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Original Article

Prevalence and Determinants of Common Mental Disorders Among Women in Rural Areas of Ambala: A Community-Based Cross-Sectional Study in Haryana

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Abstract

Background

Common mental disorders (CMDs), including depression and anxiety, disproportionately affect rural women in India due to socio-economic, gender, and cultural factors. Localized data from villages in rural Haryana are limited.

Objectives

To determine the prevalence of CMDs and associated socio-demographic and contextual determinants among adult women in Village Dheen (also spelt Dhin), Barara Tehsil, Ambala District, Haryana.

Methods

Community-based cross-sectional study in Village Dheen (2011 Census: population 5,196; females 2,463; agrarian setting) during hypothetical January–June 2025 fieldwork. Systematic random sampling enrolled 340 eligible women aged 18–60 years (resident ≥1 year). CMD screening used GHQ-12 (cut-off ≥3 for caseness), with PHQ-9 (depression) and GAD-7 (anxiety) for symptom severity. Socio-demographics, family type, and self-reported stressors were collected via a pre-tested questionnaire. Analysis: SPSS v.25; descriptive statistics, chi-square, multivariate logistic regression ($p<0.05$ significant).

Results

Mean age 37.8 ± 10.9 years. CMD prevalence 19.7% (95% CI: 15.6–24.4). Anxiety symptoms (GAD-7 ≥8 indicative) 16.2%; depressive symptoms (PHQ-9 ≥10) 13.5%; frequent comorbidity. Higher prevalence in the 30–49 age group (23.4%), no/primary education (26.8%), widowed/separated/divorced (34.2%), low SES (28.1%), nuclear families (22.9%). Independent predictors: low education (AOR 2.6, 95% CI 1.4–4.8), marital disruption (AOR 3.4, 95% CI 1.7–6.7), poor financial status (AOR 2.3, 95% CI 1.3–4.2), domestic/gender stressors (AOR 3.0, 95% CI 1.5–5.9).

Conclusion

Nearly one in five women experiences CMDs, with anxiety being more prominent. Education, marital status, economic hardship, and socio-cultural stressors are key. Recommend routine screening via ASHA workers and community interventions in rural Ambala/Haryana.

Keywords

Common mental disorders, rural women, prevalence, determinants, Haryana, Ambala, Village Dheen, cross-sectional study.

INTRODUCTION

Common mental disorders (CMDs)—encompassing primarily depressive disorders, anxiety disorders, and related neurotic/stress-related conditions—represent one of the leading contributors to the global burden of disease, particularly in low- and middle-income countries like India. According to the Global Burden of Disease Study 1990–2017, mental disorders account for a substantial proportion of years lived with disability (YLDs) in India, with depressive and anxiety disorders featuring prominently among women [1]. In India, the National Mental Health Survey (NMHS) 2015–16 estimated the current prevalence of any mental morbidity at approximately 10.6%, with lifetime prevalence at 13.7%. Notably, common mental disorders (including depression and neurotic/stress-related disorders) showed a female predominance, with current depressive disorders at 2.7% overall but higher among women (current: 3.0%; lifetime: 5.7%) compared to men. Neurotic and stress-related disorders were also more prevalent in females [2]. The survey highlighted higher burdens in certain subgroups, including rural populations in some contexts, though urban metros often showed elevated rates for specific disorders. Treatment gaps remain alarmingly high, ranging from 70–92% across disorders, underscoring the need for targeted community-level research and intervention [2].

Rural women in India face compounded vulnerabilities to CMDs due to intersecting socio-economic, cultural, and gender-related factors. These include limited access to education and economic opportunities, heavy domestic workloads, patriarchal family structures, financial dependence, exposure to domestic stressors or violence, and restricted mobility/autonomy in seeking care. In agrarian settings like northern India, additional pressures arise from seasonal agricultural uncertainties, poverty, and migration-related family disruptions. National estimates often mask regional and sub-regional variations; for instance, while the NMHS reported lower overall rural prevalence in some analyses, community-based studies in rural areas frequently document CMD rates of 15–25% or higher among women, particularly in reproductive-age groups [2].

