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Exploring COVID-19's Impact on Community Health Workers and their Role in Emergency Response

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Abstract. Community health workers (CHWs) play a vital role in public health; however, their contributions during emergencies, such as the COVID-19 pandemic, are less explored in rural areas. This study investigated how the pandemic affected CHWs in Sultan Kudarat, Philippines, focusing on changes in workload, stress levels, safety concerns, and how they adapted to new health protocols. It also assessed their effectiveness during the crisis based on accessibility, communication, trust, skills, response time, care quality, health education, and community outcomes. A descriptive-correlational design was used, with data collected through a validated survey from CHWs in three municipalities. Descriptive statistics measured the level of impact and effectiveness, while Spearman's Rho tested the relationships between them. Results showed that CHWs faced heavier workloads and emotional stress but were still seen by communities as accessible, competent, and trustworthy. Among all impact areas, only their ability to adapt to new protocols had a significant link to better communication, faster response time, and applied knowledge. Other challenges, such as stress and workload, did not affect their service quality. The study concludes that CHWs' adaptability was key to maintaining health services during the pandemic. Structured training and support systems are recommended to enhance their resilience and performance in preparing for future health crises.

Keywords: Adaptability; Community health workers; COVID-19 pandemic; Effectiveness; Rural health.

1.0 Introduction

The COVID-19 pandemic disrupted healthcare systems worldwide, placing heavy pressure on frontline workers. Community Health Workers (CHWs) played a key role, especially in rural and underserved areas. They were often the first point of contact for people needing health services. Despite this, CHWs worked with limited resources and recognition, facing both health risks and emotional stress to ensure communities continued to receive care. During the pandemic, CHWs experienced significant changes in their workload. Studies also indicate that CHWs took on additional responsibilities, such as contact tracing, community awareness campaigns, and supporting vaccination drives, which significantly expanded their roles during the crisis (Bhaumik et al., 2020). These additional duties led to increased physical and emotional stress, as well as concerns about family exposure, particularly when personal protective equipment was limited (Khankeh et al., 2021). Frontline health workers reported burnout and mental health strain linked to heavier workloads and longer shifts (Lopez et al., 2021)..

One primary concern was psychological stress. Research by Braquehais et al. (2020) and Nepomnyashchiy et al. (2020) found that many CHWs experienced anxiety and burnout due to constant exposure to COVID-19, fears of infection, and a lack of mental health support. Another serious issue was safety. CHWs often lacked protective equipment and had to follow changing safety guidelines without enough support (Kisely et al., 2020; Behera et al., 2020). Adapting to new health protocols was also a challenge. Frequent procedure changes often came without proper training, making it hard for CHWs to adjust quickly (Haldane et al., 2021). Ballard et al. (2020) note that while adaptability is essential, it is not enough without strong institutional backing.

These issues impacted the effectiveness of CHWs during the pandemic. Lockdowns and travel restrictions made it harder for them to reach people and continue delivering health services (Ahmed et al., 2020). Communication and trust were strained by misinformation and overwhelming or unclear messaging, although CHWs continued to be essential in providing reliable health information (Mackworth-Young et al., 2020). Their knowledge and skills were critical in managing these challenges. Well-trained CHWs helped sustain immunization and other health services during lockdowns (Agarwal et al., 2021). Dahn et al. (2020) also found that their efforts contributed to better health outcomes in underserved communities.

However, there is still limited research on how the pandemic's effects on CHWs, such as stress, safety concerns, and workload, are connected to their effectiveness, especially in rural areas like Sultan Kudarat Province in the Philippines. This study is novel in that it not only assesses the challenges faced by CHWs during the COVID-19 pandemic but also examines how these specific challenges correlate with CHW effectiveness indicators from the perspective of the communities they serve, a largely unexplored area in Philippine rural settings. This study aims to explore how the COVID-19 pandemic affected CHWs in Sultan Kudarat in terms of workload changes, mental health stress, safety issues, and adjustments to health protocols. It also evaluates how these factors relate to their effectiveness in providing services, including accessibility, communication, trust, skills, response time, health education, and care quality. The goal is to understand their role better and help develop stronger support systems, policies, and future emergency plans that value and empower CHWs.

