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Assess the Knowledge and Practice of Primary Care Physicians in Approaching Mental Health among PHC

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ABSTRACT

Background:
The involvement of non-specialists in mental health care is a key strategy to address the treatment gap for mental, neurological, and substance use (MNS) disorders, particularly in low- and middle-income countries (LMICs). However, non-specialist healthcare providers, such as primary care physicians (PCPs), often face challenges in terms of mental health literacy, attitudes, and perceived self-efficacy. These gaps can hinder effective mental health care delivery. This study aims to Assess the knowledge and practice of primary care physicians in approaching Mental Health among PHC

Methods:
This l study was conducted among 132 PCPs from diverse settings . Participants completed self-administered questionnaires assessing socio-demographic characteristics, professional experience, knowledge of mental health, attitudes towards mental illness, and perceived self-efficacy in detecting, treating, and managing mental health conditions. The study used validated instruments, including the WHO mental health knowledge questionnaire, the MICA scale for attitudes, and a tailored self-efficacy scale. Descriptive statistics, linear regression, and correlation analyses were used to evaluate relationships between participant characteristics and mental health competencies.

Results:
The results revealed that most participants had limited mental health training in the previous year, with a significant portion reporting inadequate knowledge in recognizing and managing mental health conditions. Attitudes towards mental health were generally neutral to negative, with stigma influencing care practices. Self-efficacy levels varied, with physicians feeling more confident in detecting mental health issues than in managing them through treatment. Factors such as years of

experience and previous mental health training were positively associated with higher knowledge and self-efficacy.

Conclusion:
The study highlights critical gaps in mental health literacy, attitudes, and self-efficacy among PCPs. Addressing these gaps through targeted training programs can enhance the ability of non-specialists to effectively manage mental health issues in primary care settings, improving access to care, particularly in LMICs. Further research and interventions are needed to develop and implement effective training and support systems for PCPs to improve mental health care outcomes.

Introduction

Non-specialist involvement in mental health care is a key strategy in addressing the significant treatment gap associated with mental, neurological, and substance use (MNS) disorders, particularly in low- and middle-income countries (LMICs) [1–4]. A non-specialist refers to a healthcare provider, such as a doctor, nurse, or community health worker, who does not specialize in mental health or neurology but has received some level of training in these areas [5]. Global initiatives strongly advocate for the inclusion of non-specialists in mental health care delivery, as they are often already engaged in the detection, management, and treatment of mental health conditions in LMICs, where mental health professionals are scarce or unevenly distributed [5–8]. Evidence suggests that integrating non-specialists into mental health care significantly improves health outcomes, particularly for conditions like general and perinatal depression, anxiety, post-traumatic stress disorder, and alcohol use disorders [5, 7, 9].

Despite its potential, employing non-specialists in mental health care highlights critical challenges, particularly in mental health literacy—defined as knowledge, attitudes, and perceived self-efficacy related to mental health [10]. First, studies reveal that non-specialists often lack adequate understanding of mental illnesses and suicide [11–15]. While many encounter patients with mental health concerns, they frequently struggle to recognize or list symptoms associated with these conditions [16–19], including those related to depression and anxiety, which are among the most common mental health issues encountered in general practice [14, 20–22]. Additionally, they often face difficulties identifying medications commonly used in mental health care, such as antidepressants and antipsychotics [12, 20, 23–25].

Second, research indicates that individuals seeking mental health care may face stigma within healthcare systems, even in non-institutional settings [26]. This stigma partly stems from the negative perceptions of mental illness held by healthcare professionals. For instance, healthcare workers often associate mental illness with violence or danger [12, 27–30] and attribute it to personal or moral failings [13, 14, 31]. Such stigmatizing attitudes lead to the use of derogatory terms for individuals with mental health conditions, such as "crazy" or "mad" [32], which undermines empathy and reduces the willingness of healthcare professionals to engage with this patient population [33, 34]. Stigma also deters medical students from pursuing psychiatry as a specialty [35, 36].