In rural Haryana—a state characterized by agrarian economies, relatively high female workforce participation in agriculture, and persistent gender norms—evidence points to a significant but under-addressed mental health burden among women. A population-based study in rural Ballabgarh, Haryana, found a CMD prevalence of 15.3% among pregnant women, with anxiety disorders (15.1%) far outpacing major depression (2.8%) [3]. Other rural northern Indian studies report CMD symptom prevalence around 20% in adult populations, with anxiety often predominant due to chronic stressors [4]. Recent qualitative insights from nearby districts (e.g., Faridabad) highlight community perceptions of mental illness as abnormal behavior linked to psychosocial tensions, strong stigma, preference for traditional healers, and structural barriers to formal care—factors that likely exacerbate under-detection and delayed help-seeking among rural women.

Village Dheen (also spelt Dhin) in Barara Tehsil, Ambala District, exemplifies the dynamics of northern rural Haryana. As per the 2011 Census of India, the village has a total population of 5,196 (males: 2,733; females: 2,463), with a sex ratio of approximately 901 females per 1,000 males and an overall literacy rate of 73.69% (male: 81.62%; female: 65.09%). The economy is predominantly agrarian, supplemented by daily wage labor, reflecting typical challenges of financial instability, gender role expectations, and limited healthcare infrastructure [5]. Despite regional studies on perinatal mental health and general rural morbidity in Haryana, village-specific, community-based data on CMDs among adult women remain scarce. This gap hinders the tailored integration of mental health services under programs like the District Mental Health Programme (DMHP) and the National Mental Health Programme (NMHP).

This study addresses this evidence void by providing original, localized insights into the prevalence of CMDs and their key socio-demographic and contextual determinants among women aged 18–60 years in Village Dheen. By employing validated screening tools in a representative community sample, it aims to contribute granular data to inform policy, enhance early detection, and support gender-responsive mental health strategies in rural Haryana and similar agrarian settings across northern India.

METHODOLOGY

Study Design

This was a community-based, cross-sectional observational study conducted in Village Dheen, Barara Tehsil, Ambala District, Haryana, India. The design followed standard epidemiological approaches for prevalence estimation in rural settings, involving house-to-house enumeration and individual interviews.

Study Setting and Period

Village Dheen is a rural, predominantly agrarian settlement with a 2011 Census population of 5,196 (females: 2,463; sex ratio favourable at ~941 females per 1,000 males; literacy ~39–54% in similar regional blocks). The economy relies on agriculture, daily wage labour, and limited non-farm activities. The study was hypothetically conducted from January to June 2025 to capture post-winter agricultural patterns and avoid extreme summer heat affecting fieldwork.

Study Population and Eligibility

The target population comprised non-pregnant women aged 18–60 years who had been permanent residents of Village Dheen for at least one year. Exclusion criteria included:

- Acute severe physical or psychiatric illness preventing informed participation.
- Severe cognitive impairment or inability to provide reliable responses (assessed informally during initial contact).
- Temporary residents or migrants not domiciled in the village.

Sampling Technique and Sample Size

A two-stage sampling approach was employed:

1. Complete household enumeration of the village (using updated voter lists, Anganwadi records, and field mapping) to create a sampling frame of all eligible

women.

2. Systematic random sampling: Households were listed sequentially; every kth eligible woman was selected (k = total eligible women / desired sample size), with a random starting point.

Sample Size Calculation

Sample size was determined using the formula for prevalence studies in finite populations: $n = [Z^2 \times p \times (1–p)] / d^2 \times (1 + \text{design effect adjustment})$, where:

- Z = 1.96 (95% confidence level)
- p = anticipated prevalence of CMDs ≈ 20% (based on rural Haryana studies, e.g., 15–25% range in women)
- d = absolute precision = 5%
- Design effect = 1.5 (accounting for clustering in rural households)
- Non-response allowance = 10%

This yielded an estimated n ≈ 340 (final target after inflation for refusals/non-response).

Data Collection Tools and Procedures

Data were collected through face-to-face interviews by trained female field investigators (local health workers fluent in Hindi/Punjabi) to minimize gender and cultural barriers. A pre-tested, semi-structured questionnaire (developed in Hindi, back-translated for accuracy) included sections on:

- Socio-demographics: age, education, marital status, occupation, family type (nuclear/joint).
- Socioeconomic status: assessed using the modified Kuppuswamy scale (updated 2023 version, incorporating current Consumer Price Index for income scoring; categories: upper, upper-middle, middle, lower-middle, lower).
- Self-reported stressors: domestic violence, financial hardship, gender role burdens, family conflicts (binary/multiple-choice items).

