappa among 40 participants independently assessed by two researchers. Coefficients were 0.838 for information, 0.756 for medication-related support, 0.914 for counselling, and 0.755 each for practical support and ability to work. Observed agreement ranged from 85% to 95%.

Mental health-related service utilization was defined as self-reported consultation with a healthcare provider for a mental health-related problem during the preceding 12 months (yes/no).

Sociodemographic variables included age, sex, religion, marital status, education, occupation, family type, residence, monthly per-capita income, and socioeconomic status assessed using the B.G. Prasad scale. Clinical variables included diabetes duration, treatment modality, comorbidities, complications, physical activity, and available glycaemic indicators. Data were collected through face-to-face interviews and available clinical records.

Data were analysed using jamovi version 2.7.30. Categorical variables were summarized as frequencies and percentages, and continuous variables using appropriate measures of central tendency and dispersion. Associations between categorical variables were examined using chi-square or Fisher's exact tests, as appropriate. Multinomial logistic regression was conducted separately for each PNCQ domain, using recognized unmet need as the reference category. Bivariate associations with mental health-related service utilization were examined using the chi-square or Fisher's exact test, as appropriate. Tests were two-sided, with $p < 0.05$ considered statistically significant. Ethical approval was obtained from the Institutional Ethics Committee of Medical College and Hospital, Kolkata (MC/KOL/IEC/NON-SPON/1071/04/2021). Administrative permissions were obtained from the State Government, relevant authorities, and participating facilities. Written informed consent was obtained, and participant confidentiality and privacy were maintained.

RESULTS AND DISCUSSION

Section I : Frequency and Percentage Distribution of Sociodemographic and clinical profile of the Participants

Table 1: Sociodemographic and Clinical profile of the Participants N=400

Sr. No.	Variables	Categories	Total (n, %)
1	Age	≤ 40 years	74 (18.5)
		41-59 years	167 (41.75)
		≥ 60 years	159 (39.75)
		Mean $\pm$ SD	52.4 $\pm$ 17.9
2	Gender	Male	196 (49)
		Female	204 (51)

3	Religion	Hindu	321 (80.25)
		Muslim	69 (17.25)
		Others	10 (2.5)
4	Marital Status	Married	330 (82.5)
		Unmarried	28 (7)
		Divorced / seperated	6 (1.5)
		Widow	36 (9)
5	Educational Status	Low (Illiterate + Literate + Primary)	231 (57.75)
		Moderate (Secondary + HS)	82 (20.5)
		High (UG + PG)	87 (21.75)
6	Type of Family	Nuclear	225 (56.25)
		Joint	175 (43.75)
7	Place of Residence	Urban	128 (32)
		Rural	272 (68)
8	Occupation	Nonactive Work Force	207 (51.8)
		Service Workforce	126 (31.5)
		Skilled Workforce	52 (13)
		Professional Workforce	15 (3.8)
9	Monthly Per capita Income (Rs.)	≤ 5000	272 (68)
		> 5000	128 (32)
10	Socio Economic Status (SESS)	Cat I	34 (8.5)
		Cat II	138 (34.5)
		Cat III	117 (29.25)
		Cat IV	90 (22.5)
		Cat V	21 (5.25)
11	Comorbidity	No	219 (54.75)
		Yes	181 (45.25)
12	Duration of DM	≤ 5 Years	194 (48.5)
		6-10 years	129 (32.25)
		> 10 years	77 (19.25)
		Mean $\pm$ SD in years	6.2 $\pm$ 3.9
13	Treatment Modality	Oral	299 (74.75)
		Insulin	33 (8.25)
		Both	57 (14.25)
		Dietary Modification	11 (2.75)
14	Treatment Adherence	Yes	352 (88)
		No	48 (12)
15	Complication	No	207 (51.75)
		Yes	193 (48.25)
16	Types of Complication	Microvascular	148 (37)
		Macrovascular	24 (6)
		Both	21 (5.25)
17	Physical Activity	High	62 (15.5)
		Moderate	152 (38)
		Low	186 (46.5)
18	Family History of DM	No	236 (59)
		Yes	164 (41)
19	Substance Use History	Yes	133 (33.25)
		No	267 (66.75)
20	Type Of Substance	Alcohol	16 (4)
		Tobacco	71 (17.75)
		Both	46 (11.5)
21	History of Hypoglycemic episode	Yes	87 (21.75)
		No	313 (78.25)
22	BMI	< 18.5 Kg / m ²	25 (6.25)
		18.5 - 24.9 Kg / m ²	244 (61)
		≥ 25 Kg / m ²	131 (32.75)
23	FBS	< 110 mg/dl	115 (28.75)
		110-125 mg/dl	69 (17.25)
		≥ 126 mg/dl	216 (54)
24	PPBS	< 140 mg/dl	49 (12.25)
		140 - 200 mg/ dl	197 (49.25)
		> 200 mg/dl	154 (38.5)
25	HbA1c	Done	176 (44)
		Not Done	224 (56)

