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IMPROVING PRIMARY CARE CAPACITY THROUGH MENTAL HEALTH TRAINING: A SCOPING REVIEW

Sutejo[1 2], Findri Fadlika[3]*
[1]Doctor of Nursing Science Program, Faculty of Nursing Science, Universitas Indonesia, Jl. Prof. DR. Sudjono D. Pusponegoro, Pondok Cina, Beji, Depok, Jawa Barat 16424, Indonesia
[2]Department of Nursing, Poltekkes Kemenkes Yogyakarta, Jl. Tata Bumi No.3, Area Sawah, Banyuraden,Gamping, Sleman, Yogyakarta 55293, Indonesia
[3]Health Training Center, Yogyakarta Health Office, Jl. Mawar No.12, Krodan, Maguwoharjo, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281, Indonesia
*findrifadlika@mail.ugm.ac.id

ABSTRACT
Mental health is a significant challenge in primary health care, particularly in lower-middle-income countries that face a shortage of mental health workers. In this situation, training for health workers is an important strategy to increase the capacity of existing resources and optimize the role of health care providers in mental health service delivery. This scoping review aimed to identify the impact of training mental health workers in primary care, particularly in terms of improved screening and early detection, increased utilization of mental health services, and improved clinical outcomes. The scoping review used the Arkey and O'Malley approach. Articles were searched using three databases, such as Medline, ProQuest, and Scopus, published between 2020-2025. Of the 1,475 articles identified, nine articles met the inclusion criteria and proceeded to the analysis stage. Training mental health workers in primary care was shown to improve health workers' knowledge, skills, attitudes, and self-efficacy. The impact of training was also seen in an increase in the number of screenings and early detection of mental disorders, increased utilization of mental health services, and significant improvements in psychotic symptoms, depressive symptoms, anxiety, and social functioning of patients. Training primary care health workers can improve the capacity and quality of mental health services. Appropriate training design, adequate duration, and ongoing evaluation systems are essential to ensure successful intervention and long-term impact on patient health.

Keywords: health worker training; mental health; primary health care

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INTRODUCTION

Mental health is receiving increasing attention as an important issue in public health. Globally, the prevalence of mental disorders, including schizophrenia, is estimated at 0.5-1% (Sitanggang et al., 2024). In 2019, 1 in 8 people, or 970 million people worldwide, were living with a mental disorder, with anxiety disorders and depression being the most common (WHO, 2022a). In 2020, the number of people living with anxiety and depression disorders increased significantly due to the COVID-19 pandemic. Preliminary estimates suggest an increase of 26% and 28% for anxiety disorders and major depression respectively in just one year (WHO, 2022b). In Indonesia, approximately 450,000 people suffer from severe mental disorders, as reported by the Ministry of Health in 2019 (Sitanggang, Ardani and Lesmana, 2024). Nationally, the prevalence of households with members experiencing symptoms of psychotic mental disorder/schizophrenia was recorded at 4.0‰, while those experiencing symptoms with a diagnosis reached 3.0‰. The province with the highest prevalence of symptoms with diagnosis was Yogyakarta, at 7.8‰ (Ministry of Health, 2023). Recent research shows that mental disorders have a huge impact compared to other health conditions at the global level (Tewari et al., 2021). Specifically, mental disorders contribute 8.5% to the total years of life lost due to premature death and years lived with disability worldwide (Murray et al., 2015).

The World Health Organization (WHO) estimates that 75-85% of individuals with mental health disorders in low- and middle-income countries do not receive any treatment. This is due to low levels of awareness, limited mental health professionals, and high stigma towards seeking help. Socioeconomic factors such as poverty and lack of access to public transportation also worsen accessibility to primary health care (Barnett et al., 2023). In Indonesia, access to mental health services is still very limited, especially in remote areas such as East Nusa Tenggara (Roida Eka et al., 2023). In many cases, individuals with psychosis may even live for years without receiving adequate psychiatric or neurological intervention. It is not uncommon for them to be shackled, bound, or confined to their homes to prevent risk to themselves and others due to untreated conditions (Kohrt, Mutamba, et al., 2018).

In Indonesia, there are still a number of regions that do not have mental health services or only have very limited services. In addition, the level of public awareness of mental health issues is still low, while increasing the number of mental health workers in a short period of time is a challenge. Therefore, alternative strategies are needed, such as increasing the capacity of existing health workers, as well as utilizing available health service providers to provide mental health services (Maulik et al., 2020). This is in line with the mandate of Law No. 17 of 2023 on Health, Article 75, as well as Government Regulation No. 28 of 2024, which emphasizes the importance of promotive and preventive efforts in mental health, including strengthening human resources through training health workers.

Since 2022, Indonesia has developed and implemented a nationally used Integrated Mental Health Worker training curriculum for doctors, nurses, and clinical psychologists in primary health care. This training aims to equip them with the skills needed to comprehensively address mental health issues. By increasing the capacity of health workers and strengthening awareness of the importance of integrated mental health services that are responsive to the local context, service gaps can be narrowed, and access to inclusive and humane care is expected to increase, especially in underserved areas. Therefore, this review aims to provide an overview of the implementation of training for health workers in an effort to improve services for patients with mental disorders in primary healthcare facilities (FKTP).

