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# Effectiveness of Capacity Building Training of Medical Officers on Common Mental Health Disorders at Primary Care Level in Rural India: A Pre- and Post- Assessment Study

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## Abstract

# Background

Common mental disorders (CMDs) are major contributors to mental disability and the global burden of disease. In India, the mental health treatment gap remains high, particularly at the primary healthcare level. Strengthening medical officers' skills is essential to improving the early identification and management of CMDs. This study assessed changes in the knowledge, attitude, and practices of medical officers before and after capacity-building training on screening and management of CMDs in Nagaur district, Rajasthan.

# Methods

A mixed-methods quasi-experimental design was used. The training module was adapted from the ICMR Institute, Jodhpur, and aligned with the freely available Ayushman Bharat mental health module. Pre- and post-training assessments were conducted among 18 medical officers using a structured questionnaire. Data were analyzed using SPSS version 25, and paired t-tests were applied. Qualitative insights were obtained through in-depth interviews and analyzed using the framework approach.

# Results

The mean post-training knowledge score (M = 14.7, SD = 1.8) was significantly higher than the pre-training score (M = 9.8, SD = 2.2); $p < 0.001$, indicating a 23% improvement. Qualitative findings highlighted enhanced clinical confidence, better empathetic communication, and improved understanding of caregiver needs. Constraints such as heavy patient load, limited privacy, inadequate mental health services, and workforce shortages restricted full implementation of learned skills.

# Conclusion

Capacity-building training significantly improved medical officers' knowledge and confidence in managing CMDs. Regular refresher training, supportive supervision, and strengthened referral pathways are necessary to sustain mental health integration within primary care.

## Introduction

Mental health is part of the Sustainable Development Goals, which aim to improve treatment coverage by 2030(Jordans et al., 2019). It is an integral component of overall well-being, influencing individuals’ cognitive, emotional, and behavioural functions and affecting their ability to contribute effectively to their communities. The World Health Organisation (WHO) has highlighted that mental health disorders are associated with considerable distress or impairment across personal, social, and occupational

domains(World Health Organization, 2025). Mental health disorders constitute a major global public health challenge and account for a considerable proportion of the Global Burden of Disease (GBD)(GBD 2019 Mental Disorders Collaborators, 2022). Common mental disorders (CMDs) represent the most prevalent category of mental illnesses, including conditions such as depression and anxiety. In 2021, approximately one in every seven individuals worldwide was affected by mental health disorders (World Health Organization, 2025). In India, the prevalence rate of common mental disorders is nearly 10.0% among its population (Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK and Gururaj G Benegal V, Rao GN, Pathak K, Singh LK, et al., 2016). The burden of mental disorders nearly doubled from 2.5% to 4.7% of total disability-adjusted life-years (DALYs) in 2017, with depressive disorders accounting for the largest share at 33.8% and anxiety disorders at 19.0% (Sagar et al., 2020). India faces the risk of an economic loss of USD 1.03 trillion by 2030 due to reduced productivity and hindered development caused by mental health conditions(Ministry of Health and Family Welfare, 2025). Globally, India is reported to have the largest mental health treatment gap (Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK and Gururaj G Benegal V, Rao GN, Pathak K, Singh LK, et al., 2016). According to the report by the National Mental Health Survey (NMHS), this treatment gap persists across all mental health conditions, with untreated rates ranging from 28% to 83% for various mental disorders, and reaching as high as 86% for alcohol use disorders (Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK and Gururaj G Benegal V, Rao GN, Pathak K, Singh LK, et al., 2016). The mental health workforce in India is insufficient to meet the demand for mental health services, with the shortage being particularly acute in rural areas where access to these professionals is limited (Debnath et al., 2025). The WHO recommends having 1.7 psychiatrists for every 100,000 individuals; however, India currently has approximately 0.75 psychiatrists per 100,000 people, 2,000 psychologists, 1,500 social workers, and 1,000 psychiatric nurses. This is significantly below the global average (Mathur et al., 2024). Another major barrier to the early identification and treatment of mental illness is individuals' reluctance to disclose their condition, often driven by fear of social stigma and apprehension toward psychiatric labels. This challenge is further compounded by community-level barriers (Sangwan R et al., 2016; Sangwan, 2017), including limited awareness and widespread misconceptions about mental health (Raju, 2022).

