

# Mental Health Literacy Among Female Community Health Workers: A Multi-setting Cross-sectional Study

Marthoenis Marthoenis<sup>1</sup> , Rizki Fitryasari<sup>2</sup>  and Sri Warsini<sup>3</sup> 

## ABSTRACT

**Background:** Mental health literacy among lay community health workers (CHWs) is crucial to ensuring that mental health services are accessible to all. This research explores the mental health literacy of community health workers in Indonesia.

**Methods:** A cross-sectional study was carried out among 454 female community health workers from various villages. Their understanding of mental illness was assessed through questionnaires, exploring their overall belief about the cause and consequence of mental illness, the symptom and the treatment of mental illness, and their perception of relapse.

**Results:** Most participants have false beliefs about the causes and consequences of mental illness. For instance, the majority of respondents agreed that severe stress leads to mental illness (80%), while 60.4% believed personal weakness to be a cause. Cognitive impairments and brain disease were associated with mental illness by 67.2% and 57.3%, respectively, although only 32.6% attributed it to hereditary

factors. Regarding treatment, 83.9% of respondents believed that consistent medication could fully cure mental disorders, while 81.1% associated mental illness with strange behavior. Additionally, 90.7% of respondents emphasized the importance of regular medication to prevent relapse, with 81.5% stating that lack of medication leads to relapse.

**Conclusion:** A significant level of misinformation and misconception among participants regarding mental illness was unveiled. This misunderstanding can contribute to the stigmatization of individuals experiencing stress, as it may lead to unwarranted assumptions about their mental health. These findings underscore the importance of targeted mental health education campaigns to address misconceptions.

**Keywords:** Community health workers, female health workers, mental health misperception

**Key Messages:** CHWs facilitate connections between community health services and service users, providing essential

and practical support to those seeking healthcare.

- CHWs have limited knowledge about mental illness and have the potential to cause stigma toward people with mental illness
- CHWs need mental health literacy to increase community understanding in supporting the patient and to decrease the stigma.

In Indonesia, around 9.8 million people experience mental disorders; however, because of stigma and limited access to mental health services, most of the population is unaware of these issues.<sup>1</sup> Community health workers (CHWs), often the first point of contact for health services in rural areas, play a crucial role in bridging this gap.<sup>2,3</sup> However, many CHWs lack proper mental health training, resulting in misconceptions that can hinder their ability to support individuals in need effectively. Mental health literacy—knowledge and beliefs about mental health—significantly shapes

<sup>1</sup>Dept. of Psychiatry and Mental Health Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia. <sup>2</sup>Faculty of Nursing Universitas Airlangga, Surabaya, Indonesia.

<sup>3</sup>Dept. of Mental Health and Community Nursing, Faculty of Medicine, Public Health, and Nursing Universitas Gadjah Mada, Yogyakarta, Indonesia.

**HOW TO CITE THIS ARTICLE:** Marthoenis M, Fitryasari R and Warsini S. Mental Health Literacy Among Female Community Health Workers: A Multi-setting Cross-sectional Study. *Indian J Psychol Med.* 2024;XX:1–5.

**Address for correspondence:** Rizki Fitryasari, Faculty of Nursing Universitas Airlangga, Surabaya, East Java 60115, Indonesia.  
E-mail: rizki-f-p-k@fkn.unair.ac.id

**Submitted:** 22 Apr. 2024  
**Accepted:** 23 Nov. 2024  
**Published Online:** xxxx



Copyright © The Author(s) 2024

Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution- NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Sage and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).

**ACCESS THIS ARTICLE ONLINE**  
Website: [journals.sagepub.com/home/szj](https://journals.sagepub.com/home/szj)  
DOI: 10.1177/02537176241306137

community perceptions and responses to mental disorders.<sup>4,5</sup> It includes understanding symptoms, treatment options, and the importance of seeking timely care, which is essential for accessible mental health services.