A total of 400 adults with type 2 diabetes mellitus participated in the study (Table 1). The mean age was 52.4 $\pm$ 17.9 years, and 51.0% were

female. Most participants were Hindu (80.3%), married (82.5%), and had primary-level education or less (57.8%). Rural residents comprised 68.0% of the sample. The mean duration of diabetes was 6.2 ± 3.9 years; 45.3% had comorbidities, and 48.3% reported diabetes-related complications.

Section II: Psychological distress among participants N=400

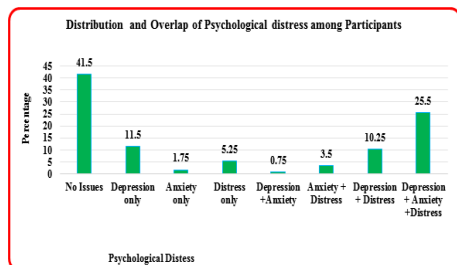


Figure 1 Distribution and overlap of psychological distress among participants.

58.5% of participants met the study criteria for psychological distress, while 41.5% did not meet the threshold on any of the three measures. Multiple concerns co-occurred in 40.0%, and 25.5% experienced depressive symptoms, anxiety symptoms, and diabetes-related distress together (Figure 1). Sinha et al.^[12] estimated a pooled diabetes distress prevalence of 33% (95% CI: 21–45%), while Pal et al.^[13] reported moderate or higher depressive symptoms in 45% of older adults with diabetes in rural West Bengal. These findings provide useful context, although direct comparison is limited because the present study included depressive symptoms, anxiety symptoms, and diabetes-related distress in a composite measure. The frequent overlap of distress highlights the importance of considering psychological well-being as part of routine diabetes care.

Section III: Perceived Mental Health Care Needs among participants

Table 2. Perceived mental health care needs among adults with diabetes mellitus (N = 400)

Sr. No.	Type of Mental Health Care Need	Recognized Need for Help f (%)	No Perceived Need f (%)	Already Receiving Help f (%)		
				Total f (%)	Fully Met f (%)	Partially Met f (%)
1.	Information	147 (36.8)	209 (52.3)	44 (11.0)	34 (8.5)	10 (2.5)
2.	Medication-related support	95 (23.8)	261 (65.3)	44 (11.0)	34 (8.5)	10 (2.5)
3.	Counselling	153 (38.3)	207 (51.8)	40 (10.0)	36 (9.0)	4 (1.0)
4.	Practical support	97 (24.3)	262 (65.5)	41 (10.3)	32 (8.0)	9 (2.3)
5.	Ability to work	142 (35.5)	218 (54.5)	40 (10.0)	32 (8.0)	8 (2.0)

Counselling was the most frequently recognized need for help (38.3%), followed by information (36.8%) and support with work-related functioning (35.5%). Practical and medication-related support were less frequently reported (24.3% and 23.8%, respectively). Across domains, 51.8%–65.5% reported no perceived need, while 10.0%–11.0% were already receiving help, mostly with needs fully met.