Integrating mental health services into primary healthcare (PHC) is globally recognized as a pivotal strategy to address this gap (Ruben et al., 2025). Primary healthcare professionals offer distinct advantages for mental health service delivery, due to their accessibility, affordability, and acceptability to individuals and their families (Sangwan et al., 2024). India's National Mental Health Programme (NMHP), particularly through its District Mental Health Programme (DMHP) component, advocates for this integration by training primary healthcare providers (PHPs) to identify and manage common mental disorders (Balasubramanian et al., 2021). Although the DMHP training provided to medical officers has positively influenced their awareness and recognition of mental illnesses, a significant gap persists in their confidence and preparedness to diagnose and manage these conditions in clinical settings (Balasubramanian et al., 2021; "National Mental Health Programme," n.d.). The program has predominantly maintained a psychiatrist-centred approach, failing to achieve the intended transfer and

integration of mental health care to medical officers at the primary care level. The solution clearly lies in equipping medical officers with mental health training and leveraging their expertise to manage CMDs, which are well within their scope to treat effectively (O. Singh, 2018; O. P. Singh, 2018). The Government of India has undertaken various additional initiatives to train the healthcare workforce, with the Ayushman Bharat program being a prominent example, incorporating mental healthcare services into the Comprehensive Primary Health Care package. A limitation to the effectiveness of Ayushman Bharat and similar schemes is the presence of insufficiently trained staff (Shetty et al., 2024). Therefore, capacity building training of healthcare workers for mental disorders has become a crucial priority requiring implementation and rigorous evaluation.

The present study was designed to fill this gap in the district of Nagaur, Rajasthan,India. The objectives of this paper are: (i) to train medical officers in the screening and management of common mental disorders (CMDs), (ii) to assess the knowledge improvement of medical officers in identifying and managing CMDs, and (iii) to evaluate the effectiveness and acceptability of the capacity-building training.

# Methods

### Study Design

A mixed-methods quasi-experimental design was employed to comprehensively evaluate the implementation of the mental health care training program, utilising both qualitative and quantitative approaches. This approach was adapted to enhance the rigour of the study by ensuring greater validity, reliability, and confirmability of the findings.

### Study Setting

The study was conducted at Nagaur district of Rajasthan, India, comprising 8 blocks. The district has 2 District Hospitals (DH), 3 Sub-district Hospitals (SDH), 23 Community Health Centres (CHC), 67 Primary Health Centres (PHC), 2 Urban Primary Health Centres (UPHC) and 420 Sub-health Centres (SC).

### Study Population and Recruitment

The study targeted all 95 Medical Officers (MOs) posted at Primary healthcare level in Nagaur District. All officers were invited to participate in the training program conducted in collaboration with the Chief Medical & Health Officer, Nagaur. Out of these, 93 MOs attended the training, while 2 were unable to participate despite repeated efforts. For the purpose of training evaluation, 15-30% of the total participants were included as per expert consultation. Pre-assessment was conducted among 25 participants, whereas 18 participants completed the post-assessment. The difference in numbers was primarily due to non-attendance, transfers, and resignations among some Medical Officers, which may be cited as the reason for the decrease in post-assessment participation. To evaluate the acceptability and effectiveness of the training program, qualitative data were collected from 18 Medical Officers.

### Training

The *Training Manual on Mental, Neurological and Substance Use (MNS) Disorders Care for Medical Officers at Ayushman Bharat-Health and Wellness Centres,* available for free, was used as the core content for the development of the training module. These modules were subsequently adapted to address factors such as cultural relevance, language clarity, practical applicability and challenges identified during field implementation. A comprehensive *Training Module on the screening and Management of Common Mental Disorders for Medical Officers was developed by the Indian Council of Medical Research's National Institute for Implementation Research on Non-Communicable Diseases in Jodhpur, Rajasthan, in consultation* with experts. The expert group consisted of psychiatrists, clinical psychologists, social scientists, public health professionals, and the State Nodal Officer for Mental Health (Sangwan et al., 2025). The primary purpose of the module was to strengthen Medical Officers' capacity to identify and manage Common Mental Disorders; other mental disorders were included to provide a contextual understanding. These conditions are frequently present in primary care, share overlapping symptoms with mental disorders, and often co-occur, making it essential for Medical Officers to differentiate, manage, and appropriately refer such cases. The content encompassed key areas such as the National Mental Health Programme; mental health and mental disorders; common mental disorders; neurological disorders (including epilepsy, dementia and Alzheimer's disease); neurodevelopmental and behavioural disorders in children; assessment and management of self-harm and suicide; mental health referrals; follow-up care in general practice; psychiatric comorbidities with other non-communicable diseases; counselling; the role of caregivers; along with case vignette for every disorder and the use of assessment tools/scales. The training was conducted in five batches, each comprising a two-day program. Each day comprises six sessions, with a total of twelve sessions per batch. The training was facilitated by experts and incorporated didactic sessions, slide presentations, tutorials, video demonstrations, case-based discussions, and role-play activities.

### Data Collection

### Pre- and Post-Assessment

Data were collected using a structured, validated, self-administered questionnaire administered 3 months before and after the initiation of the training. Identical instruments were used for both pre- and post-assessments to measure participants' knowledge levels. The questionnaire was formulated by the research team, drawing on material from the training modules and evidence generated through the qualitative situational analysis(Sangwan et al., 2024). It was further refined through expert consultations and pilot testing to ensure contextual relevance, cultural appropriateness, and reliability. The final questionnaire comprised 20 items covering key areas of mental health.