2.0 Methodology

2.1 Research Design

This study employed a descriptive-correlational research design to investigate the impact of the COVID-19 pandemic on the effectiveness of community health workers (CHWs), specifically examining their workload, stress levels, safety concerns, and ability to adapt to new health protocols. The design enabled the identification of patterns and the determination of whether there were significant relationships between the pandemic's impact and the perceived effectiveness of CHWs in delivering essential services.

2.2 Research Respondents

The study was conducted in three municipalities of Sultan Kudarat Province—Isulan, Esperanza, and Tacurong City. These areas were among the most affected by the COVID-19 pandemic in the region. They relied heavily on barangay health workers, midwives, and nurses from rural health units to manage local health interventions. The respondents of this study included active CHWs who served throughout the pandemic. A total of 150 respondents were selected using purposive sampling based on the following criteria: they must have provided community health services between March 2020 and December 2022 and had direct involvement in COVID-19 response tasks. These tasks included contact tracing, patient monitoring, vaccination, and public health information campaigns.

2.3 Research Instrument

The study employed a researcher-developed, structured questionnaire validated by three experts in public health and social science. The instrument was divided into three parts: (1) the impact of COVID-19 on CHWs across four domains—workload changes, psychological stress, health and safety concerns, and adaptation to new protocols; (2) the effectiveness of CHWs in terms of accessibility, communication, trustworthiness, knowledge and skills, response time, quality of care, health education, and health outcomes. Each item used a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." A pilot test was conducted with 20 CHWs from a nearby municipality not included in the study. The instrument yielded a Cronbach's alpha reliability coefficient of 0.91, indicating high internal consistency.

2.4 Data Gathering Procedure

Before data collection, an approval letter was obtained from the City and Municipal Health Offices, and respondents were given an orientation on the study's objectives and confidentiality. Informed consent was obtained, and participation was strictly voluntary. Survey forms were distributed in either printed or electronic form, depending on the respondents' preference and availability. Assistance was provided, particularly for those with limited literacy or internet access.

2.5 Statistical Treatment of Data

Descriptive statistics, such as the mean and standard deviation, were used to interpret the levels of impact and effectiveness. For inferential analysis, Pearson's correlation coefficient was applied to assess the relationship between the impact of the COVID-19 pandemic and the perceived effectiveness of CHWs. Statistical analysis was carried out using SPSS software version 26.

2.6. Ethical Considerations

This study was conducted in adherence to established ethical research principles to protect the rights and welfare of the participants. Prior to administering the research instruments, a letter of approval was obtained from the Office of the Municipal Health Officers in Isulan, Esperanza, and Tacurong City, Sultan Kudarat. The purpose of the study was clearly explained to all participants, including the voluntary nature of their participation and the assurance that their responses would be kept confidential and used strictly for academic purposes. Written informed consent was secured from all community health workers who participated in the study. Respondents were assured that their responses would be kept anonymous and that no personal identifiers would be recorded. They were also informed that they could withdraw from the study at any point without any repercussions. The study posed no physical or psychological risks to the participants. To ensure data security and privacy, the completed questionnaires were handled exclusively by the researchers and stored securely. The general principles of respect for persons, beneficence, and justice guided the ethical procedures followed in this study.

3.0 Results and Discussion

3.1 Impact of the COVID-19 Pandemic on Community Health Workers

In terms of Workload Changes

Table 1 presents the responses of community health workers regarding changes in their workload during the COVID-19 pandemic. The results show a section mean of 4.47 with a standard deviation (SD) of 0.73, which indicates that the majority of CHWs strongly agreed that their workload substantially increased during the height of the health crisis.

