Family Systems and Psychoeducation in Chronic Illness Care: A Quasi-Experimental Comparative Study of Diabetes and Dementia in India

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HIGHLIGHTS

- Compares family systems and psychoeducation in diabetes and dementia caregiving
- Employs a quasi-experimental pre–post design with validated caregiver measures
- Identifies higher baseline burden and poorer family functioning in dementia care
- Demonstrates significant coping improvements following structured psychoeducation
- Supports condition-specific, family-centred chronic illness interventions

ABSTRACT

This study investigates the role of family systems and psychoeducational interventions in supporting the management of diabetes and dementia—two chronic conditions with distinct implications. A quasi-experimental, pre-post comparative research design was employed. Sixty primary caregivers (thirty per condition) completed validated measures—the Family Assessment Device (FAD), Coping Strategies Inventory (CSI), and Caregiver Burden Inventory (CBI)—before and after six psychoeducational sessions conducted over a 3-month period. Dementia caregivers reported significantly higher baseline emotional and physical strain (CBI Mean Difference: -7.3, p=.002) than diabetes caregivers, who focused more on routine compliance. Psychoeducation significantly improved coping scores in both groups, with a larger effect in the dementia cohort (CSI Mean Difference: +10.9, p=.001). The analysis revealed notable between-group differences in family functioning, particularly in communication (FAD: 2.9 vs. 3.8, p=.003) and affective involvement (FAD: 2.7 vs. 4.1, p=.001). These findings highlight the need for condition-specific, family-centred interventions to address the multidimensional demands of chronic disease care and improve quality of life.

KEYWORDS

Family systems
Psychoeducation
Diabetes
Dementia
Chronic illness
Caregiving
Social psychiatry

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INTRODUCTION

Chronic illnesses such as diabetes and dementia pose significant long-term challenges, not only to affected individuals but also to their families who often assume the role of primary caregivers. Diabetes mellitus, a complex metabolic disorder characterized by elevated blood glucose levels, demands rigorous self-care routines including medication adherence, dietary regulation, and regular physical activity. On the other hand, dementia, a progressive neurodegenerative condition, impairs cognitive functioning, memory, and behavioural stability, leading to profound functional decline over time.

Both illnesses significantly impact the psychosocial domain—altering roles within families, increasing caregiver stress, and complicating healthcare compliance. In the Indian socio-cultural context, where joint or extended family structures are still prevalent, caregiving is traditionally perceived as a familial responsibility rather than an institutional or state function. This cultural expectation positions families as central figures in managing the chronic illness experience (World Health Organization, 2023).

The aim of this study is to conduct a comparative analysis of family systems and psychoeducation in diabetes and dementia care within an urban Indian context. Specifically, it seeks to: (1) explore the role of family systems in day-to-day illness management; (2) assess the effectiveness of a psychoeducational intervention on caregiver coping and burden; (3) compare caregiving experiences, including stress and coping strategies, between the two conditions; and (4) identify culturally relevant needs and systemic challenges.

Based on the reviewed literature, we hypothesize that: (H1) caregivers of persons with dementia will report significantly higher baseline levels of burden and poorer family functioning compared to caregivers of persons with diabetes; (H2) the psychoeducational intervention will lead to significant improvements in coping and reductions in burden for caregivers in both groups; and (H3) the magnitude of improvement following psychoeducation will be greater for dementia caregivers due to their higher baseline distress. To test this, the study employs a comparative design to examine the influence of family-based support on key outcomes—including treatment adherence, psychological resilience, and quality of life—using validated measures of family functioning (FAD), caregiver burden (CBI), and coping strategies (CSI) to provide a multidimensional assessment.

LITERATURE REVIEW

The theoretical foundation for this research lies in family systems theory, which posits that individuals cannot be understood in isolation from their familial contexts (McCubbin & Patterson, 1983). This perspective is crucial in chronic illness management, where patient behaviour and health outcomes are interwoven with family communication, emotional climate, and caregiving roles. However, the manifestation of these dynamics varies profoundly by condition.

In the management of diabetes, families often function as collaborative coaches. Empirical evidence and systematic reviews indicate that consistent family involvement improves glycaemic control primarily by reinforcing structured daily routines, treatment adherence, and motivation for lifestyle changes (Shrivastava et al., 2013). In stark contrast, dementia caregiving entails a progressive shift towards a more intensive, custodial role. The neurodegenerative decline leads to increasing dependency and complex behavioural and psychological symptoms, resulting in significantly higher reported levels of emotional strain and caregiver burden (Gupta & Sharma, 2019). These contrasting dynamics—structured collaboration versus intensive, unpredictable care—underscore the need for differentiated approaches to family support.