### Qualitative Assessment

Qualitative data were collected through in-depth interviews with eighteen participants, each lasting for an average of 25-30 minutes. The interview guide was developed by the research team, proficient in both

Hindi and English. A structured interview guide was utilized to ensure consistency across interviews. The questions covered changes in participants' confidence, attitudes, and approaches to identifying, managing, and referring mental health cases; challenges in applying learned skills; perspectives on follow-up care and caregiver roles; counselling practices; key takeaways from the training; suggestions for improvement; and examples of its influence on clinical practice. Trained public health and social science professionals conducted the interviews, following study-specific in-house training in qualitative research methodologies to maintain methodological consistency and analytical rigour across data collection and analysis.

**Data Analysis**

For quantitative data, analysis was conducted using SPSS version 25 for Windows. Descriptive statistics were used to summarise the data in terms of proportions, percentages, means, and standard deviations (SD). Differences in mean scores between the pre-test and post-test assessments were examined using a paired t-test. A p-value of less than 0.05 was considered statistically significant. The qualitative data were analyzed using the framework analysis approach (Hackett and Strickland, 2019). All interviews were transcribed from the audio recordings and verified with the field notes to ensure transcription accuracy (Panda et al., 2022). Following transcription, the interviews were translated into English and then back-translated to verify linguistic accuracy and conceptual consistency. The entire process adhered to established protocols for the transcription and translation of qualitative data(McLellan et al., 2003; Mergenthaler and Stinson, 1992).

# Findings

Among the 18 participants, the mean age was 32.3 ± 4.6 years, and the majority (55.7%) were aged between 27 and 30 years, and most participants were male (66.7%). Regarding work experience, 44.5% had less than 3 years of service and only 11.2% had more than 10 years of service and the mean duration of service was 5.0 ± 3.7 years. 72.8% of participants had not received any prior mental health training, indicating limited previous exposure to the subject before the current program (Table 1).

The normality of the difference scores between pre- and post-training assessments was evaluated using the Shapiro–Wilk test. The test indicated that the data were normally distributed ($W=0.96$, $p=0.70$). Therefore, the assumption of normality was met, and a paired-samples t-test was conducted to evaluate the effect of mental health training on medical officers' knowledge scores (n=18). For each correct answer, 1 mark was allotted; hence, the scores were out of 20 marks. As seen in Table 2, results indicated that post-training scores were significantly higher than pre-training scores ($M=14.72$, $SD=1.873$) ($M=9.8$, $SD=2.256$), $p<0.001$. The decrease in standard deviation and the lower standard error in the post-test (0.441 compared to 0.532) indicate greater consistency in scores and improved precision of the mean estimate. Participants showed a 23% increase in mental health knowledge scores between the pre- and post-training evaluations.

Individual knowledge scores before and after the training are depicted in Figure 1, clearly demonstrating the improvement attained following the intervention. Table 3 presents the paired-samples t-test results for pre- and post-test scores. As seen in the table, the mean difference is -4.556 (SD = 2.572), which lies in the 95% confidence interval of -5.835 to -3.277. The t-statistic value is -7.515, and the p-value is <0.001. Comparison of pre- and post-training assessments revealed a significant enhancement in participants' knowledge following the training. Overall, the training demonstrated positive outcomes.

The training transformed awareness into clinical confidence, empowering medical officers to approach mental health with skill, empathy, and openness. Yet, beneath this progress, stigma and systemic barriers continue to test the reach of these newfound competencies. Analysis of the qualitative data obtained from the sixteen interviews identified five key themes: (i) Strengthened clinical self-efficacy, (ii) Development of empathetic communication, (iii) Transformation in Attitudinal Orientation Toward Mental Illness, (iv) Recognition of the Caregiver's Role in Psychosocial Recovery and (v)Barriers in Applying Mental Health Skills in Clinical Practice

**1. Strengthened Clinical Self-Efficacy**

The training was regarded as an "effective" means of enhancing participants' clinical competence and expanding their knowledge in the screening, identification, and management of mental health disorders. The participants' confidence and ability to recognise and address mental health conditions increased considerably. In terms of knowledge, skills, and confidence to manage common mental health issues in their routine practice, many participants felt inadequately prepared prior to the training. However, after the training, they reported feeling more confident and better equipped with the clinical skills and knowledge required to effectively screen, identify, and manage such conditions.

**1.1. Enhanced Screening Proficiency**

The training enhanced healthcare providers' ability to identify and screen for mental health symptoms during routine consultations. Respondents described adopting a more systematic and proactive approach, enabling earlier recognition of psychological distress. Familiarity with standardised screening tools increased their confidence and accuracy in assessing patients, allowing timely decisions on whether to manage cases locally or refer for specialised care.