METHOD

Scoping review is an examination of all relevant evidence on a particular issue without the need to consider individual study designs, while ensuring a systematic and rigorous process (Efendi et al., 2021). The preparation of this scoping review adapts the Arksey & O'Malley (2005) framework with five stages, namely (1) identifying research questions, (2) identifying relevant articles, (3) selecting articles, (4) mapping data, (5) collecting, summarizing, and reporting the results (Buus et al., 2022).

1. Identification of research questions

The first step in the scoping review process is to identify the research question and link the question to the purpose of the scoping review (Archibald et al., 2016). Thus, the research question identified to guide this review was as follows:

"Does training for health workers have an impact on improving mental health services at primary care facilities?"

2. Identification of relevant articles

The research subjects included primary care health workers, such as doctors, nurses, health counselors, and other non-medical personnel. These subjects can provide direct care to patients, in this case mental health services. We included studies conducted in Southeast Asian countries based on the WHO definition, namely Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste. We excluded other

countries because we wanted to reflect cultural similarities in the population. Interventions had to involve activities related to training or capacity building of health care workers to detect and manage mental health conditions. We included all mental health disorders. We included all primary research studies published in English, whether quantitative, qualitative or mixed methods. Abstracts, posters, book chapters, editorials, letters, and secondary research were excluded. Studies published before 2000 were excluded to ensure the findings were relevant to the current mental health system.

The design of the search strategy was based on the main inclusion criteria (Table 1). These criteria were categorized based on the Population, Concept, Context (PCC) mnemonic recommended by the Joanna Briggs Institute for scoping reviews, as a looser alternative to the PICO (Population, Intervention, Comparator, and Outcome) mnemonic recommended for systematic reviews (Archibald et al., 2016).

Table 1.
Article criteria

No	Category	Inclusion	Exclusion
1	Population (P)	Health workers in primary care	Volunteers, students
2	Concept (C)	Training, capacity building	Not training or capacity building
3	Context (C)	Improve detection, access to services, and control of mental disorders.	No outcome

3. Article selection

The first step was an initial search on Google Scholar to see if there were any similar reviews on the chosen topic by looking at the titles and abstracts of the articles that matched the specific keywords. The following keywords were identified as relevant to the topic, healthcare workers, training, capacity building, mental health, mental health conditions, primary health care. These keywords used the customized PCC framework with the selected database. In the next step, a primary search was conducted on articles published from 2000-2025 using 3 databases, namely Medline, ProQuest, and Scopus. The search was based on predetermined inclusion and exclusion criteria. The search strategy (Supplementary Table 1) was created using the PCC framework adapted for each electronic database. This resulted in 236 articles (Medline), 764 articles (Scopus), and 475 articles (ProQuest). The researchers used the software to expedite the process of screening duplicate titles and abstracts, reviewing full articles, and organizing research articles efficiently. During the full-text review, the researchers extracted data based on the study design, population, context, setting, and outcomes. Nine articles were included in the final review (Figure 1).

4. Data mapping

At this stage, researchers extracted nine articles and compiled them into a table containing the following components: author, year, study objectives, study design, and findings.

5. Collecting, summarizing and reporting results

The data extracted in the table was then analyzed to identify several themes, namely the type of training, training techniques, training outputs for health workers who have been trained, the impact of training on patient outcomes, and challenges faced in implementing the training results. The output in this study is in the form of changes in knowledge, skills, attitudes, and self-efficacy after the training. Meanwhile, the outcomes can be in the form of improvements in the number of visits to health facilities, improvements in the number of mental screenings, and improvements in services to patients.

RESULT

1. Data Search Results

The scoping review used the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) standard to present the results of the search process, after which the data were filtered using author criteria (Moher et al., 2009). This resulted in 236 articles (Medline), 764 articles (Scopus), and 475 articles (ProQuest). After 294 duplicate articles were excluded, 1,181 articles were reviewed for title and abstract relevance. As a result, 1,102 articles were found to be irrelevant, leaving 79 articles for full-text review. Nine articles were then included in the final review. The following data screening results are illustrated using a PRISMA flowchart (Figure 1).