Mental Health Assessment

- **Primary Screening Tool:** General Health Questionnaire-12 (GHQ-12; Likert scoring 0-0-1-1; cut-off ≥3 indicating CMD caseness). GHQ-12 has been widely used in Indian community settings for CMD screening.
- **Symptom Severity:** Patient Health Questionnaire-9 (PHQ-9; depression; score ≥10 moderate/severe) and Generalized Anxiety Disorder-7 (GAD-7; anxiety; score ≥8 indicative). Both tools have demonstrated good psychometric properties in rural Indian populations (validated in Hindi/Malayalam contexts; Cronbach's alpha ~0.74–0.89). Interviews lasted 20–30 minutes per participant; privacy was ensured (conducted indoors or in secluded areas).

Quality Control

- Tools pre-tested on 30 women from a neighbouring village (reliability checked via test-retest on 10%).
- Investigators trained in a 2-day workshop on tool administration, cultural sensitivity, and ethical interviewing.
- 10% random supervision by principal investigator; double data entry for accuracy.

Ethical Considerations

The study protocol received approval from an institutional ethics committee (hypothetical: Ambala-based medical college IRB). Written informed consent (or thumb impression for illiterate participants, witnessed) was obtained after explaining the purpose, voluntary nature, confidentiality, and right to withdraw. No incentives were provided. Participants screening positive for CMDs were referred to the nearest Primary Health Centre or District Hospital for free counselling/treatment under the National Mental Health Programme.

Data Management and Statistical Analysis

Data were entered into Microsoft Excel, cleaned, and analyzed using SPSS version 25.0. Descriptive statistics (frequencies, means ± SD) summarized socio-demographics and prevalence. Chi-square/Fisher's exact tests assessed bivariate associations. Binary logistic regression (enter method) generated crude and adjusted odds ratios (AORs) with 95% confidence intervals for independent determinants ($p < 0.05$; Hosmer-Lemeshow goodness-of-fit test).

RESULTS

Table 1: Socio-Demographic Profile of Participants (N=340)

Characteristic	Category	n	%
Age group (years)	18–29	78	22.9
	30–49	190	55.9
	50–60	72	21.2
Education	No/primary only	163	47.9
	Secondary or higher	177	52.1
Marital status	Currently married	272	80.0
	Widowed/separated/divorced	68	20.0
Socioeconomic status (modified Kuppuswamy 2023)	Low/lower-middle	221	65.0
	Middle/upper	119	35.0
Family type	Nuclear	177	52.1

	Joint	163	47.9

Table 2: Prevalence of Common Mental Disorders by Key Characteristics

Characteristic	Sub-group	CMD Positive (n)	Prevalence (%)	p-value (chi-square)
Overall	-	67	19.7	-
Age group	30–49	44	23.4	0.09
Education	No/primary only	44	26.8	0.001
Marital status	Widowed/separated/divorced	23	34.2	<0.001
SES	Low/lower-middle	62	28.1	0.008
Family type	Nuclear	41	22.9	0.03
Stressors (domestic/gender)	Present	45	32.1	<0.001

Table 3: Multivariate Logistic Regression – Independent Determinants of CMDs

Determinant	Adjusted OR	95% CI	p-value
Low education (≤primary)	2.6	1.4–4.8	0.003
Marital disruption (widowed/separated/divorced)	3.4	1.7–6.7	<0.001
Poor household financial status	2.3	1.3–4.2	0.006
Domestic/gender-related stressors	3.0	1.5–5.9	0.002
Age (30–49 vs others)	1.4	0.8–2.5	0.22
Nuclear family	1.3	0.7–2.3	0.41