*Earlier, when patients used to come, we would refer them to a psychiatrist. We are screening them, and after screening, we are referring them. Earlier there wasn't much knowledge, but now after the training, we have got to learn quite a lot. (p6)*

*I am now able to understand child health and other mental health issues much better and am able to treat the patient much better. In the training, we were told many extra steps, such as always understanding the child's psychology and all these things. Before that, we could only see a general overview and treat accordingly, but now we try to understand in depth and try to give treatment according to that. (p18)*

**1.2. Improved Diagnostic Skills**

After the mental health training, many medical officers increased their knowledge and self-confidence in easily identifying patients with common mental disorders such as Anxiety and Depression in the Outpatient Department. This training helps them in an accurate diagnosis of mental disorders in special age groups, e.g., Neurodevelopmental and Behavioural disorders in children. Earlier, it was difficult for the medical officers to differentiate the various symptoms of severe mental disorders. However, after the training, they feel confident in the clinical diagnosis of common and severe mental disorders.

*Now, by talking to the patient and observing their behaviour, I can better understand how and when to communicate. It has become easier to use the "three golden questions." My confidence in counselling patients has also increased. (p2)*

*My confidence has really increased, like diagnosing depression in rural areas, somatic disorders in women, and general anxiety disorder patients. I get a lot of help in diagnosing these. I diagnose the patient and counsel them. I have also received a lot of help in referring their family members to the District Hospital. (p4)*

**2. Development of Empathetic Communication**

Participants' ability to communicate empathetically was enhanced by the training. Medical officers obtained knowledge regarding the importance of patient-centred questioning, active listening, and creating a secure environment for patients to share their feelings. This method encouraged better trust, rapport, and understanding between healthcare professionals and patients. Participants reported an enhanced ability to engage more sensitively and effectively with individuals experiencing psychological distress. They realised that in mental health care, showing empathy while communicating helps patients feel understood and supported, which in turn encourages their cooperation, allows for more accurate assessment, and leads to better treatment planning

**2.1. Rapport Establishment**

The Outpatient Department (OPD) in government hospitals in rural areas is usually very busy. Earlier, it was difficult for Medical Officers to find time to communicate comfortably with patients. However, after the training, they acknowledged the significance of rapport building. They are now keener to dedicate time to establishing rapport with mental health patients. In post-training effects, Medical Officers ensure that patients feel comfortable in the OPD. They kept a non-judgmental attitude and provided a safe environment for discussion.

*I got to learn a lot like how to deal with the patients of mental health problems who come to me in the rural areas, like if someone is coming with his problem, then how to communicate with him, understand what he is saying, diagnose his illness and how to treat him, how to refer him further if there is a need for referral after treatment, through this training I have learnt to communicate better with the patients and understand their concerns. (P7)*

*Now, I do not limit my role to prescribing medicines. I spend more time talking to patients, listening to them, and following up regularly to build trust. I have observed that when patients receive emotional support, they respond more positively to treatment and adhere better to medical advice. (p8)*

*I am able to manage the situation effectively. I provide them with proper guidance, support, and motivation to help them overcome these habits. I also use the skills and knowledge gained during the mental health training to communicate empathetically, build trust, and encourage them to seek further help if needed. (p11)*

### 2.2. Active Listening

Medical Officers became familiar with active listening after the training, which constitutes a vital factor in effectively engaging with individuals experiencing mental health issues. They further acknowledged the significance of asking patient-centred questions to accurately identify signs of mental distress, and emphasised the need to listen attentively to patients' responses. Furthermore, they emphasised the importance of providing patients with sufficient space to express their emotions, which facilitates comprehensive assessment and contributes to the development of an effective therapeutic plan.

*The biggest change in my approach is that I now give patients enough time to talk. I first listen to their full history, what problems they have, and for how long before beginning any procedure or treatment. Patients are allowed time to express themselves, as many hesitate or feel afraid to share their emotions, and this method helps them open up about their actual problems. (p1)*

*From this training I have learnt that when a patient comes to me with a mental health concern, then how to interact with them, how to communicate with them, for example, if I communicate with the patient through eye to eye contact, then I get a very good response from them that doctor 'sahab' (English=Sir) has listened to me, has understood my concern, this training is about changing the attitude towards mental health patients and talking to them patiently. (p7)*

## 3. Transformation in Attitudinal Orientation Toward Mental Illness

The training brought about a significant shift in the participants' views on mental illness. Medical officers observed a transformation in attitudes, from prejudices and hesitation to empathy and understanding. The sessions deepened their awareness of the biopsychosocial aspects of mental disorders and highlighted the importance of early identification and appropriate intervention. Participants recognised that, like physical ailments, mental health conditions should be addressed with care, respect, and dignity. This positive change in mindset fostered greater acceptance, reduced bias, and promoted a more holistic approach to mental health care.