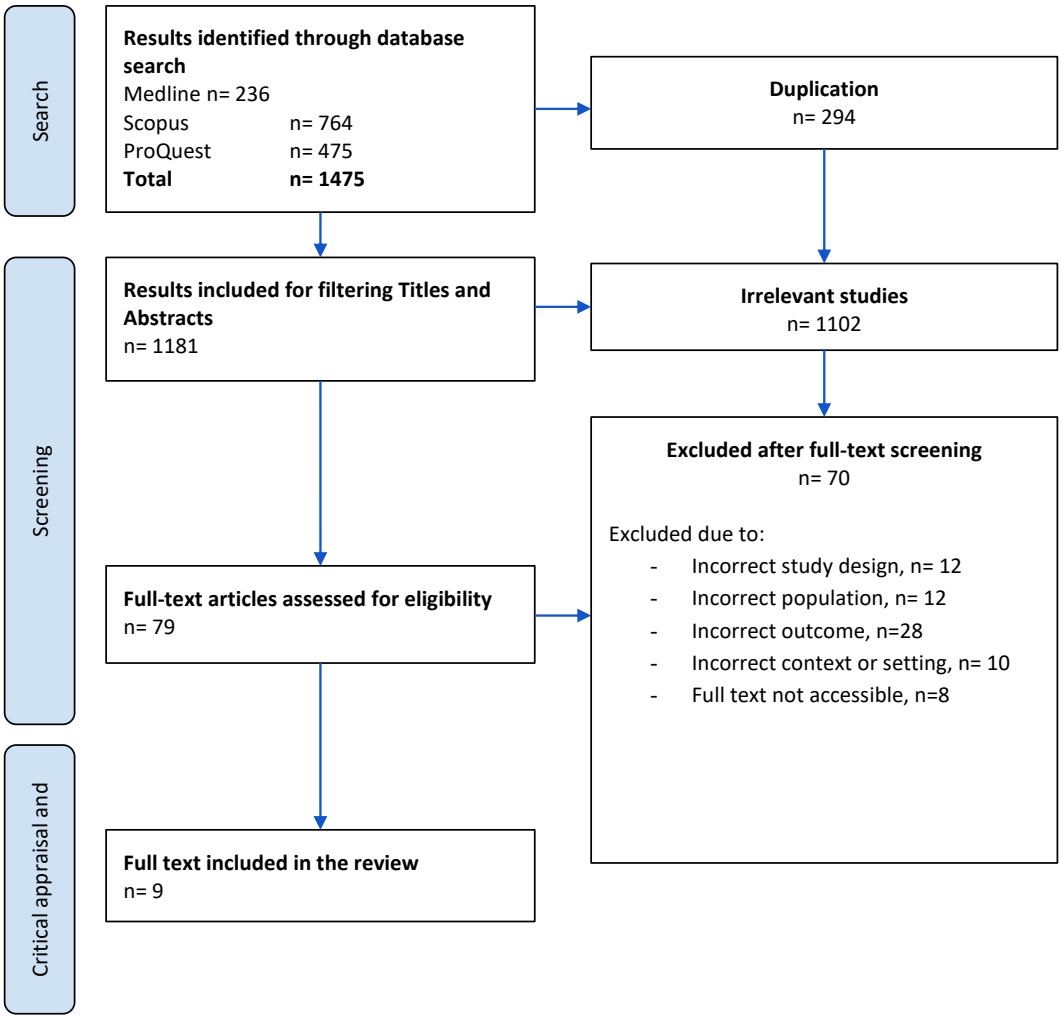

Figure 1. PRISMA flow diagram

Mapping of article characteristics

Table 2.
Mapping of article characteristics

No	Author, year	Location	Purpose of study	Study design			Findings
				Intervention	Sample	Participants	
A1	Feasibility of training primary healthcare workers to identify antenatal	Bengaluru, India	Improving the capacity of health workers to recognize and treat antenatal depression through increased	The methodology used was quantitative The training intervention included a	6 ; 6 ; 8 ; 300	Nurses; junior health assistants; ASHA workers (cadres); healthy women over 18 years of age, < 24	Training was shown to improve health workers' knowledge, perceived skills and self-efficacy in managing antenatal

	depression, 2023		knowledge, skills, and self-efficacy, while encouraging the implementation of screening in antenatal care, especially in facilities with limited resources.	knowledge- and skills-based component: screening pregnant women for symptoms of depression. Screening rates were measured before and after training.		weeks pregnant.	depression, with screening results showing 25% of pregnant women had depressive symptoms, and demonstrated that screening can be effectively implemented even in resource-limited settings.
A2	Empowering health workers and leveraging digital technology to improve access to mental health and epilepsy care: A longitudinal quasi-experimental study in Hlaing Thar Yar Township, 2022	Hlaing Thar Yar, Myanmar	To improve the capacity of health workers, including community workers and general practitioners, to recognize and treat mental disorders, and assess the impact on access to mental health services.	This study used a longitudinal quasi-experimental design Intervention 1: CHWs were trained to raise awareness, identify people with mental illness and refer them to general practitioners. Intervention 2: general practitioners are enhanced in their ability to diagnose and treat patients.	76 ; 43	Community health workers (CHWs); general practitioners	The training intervention improved the knowledge, attitudes and practices of community health workers, with a high referral rate (86%) to general practitioners and 75.6% concordance in diagnosis between general practitioners and traditional birth attendants, suggesting effective collaboration in mental health disorder detection.
A3	Effectiveness of blended versus fully digital training in primary care psychiatry: A retrospective comparison from India, 2022	Chhattisgarh, India	Comparing the effectiveness of *blended* and fully digital training in primary care psychiatry training, by assessing participant engagement, changes in knowledge, attitudes, and practices, and primary care physicians' ability to identify patients.	This study was a retrospective study with a before-after design. The intervention compared two modes of training: *blended* and fully digital. The *blended* training included a combination of traditional teaching and e-learning sessions, while the fully digital mode consisted only of e-learning sessions.	941	Primary care physicians	Blended training proved to be more effective than fully digital training, demonstrated by significant improvements in knowledge, attitudes, and practices, as well as higher proficiency in identifying patients with mental disorders over an 8-month period.
A4	An impact of a digitally driven primary care psychiatry program on the integration of psychiatric care in the general	Bengaluru, India	Improving the capacity of primary care physicians in psychiatric care through training aimed at strengthening the identification of psychiatric disorders in general practice and evaluating the	This research is an interventional naturalistic study The intervention was a 1-year program consisting of two weeks of initial on-site training and consultation-	10	primary care physicians	The program improved psychiatric knowledge among primary care physicians and translated into psychiatric service delivery in general practice with a positive impact on primary psychiatric care service