Table 1. *Impact of the COVID-19 pandemic on the community health workers in terms of Workload Changes*

	Indicators	Mean	SD	Interpretation
1	My workload has significantly increased since the onset of COVID-19.	4.67	0.54	Very High
2	I have had to work longer hours due to COVID-19.	4.55	0.57	Very High
3	The complexity of my tasks has grown due to the pandemic.	4.51	0.65	Very High
4	I have had to take on additional responsibilities because of COVID-19.	4.49	0.75	Very High
5	The demand for health services has increased significantly.	4.13	1.13	Very High
	Aggregate Mean	**4.47**	**0.73**	**Very High**

These results confirm that CHWs in Sultan Kudarat experienced a significant increase in their workload during the pandemic. The high ratings across all items highlight a shared reality of intensified service delivery in response to public health emergencies. These findings align with the broader global perspective presented by Haldane et al. (2021), who emphasized that frontline health workers, particularly at the community level, often bear immense pressure without corresponding increases in institutional support or compensation. The elevated workload, while a testament to CHWs' dedication, also raises concerns about long-term sustainability and the need for better support systems during health crises. Recognizing their expanded role is essential for future pandemic response planning and ensuring that CHWs receive adequate protection, training, and acknowledgment for their service.

In terms of Psychological Stress

Table 2 presents the responses of community health workers (CHWs) regarding the psychological stress they experienced during the COVID-19 pandemic. The section mean was 4.24, with a standard deviation (SD) of 0.69,

indicating that, overall, CHWs experienced considerable psychological strain while carrying out their duties during the public health emergency.

Table 2. *Impact of the COVID-19 pandemic on the community health workers in terms of Psychological Stress*

	Indicators	Mean	SD	Interpretation
1	I feel more stressed since the COVID-19 pandemic began.	4.64	0.51	Very High
2	I have experienced burnout due to the increased demands of my job.	4.45	0.68	Very High
3	I feel adequately supported by my workplace in managing stress.	4.03	0.79	High
4	The uncertainty of the pandemic has had a significant impact on my mental health.	4.17	0.62	High
5	I have access to mental health resources and support.	3.92	0.87	High
	Aggregate Mean	**4.24**	**0.69**	**Very High**

The results confirm that psychological stress was a substantial and shared experience among CHWs during the pandemic. While their role in the community was critical, the emotional toll it exacted was compounded by limited access to structured mental health resources. These findings align with global calls, such as those by Haldane et al. (2021), for integrating psychosocial support and well-being initiatives into healthcare systems, particularly for frontline workers in high-stakes, under-resourced environments. Addressing this dimension of CHWs' experiences is essential. Without deliberate interventions to reduce stress and prevent burnout, the sustainability of their service and well-being may be compromised in future health crises.

In terms of Health and Safety Concerns

Table 3 presents the perceptions of community health workers (CHWs) regarding their health and safety during the COVID-19 pandemic. The section mean is 4.28, with a standard deviation of 0.67, indicating that CHWs were deeply aware of the risks they faced in fulfilling their responsibilities during the health crisis.

Table 3. *Impact of the COVID-19 pandemic on the community health workers in terms of Health and Safety Concerns*

	Indicators	Mean	SD	Interpretation
1	I am concerned about my exposure to COVID-19 in my role as a health worker.	4.59	0.62	Very High
2	I feel that adequate protective measures are not in place for my workplace safety.	4.00	0.72	High
3	My access to personal protective equipment (PPE) is sufficient.	3.98	0.70	High
4	I am worried about transmitting COVID-19 to my family.	4.74	0.51	Very High
5	The health and safety protocols in place are clear and compelling.	4.09	0.78	High
	Aggregate Mean	**4.28**	**0.67**	**Very High**

The results show that CHWs continued to provide their services despite high levels of personal risk and lingering concerns about protective resources. These findings reaffirm the urgent need for clear safety guidelines, guaranteed PPE provision, and mental health support systems for community-based health workers. A sustained commitment to their safety is not just a matter of protection—it is essential to the success of any future public health emergency response.

In terms of Adaptation to Protocols

Table 4 presents the responses of community health workers (CHWs) regarding how they adapted to new health protocols during the COVID-19 pandemic. The section mean was 3.87, with a standard deviation of 0.87, suggesting that CHWs generally perceived themselves as capable of adapting to evolving health guidelines, though not without difficulty.

