

Psychological distress among community health workers during the COVID-19 pandemic: integration of two cross-sectional studies

Sofrimento psíquico entre agentes comunitários de saúde durante a pandemia de COVID-19: integração de dois estudos transversais

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ABSTRACT

Introduction: The crucial role of community health workers (CHWs) during the COVID-19 pandemic has been highlighted in various studies, yet the physical and mental strain they endured remains underexplored. **Objective:** To estimate the prevalence of common mental disorders (CMD) among CHWs during two phases of the pandemic and investigate associations between work characteristics and CMD. **Methods:** Data were collected in São Paulo during October and November 2020 (N=177) and October and November 2021 (N=143). CMD was assessed using the General Health Questionnaire-12 items (GHQ-12). Information on sociodemographics, access to personal protective equipment (PPE), and experiences of discrimination, conflicts, and violence was gathered. The analysis of the associations was performed using Poisson regression with robust variance, which produced prevalence ratios (PR) and their respective confidence intervals (95% CI). **Results:** CMD prevalence decreased from 49.7% in phase 1 to 36.3% in phase 2. Insufficient PPE access was reported in both phases. Discrimination, conflict, and violence were reported more frequently in 2020 than in 2021 and were associated with a higher risk of CMD (phase 1: PR = 2.11; phase 2: PR = 2.43). Insufficient PPE access increased CMD risk only in phase 1 (PR = 1.62). **Conclusion:** Strategies to reduce violence against CHWs and ensure adequate PPE access are critical to mitigating their psychological distress during health crises.

KEYWORDS: Community Health Workers; Primary Health Care; Mental Health; Workplace Violence; COVID-19

RESUMO

Introdução: O papel crucial dos Agentes Comunitários de Saúde (ACS), durante a pandemia de COVID-19, foi destacado em diversos estudos, porém a sobrecarga física e mental que enfrentaram permanece pouco explorada. **Objetivo:** Estimar a prevalência de transtornos mentais comuns (TMC) entre ACS durante duas fases da pandemia e investigar associações entre características do trabalho e TMC. **Métodos:** Os dados foram coletados em São Paulo durante outubro–novembro de 2020 (N=177) e 2021 (N=143). Os TMC foram avaliados utilizando o GHQ-12. Informações sobre dados sociodemográficos, acesso a equipamentos de proteção individual (EPIs) e experiências de discriminação, conflitos e violência foram coletadas. As associações foram analisadas por meio de regressão de Poisson. **Resultados:** A prevalência de TMC diminuiu de 49,7% na fase 1 para 36,3% na fase 2. O acesso insuficiente a EPIs foi relatado em ambas as fases. A violência foi mais frequente na fase 1 (59,3%) do que na fase 2 (39,2%). Participantes expostos à discriminação, conflitos ou violência apresentaram maior risco de TMC (fase 1: RP = 2,11; fase 2: RP = 2,43). O acesso insuficiente a EPIs aumentou o risco de TMC apenas na fase 1 (RP = 1,62). **Conclusão:** Estratégias para reduzir a violência contra os ACS e garantir o acesso adequado a EPIs são cruciais para mitigar seu sofrimento psíquico durante crises sanitárias.

PALAVRAS-CHAVE: Agentes Comunitários de Saúde; Atenção Primária à Saúde; Saúde Mental; Violência no Trabalho; COVID-19.

INTRODUCTION

The COVID-19 pandemic brought new stressors to healthcare work and posed a major challenge to healthcare systems, which needed to increase their capacity to respond to the health crisis, including meeting a huge demand of patients and often changing the structure and functioning of healthcare services. As a consequence, there was an increased physical and psychological overload on healthcare workers on a day-to-day basis, directly impacting their mental health¹. The new stressors related to healthcare work in the pandemic context include: dealing with a new virus, treating patients in clinical conditions that can rapidly worsen, the lack of personal protective equipment (PPE), fear of becoming infected and transmitting it to family members, overloading of the healthcare system and a lack of intensive care beds, and violence due to being a healthcare professional during the pandemic^{2,3}.

In Brazil, the overload experienced by healthcare workers is connected to the country's context, which recorded the second highest COVID-19 related death toll in the world, with 709,407 deaths by November 18, 2023. The municipality of São Paulo was the epicenter of the pandemic in Brazil, reaching a total of 182,733 deaths due to the illness⁴. The impacts of these stressors on mental health have mainly been described in physicians and nurses working in hospitals. In a systematic review, which included 21 countries, the average prevalence was 21.7% for depressive symptoms and 22.1% for anxiety⁵.