	practice of primary care doctors, 2020		retention of knowledge and skills acquired.	based training, followed by ongoing support with the remaining clinical and public health modules.			delivery and also contributed to increased awareness about mental health among the community.
A5	How competent are non-specialists trained to integrate mental health services in primary care? Global health perspectives from Uganda, Liberia, and Nepal, 2018	Uganda, Liberia, and Nepal	Exploring health worker competencies from training and supervision programs in Uganda, Liberia, and Nepal.	Intervention: training aimed at improving detection of mental health disorders	206	health workers.	Training for health workers resulted in increased knowledge, decreased stigma and negative attitudes, and significant improvements in patients, including decreased psychotic and depressive symptoms, improved social functioning, and reduced functional disability and burden for families and caregivers.
A6	Community -, facility-, and individual-level outcomes of a district mental healthcare plan in a low-resource setting in Nepal: A population-based evaluation, 2019	Nepal	Evaluating the effectiveness of mental health services in primary care facilities in Nepal, including contact coverage, detection of mental disorders, initiation of adequate treatment, and patient outcomes.	Intervention: training for assessment, diagnosis, basic psychosocial support, and pharmacological treatment according to mhGAP guidelines.	- ; 3482 ; 3627 ; 449	Primary health care workers; individuals in community studies; individuals in facility studies; individuals in cohort studies.	Interventions increase mental health service contact coverage, health worker detection of depression and alcohol use disorder (AUD), and provision of minimally adequate treatment, resulting in reductions in symptoms of depression, AUD and psychosis.
A7	SMART Mental Health Project: process evaluation to understand the barriers and facilitators for implementation of multifaceted intervention in rural India	India	Evaluate the feasibility, acceptability, and effectiveness of a mental health service delivery model in the context of the implemented intervention.	The methodology of this study was mixed methods. Quantitative data from *back end* analysis of different applications. Qualitative data was obtained from 16 FGDs and 25 IDIs conducted with various stakeholders. The interventions carried out include updates in screening, diagnosis and treatment of populations for	41 ; 6 ; 900	ASHAs (cadres); primary care physicians; individuals	Interventions increase utilization of mental health services by individuals, supported by training for ASHAs and clinicians who play a role in strengthening the quality of service delivery.

				depression, suicide risk and emotional problems using the EDSS tool.			
A8	Effectiveness of non-medical health worker-led counselling on psychological distress: a randomized controlled trial in rural Nepal	Nepal	Evaluating the effectiveness of community-based psychosocial counseling in rural Nepal by comparing a non-medical approach and enhanced usual care, and assessing its impact on reducing depressive symptoms in participants.	This study is a *parallel randomized controlled trial.* The intervention involved two types of services: *Enhanced Usual Care* (EUC) provided by trained primary health care workers, and non-medical psychosocial counseling (PSY) provided by trained lay health workers.	- ; 287	health worker; patient	Non-medical psychosocial counseling was found to be effective in reducing depressive symptoms, with positive responses (>50% reduction in BDI scores) in 80.5% of participants versus 41.1% in the enhanced usual care (EUC) group.
A9	Increasing the use of mental health services in remote areas using mobile technology: A pre-post evaluation of the SMART Mental Health project in rural India	India	Developed and evaluated a multifaceted intervention aimed at improving screening and referral for common mental disorders, expanding mental health knowledge, reducing stigma, and assessing feasibility and acceptability of the intervention.	The study is an observational study: *pre-post evaluation* Intervention: SMART *Mental Health project* in managing common mental disorders (CMD)	21 ; 2 ; 5167	ASHA (cadres); primary care physicians; individuals	The intervention demonstrated feasibility and was well received, resulting in increased utilization of mental health services, significant reductions in depression and anxiety scores, and increased community awareness and reduced stigma towards mental health issues.

A total of 9 articles out of a total of 1,475 articles were included distinguishing into 3 study designs, namely 8 quantitative, 1 mixed methods, but no qualitative designs. These results were obtained from interventions conducted in three different countries, namely India, Nepal, and Myanmar, as reported in the analyzed articles. Based on the World Bank classification for Fiscal Year 2025, India, Nepal, and Myanmar are categorized as Lower-Middle Income Economies with Gross National Income (GNI) per capita between USD 1,146 and USD 4,515. India and Myanmar are explicitly listed in the list of lower-middle income countries, as is Nepal (World Bank, 2025). The results from all articles reflect the country's experience in improving mental health services in primary care through training of primary health care workers.