Table 4. *Impact of the COVID-19 pandemic on the community health workers in terms of Adaptation to Protocols*

	Indicators	Mean	SD	Interpretation
1	Adapting to new health protocols and procedures has been challenging.	4.13	0.79	High
2	I feel well-trained to implement new COVID-19-related health protocols.	3.63	1.05	High
3	Changes in protocols have made it difficult to perform my duties effectively.	3.67	0.95	High
4	I am confident in adapting to new health guidelines and protocols.	4.03	0.74	High
5	The frequency of changes in health protocols is manageable.	3.91	0.81	High
	Aggregate Mean	**3.87**	**0.87**	**High**

Taken as a whole, the responses suggest that CHWs demonstrated high adaptability. However, they faced notable challenges regarding access to training, clarity of communication, and the pace of procedural changes. These findings underscore the importance of developing streamlined communication systems and inclusive training

strategies that empower community-level health workers to implement and lead health interventions during emergencies effectively.

Summary

Table 5 presents a summary of the perceived impact of the COVID-19 pandemic on community health workers (CHWs) across four dimensions: workload changes, health and safety concerns, psychological stress, and adaptation to protocols. The overall mean score is 4.22, with a standard deviation of 0.74, confirming that CHWs experienced the pandemic not only as a professional challenge but also as a profoundly personal strain that affected multiple facets of their work and well-being. The highest-rated impact was on workload changes, which received a mean of 4.47 (SD = 0.73). As previously discussed, CHWs faced significantly increased responsibilities, longer hours, and more complex tasks, including managing vaccination drives, assisting with contact tracing, and enforcing health protocols. These findings support the study by Bhaumik et al. (2020), who noted that CHWs were required to deliver emergency services without the benefit of expanded support structures or additional compensation (Bhaumik et al., 2020).

Table 5. *Impact of the COVID-19 pandemic on the community health workers*

	Indicators	Mean	SD	Interpretation
1	Workload Changes	4.47	0.73	Very High
2	Health and Safety Concerns	4.28	0.67	Very High
3	Psychological Stress	4.24	0.69	Very High
4	Adaptation to Protocols	3.87	0.87	High
	Overall Mean	**4.22**	**0.74**	**Very High**

Health and safety concerns followed with a mean of 4.28 (SD = 0.67). CHWs expressed serious worry about exposure to the virus and the risk of transmitting it to their families. While some acknowledged the presence of basic protective equipment and protocols, access and consistency were often inadequate. This finding echoes that of Kisely et al. (2020), who reported that frontline workers experienced heightened fear when safety provisions were perceived as insufficient. Psychological stress also scored a high mean of 4.24 (SD = 0.69). The pressure of their roles, public expectations, and institutional gaps contributed to increased mental fatigue and burnout. Braquehais et al. (2020) emphasized that when left unaddressed, such stress can reduce the long-term effectiveness and willingness of health workers to serve in future emergencies. The impact on protocol adaptation was the lowest yet still significant, with a mean of 3.87 (SD = 0.87). Although CHWs demonstrated resilience and confidence in adjusting to new guidelines, frequent and abrupt protocol changes presented challenges to execution and understanding. Haldane et al. (2021) stressed that rapid adaptation is feasible only when supported by clear communication and inclusive training systems. The findings affirm that community health workers bore a substantial burden during the pandemic. They did not simply perform routine duties—they responded to an evolving crisis with limited tools, high personal risk, and emotional fatigue. However, despite these challenges, they remained at the core of the local health response, proving once again the indispensable role they play in public health systems.

3.2 Effectiveness of Community Health Workers during the COVID-19 Pandemic

In terms of Accessibility

Table 6 illustrates community health workers' (CHWs) perceived effectiveness regarding accessibility during the COVID-19 pandemic. The section mean is 4.22, with a standard deviation of 0.84, indicating that CHWs were perceived as reliably present and reachable by community members, which is critical for delivering timely and localized healthcare during public health emergencies.