### 3.1. Normalisation of Mental Health Patients within Routine Practice

Medical officers reported that mental health patients are now integrated into regular outpatient services. They have begun assessing individuals presenting with psychological symptoms alongside those with

physical ailments, free from stigma or discrimination. Incorporating mental health assessment into routine OPD consultations reflects a shift toward comprehensive patient care, ensuring early identification, timely support, and appropriate referrals when necessary.

*Previously, I used to look at such patients differently, assuming they were simply overthinking. But after the training, I've become more aware of the symptoms. (p12)*

*Since I also belong to a rural area, I used to think about what kind of treatment is possible for psychiatric patients. But after the training, I realized that this can be cured. (p15)*

*In terms of attitude, it's that we have to treat them properly too, no matter what kind of habit they have, whether it's alcohol, opium, depression, or schizophrenia. Just as we see other patients, we have to see them the same way. This is the main motto. (p16)*

### 3.2. Increased Understanding

Medical officers reported an enhanced understanding of the multifaceted nature of mental illnesses, recognising their biological, psychological, and social determinants. This insight enabled them to engage with patients more empathetically and identify symptoms with greater accuracy. As a result, stigma and misconceptions declined, fostering more informed, proactive, and compassionate approaches to mental health care.

*After this training, my knowledge has definitely increased a lot. The services that we are able to provide at the grassroots level through this training, our main thing is that we are able to identify that yes, this patient has this problem. (p3)*

*I cannot say there has been a drastic change, as I have always tried to communicate with patients politely and empathetically. However, my confidence has definitely increased. Now I am more aware that physical symptoms are not always caused by physical conditions alone, they can also have psychological origins. This understanding helps me assess patients more holistically and avoid rushing to conclusions.(p5)*

*After the training, I have noticed a clear improvement in how I communicate with patients. I now approach them with greater sensitivity and understanding. Although I had some prior exposure through the 12-day MNS training, this training gave me new insights, especially regarding tobacco cessation and alcohol cessation guidelines and related medications.(p8)*

### 4. Recognition of the Caregiver's Role in Psychosocial Recovery

The training enhanced Medical Officers' understanding of the crucial role caregivers play in the psychosocial recovery of individuals with mental health conditions. Participants acknowledged that meaningful family engagement and emotional support are integral to effective mental health care, extending beyond medical intervention. They developed a clearer understanding of how caregiver participation promotes treatment adherence, facilitates early detection of relapses, and contributes to

the overall wellbeing of patients. The training also increased Medical Officers' compassion to caregivers' needs, encouraging them to involve caregivers as key partners in developing and implementing adequate care plans.

### 4.1 Establishment of Support Systems

Medical officers emphasised the importance of family members as key partners in care and recognised the significant contribution of caregivers to the recovery process. Their observations suggested that caregiver involvement improves treatment adherence while providing patients with both emotional and practical support. This collaborative approach strengthened the overall support system, facilitating sustained recovery and continuity of care.

*We tell them that they are your family member, their age is above 60. Some patients are those who are on bedrest, and caregivers come with them too. We try to tell them that give them medicine on time because the patient doesn't know when to take the medicine, so you have to keep an eye on it. When to give them medicine on time, what to do, when to bring them back for follow-up, we tell them all those things. If the patient is repeatedly forgetting things or dominating you or fighting in the house, then do not scold them again. Maybe they have some mental disorder like Alzheimer's etc., so you should get them checked up once.(p6)*

### 4.2 Engagement and Education

Participants reported engaging caregivers actively in the treatment process by educating them about the importance of medication adherence, recognising early signs of relapse, and providing consistent emotional support to patients. This awareness-building effort enhanced treatment outcomes, fostered a supportive home environment for mental health management, and empowered caregivers to play an effective role in the patient's recovery journey.

*There was a case of a woman with anxiety. Her family members called her "mad." I explained to them that every individual behaves differently and that such behaviour can result from a mental health issue. We should never label someone as "mad," as it has a very negative effect on the person and their recovery. (p5)*

*Yes, when I noticed that a patient was a bit depressed, I told the accompanying person that this is not madness but a mental condition that needs to be managed carefully. (p12)*

### 5. Barriers in Applying Mental Health Skills in Clinical Practice

Although the training proved beneficial, participants reported encountering several challenges in integrating the newly acquired mental health skills into their routine clinical practice. Medical officers highlighted factors such as high patient volumes, limited time for detailed assessments, and a lack of privacy in outpatient settings. Some also noted patients' hesitation to discuss psychological concerns and the persistent stigma within the community. These challenges underscore the need for strong institutional and systemic support to sustain the practical application of mental health competencies.

### 5.1 Persistent Stigma Toward Mental Illness

Participants identified stigma surrounding mental illness as one of the major barriers to accessing quality care. Many patients and their families avoid seeking help due to fear of social judgment or discrimination. This persistent stigma often hinders open communication between patients and healthcare providers, resulting in delayed diagnosis and reduced adherence to treatment.