2. Theme Mapping

The data extracted from the articles were organized into themes. The themes that have been included for the purpose of this article include types of research, outputs of health workers after training, outcomes of training on patients, and challenges. The mapping of these themes can be seen in the following table.

Table 3.
Theme mapping

No	Theme	Aspect	Source
1	Type of Training	Training based on the depression module in the Mental Health Gap Action Program (MHGap) manual by WHO	A1, A2, A5, A6, A7, A9
		Training on psychotic disorders, depression, use of digital tools to assist identification, diagnosis, management and follow-up of people with mental disorders, awareness-raising and psychoeducation	A2
		Clinical schedule for primary care psychiatry (CSP) guidelines	A3, A4
		The DPCP training program uses the CSP curriculum modules namely, foundation module, Telepsychiatry Live Consultation Training (Tele-OCT)/Virtual Classroom (VCR)/videoconference-based continuing skills development (V-CSD), collaborative video consultation (CVC), and public health modules.	A4
2	Training techniques	Face-to-face training for approximately 1 week	A1, A5, A6, A9, A8
		Half-day face-to-face training and half-day practice for primary care physicians	A2
		Intensive 3-4 hours face-to-face training over 2 days for primary care physicians	A7
		Online training	A3
		Blended learning training	A3
		One-year "diploma in primary care psychiatry" (DPCP) training program	A4
3	*Output of* health workers post-training	Measured by Likert scale-based questionnaire and/or multiple choice questions.	A1, A2, A3, A5, A9
		Measured by counting the number of case conferences, seminars, consultations, weekly audits (input data of patient details), weekly prescription audits, public initiatives (designing at least one public education material) for the DPCP training program.	A4
		Measured through interviews and FGDs with trained health workers	A7
		Aspects of knowledge improved by	A1, A2, A3, A4, A5, A7
		Skill aspects improved	A1, A2, A3, A4, A5, A7
		Aspects of self-efficacy increased	A1, A3, A4
		Attitude aspects improved	A2, A5
4	*Outcome of* training on patients	Measured by questionnaires, such as the *Patient Health Questionnaire-9* (PHQ-9) for depression as well as the Psychosis Screening Questionnaire (PSQ) for psychotic disorders, the Beck Depression Inventory (BDI) Questionnaire, 21 item version.	A1, A2, A8
		Measured from secondary data: from patient count tables, *medical records*, data from the application server	A3, A7
		Increase in number of patients identified / increase in number of screenings / increase in number of early detections	A1, A2
		Increased utilization of adequate mental health services	A3, A4, A6, A7, A9
		Severity of psychotic symptoms, depressive symptoms and social functioning of patients improved	A5
		Significant reduction in depression/anxiety scores post intervention	A8, A9
5	Challenges	Limited resources and low resources may hinder implementation.	A1
		Stigma around mental health may affect screening participation.	A1, A7
		Individual learning styles differ during training	A3
		Habitual use of digital technology in online training	A3
		Accessibility to internet connectivity in online training	A3
		DPCP training has a variety of intervention types to train primary care physicians in psychiatry, making it difficult to obtain measures to assess the effectiveness of this program.	A4
		Patient accessibility to health facilities is a challenge to implementing the training program	A7
		Availability of logistics in health services affects program implementation	A6, A8, A9

The following is an explanation of the mapping results of the themes that have been determined

1. Type of Training

Training health workers in the management of mental disorders in primary care generally includes two main components, namely knowledge- and skills-based training (Jordans et al., 2019; Anjara et al., 2019.; Thomas et al, 2023). One widely used approach is the module of the Mental Health Gap Action Programme Intervention Guide (mhGAP-IG) developed by WHO, which aims to assist health workers in recognizing symptoms, identifying disorders, and conducting early interventions through flowcharts.

In Nepal, mhGAP was developed into PRIME training in two versions: for prescribers (such as health workers) and non-prescribers (such as health cadres), with different functions according to their respective authorities (Kohrt, Jordans, et al., 2018). Other studies by Maung Gyee et al. (2022) and Tewari et al. (2021) also used the mhGAP-IG module, along with long-term post-training interventions and technology-based approaches such as the Electronic Decision Support System (EDSS). This system allows cadres to screen with PHQ-9 and GAD-7, while doctors can diagnose and manage based on mhGAP-IG (Maulik et al., 2017).

Meanwhile, other training approaches use the Clinical Schedule for Primary Care Psychiatry (CSP) Guide, as in the study (Gajera et al., 2023), which provides a brief algorithm for screening, first-line management, and referral of six types of mental disorders. These guidelines were also used in the one-year Diploma in Primary Care Psychiatry (DPCP) program conducted by Pahuja et al. (2020), covering six modules and criterion-based assessment.