Psychological distress was significantly associated with recognized unmet needs across all five domains (all $p \leq 0.002$). Participants with distress more frequently reported unmet needs for information, medication-related support, counselling, practical support, and work-related assistance than those without distress. Conversely, participants without distress more often reported no perceived need.

The prominence of counselling and information highlights the importance of emotional support and clear information alongside diabetes management. Needs relating to practical assistance and work also suggest concerns extending to daily and social functioning. The international Diabetes Attitudes, Wishes and Needs (DAWN) study by Peyrot et al.^[14] reported poor psychological well-being among 41% of

participants with diabetes, while only 10% received psychological treatment. Although not directly equivalent to the domains assessed here, both studies suggest a gap between psychosocial burden and support received. Similarly, Snoek et al.^[3], in the eight-country MIND study, found probable depression or high diabetes distress in 24.9% of participants, with over 80% of identified cases newly detected, highlighting the importance of recognition and referral.

The coexistence of distress and no perceived need is also important. Shin et al.^[15] found that adults with diabetes and serious psychological distress were less likely to perceive a need for mental health services than those without diabetes. Spajic et al.^[16] likewise identified unmet mental health support needs among Australian adolescents with type 2 diabetes. Although populations differ, these findings underscore the importance of sensitive communication and routine assessment. Potential influences such as awareness and access were not directly assessed in the present study.

Section IV: Mental Health-Related Service Utilization among participants

Table 3 : Self-reported mental health-related experiences and consultation among Adults with diabetes mellitus N=400

Variable	Category	Total (f, %)
Self-reported mental health problem in last year	Yes	77 (19.25)
	No	323 (80.75)
Hospital admission in last year	Yes	60 (15)
	No	340 (85)
Type of admission (n=60)	Physical Illness	56 (93.3)
	Mental illness	04 (6.7)
Type of Hospital (n=60)	General Hospital	56 (93.3)
	Psychiatric Hospital	1 (1.7)
	Drug Treatment Hospital	3 (5)
Health Sector (n=60)	Private	12 (20)
	Government	48 (80)
Consultations with any health professional during the previous 12 months, excluding inpatient stays	Yes	85 (21.25)
	No	315 (78.75)
Consultation related to mental health problems during the previous 12 months	Yes	38 (9.5)
	No	362 (90.5)

Table 4: Characteristics of Mental Health-Related Consultations (n = 38)

Sr. No.	Variable	Category	Total (f, %)
1	Location of Consultation	PHC	28 (73.7)
		Tertiary Hospital	8 (21.0)
		Specialized Clinic	2 (5.3)
2	Type of Practitioner consulted	General Medicine	26 (68.4)
		Psychiatrist / Psychologist	6 (15.8)
		Alternative Medicine	6 (15.8)

Although 19.3% reported a mental health problem during the preceding 12 months, only 9.5% reported consulting a healthcare provider for a mental health-related problem during that period (Table 3). Among the 60 participants admitted to hospital, 56 admissions were for physical illness and four for mental illness. Among those reporting mental health-related consultation (n = 38), primary health centers and general medicine practitioners were the most frequently reported sources of care (Table 4).

This gap between reported psychological distress and mental health-related consultation may reflect differences in perceived need and service utilization, as psychological distress does not necessarily indicate a perceived need for professional care. The frequent use of primary health centers and general medicine practitioners highlights their potential role in identifying psychological concerns and facilitating appropriate support or referral.

Sepassi et al.^[17] found that adults with type 2 diabetes and unmet psychological needs had greater healthcare utilization and poorer health outcomes. Yap et al.^[18] identified mental health support, dietary counselling and medication-related needs among adults with diabetic kidney disease in Malaysia. Similarly, Pravinbhai et al.^[19] emphasized psychological support and structured self-management education in diabetes care in India.