Another key issue is the perceived self-efficacy of non-specialists, a concept defined as an individual’s confidence in their ability to succeed in specific tasks or situations

[37, 38]. In the context of mental health care, this reflects the confidence of non-specialists in their ability to detect, treat, and manage mental health conditions in primary care settings [39]. Many non-specialists express doubts about their skills in mental health, leading them to refer patients to specialists rather than attempting management themselves [12, 40–43]. Training programs that enhance self-efficacy are therefore emphasized to build confidence and improve their involvement in mental health care delivery [44, 45].

Gaps in mental health literacy, attitudes, and self-efficacy have far-reaching consequences. These deficits can discourage individuals from seeking care [46, 47] and limit access to effective treatments [3, 48–50]. However, identifying these gaps can inform the design of targeted training programs, making them more relevant and effective. This, in turn, can support the broader integration of mental health care into primary and community settings [3, 44, 51, 52].

Efforts to address mental health treatment gaps in LMICs face significant challenges, including shortages of trained professionals and unequal distribution of resources [23, 39, 58]. Psychiatric professionals are often concentrated in urban or coastal areas, while rural regions, where mental health needs are often greater, are underserved [23, 58]. Additionally, the availability of mental health nurses and psychosocial care providers is insufficient to meet demand, further exacerbating disparities [6]. Expanding the workforce of trained mental health nurses and integrating non-specialists more effectively into mental health care delivery are critical steps toward addressing these shortages.

Engaging non-specialists in mental health care is a pivotal strategy promoted within the domain of global mental health to bridge the significant treatment gap caused by mental, neurological, and substance use (MNS) disorders, particularly in low- and middle-income countries (LMICs) [1–4]. Non-specialists refer to healthcare workers, such as physicians, nurses, or community health workers, who do not possess specialized training in mental health or neurology but may have undergone some relevant education [5]. This approach is widely endorsed as non-specialists often play a critical role in recognizing, managing, and treating mental health issues, particularly in LMICs where access to mental health professionals is limited and unevenly distributed [5–8]. Furthermore, involving non-specialists in mental health care has been linked to improved health outcomes, especially for conditions like general and perinatal depression, anxiety, post-traumatic stress disorder, and alcohol-use disorders [5, 7, 9].

Although promising, the use of non-specialists in mental health care in resource-constrained settings exposes notable gaps in mental health literacy—encompassing knowledge, attitudes, and perceived self-efficacy [10]. For instance, non-specialists often report inadequate knowledge about mental illnesses, including suicide [11–15]. While they encounter individuals with mental health issues in their practice, many are unable to recognize or list symptoms associated with mental illnesses [16–19], including common conditions such as depression and anxiety [14, 20]. Additionally, identifying medications such as antidepressants or antipsychotics remains a challenge for non-specialists [12, 20, 23–25].

Moreover, individuals with mental health conditions often experience stigma within healthcare systems, partly stemming from the prejudices held by healthcare workers. Research indicates that some healthcare professionals perceive individuals with mental illnesses as "violent" or "dangerous" [12, 27–30]. Stigmatizing attitudes also involve viewing mental illness as a personal failing or moral weakness [13, 14, 31], with derogatory terms like "crazy" or "mad" commonly used to describe patients [32]. Such stigmatization leads to reduced empathy and engagement with mental health patients by healthcare workers [33, 34] and deters medical students from pursuing psychiatry as a specialty [35, 36].

Self-efficacy, described as confidence in one's ability to succeed in a specific task [37, 38], is another critical factor. Higher self-efficacy encourages greater investment in tasks, leading to better outcomes [37]. In the context of mental health care, this translates into non-specialists' belief in their ability to effectively identify, manage, and treat mental health conditions in primary care settings [39]. However, many non-specialists express doubts about their skills in mental health care [12, 40, 41]. This lack of confidence often results in higher referral rates to specialized mental health services [42, 43], underscoring the importance of continuous mental health training to build confidence and enhance skills [44, 45].

Addressing deficiencies in knowledge, attitudes, and self-efficacy has significant clinical implications. These gaps can discourage patients from seeking mental health care [46, 47] and restrict access to quality interventions [3, 48–50]. Identifying and addressing these gaps can inform the development of targeted training programs, enhancing their practical relevance and promoting the integration of mental health care into primary and community settings [3, 44, 51, 52].