2. Training Techniques

Studies have shown that mental health training for primary care health workers is conducted using a variety of methods, durations, and approaches, but with similar objectives: to increase capacity in screening, diagnosis, and management of mental disorders.

Trainings are generally delivered in small groups (Thomas et al., 2023) and include lectures, discussions, role plays and modeling. The duration of training varies from half a day to a week, as seen in 3-4 hours of training per session over two days (Tewari et al., 2021), five half-day sessions of core material plus training in the use of digital devices (Maulik et al., 2017; Kohrt, Mutamba, et al., 2018; Kohrt, Jordans, et al., 2018; Jordans et al., 2019; Markkula et al., 2019). Post-training evaluations are conducted at 1 month to 16 months to assess changes in knowledge and skills (Kohrt, Jordans, et al., 2018; Markkula et al., 2019).

Training generally uses the WHO mhGAP-IG module, which has been shown to be effective in helping health workers recognize and treat mental disorders in primary care. In the study Tewari et al. (2021), the training was accompanied by field monitoring by specially trained staff for 10 days. Meanwhile, in the study Maung Gyee et al. (2022), the mhGAP-IG training was followed by two years of implementation using a digital application for diagnosis and follow-up.

The study of Gajera et al. (2023) demonstrated the use of blended learning and pure e-learning approaches. Training was conducted through a combination of face-to-face (2 days) and e-learning and skill development (e-LSD) over 6 weeks, using synchronous (videoconferencing) and asynchronous (self-paced materials) learning. In addition, a fully online version was provided, replacing the face-to-face session with two additional e-learning sessions, bringing the total duration to 16 hours. Evaluation was conducted with a KAP (Knowledge, Attitude, Practice) questionnaire reviewed by psychiatrist trainers from the CHaMP program. The Diploma in Primary Care Psychiatry (DPCP) program by Pahuja et al. (2020) includes several CSP (Clinical Schedule for Primary Care Psychiatry) based modules, such as basic training, tele-OCT, virtual classroom (VCR/V-CSD), collaborative video consultation (CVC), and public health modules. The training

integrates hands-on clinical practice, case seminars, and public education initiatives as part of strengthening the role of primary care physicians in mental health care.

3. Output of Health Workers Post-Training
a. Measurement Method
1) Measuring knowledge outcomes
Studies have evaluated mental health training outcomes with a focus on health workers' knowledge, attitudes, and behaviors, using a variety of instruments and approaches. Thomas et al. (2023) used a 35-item questionnaire to evaluate cognitive and behavioral aspects. Knowledge was measured through five multiple-choice questions on antenatal depression (scored 0-1 per item), while role expectations and attitudes towards task performance were measured using four Likert scale items (1-5), including attitudes towards mental illness stigma. Gajera et al. (2023), evaluated knowledge through 30 questions consisting of 19 multiple-choice and 11 case-based short answers, focusing on the diagnosis and treatment of mental disorders. Pahuja et al. (2020), conducted an evaluation through 10 formative assessments throughout a 1-year DPCP program. The evaluation covered knowledge, skills, and attitudes, which were measured through collaboratively prepared and verified case conferences and seminars. Meanwhile, Kohrt, Mutamba, et al. (2018) used true-false and multiple-choice questions adapted from mhGAP version 1.0 for PRIME. The evaluation was conducted with 26 questions for health workers with prescribing authority and 19 questions for those without such authority.

2) Measuring skill outcomes
Various studies evaluated aspects of health workers' skills and practice experiences after mental health training using different approaches. Thomas et al. (2023) assessed skills through four items regarding health workers' ability to identify symptoms of depression, rated using a Likert scale (1-5). Post-training experience was measured through self-report of frequency of practice in identifying antenatal depression, also using a Likert scale (1 = rarely to 5 = very often). Maulik et al. (2017) and Gajera et al. (2023) used a questionnaire consisting of 16 multiple-choice questions, each rated on a 0-4 Likert scale, to assess the clinical practice of health workers in primary care. Pahuja et al. (2020), assessed skills through a series of standardized practice activities, including: 25 collaborative video consultations, 6 months of follow-up consultations on at least 5 patients, weekly audits of psychiatric disorders and medication prescriptions, Tele-OCT evaluation sessions at month 6 and 9 (via real-time video consultations), and implementation of public initiatives and development of educational materials. Meanwhile, Kohrt, Mutamba, et al. (2018) evaluated clinical competence through periodic supervision by mental health specialists every 1-3 months. Formal assessments were conducted after 6-12 months of practice using the mhGAP supervision instrument, which aimed to reinforce training outcomes and ensure sustainability of integrated mental health services.

3) Measuring self-efficacy or confidence outcomes
Thomas et al. (2023) measured aspects of self-efficacy using a four-item assessment of health workers' confidence in their ability to identify antenatal depression. The items were rated on a Likert scale as follows: Strongly disagree: 1, Disagree: 2, Neither agree nor disagree: 3, Agree: 4, and Strongly agree: 5. Meanwhile, Gajera et al. (2023), used a 27-question questionnaire to assess participants' confidence in the diagnosis and management of various psychiatric conditions. Ratings were made using a 10-point Likert scale, from 1 (very unconfident) to 10 (very confident).

