Introduction

Community-level workers (CLWs) are community members chosen by the Government/Non-Government organisations or community members to provide basic health services within their community. Community health workers are qualified people with no formal medical education but can provide community support and primary care services. They are the bridge between community and government policies, welfare schemes and health care delivery systems. Usually, health services will be provided in the community settings by them. CLWs are underutilized in aspects of mental health interventions despite having more potential for the same. They are the ones who need to know much about mental health issues and treatment availabilities. To understand this gap, a systematic review on training on mental health interventions to the CLWs in India, the method and content of mental health training in such studies was done. Our systematic search following the PRISMA guidelines included eight studies that met the eligibility criteria. The review of the studies that satisfied inclusion criteria suggests that training on mental health interventions with CLWs sounds effective. The researcher also provides recommendations to strengthen the CLWs mental health knowledge and discusses implications of mental health interventions through trained CLWs for the community. Based on the review findings, the researcher recommends ideas about how CLWs can be utilized accordingly in mental health aspects during the current pandemic.

Keywords: Community-based training, community-level workers, mental health intervention

Abstract

Community-level workers (CLWs) are frontline workers who function as mediators between the government and the community. They effectively and efficiently distribute government policies and welfare schemes directly to the public, especially health aspects. They play a vital role in primary care access and quality. Many recent studies demonstrate that physical health training of CLWs is indeed effective and increases access to services. However, there are no recent reviews that systematically understand the training of CLWs concerning mental health interventions, and reviews on CLW’s understanding about mental health issues and implementation at the community level is inadequate. CLWs are underutilized in aspects of mental health interventions despite having more potential for the same. They are the ones who need to know much about mental health issues and treatment availabilities. To understand this gap, a systematic review on training on mental health interventions to the CLWs in India, the method and content of mental health training in such studies was done. Our systematic search following the PRISMA guidelines included eight studies that met the eligibility criteria. The review of the studies that satisfied inclusion criteria suggests that training on mental health interventions with CLWs sounds effective. The researcher also provides recommendations to strengthen the CLWs mental health knowledge and discusses implications of mental health interventions through trained CLWs for the community. Based on the review findings, the researcher recommends ideas about how CLWs can be utilized accordingly in mental health aspects during the current pandemic.

Keywords: Community-based training, community-level workers, mental health intervention
social determinants of health or diseases, promoting the people to access health care in the community, and engaging the patients. Frontline health workers have been particularly effective in reflecting peer support by sharing ethnicity, language, socioeconomic background, and life experiences with the communities they serve. The research focuses on various ways in which community health professionals are best known for their participation in local and global settings.[1]

According to a national mental health survey, India is home to an estimated population of 150 million people with mental illness.[2] Research studies show that inadequate mental health trained professionals, especially in the rural villages, cannot provide mental health services to most people in India.[3] Mental health service is a must in rural populations where a huge mental health treatment gap is observed. In rural areas, if people acquire any acute physical or mental illness, they straight away approach primary health centres with limited medical professionals and lack mental health professionals. In such remote areas, awareness about mental health issues is always a question mark. Even studies in India have brought into the limelight that the awareness and understanding of mental disorders are weak among villagers and community health workers in many communities.[4]

CLWs play interlinking roles. The scope of CLWs’ interventions in rural India is very high. CLWs, as mentioned earlier, Anganwadi teachers, school teachers, and volunteers together could strengthen the mental health service access to the unreached population.

The World Health Organization (WHO) has advocated integrating mental health services into the primary health care centre to reduce the disease burden and treatment gap in low-income countries. For effective mental health integration into primary care, grassroots workers must get the necessary information and skills to recognize, refer, and support persons in their communities who are suffering from mental disorders.[5] However, India is experiencing inadequately trained CLWs in mental health, and there exists a compelling situation to train them by providing basic mental health care programmes at the community level.