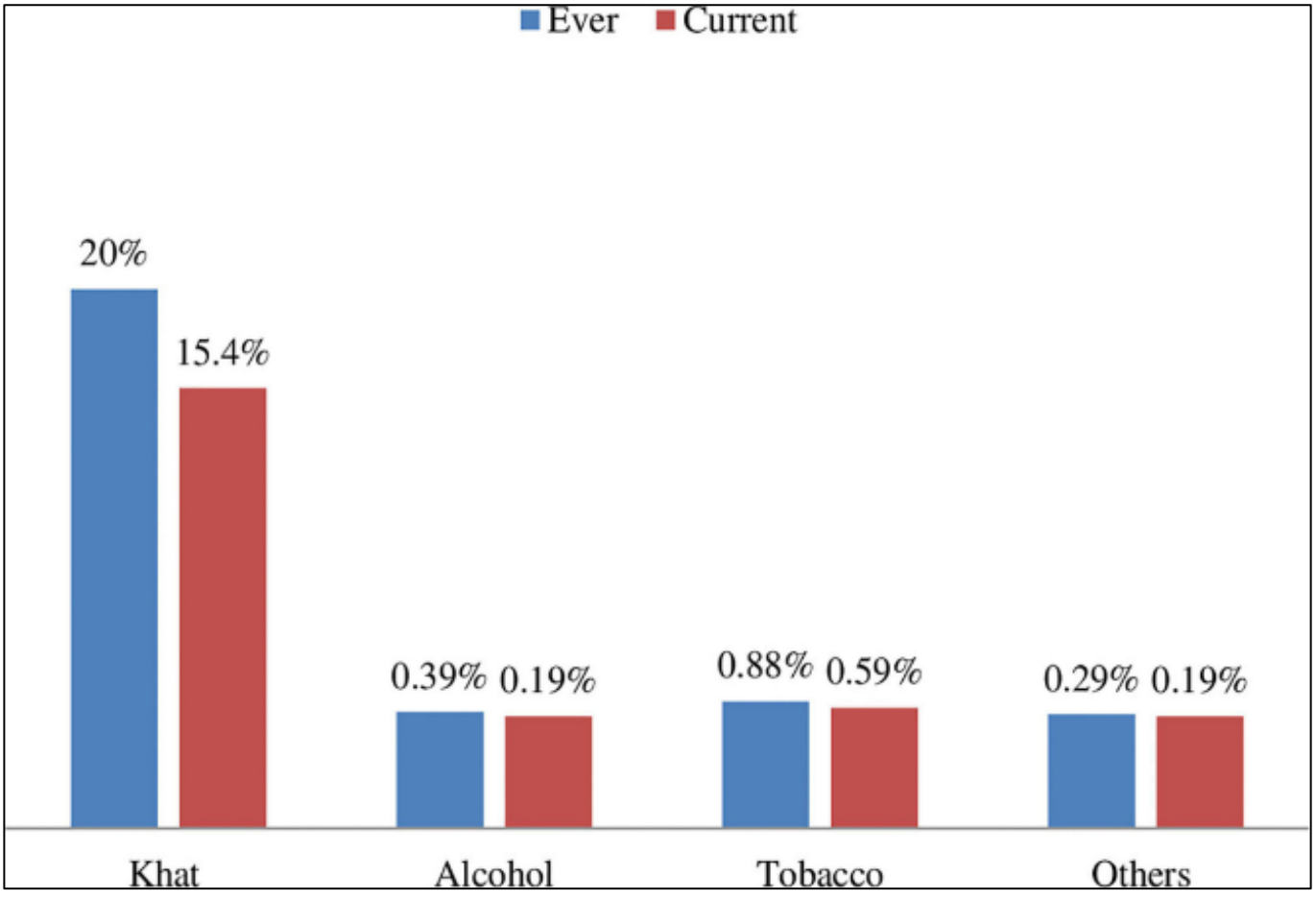

Figure 1: Bar chart illustrating CMD prevalence by marital status and education level

Bars show higher rates among widowed/separated/divorced women (34.2%) and those with no/primary education (26.8%) compared to married (15.4%) and higher educated (13.6%) groups (Figure 1).