4) Measuring attitudinal outcomes
Thomas et al. (2023) used an instrument that included items to measure health workers' views on mental illness and psychiatry, related knowledge, openness (disclosure), differences in treating patients with mental and physical disorders, and attitudes towards the care of patients with mental disorders. Each item was scored using a 6-point Likert scale (1 = strongly agree to 6 = strongly

disagree), with a total score ranging from 1 to 96. Meanwhile, Kohrt, Mutamba, et al. (2018) assessed the attitudes of trained health workers using the mhGAP Intervention Guide version 1.0, PRIME with a self-reporting method.

b. Measurement Results

Several studies have shown that training health workers has a positive impact on improving competence in the management of mental disorders. Thomas et al. (2023) found that training significantly improved aspects of knowledge (cognitive), skills, and self-efficacy (behavior). Research by Kohrt, Mutamba, et al. (2018) also showed an increase in knowledge, attitudes, and skills after training, as well as a decrease in stigma and negative attitudes. Maung Gyee et al. (2022) stated that general practitioners' knowledge, skills, and attitudes improved post-training and remained stable up to two years after the intervention. Gajera et al. (2023) noted that the blended training model was more effective in increasing the number of patients identified compared to fully online training. Meanwhile, Tewari et al. (2021) reported that the training not only improved knowledge and skills of mental disorder management, but also improved the efficiency of diagnosis time through the use of EDSS, as well as assisting clinicians in recording and reporting.

4. Patient Outcome of Training

a. Measurement Method

Post-training patient outcomes were measured using various valid and contextualized screening instruments. Thomas et al. (2023) used the Patient Health Questionnaire-9 (PHQ-9), which consists of nine items, to identify depression in pregnant women, including detecting suicidal ideation. If indications of suicidal ideation were found, a follow-up evaluation with suicide assessment questions from the Mini International Neuropsychiatric Interview (M.I.N.I) was conducted and referred to a psychiatrist if necessary. Maung Gyee et al. (2022) used the Psychosis Screening Questionnaire (PSQ) modified for the local context, along with the PHQ-9, in a cadre mobile phone app-based screening survey. Screening results were compared with general practitioner diagnoses. Gajera et al. (2023) assessed health worker performance through semi-structured tabular reporting collected monthly. Tewari et al. (2021) relied on data inputted in a training application system to be analyzed as outcomes. Meanwhile, Markkula et al. (2019) used the 21-item version of the Beck Depression Inventory (BDI) as a training outcome measure, which is a widely validated self-report depression questionnaire.

b. Measurement Results

Health worker training has shown a positive impact on improving the ability to detect and treat mental disorders in primary care. Thomas et al. (2023) reported that after the training, 25% of pregnant women were identified as having depressive symptoms using the PHQ-9, with the majority of cases being mild depression. Maung Gyee et al. (2022) showed that the concordance rate between cadre screening results and general practitioners' diagnoses reached 75.6%, reflecting increased collaboration in the detection of mental disorders in the community. Gajera et al. (2023) found that within 8 months after training, the number of patients identified by doctors increased significantly, especially in the blended training model. Tewari et al. (2021) noted an increase in mental health service utilization from 3.3% to 81.2% post-training, as well as an increase in the efficiency of doctors' use of technology. Maulik et al. (2017) also found an increase in service utilization from 0.8% to 12.6% and a decrease in depression and anxiety symptoms. Markkula et al. (2019) reported that 41.1% of patients experienced a decrease in depression scores based on the Beck Depression Inventory (BDI), signaling a positive response to the service. Kohrt, Mutamba, et al. (2018) and Pahuja et al. (2020) showed that training resulted in improvements in psychotic symptoms, social functioning, and decreased family burden. Jordans et al. (2019) stated that two years post-training, detection of depression and alcohol use disorders increased significantly, and almost all patients (95%) detected received minimally adequate treatment. Nevertheless, challenges in detection still exist, as reminded by Gilbody et al. (2007) and Patel et al. (2018), calling for long-

term surveillance (Breuer et al., 2016) and more adaptive training strategies (Eaton & Agomoh, 2008).

5. Challenges

Research by Thomas et al. (2023) revealed a number of challenges in implementing training of primary health care workers for antenatal depression screening, including limited resources, variations in training effectiveness between individuals, and strong stigma towards mental health disorders from both the community and health workers themselves. This stigma was also identified by Tewari et al. (2021), who found that patients were reluctant to disclose mental problems for fear of losing respect, and suggested educational campaigns through media and local drama to reduce the stigma. Maung Gyee et al. (2022) highlighted the lack of formal training for health workers on mental disorders and the need for a more structured referral and monitoring system. Gajera et al. (2023) added that the effectiveness of training differs depending on the method (online vs. blended), influenced by learning style, digital skills, and internet access. Pahuja et al. (2020) stated that the heterogeneous nature of a year-long training intervention makes it difficult to evaluate its effectiveness. Tewari et al. (2021) also noted that limited physical and economic access to health facilities was a significant barrier for patients, despite their demonstrated willingness to seek help. Jordans et al. (2019) and Maulik et al. (2017) highlighted the lack of supply of psychotropic medications in primary care as an obstacle to continuity of care, even when training has been conducted. This is reinforced by the findings of Markkula et al. (2019) who stated that although government guidelines stipulate the availability of psychotropic medications in primary care, their distribution in the field remains inconsistent.