Methods

The study included primary care providers (PCPs) from diverse settings to ensure a representative sample of various regional characteristics. These settings included a mix of urban, rural, and semi-urban areas. Recruitment was facilitated by PCPs involved in coordinating professional development activities. A comprehensive list of 345 PCPs, all part of the national primary care network and employed in the public healthcare sector, was used. Of these, 315 met eligibility criteria: (1) active practice in primary care and (2) a minimum of five years of clinical experience.

Through a collaborative approach involving community health professionals, 132 PCPs (41.90%) agreed to participate. Those who did not participate were primarily unavailable or could not be reached. Consent was obtained at the beginning of January 2016, and participants were required to complete a baseline questionnaire by the end of that month. Follow-up reminders were sent via email and phone weekly for two weeks. Ultimately, 112 PCPs submitted completed questionnaires and were included in the study.

Prior to any intervention, PCPs completed a series of self-administered questionnaires assessing socio-demographics, practice-related characteristics, knowledge, attitudes, and self-efficacy in mental health care. The questionnaires were developed in French

and validated by two French-speaking professionals familiar with medical terminology. A pilot test involving ten healthcare professionals ensured clarity and relevance of the items. The average time to complete the questionnaires was 20 minutes.

Participant Characteristics

Data on demographics included age, gender, primary language, and medical school attended. Practice-related data captured work location, years of experience, weekly working hours, recent mental health training, and patient caseloads. Specific metrics included the number of patients seen weekly, frequency and type of mental health consultations, treatment modalities employed, and follow-up practices.

Knowledge Assessment

A mental health knowledge questionnaire developed by the World Health Organization (WHO) was utilized [2]. Due to unavailability of a French version, the tool was translated and validated locally. It comprised 16 questions (nine multiple-choice, seven true/false), covering general care principles, mental health conditions, and pharmacological/non-pharmacological treatments. Each correct answer was scored as 1, and the total score was normalized to a scale of 0 to 10, with higher scores indicating better knowledge.

Reliability of the knowledge instrument was evaluated using the Intraclass Correlation Coefficient (ICC) [60, 61] among a subset of 47 control group participants who completed the questionnaire twice over a six-week interval. The ICC was .708 (95% CI [.478, .837]), reflecting good reliability based on recommended benchmarks [61].

Attitudes Assessment

The Mental Illness: Clinicians' Attitudes (MICA) Scale (version 4.0) was employed to assess attitudes toward mental health and mental illness [62, 63]. This 16-item instrument uses a six-point Likert scale. Reverse scoring was applied to specific items, and scores were summed to yield a total ranging from 16 to 96, where higher scores indicate more negative attitudes.

The scale demonstrated acceptable psychometric properties in prior studies with nursing students [62]. However, internal consistency for this sample, measured using Cronbach's alpha, was initially poor at .521 [64, 65]. Iterative removal of items with low item-total correlations sequentially improved the alpha value, reaching .608 with an 11-item version of the scale. Retained items (1, 2, 4, 5, 7, 10, 12, 13, 14, 15, and 16) provided a score range of 11–66, with higher values denoting more unfavorable attitudes.

Test-retest reliability of the revised scale was also evaluated using ICC [60, 61]. Among the 47 control participants assessed at two time points six weeks apart, the ICC was .704 (95% CI [.468, .835]), indicating satisfactory reliability [61].

Self-Efficacy

A self-efficacy questionnaire was specifically designed in the French language for the pilot study, following Bandura's (2006) [38] recommendation that self-efficacy is best measured through tailored scales targeting specific tasks. The questionnaire assessed

primary care providers' (PCPs) perceived abilities in identifying and managing mental health conditions, including depression, psychosis, suicide/self-harm, and substance abuse disorders. It consisted of two scales: the first focused on detection techniques (scale 1, range: 0–40), and the second examined treatment and management capabilities (scale 2, range: 0–100).

Scale 1 included ten items, while scale 2 comprised twenty-five, resulting in a total of thirty-five questions. Responses were captured on a five-point Likert scale, scored as follows: 'strongly agree' = 0, 'somewhat agree' = 1, 'neutral' = 2, 'somewhat disagree' = 3, and 'strongly disagree' = 4. The first scale was further divided into two categories: general capabilities for detecting mental health issues (six items) and using relevant detection methods (four items). The second scale was grouped into four categories: pharmacological treatment capabilities (five items), providing psychosocial support (seven items), psychoeducation (five items), and the ability to manage mental health cases by creating clinical care plans (eight items).