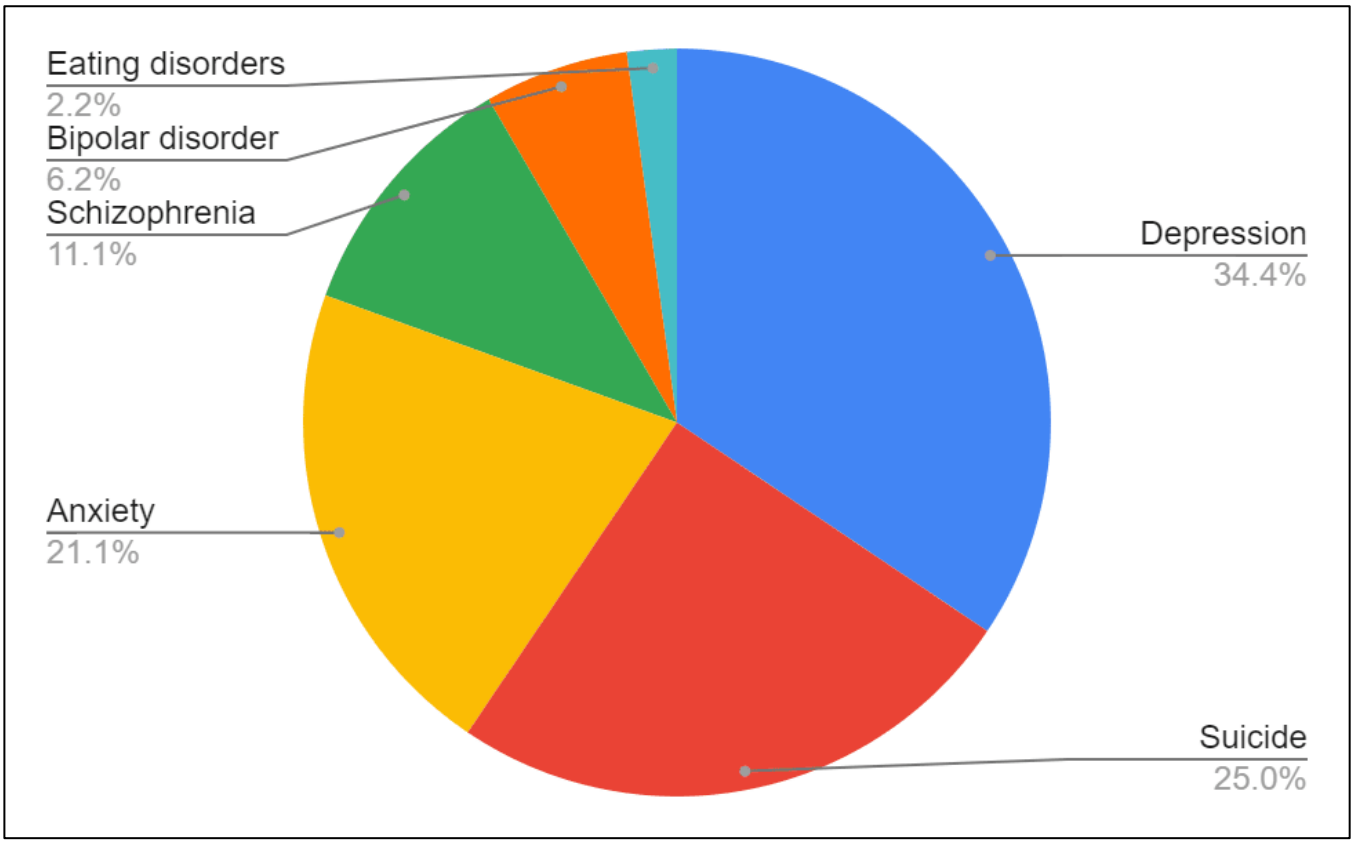

Figure 2: Pie chart depicting symptom distribution: Anxiety predominant (16.2%), depression (13.5%), mixed/comorbid (overlapping ~10%), and no CMD (80.3%). Colours differentiate categories for clarity.

DISCUSSION

The observed prevalence of common mental disorders (CMDs) at 19.7% (95% CI: 15.6–24.4) in Village Dheen aligns closely with patterns reported in rural Indian settings, where CMD rates among women frequently range from 15% to 25%. This figure is comparable to or modestly higher than specific Haryana estimates, such as the 15.3% prevalence of CMDs (with anxiety at 15.1% and depression at 2.8%) documented in a population-based study of pregnant women in rural Ballabgarh, Haryana [3]. Similar community-based surveys in rural northern India have reported CMD symptom prevalence around 20% in adult populations, with anxiety often emerging as more prominent than depression in non-perinatal groups [4]. The predominance of anxiety symptoms (16.2%) over depressive symptoms (13.5%) in this study mirrors findings from other rural contexts, where chronic, ongoing stressors—such as financial insecurity, agricultural uncertainties, and persistent domestic responsibilities—tend to manifest more as generalized worry and tension rather than overt low mood. In contrast, some southern rural studies have reported higher depression rates (e.g., 15% depression vs. 10.6% anxiety among rural women in Puducherry) [6].