The Role and Evidence for Psychoeducation

Psychoeducational interventions, which integrate psychological support with disease-specific education, have emerged as a key evidence-based tool to support caregivers. Meta-analyses of randomized controlled trials have confirmed that these interventions are effective in reducing caregiver burden and improving coping skills across chronic conditions (Kumar et al., 2020). They work by enhancing caregiver understanding, communication, and problem-solving skills, thereby fostering a more supportive home environment and improving patient quality of life. Specific benefits documented in the literature include improved emotional regulation (Singh et al., 2021) and collaborative decision-making (Mehta & Chaturvedi, 2015).

The Indian Context and the Specific Research Gap

The effectiveness of psychoeducation interventions is moderated by cultural context. In India, where caregiving is deeply embedded in collectivist values and familial duty, factors such as illness-related stigma, family hierarchy, and spiritual coping mechanisms significantly influence care delivery (Sharma & Dey, 2021; Srinivasan & Thara, 2001). This necessitates culturally adapted psychoeducation, a need particularly acute in rural and

multilingual settings (Rao et al., 2020).

While research on psychoeducation in India is growing, a critical gap remains. Existing studies typically focus on a single condition (Singh & Shukla, 2022). There is a scarcity of direct comparative studies that examine how the same intervention framework functions across illnesses with vastly different demands, such as diabetes and dementia. Without such comparisons, it is difficult to discern whether the core components of effective psychoeducation are universal or must be fundamentally tailored to the illness trajectory. This study directly addresses this gap by conducting a comparative analysis to identify the condition-specific mechanisms through which family systems and psychoeducation influence caregiver and patient outcomes.

STUDY SETTING AND STUDY POPULATION

The study was conducted in the urban regions of Rajkot, Junagadh, and Jamnagar cities of Gujarat, India. Participants were recruited from the outpatient departments of a government hospital, and two urban health care centres. The study was conducted over a six-month period from January to June 2023.

A total of sixty families (thirty caring for a patient with T2DM and thirty caring for a patient with dementia) were recruited via purposive sampling. Each family unit consisted of one identified patient and their primary family caregiver. The sample was drawn from a middle-to-low-income population, for whom family-based care is often the only viable option.

Patients with a clinical diagnosis of T2DM (as per the American Diabetes Association criteria: HbA1c ≥6.5%, FPG ≥126 mg/dL, or 2-h PG ≥200 mg/dL during an OGTT) and patients with a clinical diagnosis of Dementia of the Alzheimer's type or Vascular Dementia, at a moderate stage as defined by a Mini-Mental State Examination (MMSE) score of 11-20 and a Clinical Dementia Rating (CDR) scale score of 2, only were included in the study. Additionally, patients who have had the illness for more than one year and were aged fifty and above only were included.

Those who were identified as the primary family caregiver (the individual most responsible for the day-to-day care of the patient), aged 18 years and above, residing in the same household as the patient and providing care for at least 6 months only were selected.

Patients with severe comorbidities that would preclude participation (e.g., terminal cancer, active psychiatric disorders like schizophrenia, severe aphasia), and caregivers with self-reported severe physical or mental health conditions that would impede their participation in the intervention were excluded. Families where the primary caregiver was a paid helper was also excluded.

DATA COLLECTION

A quasi-experimental, pre-test–post-test design was used to evaluate the efficacy of a structured psychoeducational intervention for families of patients with Type 2 Diabetes Mellitus (T2DM) and dementia. The outcomes were used to compare the impact of the psychoeducational intervention on family involvement and caregiving outcomes.

A combination of structured interviews, self-report measures, and field observations were used in the pre-and post-assessment. All data collection instruments were translated into Hindi and back translated into English to ensure conceptual equivalence. A pilot test with five families (not part of the main study) was conducted to check for comprehension and cultural appropriateness.

The self-report tools used are detailed below.