CLWs can play an important role in enhancing primary care access and quality. Clinical services focusing on health assessment, remote care, and rehabilitation; CLWs can help primary care physicians reduce mental health inequalities by providing community resource connections that connect patients to community-based resources and by providing health education.[6] Given the significant workforce constraints and shortage of mental health specialists, CLWs can assist primary care physicians in providing mental health interventions and increasing access to care. Despite their potential to support the practice of primary care physicians as effective primary care team members, they are largely underutilized. CLWs’ priorities and perspectives differ, and their mental health training is required to help primary care physicians close the mental health treatment gap. So far, the systematic reviews on Community health workers or community level workers have focused on the extent of involvement of CLWs in delivering mental health interventions.

However, no review has been conducted on CLWs training on mental health, methods, and effectiveness in the Indian context. Therefore, our review aims to systematically synthesize the existing evidence on mental health training and its effectiveness among CLWs in India. The results of our review will be crucial to understand the existing knowledge in this area and inform policy-makers and researchers for the future development of mental health training programmes for CLWs in delivering mental health interventions to support the primary care physicians for reducing the mental health treatment gap.

Method

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards were used to conduct this systematic review.

Data sources and data search strategies

A comprehensive electronic search was carried out in PubMed, Scopus, OVID, Science direct, Cochrane, and Google scholar databases for articles on mental health training for CLWs in India published up to December 2020. The search strategy [Box 1] used subject headings and keywords with no language restriction. In case of discrepancy, authors discussed the same with the second and third authors for consensus in search results. Websites and published documents by the national health mission were also taken into account for the review. If more than one publication on the same topic was published, the article with the most up-to-date data was chosen for the current study. To find relevant primary literature for the review, the author looked through the bibliographies of included articles and government reports on government websites.

Study selection and data extraction

For this current systematic review, the original research done in India on mental health training for the CLWs was included. The author excluded the research done on medical professionals at the

Box 1: Search keywords used for identification of articles for the review of Mental health training among community level workers in India from 1987-2020

(“community level worker” OR “lay worker” OR “Anganwadi worker” OR “ASHA” OR “village health workers” OR community health workers” OR “multipurpose health workers”)
(“mental ” OR “mental illness” OR “mental disorders” OR “mental health”)
(“intervention” OR “training” OR “orientation”)
(“effectiveness” OR “outcome” OR “impact”)
(“India” OR “South Asia”)
(#1 AND #2 AND # 3 AND #4 AND # 5)
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community level, such as doctors and nurses. Physical health or illness related interventions and the effectiveness of the practices at the community level are excluded. The author included the study published up to December 2020 to know about CLWs’ mental health training status. Review articles, editorials, research published only as brief abstracts or as posters, letters, conference proceedings, duplicate publications, and pieces lacking significant information were also removed. Two independent authors (AR & RP) screened the titles of the articles and abstracts, which is relevant to the review objective. The retrieval of full-text articles followed this review, and the retrieved full-text articles were assessed further for eligibility criteria for final inclusion in the review. The flow of study selection according to PRISMA guidelines is provided in Figure 1.

Data extraction and synthesis

Data from the selected studies were extracted into the review matrix using a customized data collection form. Based on the research objectives, the data collection form’s data elements were finalized after discussion with experts and reviewers. The following study characteristics were extracted for the current review: Author’s name, year of publication, research design, assessment method and outcome of the training program. The extracted data were cross-checked to ensure consistency. Additionally, we conducted a content analysis of the included articles to understand the methodology of training.

Risk of bias assessment in included studies

Two reviewers independently rated each article that satisfied the inclusion criteria for quality using the National Institutes of Health (NIH) quality assessment tools (https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools). Each article was given a “Yes” or “No” rating based on the quality of the evidence and the availability of information. Each study was given a rating of good (7–9), fair (4–6), or bad (3) based on the number of “yes” responses. A study that receives a “bad” rating has a high chance of bias. If the scores are not the same, the reviewers discussed the article to reach a consensus. If consensus has not arrived, then the article was forwarded to a third author for quality adjudication.

Results

Our search strategy initially retrieved 90 article titles from PubMed, Scopus, OVID, Science direct, Cochrane and Google Scholar. After removing non-relevant titles, 40 abstracts met the requirements for inclusion, followed by full-text research. Finally, eight research met the qualifying criteria and were included in the final analysis.