A number of studies have described the strategic role of community health workers (CHWs) in tackling the pandemic, especially relating to community actions that, through health education, promote increased equity and access, including for the most vulnerable populations⁶⁻⁸. By working in the designated territory where they live, they have a better connection with the community, which aids the approximation of local cultural knowledge with scientific knowledge through sensitive and understanding dialogues, contributing to increased adherence by the population to the protective measures against the SARS-CoV-2 virus⁸⁻¹⁰. In Brazil, they played a fundamental role in containing the transmission of the disease through guidance on health measures and vaccination, surveillance of suspected and confirmed cases, and support for the registered families, among other actions¹¹⁻¹².

It is worth highlighting that Brazil has one of the largest Primary Health Care (PHC) programs in the world, known as the Family Health Strategy (FHS), of which CHWs are an essential part. Currently, over 133 million people in the country (63.6% of the population) are registered in FHS teams. There are over 400,000 healthcare workers, of which 257,000 are CHWs¹³. Despite Brazil being one of the countries most affected by the COVID-19 pandemic and having a large contingent of CHWs, few studies have investigated the mental health of CHWs during different phases of the COVID-19 pandemic.

The objective of the study was to estimate the occurrence of common mental disorders (CMDs) among CHWs during two moments of the COVID-19 pandemic, and examine the associations between aspects of the work, such as access to PPE, and exposure to discrimination, conflicts with the family members of patients, and violence due to being a healthcare professional during the COVID-19 pandemic. In this sense, the city of São Paulo, one of the global epicenters of the pandemic, provides a valuable context for conducting this study.

METHODS

Study design and participants

This is an integration of two cross-sectional studies that analyzed data from the multicenter study *The COVID-19 Healthcare Workers (HEROES study)*¹⁴ in the city of São Paulo. The data were collected in the same region of the city during two moments of the COVID-19 pandemic: October and November, 2020 (phase 1), and October and November, 2021 (phase 2).

All of the healthcare workers who worked in the randomly selected primary care units were invited to participate by email and text message. The participants received a link to access the questionnaire.

Web-based platform and confidentiality protection methods

The study employs a flexible and reliable digital platform similar to REDCap in terms of its data management and protection functionality, which has been used in previous studies. The servers use international standard data encryption technology and are housed at the University of Chile. The platform allows (1) online surveys to be created, which can be completed on personal computers (PCs), tablets, or cellphones; (2) robust and secure data capture and storage; and (3) the production of easily exportable databases in a variety of formats compatible with the majority of statistical software. An "ID" code system is used for the identification and subsequent monitoring of each participant to ensure confidentiality.

The response rate was 39.3% in phase 1 and 38.7% in phase 2. Twenty-two participants were excluded in phase 2 due to having taken part in phase 1.

Outcome

Common mental disorders

To measure the occurrence of CMDs, marked by the presence of somatic, anxious, and/or depressive symptoms, the 12-Item General Health Questionnaire (GHQ-12) was used, which is used globally to investigate psychological morbidity and has been adequately translated and

validated in Brazil. The questions evaluate how much the person has experienced the described symptoms, and there is a corresponding four-point scale for each response. For items related to the participant's sense of worthlessness (i.e., negative items "Have you recently been thinking of yourself as a worthless person?"), the response options range from 1 = Not at all, to 4 = much more than usual; for items related to preserved mental health (i.e., positive items, "Have you recently been able to enjoy your normal day-to-day activities?"), the responses vary from 1 = more than usual, to 4 = much less than usual. Therefore, responses corresponding to 1 or 2 were considered as absent (0), whereas responses corresponding to 3 or 4 were considered as present (1). Those participants who presented a final score equal or greater than 3 were classified as cases of CMD. The overall internal consistency of the scale has been shown to be adequate, with Cronbach's alphas commonly above 0.80^{15,16}.

Sociodemographic data

In the questionnaire for phase 1 (baseline), the questions included the following sociodemographic characteristics: sex, age, race/color.