1. Socio-Demographic and Clinical Proforma: A self-designed tool collected data on age, gender, education, occupation, family income, family type, relation to patient, patient's duration of illness, and comorbidities.
2. Family Assessment Device (FAD): This 60-item self-report questionnaire assesses six dimensions of family functioning: Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, and Behaviour Control, along with a General Functioning scale. Items are scored on a 4-point Likert scale from 1 (Strongly Agree) to 4 (Strongly Disagree). Lower scores indicate healthier functioning. A mean score of 2.0 or higher on the General Functioning scale is considered indicative of unhealthy family functioning (Epstein, Baldwin, & Bishop, 1983). The validated Hindi version was used.
3. Coping Strategies Inventory (CSI): This instrument assesses cognitive and behavioural efforts to manage specific demands appraised as taxing. It measures engagement (e.g., problem-solving, social support) and disengagement (e.g., avoidance, denial) coping strategies. Higher scores on a subscale indicate a greater reliance on that specific coping strategy. The tool was culturally adapted for this study.
4. Caregiver Burden Inventory (CBI): A 24-item instrument that measures burden across five subscales: Time-Dependence, Developmental, Physical, Social, and Emotional Burden. Each item is rated on a 5-point scale from 0 (Not at all descriptive) to 4 (Very descriptive). Higher total scores indicate greater perceived burden. A score of 36-42 suggests moderate burden, and scores above 42 indicate severe burden

(Novak & Guest, 1989).

5. Psychoeducation Feedback Form: A structured questionnaire developed for the study assessed participants' satisfaction with the intervention, perceived usefulness, and knowledge acquisition on a 5-point Likert scale.

Data Collection Procedure

In the first week of the intervention, after providing informed consent, eligible caregiver-patient dyads completed the baseline assessments (Socio-Demographic Proforma, FAD, CSI, CBI). Caregivers then participated in the 6-week psychoeducation program (details of the intervention are given below). This was followed by the post-intervention tests in week eight, for which the participating caregivers completed the FAD, CSI, CBI, and the Feedback Form.

The Psychoeducational Intervention

The intervention program was a manualized, 6-session psychoeducation program delivered over six consecutive weeks. It was delivered in Hindi by facilitators from a local mental health NGO and was co-facilitated by a clinical psychologist and a trained social worker experienced in community health. Sessions were conducted in small, illness-specific groups (separate groups for T2DM and dementia caregivers) of 8-10 participants to foster peer support. Each session lasted 90 minutes. The program's scheduling on weekends and its group-based format were designed to enhance accessibility for working caregivers.

Facilitators followed a detailed manual. A random selection of 20% of the sessions were audio-recorded and reviewed by a senior clinician to ensure adherence to the protocol.

Session-by-Session Outline of the Psychoeducation Intervention

Session 1: Understanding the Illness & Building Group Cohesion

Objectives: Provide education on T2DM/Dementia (aetiology, symptoms, progression), normalize caregiver emotions, and establish group rules.

Content: Medical information, myth-busting, emotional check-in, introduction to the stress-stress-coping model.

Session 2: Managing Challenging Behaviours & Communication Skills

Objectives: Equip caregivers with strategies to manage patient behaviours (e.g., resistance to medication, repetitive questions, agitation).

Content: The A-B-C (Antecedent-behaviour-Consequence) model of behaviour, role-playing effective communication techniques (using "I" statements, simple commands).

Session 3: Stress Management and Self-Care for the Caregiver

Objectives: Help caregivers identify personal stress signals and develop a self-care plan.

Content: Psychoeducation on burnout, relaxation techniques (deep breathing, guided imagery), activity scheduling for pleasurable activities.

Session 4: Family Dynamics and Mobilizing Support

Objectives: Improve family communication about caregiving and identify sources of practical and emotional support.

Content: Discussing role changes within the family, mapping support networks, problem-solving barriers to asking for help.

Session 5: Practical Caregiving Skills and Future Planning

Objectives: Build competency in daily care tasks and introduce the concept of advanced planning.

Content: Training in medication management, personal care, creating a safe home environment, and discussing legal/financial planning resources.

Session 6: Review, Relapse Prevention, and Termination

Objectives: Consolidate learning, develop a long-term coping plan, and provide closure to the group.

Content: Review of key skills, creating a personalized "crisis plan," celebrating successes, and providing resources for ongoing support.

DATA ANALYSIS

Quantitative data were analysed using SPSS (Version 26). Descriptive statistics summarized demographic and

baseline information. Independent sample t-tests and ANOVA were conducted to assess differences in caregiver burden, family functioning, and coping strategies between groups. Qualitative data from interview transcripts and open-ended feedback were manually coded and thematically analysed to identify emerging patterns related to emotional and systemic caregiving challenges.