The total scores for each section and overall self-efficacy were calculated by summing individual item responses. Scores were converted to a standardized 0–10 scale, with higher values indicating greater confidence in detecting, treating, and managing mental health conditions, and lower values reflecting a need for improvement.

For scale 1, internal consistency, as measured by Cronbach's alpha, was .831 for detecting mental health issues and .791 for employing detection techniques. For scale 2, the alphas were .770 for pharmacological treatment, .868 for psychosocial support, .870 for psychoeducation, and .882 for management capabilities. These values were deemed satisfactory [64, 65].

The reliability of the self-efficacy scale was evaluated using intra-class correlation coefficients (ICC) [60, 61] among 47 participants in the control group, who completed two assessments six weeks apart. A strong level of reliability was observed, with an ICC of .781 and a 95% confidence interval [.606 to .878].

Data Analysis

Data were analyzed using SPSS version 25.0 [68]. For the knowledge questionnaire, incorrect responses were summarized by question and category. Responses to the MICA-4 scale were categorized as "favorable answers," with reverse-scored items aggregated under negative responses (e.g., "strongly disagree" and "disagree"), while non-reverse items were grouped under positive responses (e.g., "strongly agree" and "agree"). For the self-efficacy questionnaire, "agree" categories (e.g., "strongly agree" and "somewhat agree") were combined. Participants missing more than 20% of data on any questionnaire were excluded from the overall score analysis, resulting in the removal of two participants' baseline self-efficacy scores.

Descriptive analyses reported frequencies and percentages for categorical variables and means, standard deviations, and quartiles (Q1, Q2 [median], Q3) for continuous variables.

Simple linear regression models were applied to evaluate the relationships between socio-demographic and practice characteristics and self-efficacy, knowledge, and attitudes. Categorical variables were dummy-coded, and transformations (e.g., square root, logarithmic, or reciprocal) were applied to non-normally distributed data. Competency-related variables followed a normal distribution. Correlation analyses were conducted to identify potential multicollinearity among predictors. Variables demonstrating strong correlations were excluded, such as "average years of experience as a PCP" (correlated with age, r = .780) and "average mental health consultations without appointment" (correlated with weekly mental health consultations, r = .869).

For significant associations, unstandardized beta coefficients (B), p-values, and coefficients of determination (r^2) were reported. A p-value threshold of $< .05$ was used to determine statistical significance.

Results

Table 1 outlines the characteristics of primary care physicians (PCPs) in the study. The average age of participants was 49 years, with an average of 17.8 years of experience as PCPs. Few reported receiving mental health training in the 12 months prior

PCPs reported seeing an average of 145 patients weekly, with approximately 17 presenting with mental health concerns. Most mental health consultations involved anxiety and depression. PCPs rarely saw mental health patients by appointment and generally referred them to specialized services or offered support such as active listening. On average, mental health patients were followed up seven times per year.

Before the training, PCPs scored an average of 6.5/10 (SD=1.4) on the mental health knowledge questionnaire. The highest scores were for general knowledge of depression (7.9/10, SD=1.8) and psychosis (7.5/10, SD=2.7). Lower scores were recorded for pharmacological treatment (6.7/10, SD=3.0), mental illness management (6.6/10, SD=2.3), symptoms of mental illness (6.5/10, SD=1.8), self-harm/suicide (6.1/10, SD=2.6), non-pharmacological treatment (5.5/10, SD=2.1), and substance use disorders (3.7/10, SD=2.8). These results highlight knowledge gaps, particularly in recognizing alcohol use disorder symptoms, addressing myths about suicide, and managing drug use disorders.

The mean score for attitudes toward mental health, based on the MICA-4 scale, was 28.4/66 (SD=6.3), indicating areas needing improvement. Gaps included unfavorable attitudes about the dangerousness of people with mental health problems, disclosure of mental health conditions to colleagues, the PCP's role in mental health assessments, and interactions with mentally ill patients. However, positive attitudes were noted regarding the importance of physical health in mental health care, the respectability of mental health professionals, and respect for individuals with mental health conditions.