Improving mental health literacy among CHWs is key to promoting equitable access to mental healthcare across diverse populations. As facilitators between health service and community members, CHWs provide essential support, but stigmatizing attitudes among some CHWs can obstruct this role. A recent review highlighted their limited mental health knowledge and stigma toward people with mental illness.<sup>6</sup> Nevertheless, there is little understanding of whether CHWs themselves encounter psychological challenges related to interaction with patients and families.

In Indonesia, CHWs, also known as “health cadre,” are often the closest source of health information for their communities. Although they receive formal training, such as 22 hours for *Posyandu* cadres, the curriculum primarily emphasizes specific health programs, leaving other health topics, like mental health, underexplored.<sup>7–9</sup> Community expectations for CHWs to assist patients with mental illness, coupled with their limited mental health literacy, highlight a critical gap. Research shows that both CHWs and health professionals in Indonesia have low mental health literacy, yet few studies address this issue.<sup>10,11</sup> This study seeks to fill this gap by examining the mental health literacy of female CHWs in Indonesia, focusing on their understanding of mental illness, treatment options, and relapse prevention. Findings will inform training and policy to empower CHWs as vital resources in mental health support.

## Methods

This cross-sectional study was conducted among female CHWs in villages across Aceh, East Java, and Jogjakarta provinces in Indonesia. A cross-sectional design was chosen to capture a snapshot of mental health literacy among CHWs in varied geographic areas. Using convenience sampling, both urban and rural respondents were recruited through local CHW networks and community health centers. Participants were eligible if they

were aged 18 years or older and actively engaged in community health-related activities.

## Setting and Sample Size Justification

The study included 454 participants, selected based on logistical feasibility and anticipated participation rates to enable descriptive and associative analyses. Recruitment took place in *Puskemas* (community health centers) and similar accessible locations across urban and rural areas in the study provinces, ensuring the representation of diverse socio-demographic profiles.

## Data Collection

Data were collected from June to July 2023, with structured questionnaires administered face-to-face at *Puskemas* or nearby community locations to facilitate understanding and access. The questionnaire included sections on socio-demographic characteristics (age, ethnicity, education level, and CHW service duration) and mental health literacy.

## Instruments

Mental health literacy was assessed using a questionnaire that measured the participants’ understanding of mental illness, including belief about its cause, consequence, symptoms, treatment options, and perception of relapse. This questionnaire has been previously used among healthcare professionals.<sup>11,12</sup> Rather than focusing on a specific mental disorder, it examines public understanding of mental illness in general. Developed based on qualitative investigation into public mental health understanding,<sup>13</sup> it has been validated among health professionals, achieving an overall reliability coefficient of 0.89, indicating a high level of internal consistency.<sup>11</sup> The original questionnaire consists of 23 items,<sup>12</sup> with three response options—“agree,” “neutral,” and “disagree”—where the final judgment is based on the agreement indicated by respondents. In this study, we adapted the questionnaire for a lay population, removing several questions related to antipsychotic medications due to the assumption that non-professionals would have less familiarity with these topics. The adapted version demon-

strated a moderate level of internal consistency (Cronbach’s alpha) of 0.75, indicating reasonable reliability in measuring the underlying construct.

## Bias Consideration and Handling of Missing Data

As convenience sampling was used, there is a potential for selection bias, which may limit the generalizability of findings beyond the sampled CHWs. Additionally, the questionnaire’s self-reported nature could introduce response bias, particularly in sensitive questions related to mental illness perceptions. For missing data, incomplete cases were excluded from specific analyses without imputation.