RESULTS

The data reveals that the caregiver population was predominantly female (70%, n=42), a finding that underscores the gendered nature of care work. A more detailed breakdown shows that the primary burden falls on daughters (30%, n=18) and wives (26.7%, n=16). In contrast, male caregivers were fewer and were predominantly sons (13.3%, n=8) and husbands (6.7%, n=4).

A sizeable proportion of caregivers are adult children (43.3%) and spouses (33.3%), reflecting intergenerational care giving norms. A majority of families were nuclear (63.3%), highlighting potential limitations in extended familial support, especially relevant in the context of dementia care.

Most caregivers were in the 31–45 age group (43.3%) when they may be actively engaged in setting up their own families and establishing careers. They may have the dual burden of caring for an ill child, combined with caring for an ill parent, sibling, or spouse, or juggling employment and caregiving. The specific needs of a 25-year-old daughter (e.g., career disruption) are vastly different from those of a 65-year-old wife (e.g., physical strain, managing her own health), even though both may report high burden scores. This level of detail is essential for designing targeted support interventions.

Baseline Characteristics of the Sample

The baseline sociodemographic and clinical characteristics of the caregiver–patient dyads are presented in Table 1. Significant differences were observed between the diabetes and dementia cohorts across several variables. Caregivers of dementia patients were older and spent more time providing care, both in duration and weekly hours, compared to caregivers of diabetic patients. The relationship to the patient also varied significantly, with adult children predominating in the diabetes group and spouses in the dementia group. Patients with dementia were older but had a shorter illness duration than those with diabetes. These findings reflect distinct caregiving patterns and clinical profiles across the two illness groups.

Table 1. Baseline Sociodemographic and Clinical Characteristics of Caregiver-Patient Dyads by Group

Characteristic	Diabetes Cohort (n=30)	Dementia Cohort (n=30)	p-value
Caregiver Variables			
Age (years), Mean (SD)	41.5 (10.2)	52.8 (11.5)	<0.001
Gender, n (%) Female	18 (60.0%)	24 (80.0%)	0.09
Relation to Patient, n (%)			0.02
Spouse	8 (26.7%)	12 (40.0%)	
Adult Child	18 (60.0%)	8 (26.7%)	
Other	4 (13.3%)	10 (33.3%)	
Family Type, n (%) Nuclear	20 (66.7%)	18 (60.0%)	0.59
Caregiving Duration (months), Mean (SD)	28.4 (15.1)	42.6 (20.3)	0.003
Caregiving Hours/Week, Mean (SD)	22.5 (8.7)	68.3 (21.4)	<0.001
Patient Variables			
Age (years), Mean (SD)	64.3 (8.1)	72.6 (7.4)	<0.001
Illness Duration (years), Mean (SD)	8.2 (3.5)	5.1 (2.2)	<0.001
Disease-Specific Severity			
HbA1c (%), Mean (SD)	8.9 (1.5)	N/A	
MMSE Score, Mean (SD)	N/A	15.8 (2.1)	
CDR = 2, n (%)	N/A	30 (100%)	

Note: SD = Standard Deviation; MMSE = Mini-Mental State Examination; CDR = Clinical Dementia Rating; N/A = Not Applicable. p-values from independent t-tests for continuous data and Chi-square tests for categorical data. Table 1 presents the baseline sociodemographic and clinical characteristics of the caregiver–patient dyads across the two illness cohorts: diabetes (n = 30) and dementia (n = 30). The two groups differed significantly in several key variables.

Caregivers in the dementia cohort were generally older (Mean = 52.8 years, SD = 11.5) compared to those in the diabetes cohort (Mean = 41.5 years, SD = 10.2), $p < 0.001$. Although a higher proportion of caregivers were female in both groups, this difference did not reach statistical significance ($p = 0.09$). Regarding the caregiver–patient relationship, adult children predominated in the diabetes group (60.0%), whereas spouses were more common among dementia caregivers (40.0%), indicating a significant difference between the groups ($p = 0.02$).