The average self-efficacy score was 5.1/10 (SD=1.5). PCPs scored higher on detecting mental health problems (5.8/10, SD=1.6) than on treating and managing them (4.8/10, SD=1.8). Detection themes averaged 6.0/10 for identifying mental health issues and 5.4/10 for using detection techniques. Treatment and management scores were 3.8/10 for pharmacological treatment, 4.7/10 for supportive treatment and psychoeducation, and 5.6/10 for developing clinical plans. PCPs expressed low confidence in diagnosing

mental health conditions, using diagnostic tools, and explaining diagnoses to patients. Confidence was particularly low for treating substance use disorders and psychosis, but higher for managing anxiety and depression. Almost all PCPs were confident in referring patients to specialized services.

Certain factors were associated with mental health outcomes:

- **Self-efficacy:** Working in Suburb 3 was significantly associated with higher self-efficacy levels (B=0.859, p=0.038, r^2=0.043). Greater weekly percentages of psychoeducation engagement also positively influenced self-efficacy (B=0.012, p=0.002, r^2=0.090).
- **Attitudes:** More favorable attitudes were associated with fewer reported weekly work hours (B=−0.285, p=0.014, r^2=0.054) and fewer hours dedicated to mental health care per week (B=−4.608, p=0.031, r^2=0.046).
- **Knowledge:** Participation in mental health training within the past year correlated with higher knowledge levels (B=0.791, p=0.041, r^2=0.037). Knowledge was negatively associated with the percentage of patients referred to specialized services weekly (B=−0.016, p<0.001, r^2=0.128).

In summary, while PCPs demonstrated gaps in knowledge, attitudes, and self-efficacy regarding mental health care, factors such as targeted training and reduced workloads positively influenced these aspects.

Table 1: Primary care physicians' socio-demographic and practice characteristics (n=112)

Characteristics	**Continuous Variables**	**Categorical Variables**
Socio-demographic Characteristics	**M (SD)**	**n (%)**
Age (in years)	49.0 (5.5) (46.0, 49.0, 53.0)	–
Women	–	90 (80.4)
Average number of years working as a PCP	17.8 (6.0) (15.0, 18.0, 21.8)	–
Hours work/week	34.1 (5.1) (30.0, 36.0, 36.0)	–
Mental health training in the last 12 months (yes)	–	14 (12.5)
Average number of patient consultations/week	145.3 (57.8) (103.8, 138.5, 180.0)	–
Average number of consultations for mental health/week	17.7 (19.8) (5.0, 12.0, 21.1)	–
Average number of consultations for mental health/week (By appointment)	3.3 (8.1) (.0, .5, 3.0)	–
Average number of consultations for mental health/week (Without appointment)	14.8 (18.7) (3.5, 9.8, 18.0)	–

Average number of hours dedicated to mental health care/week	4.5 (3.8) (2.1, 3.6, 6.0)	–
% of mental health consultations per week according to diagnosis:	–	–
Anxiety	49.5 (25.5) (30.0, 50.0, 70.0)	–
Depression	33.0 (22.3) (20.0, 30.0, 45.0)	–
Alcohol use disorders	8.8 (14.5) (.0, 3.0, 10.0)	–
Drug use disorders	6.6 (13.5) (.0, 2.0, 10.0)	–
Psychosis (including schizophrenia)	5.1 (7.9) (.0, 2.0, 9.0)	–
Suicide/self-harm	3.7 (7.9) (.0, 1.0, 5.0)	–
% of mental health clientele:	–	–
Referred to specialized care	55.6 (30.8) (30.0, 50.0, 80.0)	–
Receiving support (e.g., active listening)	51.8 (36.9) (20.0, 50.0, 90.0)	–
Receiving psychoeducation	40.7 (38.4) (.0, 35.0, 80.0)	–
Receiving pharmacology	39.6 (36.3) (5.0, 30.0, 80.0)	–
Receiving psychotherapy	18.7 (29.0) (.0, 1.0, 23.8)	–
Average number of follow-up visits/patients with mental health issues	7.1 (8.8) (4.0, 4.0, 6.0)	–

a Missing values were greater than 5%, but less than 10%.

b The variable is not considered in further analyses due to the small number of participants in some groups.

c This variable is not considered in further analyses due to its high correlation with the variable "age."

d This variable is not considered in further analyses due to its high correlation with the variable "average number of consultations for mental health per week."