DISCUSSION

Prior to psychiatric training, patients usually received symptomatic treatment, where these disorders became chronic and caused significant disability in function Pahuja et al. (2020), This review aims to see an overview of the implementation of training for health workers in an effort to improve services for patients with mental disorders at first-level health facilities (FKTP). There are many factors that influence the successful implementation of training outcomes in the workplace of each trainee. First, the curriculum modules used to guide the training. Most of the focus of mental health training is directed at improving primary health care workers' ability to identify, manage, and refer people with mental illness (Efendi et al., 2021). This is in line with the findings in this review, the majority of which used the WHO Mental Health Gap Action Program (MHGAP) manual. This mhGAP Intervention Guide (mhGAP-IG) has been developed to facilitate the delivery of evidence-based interventions related to mhGAP in non-specialist healthcare settings. The mhGAP-IG includes guidance on evidence-based interventions to identify and manage a number of priority conditions. Priority conditions include depression, psychosis, bipolar disorder, epilepsy, developmental and behavioral disorders in children and adolescents, dementia, alcohol use disorders, substance use disorders, self-harm/suicide, and other significant unexplained emotional or medical complaints (WHO, 2010). Second, the training design used to deliver knowledge. From the review, the methods used to deliver the content varied, with online, offline and blended methods. There is no evidence that offline learning is better than face-to-face or blended learning (Pei & Wu, 2019). However, technology-assisted teaching methods for health workers (digital training) are slightly better or equally effective as traditional teaching methods in terms of knowledge, satisfaction and skills gained (Gajera et al., 2023). However, the high level of multitasking of online participants may hinder focused learning. Thus, the best practice in online learning is to increase engagement and learning (Thomas et al., 2023). Thus, an alternative could be blended mode training which is more interactive and motivating to discuss cases during learning sessions compared to fully online mode (Gajera et al., 2023).

Another training design issue is how much training time is needed to achieve the training objectives. If the training is not long enough to allow for learning and transfer of new skills, then

the needs identified in the training needs analysis will not be met, training objectives will not be achieved, and training funds will be wasted (Cole, 2008). Training aimed at behavior change should provide sufficient time to learn new behaviors and ensure the transfer of new behaviors to the workplace (Campbell and Kuncel, 2001). Training that lasts longer allows for a sufficient variety of practice conditions to build self-efficacy that can be applied in a variety of work situations (Holladay and Quinones, 2003). In this review, the majority of studies reported that the duration of mental health training as an intervention lasted for approximately one week. Only one article mentioned that the training was conducted over a period of one year. This variation in duration suggests different approaches to training implementation, which can be challenging, especially for agencies where participants work with limited resources. Long training durations risk disrupting the smooth running of routine services, while too short a duration can limit the depth of material and effectiveness of learning transfer. Therefore, it is important to tailor the training design to the capacity of the institution and consider mitigation strategies to keep the training effective without compromising patient care.

On the other hand, the adequacy of time in training plays an important role in supporting the learning transfer process, as it is one of the indicators of the effectiveness of achieving training objectives. The effectiveness of training programs is determined by evaluating them to improve existing programs and to identify and subsequently remove ineffective programs from practice. In the model (Kirkpatrick, 1976, 1994) four levels of training effectiveness assessment, namely reaction, learning, behavior, and outcome. To evaluate training at the behavioral and outcome levels requires the collaboration of various parties to provide the best opportunities for training implementation (Strojny & Dużmańska-Misiarczyk, 2023). The results of this review indicate that the training evaluation showed positive results at the behavioral level, where there was an increase in knowledge, skills, attitudes, and self-efficacy of health workers after completing the training and returning to their daily work environment. At the outcome level, the training proved to have an impact on improving the performance of health workers in their respective institutions, which in turn contributed to improving the quality of services for patients with mental disorders. This impact is reflected in several indicators, such as an increase in the number of patients identified, an increase in the implementation of screening and early detection, and an increase in the utilization of adequate mental health services. In addition, there were significant improvements in patients' conditions, as shown by a decrease in the severity of psychotic and depressive symptoms, improved social functioning, and a significant decrease in depression and anxiety scores after the intervention.

CONCLUSION

The results of the review indicate that training design has an important role in increasing the capacity of mental health workers. Training methods varied (online, offline and blended), with digital training shown to be at least as effective as traditional methods. The duration of training is generally one week, but needs to be adjusted to the capacity of the institution so as not to disrupt services and still ensure the effectiveness of learning transfer. Evaluation of the training showed an increase in knowledge, skills, attitudes, and self-efficacy, as well as an impact on quality of care and improvement in patient conditions. Thus, proper training planning in terms of methods, duration, and evaluation is essential for a successful intervention.

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