Exposure

Work related aspects: access to PPE and exposure to discrimination, conflicts with family members of suspected or confirmed COVID-19 patients, and violence in general due to being a healthcare worker during the pandemic. In the questionnaire for phase 2, in addition to the questions described above, the following question was also included: Have you had or do you have symptoms of COVID-19.

The following factors were hypothesized to be associated with depression: access to PPE (sufficient, somewhat insufficient, highly insufficient); experiencing discrimination ("I have felt discriminated against as a result of being a healthcare worker during the pandemic" [yes or no]); violence ("I have experienced violence as a result of being a healthcare worker during the pandemic" [yes or no]); and harassment ("I have been harassed by family members of COVID-19 patients" [yes or no]). The response options ranged from 0 to 2 or 3.

Both Spanish and English versions of the original HEROES questionnaire were produced. The version used in São Paulo was translated into Portuguese from the Spanish version and then back-translated in accordance with standard World Health Organization (WHO) procedures¹⁷.

Statistical analysis

Initially, an exploratory descriptive analysis of the data from phases 1 and 2 was performed. Frequency distributions were analyzed for the following variables: sociodemographic and health characteristics, work related aspects, and CMDs. Additionally, bivariate and

multivariate analyses of the two phases were conducted to analyze associations between the individual variables, work characteristics, and CMDs. Pearson's Chi-Squared test was also carried out. The analysis of the associations was performed using Poisson regression with robust variance, which produced prevalence ratios (PR) and their respective confidence intervals (CI95%). Poisson Regression is a statistical technique used to model event counts (such as disease occurrences) when the outcome has high prevalence. This method is particularly useful when the outcome is not rare. Additionally, the use of robust variance aims to minimize potential overestimations in the associations found¹⁸. Bivariate analysis was initially carried out and the variables with $p < 0.10$ were included in the final multivariate model. The statistical analysis was done using the STATA 14.0 (StataCorp®) software.

Ethics

The study was approved by the Research Ethics Committee of the Municipal Health Department of the municipality of São Paulo – SMS/SP (Opinion n.º 4.160.385; CAAE n.º 33347120.3.3001.0086), and by the Brazilian National Commission on Research Ethics – CONEP (Opinion n.º 4.160.552; CAAE n.º 32713320.8.1001.5263). All participants signed the Informed Consent Form (ICF), guaranteeing the confidentiality of their information and their right to withdraw consent at any time during the research.

RESULTS

In phase 1, a total of 177 CHWs took part in the study, of which 49.7% (CI 95% = 42.1–57.3) presented a prevalence of CMDs. Whereas in phase 2, 36.3% (CI 95% 28.5–44.8) of the 143 participating CHWs presented a CMD, showing a reduction in comparison with the first collection. The majority of the participants from the two studies were women (92.7%; 88.8%), aged between 31 and 40 years (44%; 54.5%), and most frequently reported black/brown skin color (63.8%; 63.3%). Further information about the participants is available in Table 1.

Access to PPE was reported as insufficient by 44.1% and 45.5% (phase 1 and phase 2, respectively) of the participants. In relation to exposure to violence, over half of the CHWs (59.3%, $n = 105$) in phase 1 reported having suffered at least one type of discrimination/harassment/violence. In phase 2, this response reduced to 39.2% ($n = 56$) (Table 1).

Table 1 – Sociodemographic characteristics, work-related aspects, and CMDs in CHWs in accordance with phases 1 and 2 (Phase 1: n = 177; Phase 2: n = 143)

(continues)