In terms of caregiving context, the majority of caregivers belonged to nuclear families in both cohorts (66.7% in diabetes and 60.0% in dementia; $p = 0.59$). However, caregiving duration and intensity differed significantly: caregivers of persons with dementia reported longer caregiving durations (Mean = 42.6 months, SD = 20.3) and greater weekly caregiving hours (Mean = 68.3, SD = 21.4) compared to the diabetes group (Mean = 28.4 months, SD = 15.1; Mean = 22.5 hours, SD

= 8.7; $p < 0.01$ for both).

Among patients, those with dementia were significantly older (Mean = 72.6 years, SD = 7.4) than patients with diabetes (Mean = 64.3 years, SD = 8.1; $p < 0.001$). Conversely, illness duration was longer in the diabetes cohort (Mean = 8.2 years, SD = 3.5) compared to the dementia cohort (Mean = 5.1 years, SD = 2.2; $p < 0.001$). Disease-specific severity measures reflected expected clinical differences, with mean HbA1c levels of 8.9% (SD = 1.5) among diabetic patients, and a mean Mini-Mental State Examination (MMSE) score of 15.8 (SD = 2.1) and a Clinical Dementia Rating (CDR) of 2 in all dementia cases.

Overall, the baseline analysis indicates that caregivers of dementia patients experienced higher caregiving demands, while diabetic patients had a longer illness history. Diabetic patients were relatively younger.

Group-Specific Outcomes

Caregivers of diabetic patients reported moderate levels of burden (Mean CBI Score: 32.1 ± 8.4), primarily associated with dietary supervision, medication scheduling, and motivation for physical activity. Family functioning scores on the FAD were significantly correlated with better glycaemic control (e.g., General Functioning and HbA1c: r = 0.45, p < 0.05) and emotional stability of the patients, highlighting the importance of supportive household environments (Shrivastava et al., 2013).

Caregivers of dementia patients exhibited significantly higher levels of emotional and physical strain (Mean CBI Score: 48.7 ± 9.2), largely attributed to progressive memory loss, behavioural disturbances, and night-time caregiving. Psychoeducation was found to be especially impactful in improving caregivers' knowledge, confidence, and emotional readiness, as reflected in post-intervention feedback forms (Kumar et al., 2020).

Table 2 presents the baseline comparison of family functioning between caregivers of patients with diabetes and dementia, as measured by the Family Assessment Device (FAD).

Table 2. Baseline Comparison of Family Functioning (FAD) Between Caregiver Groups

Domain	Diabetes Group (Mean ± SD)	Dementia Group (Mean ± SD)	Mean Difference [95% CI]	p-value	Effect Size (Cohen's d)
Problem Solving	2.1 ± 0.5	2.9 ± 0.6	-0.8 [-1.1, -0.5]	<0.001**	1.45
Communication	2.0 ± 0.4	2.8 ± 0.7	-0.8 [-1.1, -0.5]	<0.001**	1.42
Roles	2.0 ± 0.4	3.0 ± 0.5	-1.0 [-1.3, -0.7]	<0.001**	2.27
Affective Involvement	1.9 ± 0.6	2.7 ± 0.8	-0.8 [-1.2, -0.4]	<0.001**	1.14

*Note: FAD = Family Assessment Device. Lower scores indicate healthier functioning. A score >2.0 on the General Functioning scale is considered unhealthy. These are baseline, between-group comparisons using independent samples t-tests. CI = Confidence Interval. Cohen's d: small (0.2), medium (0.5), large (0.8). *

Across all domains, caregivers of dementia patients reported significantly poorer family functioning than those of diabetic patients. The dementia group scored higher (indicating greater dysfunction) on problem solving (Mean = 2.9 ± 0.6 vs. 2.1 ± 0.5; $p < 0.001$, $d = 1.45$), communication (2.8 ± 0.7 vs. 2.0 ± 0.4; $p < 0.001$, $d = 1.42$), and roles (3.0 ± 0.5 vs. 2.0 ± 0.4; $p < 0.001$, $d = 2.27$). A similar pattern was observed for affective involvement, where the dementia cohort showed higher dysfunction scores (2.7 ± 0.8 vs. 1.9 ± 0.6; $p < 0.001$, $d = 1.14$).

Overall, these results suggest that families caring for individuals with dementia experience greater challenges in communication, role distribution, problem solving, and emotional engagement compared to families of diabetic patients.

Comparative Outcomes: Post-intervention assessments revealed statistically significant improvements in coping strategies and communication skills across both groups (Singh & Shukla, 2022) [11]. However, the magnitude of change was higher in the dementia group, where initial burden scores were greater.