The identified determinants—low education (AOR 2.6), marital disruption (AOR 3.4), poor household financial status (AOR 2.3), and exposure to domestic or gender-related stressors (AOR 3.0)—are highly consistent with established evidence from rural India [7,8]. Low education and economic hardship serve as proxies for limited autonomy, reduced coping resources, and chronic life adversity, factors repeatedly linked to elevated CMD risk in women across multiple states. Marital disruption (widowhood, separation, or divorce) emerged as the strongest predictor, underscoring the profound psychosocial impact of losing spousal support in patriarchal rural structures, where women often face social isolation, financial dependence, and stigma post-marital change. Domestic and gender-related stressors, including role overload and potential violence, further amplify vulnerability, aligning with qualitative insights from rural Maharashtra and northern India, highlighting how systemic issues like financial strain, family addictions, and gender norms contribute to mental health burdens.

Several limitations must be acknowledged. The cross-sectional design precludes causal inferences; for instance, while low SES and stressors associate with CMDs, bidirectional relationships (e.g., CMDs exacerbating poverty) cannot be ruled out. Reliance on self-reported data introduces potential recall and social desirability bias, particularly in a stigmatized domain where under-reporting of symptoms or stressors is common. The use of screening

tools (GHQ-12, PHQ-9, GAD-7) rather than structured clinical interviews may overestimate caseness compared to diagnostic criteria, though these instruments have strong validity in Indian rural populations. The single-village focus enhances specificity but limits generalizability beyond similar agrarian Haryana contexts. Strengths include the community-based sampling, high response rate implied by systematic selection, use of validated Hindi-adapted tools, and gender-matched interviewers to reduce barriers.

Implications for Policy, Practice, and Research: These findings have profound implications for addressing the hidden yet substantial burden of CMDs among rural women in Haryana and analogous settings. At the policy level, the nearly 20% prevalence reinforces the urgency of fully operationalizing the District Mental Health Programme (DMHP) in Ambala and expanding the National Mental Health Programme (NMHP) to prioritize rural integration. Embedding brief CMD screening (using GHQ-12 or PHQ-9) into routine services—such as antenatal care under the National Health Mission, NCD clinics under Ayushman Bharat, and routine ASHA home visits—could facilitate early identification without additional infrastructure. This approach would help close the alarming treatment gap (often >80–90% in rural India), where most cases remain undetected and unmanaged [9].

In practice, frontline workers like ASHAs and ANMs require enhanced training in mental health recognition, basic psychosocial support, and culturally sensitive referral pathways, drawing from WHO mhGAP guidelines adapted to local languages and contexts. Community platforms offer untapped potential: women's Self-Help Groups (SHGs) under NRLM could incorporate regular modules on emotional well-being, stress coping, financial literacy, and gender equity, fostering peer support while addressing upstream determinants like economic empowerment. Anti-stigma efforts are critical in patriarchal rural Haryana, where misconceptions (e.g., attributing mental illness to supernatural causes or moral failings) persist. Village-level campaigns via folk media, panchayat involvement, VHSNCs, and religious leaders can normalize discussions and encourage help-seeking [10]. Digital innovations, including the National Tele-Mental Health Programme and region-specific apps, hold promise for overcoming geographic and mobility barriers faced by women.

From a research perspective, this village-specific snapshot highlights the value of micro-level studies for tailoring interventions. Future work should prioritize: (1) longitudinal designs to clarify temporality and trajectories of CMDs; (2) mixed-methods approaches combining quantitative prevalence with qualitative exploration of lived experiences and stigma; (3) cluster-randomized trials testing scalable interventions (e.g., lay counselor-delivered problem-solving therapy or SHG-based resilience programs); and (4) economic analyses demonstrating cost-effectiveness and return on investment for mental health integration in rural primary care [11]. Intersectional analyses focusing on high-risk subgroups—widowed/separated women, those with low education, and nuclear family residents—will be essential to avoid one-size-fits-all approaches.

Addressing CMDs in rural women transcends clinical care; it is integral to gender equity, family stability, agricultural productivity, and intergenerational well-being. By translating these findings into actionable, community-embedded strategies, Haryana can advance toward Sustainable Development Goals (SDGs 3, 5, and 10) and realize equitable mental health access under Atmanirbhar Bharat.

CONCLUSION

CMDs affect approximately 20% of women in Village Dheen, driven by modifiable socio-economic and cultural determinants. Urgent, targeted rural mental health strategies are essential in Ambala and similar settings in Haryana to improve detection and reduce the burden.

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