*The caregiver should themselves be positive. It should not be like "this person is crazy" or “they behave like this for no reason”. (p1)*

*We no longer label someone as “mad” for their behaviour; instead, we take their history, observe how they are living, and treat them accordingly. (p13)*

### 5.2 Patient Hesitation and Limited Disclosure

Medical officers reported that many patients hesitate to openly share their psychological concerns due to fear, shame, or lack of awareness. This reluctance often leads to incomplete disclosure during consultations, hindering accurate diagnosis and evaluation. Consequently, underlying mental health conditions tend to remain unrecognised or unaddressed in routine clinical practice.

*The main challenge comes from the patients themselves. Many do not open up easily because mental illness is still seen as taboo in society. Moreover, the lack of privacy during consultations makes it harder for patients to express themselves freely. (p8)*

*In rural areas, psychiatric patients are labelled as "psycho" and sidelined. It’s like they are given a shock. Earlier, the patients who came to us, in psychiatry, it was important to make a clinical diagnosis.(p15)*

*The biggest challenge is giving sufficient time to the patient and listening carefully, as many patients hesitate or fear expressing their feelings. Another challenge in rural practice is that people often do not understand that mental illness is curable, so awareness needs to be raised before treatment can proceed effectively. (p17)*

## Discussion

Primary care serves as the most accessible point of contact for individuals with both physical and mental health issues. Due to the limited availability and delays in accessing specialized mental health services across the country, healthcare providers at primary care often play an important role in screening, assessing, diagnosing, and managing mental health conditions. Integration of mental health within primary care is increasingly recognized as an effective strategy to enhance population health by bridging gaps within the healthcare system and optimizing existing resources amid the shortage of mental health specialists(Ruben et al., 2025).

Our study revealed a considerable enhancement in knowledge, screening, and diagnostic skills, along with a more positive attitude among primary health care providers toward identifying and managing patients with MNS disorders following the training. Findings from both quantitative and qualitative data demonstrates significant changes in their perceptions, attitudes, and self-assessed competence in delivering mental health care. Furthermore, participants reported noticeable improvements in case reporting, reduction of stigma, and enhancement of help-seeking behaviour within the community. These outcomes are consistent with findings from previous studies conducted in low- and middle-income countries using similar evaluation frameworks. The present study demonstrated a statistically significant improvement in participants' knowledge levels following the training, with mean post-training scores ($M = 14.7$, $SD = 1.8$) notably higher than pre-training scores ($M = 9.8$, $SD = 2.2$); $p < 0.001$. These findings are consistent with those reported in previous research, where participants also exhibited substantial gains in knowledge after similar capacity-building initiatives (Kokota et al., 2020). In a study by Humayun et al., the mean pre- and post-test scores were 15.43 ($SD = 4.05$) and 19.48 ($SD = 3.13$) ($p = 0.000$) (Humayun et al., 2017), reflecting a significant enhancement in mental health knowledge. Similarly, another training-of-trainers (ToT) program conducted in Somalia documented an increase in median (IQR) scores from 7 (4-9.5) in the pre-test to 11 (9.5–13) in the post-test (Ibrahim et al., 2025). These results emphasize the effectiveness of training programs in strengthening mental health knowledge and competencies among healthcare providers.

Our qualitative findings indicate substantial improvement in the knowledge, screening, and diagnostic abilities of Medical Officers following the training, along with enhanced confidence, changes in perception, attitude, and self-efficacy to deliver mental health care and a more positive orientation toward managing MNS disorders consistent with global findings emphasizing the effectiveness of capacity-building interventions at the primary care level (Patel et al., 2018; Semrau et al., 2015; Thornicroft et al., 2016). Participants reported enhanced capacity to differentiate depression, anxiety, somatic presentations and neurodevelopmental or behavioural disorders and facilitate timely referrals, aligning with findings from district-level mental health integration studies conducted in Ethiopia and Nepal, which demonstrated comparable improvements in early identification and referral practices (Ayano et al., 2017; Jordans et al., 2019). Training also appeared to prompt a shift toward more empathetic, patient-centred communication. Providers emphasised rapport-building, active listening and creating a safe non-judgmental space for patients to share their concerns, thereby strengthening patient trust and adherence to care plans. These findings are consistent with studies indicating that using empathetic communication fosters openness among patients to discuss their concerns, stigma-reduction in primary care settings, reduced bias, greater understanding of the biopsychosocial nature of mental illness thereby enhancing provider confidence and emphasizing the importance of addressing mental health conditions with the same priority as physical health conditions (Chu et al., 2022; Kaiser et al., 2022; Koschorke et al., 2021). Further, Participants began involving caregivers more actively in emotional support, family engagement, treatment adherence, relapse prevention, follow-up and recovery, an approach supported by evidence from community-based psychosocial interventions (Asher et al., 2017; Chatterjee et al., 2014).