Table 3 summarizes the pre- and post-intervention outcomes on caregiver coping (CSI) and burden (CBI) scores for both illness cohorts.

Table 3. Pre- and Post-Psychoeducation Outcomes for Caregiver Burden (CBI) and Coping (CSI)

Variable	Pre (Mean ± SD)	Post (Mean ± SD)	Mean Difference	p-value
Coping Score (CSI) – Diabetes	45.6 ± 5.2	52.3 ± 4.8	+6.7	0.004**
Coping Score (CSI) – Dementia	40.1 ± 6.0	51.0 ± 5.5	+10.9	0.001**
Burden Score (CBI) – Diabetes	32.4 ± 4.5	28.1 ± 4.0	–4.3	0.031*
Burden Score (CBI) – Dementia	40.8 ± 6.3	33.5 ± 5.4	–7.3	0.002**

Following the psychoeducational intervention, caregivers in both groups demonstrated significant improvement in coping abilities and a corresponding reduction in perceived burden. Among caregivers of diabetic patients, the mean coping score increased from 45.6 ± 5.2 to 52.3 ± 4.8 ($p = 0.004$), while in the dementia group, coping scores improved more markedly from 40.1 ± 6.0 to 51.0 ± 5.5 ($p = 0.001$). Similarly, caregiver burden scores decreased significantly post-intervention–from 32.4 ± 4.5 to 28.1 ± 4.0 in the diabetes cohort ($p = 0.031$) and from 40.8 ± 6.3 to 33.5 ± 5.4 in the dementia cohort ($p = 0.002$).

Overall, these results indicate that the

psychoeducational intervention was effective in enhancing coping skills and alleviating caregiver burden across both illness groups, with a relatively greater improvement observed among dementia caregivers.

Qualitative Insights on Caregiver Experiences

Thematic analysis of caregiver feedback provided depth to the quantitative findings, revealing distinct challenges and coping patterns between the two cohorts, and highlighting critical contextual factors.

Emotional and Behavioural Burdens by Illness Type. Consistent with the significantly higher baseline burden scores in the dementia group (CBI: 48.7 vs. 32.1), the caregiver narratives were dominated by themes of intense emotional fatigue and burnout, often linked to the patients' neuropsychiatric symptoms and 24/7 care demands. One daughter caregiver stated, "It is not the physical work, but the constant repetition, the sundowning, the feeling that the person you knew is gone... it erodes you." In contrast, caregivers of diabetic patients, while reporting lower overall burden, expressed a persistent, long-term concern focused on managing health behaviours. A spouse noted, "The worry is always there. Did he check his sugar? Is he eating what he should not? It is a constant negotiation." This aligns with their quantitative improvement in problem-focused coping (CSI Engagement), suggesting the psychoeducation successfully equipped them for this specific, ongoing negotiation.

The Influence of Family Structure and Gender Roles. The study setting included families from both urban and peri-urban areas, where community-based support structures such as local religious groups (e.g., temple committees) and neighbourhood associations (e.g., resident welfare associations) provided informal but vital emotional and occasional practical support. However, the caregiver burden was not distributed equally within households. Gendered roles were pronounced; 70% (n=42) of the primary caregivers were women. Among them, daughters-in-law (n=10, 23.8% of female caregivers) reported particularly elevated levels of emotional labour and role strain, often balancing caregiving with childcare and domestic duties. This was especially acute in multi-generational households, which constituted 36.7% (n=22) of the sample. In these settings, the physical and emotional pressures were compounded by a lack of personal space and strained intergenerational relationships. One daughter-in-law caring for her father-in-law with dementia shared, "We live in two rooms. There is no silence, no privacy. My children are stressed, my husband is always at work, and I am trapped in the middle."

Patterns of Coping Strategies. The use of coping strategies varied notably between the groups, reflecting their different challenges. In the dementia cohort, 83% (n=25) of caregivers initially reported frequent use of avoidance and resignation, a finding consistent with their higher baseline disengagement coping scores. Post-intervention data showed a shift towards acceptance and religious coping as primary mechanisms. A spouse remarked, "I have learned to accept this is our life now. My faith and the prayer group give me strength to get through the day."

Conversely, the diabetes cohort showed a stronger preference for active, problem-solving strategies from the outset, with 73% (n=22) citing these approaches. This predisposition likely contributed to their significant quantitative gains in communication and roles (FAD domains), as they were able to directly apply the structured communication and task-sharing techniques from the psychoeducation sessions.