## Statistical Analysis

Descriptive statistics were employed to summarize the demographic characteristics and mental health literacy. For each of the 12 literacy statements, binary logistic regression analyses were conducted to explore the association between socio-demographic information and participant responses. To facilitate analysis, responses were coded as follows: “Agree” was assigned a value of 1, while “Neutral” and “Disagree” were combined and assigned a value of 0. No adjustments for confounding variables were made as the analysis was exploratory in nature. Statistical significance was set at  $P < .05$  and analyses were performed using Stata 13.<sup>14</sup>

## Ethics Approval and Consent

The institutional Ethics Committee approved the study before data collection (Reference Number: 2921). All participants provided informed consent, with assurances of confidentiality, voluntary participation, and the right to withdraw at any time. The participant consent (assent from those 18 years of age) already had the consent from parents.

## Results

Out of 454 female CHWs who participated in this study, more than half were Javanese ethnics (63.7%), had a senior high school level of education (63.9%), and had been volunteering as a CHW for less than six years (54%). Almost half

were over 45 years old (43.6%), and the vast majority were housewives (80%). A detail of the socio-demographic profile is presented in (Table 1). Regarding the misconceptions about mental illness, a significant majority believe that anyone experiencing intense stress will inevitably face mental health challenges (80.2%). Additionally, over half mistakenly perceive mental illness as a sign of personal weakness (60.4%) and think it can lead to cognitive impairments (67.2%). Conversely, some view mental illness as a brain disease (57.3%) and believe it can be inherited (32.6%).

When it comes to treatment and relapse, many incorrectly think that consistent medication adherence alone can result in complete recovery for individuals with mental disorders (83.9%). A substantial number also believe that people with mental illness often display unusual behaviors and engage in disorganized speech (81.1%). However, there is a strong consensus that regular medication is essential for preventing relapse (90.7%). Details regarding the respondents' understanding of mental illness are presented in (Table 2).

Further statistical analysis confirms that the Javanese were more likely to believe that individuals who experience severe stress will suffer mental illness ( $OR = 1.8, P = .012$ ) compared to the Acehnese. The Javanese were also more likely to believe that mental illness is caused by a personal weakness ( $OR = 2.1, P = .001$ ) and that mental disorders can be completely cured if they take medication consistently ( $OR = 1.9, P = .012$ ).

The age group was also found to be associated with several statements. Compared to those aged < 35 years old, the respondents aged > 45 years old were more likely to believe that individuals with severe stress will also suffer mental illness ( $OR = 3.6, P = .001$ ), that mental illness is caused by a personal weakness ( $OR = 2.4, P = .001$ ), that mental disorders can be completely cured if the patients take medication consistently ( $OR = 2.3, P = .007$ ), and that patients should take medication regularly in order to prevent relapse ( $OR = 3.9, P = .001$ ).

The duration of volunteering also plays a significant role in individual mental health literacy. Compared to those who had been volunteering for

TABLE 1.

### Socio-demographic Characteristics of the Respondents.

No	Characteristics	Total n (%)
1	Settings	
	City 1	166 (36.5)
	City 2	137 (30.2)
	City 3	151 (33.3)
2	Age group	
	<35 years old	105 (23.1)
	35-45 years old	151 (33.3)
	>45 years old	198 (43.6)
3	Ethnicity	
	Acehnese	165 (36.3)
	Javanese	289 (63.7)
4	Education	
	Primary and Secondary School	78 (17.2)
	High School	290 (63.9)
	University	86 (18.9)
5	Occupation	
	Housewife	363 (80)
	Self-employed or professional	49 (10.8)
	Not working or university student	42 (9.2)
6	Duration of volunteering (in the year)	
	<6 years	245 (54)
	6-10 years	101 (22.3)
	>10 years	108 (23.8)

TABLE 2.