Characteristics of the included studies

The detailed quality assessment showed that five studies were of excellent quality, and three were of moderate quality.
with no significant risk of bias [Table 1]. Most of the studies were quasi-experimental studies with pre and post-test designs [Table 2]. There were no controlled trials on mental health training among CLWs in India. The training was provided to a range of CLWs, and all the studies had demonstrated the feasibility of mental health training for CLWs. The content, domain, and focus of mental health training differed across the studies. Most of the studies have assessed immediately post-training, and the long-term impact and follow-up after mental health training were not assessed by most of the studies. Though most studies have measured the effectiveness of training on mental health-related knowledge and attitude, the behaviour component, which is crucial to support primary care physicians, was not assessed. The included studies did not provide any information on continued education or refresher training.

The studies also highlighted the absence of need-based mental health training. Though most mental health training was delivered through didactic lectures and interactive discussion, contact-based training, which are crucial to reducing mental health stigma, was almost absent in all the studies. Further, the content analysis of the studies that spanned over 32 years (1987–2020) had shown considerable variations in the method, content, and assessment of mental health training [Table 3]. Standardized mental health literacy tool was used in only one study, while the others had used focused group discussion or semi-structured interviews to assess the effectiveness of mental health training. Overall, the included studies highlighted the absence of structured and standardized mental health training and its monitoring for CLWs.

**Discussions**

Training the CLWs is crucial to integrate the mental health care services into primary health care and reducing the massive mental health treatment gap in rural India.[19] The current review has provided evidence on the existing mental health training programmes and their feasibility for CLWs in India. The review also highlighted the absence of structured and standardized mental health training and its monitoring for CLWs. The needs and gaps identified in the current review will have crucial implications for designing and strengthening the mental health training for Mid-level Health Providers (MLHP) who are envisaged under AYUSHMAN BHARAT MISSION to deliver Comprehensive Primary Health Care (CPHC) services.

Most of the mental health training in India were provided on an Adhoc basis and were fragmented with no long-term systematic monitoring. As most of the studies were quasi-experimental, future studies should focus on obtaining robust evidence from pragmatic controlled trials. Though the study findings had shown improved improvement in mental health knowledge and attitude among the trained CLWs, most of them had lacked a standardized tool for assessment. Training needs to ensure a valid and robust assessment, and future training should include a standardized and validated tool based on the training and service needs of CLWs. This training also will allow for the comparison of mental health training across

Table 1: Quality assessment of the articles

| Author with reference and year of the study | Study objective | Study design | Total level data scoring | Statistical test done |Interrupted time series design | Individual level data scored | Pre specified outcome measures | Pre specified population criteria | Eligibility criteria | Pre specified sample size | Pre specified participants | Pre specified intervention |
|--------------------------------------------|-----------------|--------------|--------------------------|----------------------|-----------------------------|------------------------------|-------------------------------|-----------------------------|-------------------------|--------------------------|---------------------------|---------------------------|
| Nagarajaiah et al., 1987[7]               | Y               | Y            | Y                        | N                    | NA                          | NA                           | Y                             | Y                           | Y                       | N                        | NA                        | NA                        |
| Chinnayya et al., 1990[8]                 | Y               | Y            | Y                        | N                    | N                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| Mathur et al., 1995[9]                    | Y               | Y            | Y                        | N                    | N                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| Armstrong et al., 2011[10]               | Y               | Y            | Y                        | N                    | N                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| Paudel et al., 2014[11]                   | Y               | Y            | Y                        | N                    | Y                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| Micheal et al., 2018[12]                  | Y               | Y            | Y                        | N                    | Y                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| James et al., 2019[13]                    | Y               | Y            | Y                        | N                    | Y                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
| Malla et al., 2019[14]                    | Y               | Y            | Y                        | N                    | Y                           | N                             | Y                             | Y                           | Y                       | Y                        | Y                         | Y                         |
Table 2: Details of the article