Table 6. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Accessibility*

	Indicators	Mean	SD	Interpretation
1	I can easily contact a Community Health Worker when needed.	4.41	0.71	Highly Effective
2	Health services provided by CHWs are readily accessible in our community.	**4.29**	**0.75**	Highly Effective
3	Community Health Workers are regularly available in our community.	4.17	0.89	Effective
4	I know how and where to reach Community Health Workers for health concerns.	4.08	0.96	Effective
5	CHWs maintain a visible presence in the barangay, making them easily approachable.	4.16	0.90	Effective
	Aggregate Mean	**4.22**	**0.84**	**Highly Effective**

The findings suggest that CHWs sustained high levels of accessibility during the pandemic, reinforcing their role as the frontline health providers in rural and low-resource settings. Their consistent presence in communities helped bridge gaps left by overwhelmed formal health systems, ensuring that people received care and guidance even under strained conditions. Bezbaruah et al. (2021**)** affirm that this community-rooted accessibility is a foundational strength of CHWs and should be continuously supported through structured training, recognition, and integration into national health responses (Bezbaruah et al., 2021).

In terms of Communication

Table 7 highlights how community members perceived the effectiveness of community health workers' (CHWs) communication during the COVID-19 pandemic. The section mean is 4.06, with a standard deviation of 1.02, indicating that CHWs played a crucial role in relaying health information during the crisis. However, some variation in experience was observed among respondents. These findings suggest that CHWs successfully fulfilled their communication roles during the pandemic, especially in ensuring clarity and responsiveness. However, ensuring consistent two-way interaction and reinforcing communication infrastructure could further enhance their effectiveness in future crises.

Table 7. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Communication*

	Indicators	Mean	SD	Interpretation
1	CHWs communicate health information clearly and effectively.	4.35	0.86	Highly Effective
2	I receive timely and understandable health updates from CHW.	4.35	0.65	Highly Effective
3	CHWs listen to and address community members' health concerns adequately.	4.83	1.14	Highly Effective
4	CHW guides on how to follow health advisories during the pandemic.	3.92	1.14	Effective
5	There is effective two-way communication between the community and the CHW	3.86	1.29	Effective
	Aggregate Mean	**4.06**	**1.02**	**Effective**

In terms of Trustworthiness

Table 8 reflects community members' perceptions of the trustworthiness of community health workers (CHWs) during the COVID-19 pandemic. The section mean is 4.19, with a standard deviation of 0.81, indicating that CHWs maintained high trust within their communities, a crucial foundation for successful public health engagement.

Table 8. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Trustworthiness*

	Indicators	Mean	SD	Interpretation
1	I trust the health advice and information provided by CHWs.	4.10	0.89	Effective
2	CHWs display professionalism in their duties.	4.25	0.74	Highly Effective
3	I feel confident in the care and services provided by CHWs.	4.16	0.85	Effective
4	CHWs act in the best interest of the community's health.	4.21	0.83	Highly Effective
5	The confidentiality of my health information is well-maintained by CHWs.	4.24	0.76	Highly Effective
	Aggregate Mean	**4.19**	**0.81**	**Effective**

Overall, the data indicate that CHWs retained the trust of their communities, despite the complexities of the pandemic environment. Their consistent presence, professionalism, and ethical handling of information contributed significantly to the community's confidence in local health systems. Watkins et al. (2021) noted that trust in CHWs correlates with better compliance, improved community participation, and greater success in public health interventions (Watkins et al., 2021).

In terms of Knowledge and Skills

Table 9 presents how respondents evaluated the knowledge and skills of community health workers (CHWs) during the COVID-19 pandemic. The data shows a section mean of 4.28 with a standard deviation of 0.78, which affirms that community members had strong confidence in the CHWs' capabilities to understand, apply, and communicate essential health information during a public health crisis.