### Respondents' Literacy in Mental Illness and Treatment.

Statements	Agree (%)
<b>Beliefs about the cause and consequences of mental illness</b>	
Everyone who experiences severe stress will suffer from mental illness	80.2
A personal weakness causes mental illness	60.4
Mental disorders can lead to cognitive impairments in individuals	67.2
Mental illness is a brain disease	57.3
Mental illness is inherited from parents	32.6
<b>Beliefs about the symptoms and the treatment of mental illness</b>	
Mental disorders can be completely cured if the PWMI takes medication regularly	83.9
A PWMI always shows strange behaviors and talks irrelevantly	81.1
A PWMI cannot get along well or is not interested in connecting with other people	49.6
<b>Perception of relapse</b>	
Patients should take medication regularly to help prevent relapse	90.7
When an ordinarily quiet patient suddenly becomes irritated, this is a sign of an impending relapse	73.8
Maintaining a good lifestyle prevents relapse	74.0
Patients will easily relapse if not given medication	81.5

\*PWMI = Person with mental illness.

less than six years, those who had been volunteering for more than 10 years were more likely to perceive that mental illness is caused by a personal weakness ( $OR = 1.8, P = .012$ ), that it is inherited from the parents ( $OR = 1.7, P = .024$ ), that it can be completely cured if the patient

takes medication consistently ( $OR = 3.1, P = .004$ ), that patients should take medication regularly in order to prevent relapse ( $OR = 14.9, P = .008$ ), and that patients will easily relapse if not given medication ( $OR = 3.3, P = .002$ ). Lastly, we found a poor association between

education and occupation with any statements of literacy toward mental illness ( $P > .05$ ).

## Discussion

The findings of this study highlight a unique interplay between ethnicity, age group, and volunteering duration with mental health literacy among female CHWs. We found that despite working closely with persons with mental illness (PWMI), the CHWs' understanding and beliefs about mental health remain limited, especially in relation to misconceptions such as viewing mental illness because of personal weakness. Conversely, a majority correctly acknowledged that "Patients should take medication regularly to help prevent relapse." These findings indicate that despite their relatively close engagement with PWMI, their literacy and beliefs about mental health remain problematic.

The duration of volunteer work is expected to enhance understanding of mental health issues; however, our results show that this does not translate to improved mental health literacy in this population. Previous studies have indicated that longer duration in volunteer roles improves motivation,<sup>15</sup> knowledge, and literacy.<sup>16</sup> However, the experience of this population reveals that even those who have volunteered for over ten years may possess worse mental health literacy than newer volunteers. This poor association between work experience and mental health literacy suggests that other variables, such as education, may play a significant role.<sup>17</sup> The lack of training and knowledge-sharing sessions between health professionals and the CHWs could be the reason for their lower mental health literacy. Providing basic mental health training, such as first aid training, should be initiated to help them understand mental health better.

Additionally, our study reveals the significant role of age in mental health literacy. Respondents aged above 45 years exhibited distinct beliefs, highlighting a heightened tendency to associate severe stress with mental illness, viewing mental health issues as stemming from personal weakness. Those beliefs could be based on their experience rather than formal information from health professionals. Functional health literacy was markedly lower among older age groups, even after

adjusting for differences in cognitive function, newspaper reading frequency, health status, and visual acuity.<sup>18</sup> The older age group usually exhibited a robust correlation with reduced levels of mental health literacy.<sup>19,20</sup> They also tend to have a higher stigma about mental illness, and it is strongly associated with lower mental health literacy.<sup>21</sup> These insights underscore the importance of tailoring mental health education and awareness campaigns to these age groups, acknowledging and addressing varying perspectives within the community for more effective communication and support systems.

Lastly, our study's revelation of poor association between education, occupation, and mental health literacy contrasts with some previous reports. The extent of education provided by schools was a strong predictor of understanding and awareness of mental health issues.<sup>22</sup> Higher education was also linked to elevated health literacy scores.<sup>23-25</sup> In our study population, however, mental health education has not been provided in formal schools. Therefore, despite higher education levels, their mental health literacy could not be much better than those with lower education levels. These findings challenge conventional assumptions, suggesting that the nuanced understanding gained through extended volunteering may surpass the influence of formal education or professional background in shaping beliefs about mental health. These findings emphasize the need for targeted interventions and educational initiatives within volunteer programs to enhance mental health literacy and mitigate potential misconceptions that may develop over a prolonged volunteer service.