| Author with reference and year | Study Design | Population Size | Training focused area | Assessment method | Outcome |
|-------------------------------|--------------|-----------------|-----------------------|-------------------|---------|
| Nagarajaiah et al., 1987[7]   | Quasi Experimental research | 275 Multi-purpose health workers | Mental retardation and its management | Pre and post test | Improvement in mental health related knowledge and attitude. |
| Chinnayya et al., 1990[8]     | Quasi experimental research | 150 multipurpose workers | Psychosis, Epilepsy and Mental Retardation | Pre and Post test | Improvement in attitude towards mental illness |
| Mathur et al., 1995[9]        | Quasi experimental study | 10 Anganwadi workers | Childhood disability - early recognition and management | Only post assessment | Improvement in mental health related knowledge and attitude. |
| Armstrong et al., 2011[10]    | Quasi experiment research study | 70 Community Health Workers | Mental health and disorder, Psychological first aid, Mental health promotion | Pre-test post-test with three months follow-up | Positive impact on attitudes towards people with mental illness and decreased stigma on mental health issues |
| Paudel et al., 2014[11]       | Quasi experimental (only post test) | 24 Village Health Workers | Depression | Focused group discussion | Positive and supportive attitudes towards patients with depression. |
| Michael et al., 2018[12]      | Quasi Experimental research design | 60 Community Health Workers | Dementia | Pre and post assessment | Participants learned about common mental health issues in elderly population. |
| James et al., 2019[13]        | Quasi experimental research | 95 ASHA | Severe mental illness | Assessed baseline and training then after 18 months tested | Attitude level changes noted. |
| Malla et al., 2019[14]        | Quasi experimental research | 40 Lay Health Workers | Mental Health Care (the etiology, principles of providing care, adherence management, psycho education of patients and families, health promotion, psychosocial rehabilitation, and relapse prevention) and suicide prevention | Only post test | Knowledge and Attitudinal level changes in mental health. |

The reviewed studies in Indian settings had focused more on preventive and curative aspects of mental disorders. So, there is a need to integrate a promotive aspect of mental health into the existing training modules. As CLWs are not restricted to the health sector alone, addressing current gaps in mental health training for CLWs in India would require a strong inter-sectoral collaboration. With substantial variation in methodologies and focus for mental health training for CLWs, it was impossible to assess the effective method of mental health training from the included studies. Future researches need to give attention to measuring the effectiveness of different methods of mental health training for CLWs.

### Strengths and limitations

To the best of our knowledge, this is the first systematic review of mental health training and its effectiveness among CLWs in India. For the current study, we have followed a standard search strategy, risk of bias assessment used for all the studies and PRISMA guidelines were followed. We did a content analysis to understand the contextual factors associated with the mental health training of CLWs in India. Our review has certain limitations. We had excluded 14 potentially relevant studies due to a lack of proper reporting of outcome measures. We did not include unpublished studies and grey literature. Studies published in non-indexed journals were not included in the review. The states and districts. Further, the mental health training should be accompanied by a structured resource guide/manual in local languages to support the CLWs post-training.

The importance and relevance of community mental health care by non-specialist health workers has been emphasized for low- and middle-income countries (LMIC). CLWs have the potential to help in reducing the mental health treatment gap. Effective mental health intervention was proposed to be shifted to community-level health workers to increase mental health care coverage in low- and high-income countries. In delivering mental health treatment services by community-level health workers through task sharing, the crucial mental health training should be guided by mapping community interventions and identifying competencies for CLWs. The existing gaps in mental health training for CLWs in India highlighted in the current review would need to be addressed through sound implementation science methods grounded with tools to facilitate community services, indicators to evaluate community mental health services, and standardized reporting for community-based mental health programs. Future researches should also focus on developing indicators for impact evaluation with feedback from final beneficiaries of the community. These results will be key for ensuring sustainability and scalability of mental health services by CLWs.