Table 9. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Knowledge and Skills*

	Indicators	Mean	SD	Interpretation
1	CHWs are knowledgeable about COVID-19 and its prevention.	4.41	0.64	Highly Effective
2	The skills of CHWs meet the health needs of our community.	4.40	0.79	Highly Effective
3	CHWs are well-trained to handle health emergencies.	4.27	0.79	Highly Effective
4	CHWs stay updated with the latest health guidelines and protocols.	4.13	0.85	Effective
5	I am confident in the medical and health guidance provided by our CHWs.	4.17	0.81	Effective
	Aggregate Mean	**4.28**	**0.78**	**Highly Effective**

These findings indicate that CHWs were perceived as highly knowledgeable and skilled, particularly in delivering preventive education, responding to emergencies, and providing basic care during the pandemic. Their competency was a pillar of trust and reassurance in communities facing heightened uncertainty, making them vital contributors to service delivery and the broader success of pandemic control at the grassroots level.

In terms of Response Time

Table 10 presents how community members assessed the response time of community health workers (CHWs) during the COVID-19 pandemic. The section mean of 4.13, with a standard deviation of 0.78, indicates that overall, CHWs responded promptly to community health needs, which is critical in managing public health emergencies, such as the COVID-19 pandemic.

Table 10. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Response Time*

	Indicators	Mean	SD	Interpretation
1	CHWs respond promptly to health emergencies in the community.	4.06	0.69	Effective
2	I am satisfied with the timeliness of the support provided by CHWs.	4.21	0.83	Highly Effective
3	CHWs quickly initiate health interventions when needed.	4.22	0.75	Highly Effective
4	In times of health crisis, CHWs are readily available to assist.	4.02	0.92	Effective
5	The response time of Health Workers to public health concerns is adequate.	4.16	0.72	Effective
	Aggregate Mean	**4.13**	**0.78**	**Effective**

The findings suggest that CHWs effectively responded to immediate community health concerns. However, they must still support their logistical mobility and coordination systems to maintain and enhance response times in future emergencies. WHO (2007) emphasized that responsiveness is closely linked to individual commitment and supportive systems, such as communication infrastructure, adequate supplies, and geographic coverage planning.

In terms of Quality Care

Table 11 presents community members' perceptions of the quality of healthcare services provided by community health workers (CHWs) during the COVID-19 pandemic. The section mean is 4.05, with a standard deviation of 0.83, suggesting that while CHWs delivered care that met basic standards and expectations, there may still be areas for improvement in ensuring consistency and comprehensiveness of services during crisis periods.

Table 11. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Quality Care*

	Indicators	Mean	SD	Interpretation
1	I am satisfied with the quality of healthcare services provided by CHWs.	4.00	0.92	Effective
2	CHWs treat patients with care and respect.	4.08	0.79	Effective
3	The health services provided by CHWs meet my expectations.	4.06	0.84	Effective
4	Health interventions by CHWs are effective in addressing health issues.	4.00	0.80	Effective
5	The healthcare practices of CHWs are consistent with national health standards.	4.10	0.82	Effective
	Aggregate Mean	**4.05**	**0.83**	**Effective**

This dimension's overall "Effective" interpretation implies that CHWs delivered reliable care throughout the pandemic, even amid constraints. However, the modest variation in scores suggests that consistent supervision, ongoing training, and resource support are necessary to enhance the quality and consistency of care further. As Ballard et al. (2020) noted, ensuring quality in community-level care requires a commitment from CHWs and a supportive infrastructure that enables them to carry out their work effectively.

In terms of Health Education

Table 12 presents how community members perceived the effectiveness of community health workers (CHWs) in delivering health education during the COVID-19 pandemic. The section mean is 4.07, with a standard deviation of 0.87, suggesting that CHWs played a valuable role in educating the public about health and safety measures. However, variations in delivery and consistency may have influenced perceptions.