	Phase 1				Phase 2			
	<u>Common Mental Disorders</u>			<i>p</i>	<u>Common Mental Disorders</u>			<i>p</i>
	Total	<u>No</u>	<u>Yes</u>		Total	<u>No</u>	<u>Yes</u>	
	n (%)	n (%)	n (%)		n (%)	n (%)	n (%)	
Sex				0.39				0.65
Female	164 (92.7)	81 (49.4)	83 (50.6)		127 (88.8)	80 (63.0)	47 (37.0)	
Male	13 (7.3)	8 (61.5)	5 (38.5)		16 (11.2)	11 (68.7)	5 (31.2)	
Age range (years)				0.54				0.98
18–30	38 (21.5)	16 (42.1)	22 (57.9)		25 (17.5)	15 (60.0)	10 (40.0)	
31–40	79 (44.6)	39 (49.4)	40 (50.6)		78 (54.5)	50 (64.1)	28 (35.9)	
41–50	43 (24.3)	25 (58.1)	18 (41.9)		23 (16.1)	15 (65.2)	8 (34.8)	
51 or more	17 (9.6)	9 (52.9)	8 (40.1)		17 (11.9)	11 (64.7)	6 (35.3)	
Race/color				0.33				0.57
White	64 (36.2)	28 (43.7)	36 (56.3)		52 (36.4)	36 (69.2)	16 (30.8)	
Black	34 (19.2)	20 (58.8)	14 (41.2)		28 (19.6)	17 (60.7)	11 (39.3)	
Brown	79 (44.6)	41 (51.9)	38 (48.1)		63 (44.0)	38 (60.3)	25 (39.7)	
Access to PPE				<0.001				0.12
Sufficient	99 (55.9)	63 (63.6)	36 (36.4)		78 (54.6)	54 (69.2)	24 (30.8)	
Insufficient	78 (44.1)	26 (33.3)	52 (66.7)		65 (45.5)	37 (56.9)	28 (43.1)	

(conclusion)

	Phase 1				Phase 2			
	<u>Common Mental Disorders</u>			<i>p</i>	<u>Common Mental Disorders</u>			<i>p</i>
	<u>Total</u>	<u>No</u>	<u>Yes</u>		<u>Total</u>	<u>No</u>	<u>Yes</u>	
	n (%)	n (%)	n (%)		n (%)	n (%)	n (%)	
COVID-19				-				0.18
No	-	-	-		67 (49.3)	47 (70.1)	20 (29.9)	
Yes	-	-	-		64 (47.1)	35 (54.7)	29 (45.3)	
Don't know	-	-	-		5 (3.6)	3 (60.0)	2 (40.0)	
Exposure to discrimination/ harassment/ violence				<0.001				0.01
None	72 (40.7)	46 (63.9)	26 (36.1)		87 (60.8)	46 (63.9)	26 (36.1)	
1	74 (41.8)	39 (52.7)	35 (47.3)		43 (30.1)	39 (52.7)	35 (47.3)	
2 or 3	31 (17.5)	4 (12.9)	27 (87.1)		13 (9.1)	4 (12.9)	27 (87.1)	

Source: Data from The COVID-19 Healthcare Workers Study, São Paulo, Brazil

The multivariate analysis in phase 1 showed a greater risk of CMDs among participants who reported PPE access as being “insufficient” (adjusted PR = 1.62; CI 95% = 1.19–2.22), whereas in phase 2, no significant association was observed. Regarding exposure to discrimination/harassment/violence, the CHWs who reported experiencing two or more of these situations presented a higher risk of CMDs (adjusted PR = 2.11, CI 95% = 1.49–2.97; adjusted PR = 2.43, CI 95% = 1.40–4.24, respectively for phases 1 and 2) (Table 2).

Table 2 – Variables associated with CMDs in CHWs, according to multivariate Poisson regression with robust variance in phase 1 and phase 2 (Phase 1: n = 177; Phase 2: n = 143)

	<u>Phase 1</u>				<u>Phase 2</u>			
	Crude PR	CI 95%	Adjusted PR	CI 95%	Crude PR	CI 95%	Adjusted PR	CI 95%
Sex								
Female	1		1		1		1	
Male	0.75	0.37, 1.53	0.67	0.37, 1.24	0.84	0.39, 1.81	0.70	0.36, 1.34
Age range (years)								
18–30	1		1		1		1	
31–40	0.87	0.61, 1.23	0.86	0.63, 1.16	0.89	0.50, 1.58	0.90	0.52, 1.56
41–50	0.72	0.46, 1.12	0.86	0.57, 1.30	0.86	0.41, 1.82	0.86	0.43, 1.72
51 or more	0.81	0.45, 1.44	0.81	0.47, 1.40	0.88	0.39, 1.97	0.69	0.26, 1.82
Race/color								
White	1		1		1		1	
Black	0.73	0.46, 1.15	0.67	0.44, 1.02	1.27	0.68, 2.36	1.16	0.65, 2.08
Brown	0.85	0.62, 1.17	0.76	0.56, 1.03	1.28	0.77, 2.14	1.21	0.73, 2.01
Access to PPE								
Sufficient	1		1		1		1	
Insufficient	1.65	1.16, 2.33	1.62	1.19, 2.22	1.4	0.90, 2.16	1.21	0.75, 1.94
COVID-19								
No	-		-		1		1	
Yes	-	-	-	-	1.51	0.96, 2.39	1.34	0.82, 2.19
Don't know	-	-	-	-	1.34	0.42, 4.18	1.58	0.56, 4.42
Exposure to discrimination/ harassment/ violence								
None	1		1		1		1	
1	1.36	1.07, 1.73	1.21	0.82, 1.78	1.68	1.05, 2.69	1.65	1.04, 4.24
2 or 3	2.47	1.85, 3.30	2.11	1.49, 2.97	2.23	1.28, 3.86	2.43	1.40, 4.24