## Limitations of the Study

Despite the interesting findings, this study is limited by its non-random sampling methods, which prevent the calculation of the response rate and its cross-sectional design, which inhibits the establishment of causality. Additionally, self-reported data may introduce information bias, and we did not perform the Bonferroni correction in our analyses, which is another limitation of the study.

## Conclusions

Our findings contribute to our understanding of the mental health literacy of

female CHWs in Indonesia and underscore the imperative for targeted mental health education campaigns. The identified misinformation and misconceptions emphasize the need for interventions that dispel myths, reduce stigma, and enhance mental health literacy within this crucial cadre of health promoters. As this article unfolds, it calls for a concerted effort to integrate mental health education seamlessly into community engagement strategies, fostering a more informed and compassionate approach to mental health within communities.

## Acknowledgements

The authors want to express gratitude to the participants who have agreed to participate in the study, the CHWs and Nurses in the region area of Community Health Center in Banda Aceh (Kota Baru and Kuto Malaka), in Surabaya (Pacar Keling, Medokan Ayu, and Kalijudan), and Yogyakarta (Bantul and Sleman). We also thank Universitas Syiah Kuala, Banda Aceh, Universitas Airlangga Surabaya and Universitas Gadjah Mada Yogyakarta for all facility during the research project

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

## Declaration Regarding the Use of Generative AI

None Used.

## Ethics Approval

Ethical approval was obtained from the Universitas Airlangga Ethical Review Board before data collection (Reference Number: 2921-KEPK). All participants provided informed consent, with assurances of confidentiality, voluntary participation, and the right to withdraw at any time.

## Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was funded by Program Riset Kolaborasi Indonesia (RKI) of Syiah Kuala University, Banda Aceh, Indonesia and Program Riset Kolaborasi Indonesia (RKI) - World Class University (WCU) Lembaga Penelitian dan Pengabdian Masyarakat Universitas Airlangga in 2023 with the number: 974/UN3.LPPM/PT.01.03/2023.

## Supplemental Material

Supplemental material for this article is available online.

## ORCID iDs

Marthoenis Marthoenis  <https://orcid.org/0000-0001-7322-2585>  
 Rizki Fitriyasari  <https://orcid.org/0000-0002-7164-2997>  
 Sri Warsini  <https://orcid.org/0000-0002-4855-2790>