The study also highlights persistent barriers to integration, such as high patient loads, time constraints, limited privacy, absence of dedicated mental health services and referral systems, and persisting community stigma, which limited the full implementation of learned skills in practice. Similar findings have been reported in studies citing shortages of trained professionals, inadequate funding, fragmented systems, and prevailing community and provider stigma as key factors limiting the full implementation of learned skills in practice, while training improves knowledge and attitudes, structural implementation remains fragile in low- and middle-income settings (Hanlon et al., 2014; Mugisha et al., 2017; Petersen et al., 2019, 2017; Rameez and Nasir, 2023; Saraceno et al., 2007; Sarikhani et al., 2020; Zhamaliyeva et al., 2025). The training not only improved participants' technical competencies and diagnostic abilities but also promoted attitudinal and communication shifts, reinforcing the integration of mental health within primary care. Sustainability, however, will depend on institutional support, ongoing supervision and community-level sensitization (Sangwan et al., 2023).With the growing feasibility of universal health coverage, it is essential to explicitly include equitable access for mental, neurological, and substance use (MNS) disorders, ensuring that goals and evaluation indicators reflect the substantial burden and mental disability these conditions impose across all regions globally.

# Strengths

The study represents one of the first structured efforts in Nagaur district, Rajasthan, to assess and strengthen the capacity of medical officers to screen for and manage common mental disorders (CMDs) across all eight blocks. The study employed a mixed-methods design, enabling a comprehensive understanding of the impact of training on primary care physicians' knowledge, attitudes, and practices regarding mental health. The use of both pre- and post-assessments provided objective evidence of improvement in clinical competencies. Triangulation through qualitative interviews added depth to the quantitative findings, capturing experiential insights and behavioural changes among participants. The study was contextually grounded in primary healthcare settings, thereby enhancing its relevance to ongoing national programs, such as Ayushman Bharat and the District Mental Health Programme.

# Limitations

Despite its strengths, the study had certain limitations. For the quantitative component, the relatively small sample size, use of purposive sampling of available Medical Officers, and attrition between pre- and post-assessments limit the generalizability of the findings and introduce potential selection bias. Self-reported interview data may have been subject to social desirability bias. Furthermore, the lack of a control group limited the study's ability to establish a causal link between the training intervention and the observed improvements. Additionally, the short follow-up period did not allow for the assessment of long-term knowledge retention or sustained practice changes among Medical Officers. Future studies with larger samples and longitudinal designs are recommended to validate and extend these results.

# Practical Implications

The findings have important implications for strengthening mental health services within primary care and provide a foundation for future implementation research. Training of Medical Officers in the identification and management of common mental disorders can be integrated into routine clinical workflows, with potential to reduce persistent rural–urban disparities in access to care. Strengthened collaboration with Community Health Officers and Nursing Officers may further enable early detection and coordinated service delivery. However, structural constraints, including limited counselling spaces, shortages of IEC materials, and inconsistent medication supplies, highlight the need for targeted health-system improvements. Future efforts should also prioritize enhanced community engagement to reduce stigma and encourage timely help-seeking.

## Conclusion

Engaging primary healthcare providers in providing mental health services at the community and primary care levels represents an effective approach to expanding access to mental health care for a larger segment of the population (Jordans et al., 2019). Capacity-building training significantly enhanced medical officers' knowledge, diagnostic proficiency, and confidence in screening and managing common mental disorders at the primary care level. The training not only improved clinical competence but also fostered empathetic communication, positive attitudes, and greater awareness of the psychosocial aspects of mental health care. The incorporation of caregivers and a more patient-centred approach reflected a shift toward the holistic management of mental health conditions. Despite these gains, challenges such as inadequate infrastructure, heavy patient load, limited privacy, and persistent community stigma continue to hinder effective implementation. Strengthening institutional support, establishing referral linkages, and sustaining supervision and periodic refresher training are essential to ensure long-term integration of mental health into primary healthcare. Embedding mental health within universal health coverage frameworks remains a critical step toward equitable, accessible, and comprehensive care for all.

## Declarations

**Ethics Statement**: The study was approved by the Institutional Ethics Committee, National Institute for Implementation Research on Non-Communicable Diseases, Jodhpur, India. Participants received both verbal and written information regarding the study, and written informed consent was obtained from each participant. They were informed of their right to withdraw from the study at any stage without affecting their participation in the training. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

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# Tables

**Table 1.Distribution of socio-demographic characteristics ofstudy participants (n=18)**

| S.No. | Socio-demographic Characteristics | | Number (n) | Percentage (%) |
|---|---|---|---|---|
| 1. | **Age (Years)** | 27-30 | 10 | 55.7 |
| | | >30 | 8 | 44.3 |
| 2. | **Gender** | Female | 6 | 33.3 |
| | | Male | 12 | 66.7 |
| 4. | **Duration of Service (Years)** | <3 | 8 | 44.5 |
| | | 3-6 | 6 | 33.1 |
| | | 7-10 | 2 | 11.2 |
| | | >10 | 2 | 11.2 |
| 5. | **Prior mental health training** | Yes | 5 | 27.8 |
| | | No | 13 | 72.8 |