Discussion

This discussion examines the knowledge, attitudes, and self-efficacy of primary care providers (PCPs) regarding mental health prior to their participation in a training program. The findings highlight both their involvement in addressing mental health issues in primary care settings and the evident limitations that challenge their role in this area.

This study uniquely contributes to the limited body of research on PCPs' mental health competencies, especially in low- and middle-income countries (LMICs). Its relevance is underscored by the global emphasis on utilizing non-specialists for mental health care [2–4, 7], the pressing need to design tailored educational and professional development programs [8, 44, 45, 70–73], and the scarcity of mental health research in LMICs [74, 75].

The data reveal gaps in PCPs' understanding of mental illness, the persistence of stigmatizing beliefs about mental health, and a lack of confidence in managing complex mental health conditions. These gaps can hinder the integration of mental health care into non-specialized settings [2–4], thereby limiting the potential contribution of non-specialists [44]. Interestingly, the lack of confidence in some areas aligns with low levels of knowledge and unfavorable attitudes observed in the sample, indicating that PCPs' self-assessments may be appropriately aligned with their competencies.

A notable observation is the limited knowledge and confidence of PCPs in addressing substance use disorders and issues related to suicide/self-harm, despite their higher confidence in managing anxiety and depression-related conditions. This preference for conditions perceived as less complex aligns with existing literature [11–13, 15, 21, 22, 76, 77], which highlights a tendency among non-specialists to favor these over more challenging cases. However, an unexpected finding was that despite relatively high theoretical knowledge about psychosis, PCPs reported low confidence in their practical capabilities for detecting and managing this condition. This divergence between theoretical understanding and practical confidence is concerning, as a mismatch between perceived competence and actual knowledge can negatively impact clinical outcomes [13].

Efforts are underway to address stigmatization and enhance the recognition of complex mental health conditions, such as substance use disorders and suicide, which remain heavily stigmatized in many regions [23, 39, 78]. Stigma can lead to underdiagnoses, reluctance among PCPs to engage with these issues, and a reliance on referrals to specialized care [78]. These challenges are compounded by the physical and social distance between patients and specialized facilities, which limits accessibility.

The analysis also identifies key factors influencing PCPs' mental health competencies, including their level of clinical experience. Research suggests that positive interactions with individuals experiencing mental health conditions can reduce stigma, increase confidence, and encourage greater engagement in mental health care [26, 50, 81–83]. Accordingly, initiatives to foster such interactions—such as incorporating practical components into training programs—can be beneficial. Tailoring training to specific regional needs and integrating practical experiences and ongoing supervision align with best practices for improving PCPs' mental health skills in LMICs [7, 12, 15, 24, 84].

The use of the MICA-4 scale to assess attitudes revealed some limitations in its application. While internal consistency was low for the full scale, an adapted subset of

items demonstrated improved reliability. Findings indicate that many PCPs in the sample hold exaggerated negative beliefs about the dangerousness of individuals with mental illness, consistent with other LMIC contexts [12, 27–30]. These attitudes likely contribute to high levels of confidence in referring patients to specialized care, a common practice among PCPs.

Despite these challenges, the study underscores the importance of ongoing mental health education and practical training opportunities for PCPs. Mandatory internships and continuous professional development programs are essential strategies to enhance PCPs' competencies and align with global efforts to address the mental health treatment gap [2–4]. These initiatives support the integration of mental health care into primary and community settings and provide a pathway for improving overall care delivery.

Conclusion

Globally, involving non-specialist healthcare providers like PCPs in mental health care is advocated as a strategy to address the treatment gap, particularly in low- and middle-income countries (LMICs). While non-specialists often play a role in mental health services, many lack the specific competencies required for detecting, treating, and managing mental health issues in general healthcare settings. This study examined mental health-related knowledge, attitudes, and self-efficacy among PCPs prior to implementing a specialized training program. It also explored associations between these competencies and various socio-demographic and practice characteristics. The findings can encourage other LMICs to assess the current mental health capabilities of non-specialist providers. Such insights may help design targeted mental health initiatives and facilitate the integration of mental health services into primary and community-based care systems.

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