Table 12. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Health Education*

	Indicators	Mean	SD	Interpretation
1	CHWs effectively educate the community on health and safety measures.	4.06	0.78	Effective
2	I have learned practical health tips from the education sessions conducted by CHWs	4.19	0.82	Effective
3	Health education provided by CHWs is relevant and valuable.	4.22	0.83	Highly Effective
4	CHWs actively promote healthy lifestyles and preventive measures.	3.90	0.93	Effective

5	The community receives regular and updated health information from CHWs.	3.95	0.97	Effective
	Aggregate Mean	**4.07**	**0.87**	**Effective**

These findings imply that CHWs were instrumental in health promotion and education, especially when misinformation and fear were prevalent. However, ongoing capacity-building, standardized educational materials, and stable communication support are essential to further strengthen this role. As Ballard et al. (2020) noted, empowering CHWs with timely updates and structured communication tools enhances their reach and consistency in delivering vital health education.

In terms of Health Outcomes

Table 13 presents the community's evaluation of the effectiveness of community health workers (CHWs) in improving health outcomes during the COVID-19 pandemic. The section mean is 4.19, with a standard deviation of 0.82. The results indicate that CHWs significantly contributed to promoting healthier communities and limiting the spread of the pandemic through their grassroots-level interventions.

Table 13. *Effectiveness of Community Health Workers during the COVID-19 Pandemic in terms of Health Outcomes*

	Indicators	Mean	SD	Interpretation
1	The efforts of CHWs have contributed to better health outcomes in our community.	4.03	0.86	Effective
2	I have noticed an improvement in community health awareness and practices.	4.19	0.78	Effective
3	The health interventions during the pandemic have reduced the spread of COVID-19 in our barangay.	4.13	0.73	Effective
4	I feel that the overall health of our community has improved due to the actions of CHWs	4.17	0.87	Effective
5	The guidance and services provided by CHWs have positively impacted my health.	4.41	0.84	Effective
	Aggregate Mean	**4.19**	**0.82**	**Effective**

Overall, these findings affirm the significant role CHWs played in improving individual and collective health outcomes during the pandemic. Their accessibility, trusted relationships, and knowledge allowed them to bridge communities effectively and formal health systems, reducing transmission, increasing awareness, and promoting well-being despite the challenges.

Summary

Table 14 provides a consolidated view of the various domains in which community health workers (CHWs) were evaluated during the COVID-19 pandemic. The overall mean is 4.15, with a standard deviation of 0.84, which suggests that CHWs consistently played a meaningful and reliable role in pandemic response, as perceived by community members across multiple performance dimensions.

Table 14. *Effectiveness of Community Health Workers during the COVID-19 Pandemic*

	Indicators	Mean	SD	Interpretation
1	Accessibility	4.22	0.84	Highly Effective
2	Communication	4.06	1.02	Effective
3	Trustworthiness	4.19	0.81	Effective
4	Knowledge and Skills	4.28	0.78	Highly Effective
5	Response Time	4.13	0.78	Effective
6	Quality Care	4.05	0.83	Effective
7	Health Education	4.07	0.87	Effective
8	Health Outcomes	4.19	0.82	Effective
	Overall Mean	**4.15**	**0.84**	**Effective**

Among the indicators, Knowledge and Skills received the highest score (M = 4.28, SD = 0.78), followed closely by Accessibility (M = 4.22, SD = 0.84). These results indicate that CHWs were seen as competent and readily available, essential qualities in emergency health situations. As Ballard et al. (2020) emphasized, the ability of CHWs to reach underserved populations with accurate and timely interventions was a cornerstone of their effectiveness during COVID-19 Health Outcomes and Trustworthiness both received a strong rating of 4.19, showing that CHWs were credible figures within the community and perceived as contributing to measurable improvements in public health. This aligns with Vanden Bossche et al. (2022**)**, who observed that trust between CHWs and vulnerable populations was built through community presence, equality, and reciprocity, leading to better health behavior adherence (Vanden Bossche et al., 2022). The dimensions of Response Time (M = 4.13), Health Education (M = 4.07), Quality Care (M = 4.05), and Communication (M = 4.06) were also rated "Effective," although they trailed

slightly behind the highest-scoring areas. The findings suggest that while CHWs performed well overall, some community members may have experienced delays or variations in messaging and care, especially during periods of heightened demand. Haregu et al. (2024) argued that such variation often reflects systemic constraints—such as burnout, resource limitations, and lack of managerial support—rather than individual shortcomings, highlighting the need for continued investments in training, logistics, and information systems (Haregu et al., 2024; BMC Primary Care, 2024). These results portray CHWs as reliable, skilled, and trusted health providers who effectively bridge the gap between formal healthcare systems and grassroots communities. Their holistic contribution—spanning education, prevention, care delivery, and crisis response—underscores their critical role in pandemic resilience and health system strengthening.