Section V: Factors associated with perceived mental health needs and mental health-related service utilization among Participants

Using recognized unmet need as the reference category, multinomial logistic regression showed that urban residence was associated with higher odds of already receiving help in the information (AOR=8.62), medication-related support (AOR=9.79), counselling (AOR=15.84), and ability-to-work domains (AOR=12.28). Participants from nuclear families had lower odds of reporting no perceived need or already receiving help, relative to recognized unmet need (AOR range: 0.02–0.40). Compared with non-working participants, those in service and skilled occupations had higher odds of already receiving help for counselling (AOR range: 6.12–18.00), practical support (AOR range: 4.50–36.92), and work-related concerns (AOR range: 6.05–15.32). Treatment modality, diabetes complications, physical activity, and postprandial blood glucose (PPBS) were also associated with perceived needs in selected domains ($p < 0.05$).

Shin et al.^[15] highlighted the importance of perceived need in mental health service use among adults with diabetes experiencing psychological distress, while Paduch et al.^[20] documented barriers to healthcare use among people with diabetes. The present findings suggest that social and contextual factors may be associated with both perceived care needs and receipt of support, although direct comparisons are limited by differences in study populations and outcome measures.

Table 5. Bivariate Associations of Sociodemographic and Clinical Variables with Mental Health-Related Consultation among Adults with Diabetes Mellitus (N = 400)

Sr. No.	Variable	χ^2 value	p-value
	Sociodemographic variables		
1.	Age	7.62	0.022
2.	Religion	10.30	0.006
3.	Education	7.56	0.023
4.	Family type	4.80	0.028
	Clinical variables		
5.	Treatment regimen	8.95	0.030
6.	Diabetes-related complications	9.14	0.003
7.	Physical Activity	15.0	<0.001

Bivariate analyses (Table 5) showed significant associations between mental health-related consultation in the preceding 12 months and age ($p = 0.022$), religion ($p = 0.006$), education ($p = 0.023$), and family type ($p = 0.028$). Significant clinical associations were observed for treatment regimen ($p = 0.030$), diabetes-related complications ($p = 0.003$), and physical activity ($p < 0.001$). Other sociodemographic and clinical variables were not significantly associated ($p > 0.05$).

Limitations

The cross-sectional design precludes causal inference, while self-reported information may be subject to recall and reporting bias. Recruitment from selected public-sector healthcare facilities in West Bengal may limit generalizability to adults with diabetes receiving care in other settings. The small number of participants reporting mental health-related consultation ($n = 38$) limited the precision of the service-utilization analyses and the ability to examine associations reliably across subgroups. In addition, the study did not directly assess reasons for not perceiving a need for care or barriers to service utilization.

Recommendations

Routine diabetes care may benefit from including the assessment of psychological distress and perceived mental health care needs. Nurses and other healthcare professionals could provide relevant psychoeducation and counselling and facilitate referral to mental health services when indicated. With patients' consent, involving family members may be considered to support patients' emotional and practical needs. Community-based awareness programmes may help improve mental health literacy and promote awareness of available support services. Strengthening referral pathways and improving

access to mental health care, particularly in underserved communities, may also help address gaps in care.

CONCLUSION

This study highlights the perceived mental health care needs of adults with diabetes mellitus in West Bengal and the relatively low utilization of professional mental health services. Psychological distress, including depressive symptoms, anxiety, and diabetes-related distress, underline the importance of addressing mental well-being alongside diabetes management. Participants reported needs related to information, counselling, medication support, practical assistance, and the ability to work, while mental health-related consultation remained uncommon. Integrating psychological assessment, patient-centred support, psychoeducation, and appropriate referral services into routine diabetes care may help address unmet needs and improve access to timely mental health support.

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