Implications for Intervention Design. These findings underscore the necessity of multi-level, tailored interventions. The quantitative improvements in burden and coping were greatest among caregivers who reported that the psychoeducation provided not just skills, but also a sense of community and validation. This supports the literature indicating that sustained, multi-session models which combine skill-building with ongoing peer support and follow-up are more effective than single-session workshops in creating meaningful and lasting change for families navigating chronic illness.

Table 4 presents the key themes that emerged from the qualitative feedback of caregivers participating in the psychoeducational intervention. The thematic analysis highlighted five major areas reflecting the lived experiences, challenges, and perceived benefits of the program across both illness cohorts.

Emotional fatigue was the most frequently reported theme among dementia caregivers (93%), reflecting the psychological toll of continuous vigilance and emotional strain. This concern was directly addressed in Session 3 (Stress Management) through relaxation training and self-care strategies. Another recurring theme, need for routine reinforcement, was prominent among diabetes caregivers (83%), who described the ongoing burden of monitoring treatment adherence and dietary schedules. This issue was targeted in Session 5 (Behaviour Management) through structured routine planning.

Across both cohorts, gendered caregiving roles emerged strongly (90% among female caregivers), underscoring the disproportionate responsibility placed on women for direct care and household management. This was discussed in Session 4 (Family Dynamics) through exercises on role negotiation and shared

responsibility.

Two additional themes – value of community support and role conflict in young caregivers – captured the broader social dimensions of caregiving. Participants expressed appreciation for community and NGO support (40%), which provided a sense of belonging and continuity beyond the intervention. Meanwhile, younger dementia caregivers (27%) described conflicts between caregiving duties and personal aspirations, a challenge that was explored through support mapping and problem-solving in Session 4 (Family Dynamics).

Overall, the qualitative findings complement the quantitative results, illustrating how psychoeducation not only improved coping and reduced burden but also addressed caregivers' emotional and social needs through tailored, context-sensitive strategies.

Table 4. Emerging Themes from Qualitative Data

Theme	Representative Quotes	Group	Frequency (n)	Connection to Intervention
Emotional Fatigue	"I feel drained by evening, every single day. The constant vigilance is exhausting."	Dementia	28/30 (93%)	Addressed in Session 3 (Stress Management) through relaxation techniques and self-care planning
Need for Routine Reinforcement	"I remind him of insulin and food timings constantly. It is like managing a child but with serious health consequences."	Diabetes	25/30 (83%)	Targeted in Session 5 (Behaviour Management) through structured routine development
Gendered Caregiving Roles	"It's always me expected to manage everything at home too. My brothers help financially but I do all the direct care."	Both (Female caregivers)	38/42 (90%)	Discussed in Session 4 (Family Dynamics) through role negotiation exercises
Value of Community Support	"The NGO session helped me feel I'm not alone. Knowing there's ongoing support after this program ends is reassuring."	Both	24/60 (40%)	Specifically addressed in Session 6 (Resource Connection) through direct NGO introduction
Role Conflict in Young Caregivers	"I had to quit my job to take care of my father. Now I worry about my career and my future."	Dementia	8/30 (27%)	Addressed in Session 4 (Family Dynamics) through support system mapping and problem-solving

Note: Frequencies represent number of participants who explicitly mentioned each theme during post-intervention interviews. The "Connection to Intervention" column demonstrates how the program content specifically addressed emerging caregiver concerns.

DISCUSSION

This study provides evidence supporting the utility of structured psychoeducational interventions for family caregivers in urban settings, while highlighting the distinct challenges posed by different chronic conditions. The findings are best understood through the lens of the Family Systems and Stress-Coping frameworks, which posit that a family's adaptation to stress is influenced by its internal dynamics and external resources.

The quantitative and qualitative data suggest that the psychoeducational program served as a crucial external resource, potentially enhancing the families' coping capabilities. For diabetes caregivers, who reported moderately unhealthy family functioning at baseline, the intervention was associated with significant improvements in communication and problem-solving (FAD). This aligns with the Stress-Coping model, where providing structured knowledge and practical skills (e.g., for medication management and dietary supervision) may enhance problem-focused coping, thereby reducing role-related strain. The family system, in this context, appears to function as a collaborative management unit, where improved functioning is linked to better support for the patient's regimen.