Source: Data from The COVID-19 Healthcare Workers Study, São Paulo, Brazil

In relation to the type of violence most cited by the CHWs in phase 1 it was observed that 51.5% mentioned having suffered discrimination due to being healthcare workers during the COVID-19 pandemic, and 23.4% of the CHWs responded to having been harassed by family members of patients with a case or suspected case of COVID-19. In phase 2, there was a significant reduction in exposure to the following types of violence: discrimination and conflicts with the family members of patients (26.9% and 13.5%, respectively). However, in relation to violence in general, there was no significant variation: in phase 1, it was 11.4%; and in phase 2, it was 10.7% (Table 3).

Table 3 – Percentage of CHWs who reported exposure to discrimination/conflict/violence in phase 1 and phase 2 (Phase 1: n=177; Phase 2: n=143)

Category	<u>Phase 1</u> n (%)	<u>Phase 2</u> n (%)
Discrimination	91 (51.5)	38 (26.9)
Conflict	41 (23.4)	19 (13.5)
Violence	20 (11.4)	15 (10.7)

Source: Data from The COVID-19 Healthcare Workers Study, São Paulo, Brazil

DISCUSSION

In phase 1, the prevalence of CMDs in CHWs was 49.7%, which reduced in phase 2 to 36.3%. In both phases, high prevalences of CMDs was observed, which is similar to what was found in other healthcare workers^{2,5,19}. One study conducted in China, involving 1,257 healthcare professionals in hospitals, observed that 50.4% presented symptoms of depression and 44.6% anxiety.

An increase in the prevalence of CMDs was observed, compared with studies performed in Brazil before the pandemic. In accordance with a study carried out in the city of São Paulo in 2012, 43.3% of CHWs presented CMDs²⁰. In the South and Northeast regions (2005), 18.4% of the CHWs presented CMDs²¹. In both studies, the CHWs stood out as the category that presented the highest prevalence of CMDs, in comparison to other healthcare professionals. It is worth noting that the singularities of the work process of CHWs, due to having a wide variety of roles and functions, working predominantly in the catchment area of family health teams, imply a daily emotional overload¹⁰.

The pandemic added new stressors to the day-to-day work of healthcare professionals, including in the work processes of CHWs. Insufficient access to PPE was identified in phase 1 of this study as a stressful factor, with impacts on mental health. The international study, conducted

during the pandemic, corroborates this finding, which describes a higher risk of psychological stress in professionals who did not have sufficient access to PPE (OR = 2.49; CI = 2.03–3.04; $p < 0.001$)²². However, this association was not found in phase 2.

The importance of access to PPE for reducing psychological stress and concerns about contracting the virus was described in an integrative review published during the pandemic, which found that insufficient access impacted the mental health of healthcare professionals²³. Another review that analyzed risk factors for the mental health of healthcare professionals highlighted the inadequate supply of PPE²⁴.

Despite being indispensable for containing the virus and recommended by the Ministry of Health itself²⁵ and by the WHO²⁶, PPE was not distributed equally to the professionals, including the CHWs²⁷. This shows a lack of consistency on behalf of the government, advocating for the use of PPE and offering PPE of inadequate quantity and quality to the healthcare professionals. Therefore, this study indicates that the insufficient use of PPE is associated with compromised mental health among CHWs, arising from their fear of contracting the disease and transmitting the virus to their family members and friends.

The other stressor related to the context of the COVID-19 pandemic was discrimination/conflict/violence against CHWs. Even with the existence of clapping demonstrations by many countries aimed at healthcare workers, the integrity of these same professionals was threatened both in places of work as well as in public places^{3,28,29}. There was a request from humanitarian organizations and from the WHO itself for governments to implement actions to reduce violence against healthcare professionals³⁰.