### Table 3: Content analysis of Mental Health training in India

| Category               | Themes                                                      |
|------------------------|-------------------------------------------------------------|
| **Method of Training** | Talk and chalk<br>Role play<br>Manual based training<br>Discussion<br>Lectures<br>Question and answer<br>Case demonstration |
| **Content of Training**| Early Identification of mental illness<br>Understanding the symptoms of mental illness<br>Proper Referral<br>Ensuring regular medication and follow up<br>Psycho education<br>Treatment of mental illness<br>Mental health first aid<br>Mental retardation |
| **Population**         | Multi purpose health workers<br>Anganwadi workers<br>Community health workers<br>Village health workers<br>ASHA<br>Lay health worker |
| **Tools used**         | Semi structured self-administered questionnaire<br>Focused group discussion<br>Semi structured interview<br>Key Informant Interview<br>Questionnaire |

Other journals were also excluded. We restricted the studies only done in India. So, we cannot generalize the results to other countries.

### Implications for primary care physicians

The current review highlighted major gaps in the mental health training, monitoring, supervision, and continued education for CLWs in delivering mental health intervention. Recently, the role of primary care physicians and family physicians to fight against the mental health impact of COVID-19 by liaising with mental health specialists through telemedicine has been emphasized.[18] To make the best out of this upstream strategy, primary care physicians and family physicians should strengthen the downstream strategy involving CLWs. There is substantial evidence that CLWs can give psychosocial assistance in the community, particularly in emergencies like the COVID-19 epidemic. However, a need for training and supportive supervision to help CLWs while delivering psychosocial support to the vulnerable population in Low-Middle Income Countries during COVID-19 and beyond has been emphasized. In this context, primary care physicians had an immense role in leading the primary care team by actively engaging in training and supervision of CLWs to deliver a psychosocial intervention to the community within their available health care systems.

The review also observed a conspicuous absence of contact base mental health training in India. It has been emphasized that contact-based training and providing mental health care would reduce mental health stigma among providers.[19] Strengthening the view and attitudes of CLWs towards mental health through training would be a necessary step in integrating them into India’s mental health care services.[20] Recently, Government of India, under the AYUSHMAN BHARAT Mission, is planning to provide Comprehensive Primary Health Care (CPHC) through Health and Wellness Centers by involving Mid-level Health Providers (MLHP) in the community. Screening and Basic management of Mental health ailments are one of the key components of CPHC. It is thus crucial that MLHP and other CLWs be trained through an accredited training programme that combines theory and contact-based practice with on-the-job training to deliver mental health services. Their training should be monitored and supported continuously with tele-handholding by primary care physicians for effective primary mental health care.

### Conclusion

In low-income nations like India, adequate mental health treatments must be properly integrated into primary health centres. Then, grass-roots workers must receive training to gain the necessary information and abilities to identify, refer, and support persons in their communities who are suffering from mental illnesses. Educating, training, and supporting CLWs to address mental health appears to be an effective approach to reduce the huge treatment gap for mental health in India. This review had indicated that little is understood about mental health training, its delivery and its sustenance among CLWs in India. There was considerable variability among the mental health training for CLWs in terms of method, content, focus and reported outcomes. Given the diverse nature of mental health issues, mental health training for CLWs in India should be considered a complex intervention. More focus should be given to the design of the training, method of delivery, monitoring, evaluation of the training programme, sustainability and scalability of mental health training. At the next level, future research will benefit from involving various community stakeholders in designing and incorporating implementation science to better document the effectiveness and implementation outcomes of mental health training among CLWs in India.

### Ethics in systematic reviews

The authors of this work followed the ethical criteria of Systematic Reviews, which included authorship guidelines, avoiding redundant (double) publication, preventing plagiarism, transparency, and assuring correctness, among other things.

### New messages

More focus on mental health training for community level workers is required to improve primary care access for mental health in rural India.

### Key points

- CLWs play an important role in enhancing primary care access and quality.
Training the CLWs is crucial for providing psychosocial support to the vulnerable population in Low-Middle Income Countries.

Major gaps exist in the mental health training, monitoring, and supervision for CLWs in delivering mental health intervention.

Primary care physicians had a potential role in training and supervision of CLWs for effective primary mental health care.

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Conflicts of interest
There are no conflicts of interest.