In contrast, dementia caregivers began with significantly higher burden and markedly unhealthier family functioning scores. The larger quantitative gains in burden reduction (CBI) observed in this group are likely attributable to their higher baseline distress, indicating greater "headroom for improvement." The progressive and cognitively debilitating nature of dementia creates a primary stressor that fundamentally disrupts family roles and communication—a core tenet of Family Systems Theory. The intervention, which offered strategies for behavioural management and emotional validation, may have provided these families with new tools to restructure their interactions and cope with the unrelenting demands, leading to a more pronounced perceived benefit.

Consistent with the collectivist framework prevalent in India, caregiving was deeply rooted in a sense of familial duty. However, this study also highlights how these cultural norms can intensify stress, particularly for women and those in multi-generational households, by creating expectations of unconditional care with limited boundaries. The positive reception of the program suggests a significant, unmet need

for structured support that works in tandem with, rather than replaces, these family-based systems.

CONCLUSION

This comparative study demonstrates that while both diabetes and dementia necessitate substantial family involvement, the nature and intensity of caregiving differ significantly. Families managing diabetes often function as coordinators of structured care, whereas those managing dementia frequently become full-scale emotional and physical anchors, typically without adequate preparation or support.

The findings suggest that structured psychoeducational interventions are associated with reduced burden and improved coping across both conditions. The more pronounced quantitative gains observed in the dementia cohort are likely linked to their higher baseline distress and the intervention's focus on managing profound behavioural and cognitive symptoms. This study thereby makes a compelling case for integrating family-focused psychoeducation into standard chronic disease care within the Indian health system.

Given the pivotal role of families in health outcomes, national health policies should prioritize institutionalizing support for caregivers through structured education, community-based networks, self-care interventions, and respite services. To be effective, such interventions must be culturally competent, condition-specific, and designed to address the distinct challenges of different illness trajectories.

The findings underscore the necessity of viewing chronic illness management through a family-systems lens, recognizing caregivers as central, yet often unsupported, agents in the long-term care process.

Future research should employ more rigorous methodologies. A cluster-randomized or stepped-wedge trial comparing the psychoeducation program to standard care would provide stronger evidence of efficacy. Such a study should incorporate a longer follow-up period (e.g., 6-12 months) to assess the sustainability of outcomes and include objective clinical measures, such as HbA1c for diabetes and the Neuropsychiatric Inventory (NPI) or Quality of Life in Alzheimer's Disease (QoL-AD) scale for dementia, to evaluate the intervention's impact on patient health status.

LIMITATIONS AND THREATS TO VALIDITY

The lack of a control group precludes definitive causal conclusions; the observed improvements may be associated with the intervention but could also be influenced by factors like the passage of time or simultaneous receipt of other services. The reliance on self-report measures introduces the potential for social desirability bias. Furthermore, the short-term follow-up (immediately post-intervention) leaves the long-term sustainability of these gains unknown. Future research should employ randomized controlled trials with longer follow-up periods and incorporate objective outcome measures where possible.

IMPLICATIONS

This study suggests that a culturally adapted, diagnosis-sensitive psychoeducational program is a promising approach for supporting family caregivers. The findings indicate that such interventions are associated with reduced caregiver burden and improved coping strategies. The differential impact between caregiver groups underscores the necessity of tailoring support to the specific challenges of the illness. For policymakers and healthcare providers, this argues for the integration of such multi-component, family-oriented support programs into standard chronic disease care, particularly in resource-constrained settings where families bear the primary responsibility for long-term care.

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COMPETING INTERESTS

The author declares that there are no competing interests.

ETHICAL APPROVAL

This study was conducted as an independent research project utilizing data derived from the researcher's Ph.D. thesis, which had previously received ethical clearance from the institutional ethics committee of Mizoram University in India. As this independent analysis was based on previously collected and anonymized data, additional institutional review board approval was not required. The study procedures conformed to the ethical standards of the Declaration of Helsinki, ensuring full protection of participants' rights, safety, and well-being.

INFORMED CONSENT

Informed consent was obtained from all individual caregiver participants included in the study. For patients with dementia, consent was obtained from their legally authorized representatives, in line with ethical practices for research involving individuals with impaired decision-making capacity. Participants were informed of the study's purpose, procedures, and their right to withdraw at any time without penalty.

DATA AVAILABILITY

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.