## References

1. WHO. Depression and other common mental disorders: Global health estimates. 2017.
2. Nida S, Tyas ASA, Putri NE, et al. A systematic review of the types, workload, and supervision mechanism of community health workers: Lessons learned for Indonesia. *BMC Prim Care* 2024 11; 25(1): 82.
3. Surjaningrum ER, Minas H, Jorm AF, et al. The feasibility of a role for community health workers in integrated mental health care for perinatal depression: A qualitative study from Surabaya, Indonesia. *Int J Ment Health Syst* 2018; 12(1): 27.
4. Choudhry FR, Mani V, Ming L, et al. Beliefs and perception about mental health issues: A meta-synthesis. *Neuropsychiatr Dis Treat* 2016; 12: 2807–2818.
5. Nguyen Thai QC and Nguyen TH. Mental health literacy: Knowledge of depression among undergraduate students in Hanoi, Vietnam. *Int J Ment Health Syst* 2018; 12(1): 19.
6. Carrara BS, Bobbili SJ and Ventura CAA. Community health workers and stigma associated with mental illness: An integrative literature review. *Community Ment Health J* 2023; 59(1): 132–159.
7. Siswati T, Iskandar S, Pramestuti N, et al. Effect of a short course on improving the cadres' knowledge in the context of reducing stunting through home visits in Yogyakarta, Indonesia. *Int J Environ Res Public Health* 2022 10; 19(16): 9843.
8. Nirwana MD, Utami IH and Utami HN. The cadre of integrated health service post (posyandu) as an agent in the socialization of cervical cancer prevention in Malang regency, Indonesia: A cultural approach. *Procedia - Soc Behav Sci* 2015; 211: 681–687.
9. Indonesian Ministry of Health no. Kurikulum dan Modul Pelatihan Kader Posyandu (Posyandu Cadre Curriculum and Training Module) [Internet]. 2011. Available from: <https://promkes.kemkes.go.id/category/buku>
10. Windarwati HD, Susanti H, Brooks H, et al. Lay community mental health workers (cadres) in Indonesian health services: A qualitative exploration of the views of people with mental health problems and their families. *PLOS ONE* 2023 9; 18(11): e0289943.
11. Marthoenis M, Sari H, Martina M, et al. The prevalence of and perception toward mental illness: A cross-sectional study among Indonesian mental health nurses. *BMC Psychiatry* 2023; 23(1): 569.
12. Marthoenis M. Beliefs, knowledge, and perception of Indonesian mental health-care workers regarding mental illness: A cross-sectional study. *Iran J Nurs Midwifery Res* 2024; 29(5): 631.
13. Marthoenis M, Aichberger MC and Schouler-Ocak M. Patterns and determinants of treatment seeking among previously untreated psychotic patients in Aceh Province, Indonesia: A qualitative study. *Scientifica* 2016; 2016: 1–7.
14. StataCorp. Stata Statistical Software: Release 13. Collage Station, TX: StataCorp LP. 2013.
15. Jigssa HA, Desta BE, Tilahun HA, et al. Factors contributing to motivation of volunteer community health workers in Ethiopia: The case of four woredas (districts) in oromia and tigray regions. *Hum Resour Health* 2018; 16(1): 57.
16. Oyinaka B, Umar N, Aminu N, et al. Knowledge and attitude of primary healthcare workers towards rational prescription of Artemisinin-based combination therapy in the treatment of uncomplicated malaria in Ondo State, southwestern Nigeria. *J Pre-Clin Clin Res* 2021 18; 15(1): 5–14.
17. Korhonen J, Axelin A, Stein DJ, et al. Mental health literacy among primary healthcare workers in South Africa and Zambia. *Brain Behav* 2022; 12(12): e2807.
18. Baker DW, Gazmararian JA, Sudano J, et al. The association between age and health literacy among elderly persons. *J Gerontol B Psychol Sci Soc Sci* 2000 1; 55(6): S368–S374.
19. Farrer L, Leach L, Griffiths KM, et al. Age differences in mental health literacy. *BMC Public Health* 2008 20; 8(1): 125.
20. Kobayashi LC, Wardle J, Wolf MS, et al. Aging and functional health literacy: A systematic review and meta-analysis. *J Gerontol B Psychol Sci Soc Sci* 2016; 71(3): 445–457.
21. Lo LLH, Suen YN, Chan SKW, et al. Socio-demographic correlates of public stigma about mental illness: A population study on Hong Kong's Chinese population. *BMC Psychiatry* 2021; 21(1): 274.
22. Mansfield R, Humphrey N and Patalay P. Educators' perceived mental health literacy and capacity to support students' mental health: Associations with school-level characteristics and provision in England. *Health Promot Int* 2021; 36(6): 1621–1632.
23. Jansen T, Rademakers J, Waverijn G, et al. The role of health literacy in explaining the association between educational attainment and the use of out-of-hours primary care services in chronically ill people: A survey study. *BMC Health Serv Res* 2018; 18(1): 394.
24. Shahid R, Shoker M, Chu LM, et al. Impact of low health literacy on patients' health outcomes: A multicenter cohort study. *BMC Health Serv Res* 2022 12; 22(1): 1148.
25. Van der Heide I, Wang J, Droomers M, et al. The relationship between health, education, and health literacy: Results from the Dutch Adult Literacy and Life Skills Survey. *J Health Commun* 2013; 18(Suppl 1): 172–184.