**Table 2. Paired samples statistics for pre- assessment and post-assessment scores**

| Assessment | Mean | N | Standard Deviation | Standard Error (SE) Mean |
|---|---|---|---|---|
| Pre-assessment score | 10.17 | 18 | 2.256 | 0.532 |
| Post-assessment score | 14.72 | 18 | 1.873 | 0.441 |

**Table 3. Paired samples t-test results for pre- assessment and post-assessment scores**

| | Paired Differences | | | | | t | Significance (two-tailed) |
|---|---|---|---|---|---|---|---|
| | Mean | SD | SE Mean | 95% Confidence Interval of the Difference | | | |
| | | | | Lower | Upper | | |
| Pre-assessment score – Post-assessment score | -4.556 | 2.572 | 0.606 | -5.835 | -3.277 | -7.515 | 0.000 |

# Figures

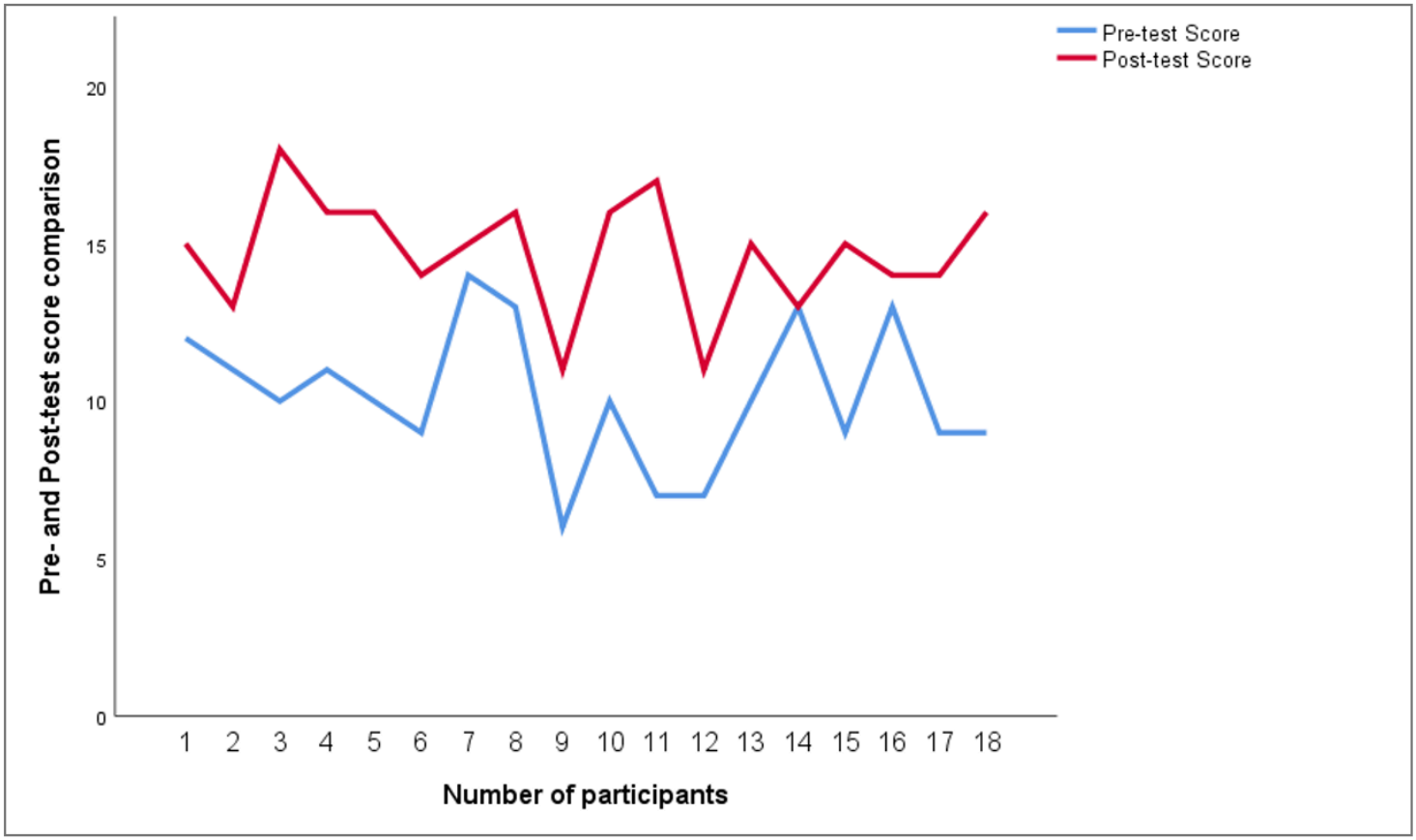



**Figure 1**

**Comparison of Pre- and Post-Training Knowledge Scores Among Participants**