3.3 Relationship between the Impact of COVID-19 and the Effectiveness of Community Health Workers

Findings revealed that most impact variables—such as workload changes, psychological stress, and health and safety concerns—did not show significant correlations with any CHW effectiveness indicators. This suggests that despite facing considerable internal challenges, CHWs maintained consistent levels of effectiveness in the eyes of their communities. For instance, workload changes and psychological stress yielded correlation coefficients close to zero across most indicators, with p-values well above the 0.05 threshold (e.g., workload changes and accessibility: r = –0.048, p = 0.661; psychological stress and quality care: r = 0.078, p = 0.473). These findings align with reports by Raven et al. (2020), who noted that CHWs often remained committed to their roles despite elevated stress levels and overwhelming workloads during health crises.

Table 15. *Correlation Analysis between the Impact of COVID-19 and the Effectiveness of Community Health Workers*

Indicators	Workload Changes	Health and Safety Concerns	Psychological Stress	Adaptation to New Protocols	Impact
Accessibility	-.048 (.661)	.024 (.829)	-.013 (.902)	.082 (.456)	
Communication	-.023 (.830)	.135 (.215)	.095 (.385)	.229* (.034)	
Trustworthiness	.018 (.870)	.049 (.161)	.031 (.775)	.152 (.162)	
Knowledge and Skills	-.005 (.965)	.185 (.089)	.114 (.297)	.222* (.040)	
Response Time	-.019 (.862)	.125 (.253)	.149 (.170)	.224* (.038)	
Quality Care	-.077 (.481)	.099 (.366)	.078 (.473)	.156 (.151)	
Health Education	-.150 (.169)	.041 (.708)	.132 (.226)	.111 (.310)	
Health Outcomes	-.121 (.266)	.026 (.815)	.114 (.298)	.207 (.056)	
Effectiveness					.142 (.193)

**Significant at the .05 level.*

However, adaptation to new protocols emerged as a significant predictor of perceived effectiveness. It showed positive and statistically significant relationships with three domains: communication (r = 0.229, p = 0.034), knowledge and skills (r = 0.222, p = 0.040), and response time (r = 0.224, p = 0.038). These findings suggest that CHWs who adjusted well to evolving health guidelines were also perceived as better communicators, more competent in delivering services, and quicker to respond to community needs. This reinforces the findings of Msegu et al. (2024**)**, who emphasized that adaptability is a vital trait for frontline workers, especially when public health messaging and protocols shift rapidly during emergencies (Msegu et al., 2024).

The overall correlation between the cumulative impact of COVID-19 and the overall effectiveness of CHWs was weak and not statistically significant (r = .142, p = .193). Thus, based on these results, the null hypothesis is accepted, indicating that there is no significant overall relationship between the perceived impact of COVID-19 and the effectiveness of CHWs. While CHWs experienced substantial pandemic-related burdens, these did not statistically diminish how the community perceived their performance, underscoring their resilience and dedication during a crisis.

4.0 Conclusion

The study confirmed that community health workers (CHWs) faced significant challenges during the COVID-19 pandemic, particularly in workload, stress, and safety concerns. Despite these, they remained effective in delivering health services. Adaptation to new protocols was the only factor significantly linked to improved communication, response time, and applied knowledge. Overall, CHWs demonstrated strong resilience and commitment. Strengthening their adaptability through targeted training and support is essential to sustaining their effectiveness in future health emergencies.

5.0 Contribution of Authors

They contributed equally to the conception, design, data collection, analysis, interpretation of results, and manuscript writing. Both authors reviewed and approved the final version of the paper and are accountable for all aspects of the work.

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7.0 Conflict of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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