References
1. Barnett ML, Gonzalez A, Miranda J, Chavira DA, Lau AS. Mobilizing community health workers to address mental health disparities for underserved populations: A systematic review. Adm Policy Ment Health 2018;45:195-211.
2. Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh IK, et al. National Mental Health Survey of India, 2015-16: Prevalence, Patterns and Outcomes. Bengaluru: National Institute of Mental Health and Neuro Sciences; 2016. Publication number 129.
3. Thara R, Padmavati R, Srinivasan TN. Focus on psychiatry in India. Br J Psychiatry 2004;184:366-73.
4. Kermode M, Bowen K, Arole S, Joag K, Jorm AF. Community beliefs about causes and risks for mental disorders: A mental health literacy survey in a rural area of Maharashtra, India. Int J Soc Psychiatry 2010;56:606-22.
5. Funk M. Integrating mental health into primary care: A global perspective. World Health Organization; 2008. https://www.who.int/mental_health/resources/mentalhealth_PHC_2008.pdf.
6. Liana L, Windarwati HD. The efectivity role of community mental health worker for rehabilitation of mental health illness: A systematic review. Clin Epidemiology Glob Health 2021;11:100709.
7. Nagarajiah CR, Murthy RS, Isaac MK, Parthasarathy R, Verma N. Relevance and methods of training multipurpose health workers in delivery of basic mental health care. Indian J Psychiatry 1987;29:161-4.
8. Chinnayya HP, Chandrashekar CR, Molly S, Raghuram A, Subramanya KR, Shanmugham V, et al. Training primary care health workers in mental health care: Evaluation of attitudes towards mental illness before and after training. Int J Soc Psychiatry 1990;36:300-7.
9. Mathur GP, Mathur S, Singh YD, Kushwaha KP, Lele SN. Detection and prevention of childhood disability with the help of Anganwadi workers. Indian Pediatr 1995;32:773-8.
10. Armstrong G, Kermode M, Raja S, Suja S, Chandra P, Jorm AF. A mental health training program for community health workers in India: Impact on knowledge and attitudes. Int J Ment Health Syst 2011;5:17.
11. Paudel S, Gilles N, Hahn S, Hexon B, Premkumar R, Arole S, et al. Impact of mental health training on village health workers regarding clinical depression in rural India. Community Ment Health J 2014;50:480-6.
12. Michael A, Thirumoorthy A, Girish N, Sivakumar PT. Training Community health workers in geriatric mental health: Process of manual development and pilot testing findings. Asian J Psychiatr 2018;38:12-5.
13. James JW, Sivakumar T, Kumar CN, Thirthalli J. Change in attitude of ASHAs towards persons with mental illnesses following participation in community based rehabilitation project. Asian J Psychiatr 2019;46:51-3.
14. Malla A, Margoob M, Iyer S, Joober R, Lal S, Thara R, et al. A model of mental health care involving trained lay health workers for treatment of major mental disorders among youth in a conflict-ridden, low-middle income environment: Part I adaptation and implementation. Can J Psychiatry 2019;64:621-9.
15. Behera P, Amudhan RS, Gupta R, Majumdar A, Kokane AM, Bairwa M. Adapting the stepped care approach for providing comprehensive mental health services in rural India: Tapping the untapped potential. Indian J Community Fam Med 2018;4:5-10.
16. Patel V. The future of psychiatry in low- and middle-income countries. Psychol Med 2009;39:1759-62.
17. Kohrt BA, Asher L, Bhardwaj A, Fazel M, Jordans MJ, Mutamba BB, et al. The role of communities in mental health care in low- and middle-income countries: A meta-review of components and competencies. Int J Environ Res Public Health 2018;15:1279.
18. Mistry SK, Harris-Roxas B, Yadav UN, Shabnam S, Rawal LB, Harris MF. Community health workers can provide psychosocial support to the people during COVID-19 and beyond in low- and middle- income countries. Front Public Health 2021;9:666753.
19. Shah QN, Dave PA, Loh DA, Appasani RK, Katz CL. Knowledge of and attitudes towards mental illness among ASHA and Anganwadi workers in Vadodara district, Gujarat State, India. Psychiatr Q 2019;90:303-9.