The increase in violence during the pandemic was highlighted by Bitencourt et al.³¹, 18.8% of healthcare workers responded to having suffered violence prior to the pandemic, and this number rose to 49.2% during the pandemic. Compared with a study carried out in the municipality of Belo Horizonte, in the state of Minas Gerais, which investigated exposure to violence against CHWs, 14.8% reported having suffered violence before the pandemic³².

Violence against healthcare workers is a global phenomenon and grew during the pandemic³. This increased violence, perpetrated by the population against healthcare workers, demonstrated in this study, was linked to the challenges caused by the COVID-19 health crisis, of how to deal with a new disease, mediated by conflicting information from health authorities, which enabled the dissemination of fake news¹. It is possible to interpret that, in the second year of the pandemic, a little more was already known about the disease, which may have contributed towards reducing discrimination and conflicts with family members against the CHWs. However, violence in general did not show a significant reduction in phase 2 of this study.

Exposure to discrimination was the most reported response by CHWs (51.5%) during phase 1 and which had a significant reduction in phase 2, with responses reported by 26.9% of

CHWs. In a study carried out in Spain (2020), with 2053 participants, around one in every three mentioned having faced discrimination due to being healthcare professionals during the pandemic³³. It has been observed that CHWs have suffered from discrimination in previous pandemics⁷. The high prevalence of discrimination mentioned by the CHWs in phase 1 was seen in the qualitative phase of this study, associated with factors linked to conflicting information from the government, the fake news stories about the disease, and the community's fear of being infected by the CHWs, who are seen as vectors of contamination because they are part of the healthcare team.

The two cross-sectional studies of this research point to an association between exposure to discrimination/conflict/violence and mental suffering in CHWs. The results found suggest an association in which greater exposure reported by participants was associated with a higher risk of presenting CMDs. In the case of the 177 participating CHWs from the first phase, 105 (59.3%) reported suffering some type of discrimination/conflict/violence for being a health care professional. Despite the frequency having reduced to 39.2% in phase 2, the risk of CMDs remained double for those who reported experiencing some type of violence. This is an alarming statistic, considering that the CHWs have a connection with the community by residing within the catchment area, in addition to playing a strategic role in meeting community/territory's demands with the service.

This association was also highlighted in a study carried out among healthcare professionals in Italy during the pandemic, which revealed that the relationship between stigma or discrimination/suffering violence due to being a healthcare professional was strongly associated with clinically significant depressive symptoms [OR = 2.98, CI 95% = 2.36–3.77 and OR = 4.72 CI 95% = 3.41–6.54]³⁴. Mediavilla *et al.*³³, also corroborate the findings, where exposure to discrimination was associated with higher scores of depression (B = 2.4, CI 95% = 1.8–2.9) and psychological suffering (B = 1.1, CI 95% = 0.7–1.4).

Limitations of This Study

One of the study's strengths is its focus on community health workers, whose mental health has been analyzed in few studies, despite being considered essential workers in efforts to control the pandemic. Another strength is the investigation of exposure to mistreatment during the COVID-19 pandemic, both with regards to discrimination, harassment from family members of patients with COVID-19, and violence. In addition, it has been carried out in two phases of the pandemic, allowing for the comparison and understanding of these phases.

Some limitations of the study should be considered. Phase 2 was not carried out with the same participants as phase 1. Due to being two cross-sectional studies, it was not possible to establish causal relationships between pandemic-related factors and CMDs. Another point to

consider in studies investigating exposure to violence is the potential underestimation of cases, as healthcare workers may refrain from reporting incidents due to fear and shame³⁵. In the case of CHWs, another factor should be considered, the fact they live in the same neighborhood in which they work and have more direct contact with the allocated population.

CONCLUSION

Implementing strategies for reducing violence against these workers and guaranteeing access to PPE are key points for mitigating the psychological suffering of CHWs during health crises. It is essential that actions taken by managers and government officials are planned in a coordinated and integrated manner across federal spheres, especially with regard to the communication of actions for tackling health crises, seeking to avoid misinformation and containing the spread of fake news. This can contribute towards the reduction of violence against CHWs and other healthcare workers, and therefore, mitigate the psychological suffering of these professionals.

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