Occupational Health and Safety Policy Compliance among Community Health Workers in Western Kenya

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Abstract

Background: Compliance with occupational health and safety policies, monitoring, and evaluation are critical components of a safe workplace. Occupational hazards among community health workers have rarely been studied. This study aimed to assess compliance with occupational health and safety among community health workers in Western Kenya.

Methods: This cross-sectional study used a quantitative data-collection method. A sample of 309 community health workers and community health extension workers was selected using purposive and simple random sampling from 47 counties in Kenya and community health units, respectively. All community health workers in the sampled community units in the administrative locations were included as study participants. A structured questionnaire was used to collect data from the participants.

Results: Approximately one-third of the participants were females, 211(75.9%). Participants' ages ranged from 18 to 68 years, with a mean of 36.8 years and a peak of 41-50 years, 113 (40.6%). The mean compliance to occupational level was 15.5, with a standard deviation of 6.7. Nearly three-quarters (76.6%) of the participants had low compliance with occupational health policy. A relatively high compliance score was in the 20-30 age group, with a mean score of 2.86±1.07 SD.

Conclusion: This study provides evidence for the implementation of an occupational health policy to improve the care and safety of community health workers in Kenya.

Keywords: Policy, community health workers, Kenya, occupational health, safety, compliance

Introduction

Almost 2 million people die from work-related causes of occupational risks and exposures each year, as reported by the World Health Organization (WHO) /International Labour Organization (ILO) assessment report (WHO, 2020). Protecting health workers ensures their safety, health, and well-being to perform their work effectively and protect those they serve (WHO, 2021a). According to the World Health Organization, the health sector is one of the most hazardous work settings for health and safety, presenting specific risk factors that impact the health and well-being of workers (WHO, 2020; Rail et al., 2021). All healthcare

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workers, including health professionals, are exposed to various occupational hazards to differing degrees, including work-related diseases, accidents, injuries, and occupational hazards (Rail et al., 2021). Other occupational risks amplified by the COVID-19 pandemic include violence, harassment, stigma, discrimination, heavy workload, and inadequate or lack of proper protective equipment (PPE) should be addressed (WHO, 2020). Studies have shown that mental health among healthcare workers often goes unreported or unnoticed and hence receives no attention, yet they are a vital contributor to occupational hazards (Giurgiu et al., 2016). Protection also requires educating workers on occupational hazards, workplace health and safety policies, their right to a safe workplace environment, reporting exposure to occupational hazards, and the process of redress (WHO, 2020; WHO, 2021a). Implementing occupational health and safety policies and monitoring and evaluation are essential components contributing to a safer and more sustainable workplace (Rai et al., 2021).

In 2010, the World Health Organization and the International Labor Organization expanded the global framework for the development of national programs on occupational health and safety of health workers (WHO, 2021a). This includes guidelines for protecting the health and safety of health workers. This calls for a multi-sectoral approach that requires governments, employers, country regional organizations, facilities, and workers' organizations to create strong and sustainable national and field programs for occupational health and safety of health workers (WHO, 2021b). The COVID-19 pandemic, with unprecedented threats and suffering, has prompted attention to the vulnerability of healthcare workers and has demonstrated the importance of ensuring their safety (Pappa et al., 2020).

In recent decades, community health workers (CHWs) have been a growing force in extending healthcare and improving the health of populations worldwide (Perry et al., 2014; WHO, 2007; WHO, 2010; WHO 2020a; WHO 2020b). Community health workers (CHWs) are frontline health workers who contribute to access and utilization of health care services and provide outreach and follow-ups with community members and health providers. This is of great importance, especially in developing countries with much less healthcare workforce, where people may lack means of transport to health facilities or other resources, including insurance and finances necessary for formal utilization of health facilities. As noted by previous studies (WHO, 2020a), the inequitable distribution of health workers within countries and the need to accelerate progress in reducing the burden arising from readily preventable and treatable conditions worldwide make it imperative to take stock of the current evidence of CHWs. They are a diverse category of health workers who commonly work in communities outside fixed formal health facilities and have some training for their expected tasks they are expected

to perform. However, they generally do not receive any formal professional or para-professional certificates or tertiary education degrees (WHO, 2020a).

The roles of CHWs and work arrangements vary broadly across the globe, from working in clinics to communities to homes, from preventing disease to promoting access to services, health education, and engaging in disease-related activities to support primary health care in general (Perry & Hodgins, 2021; WHO, 2007; WHO, 2010; Campbell et al., 2015; Mwai et al., 2013). These tasks present challenges, especially when policies for occupational health and safety (OHS) are not effectively implemented or monitored in the workplace. In addition to other challenges, such as lack of PPE, job overload, and a lack of systematic supervisory procedures and redress on workplace policies, CHWs may experience occupational hazards not documented or addressed (Njororai et al., 2021).

High-income countries have the resources to invest in training enough personnel to monitor these risks and implement safety measures and standards to protect healthcare workers, and their mitigation strategies have greater success (Rai et al., 2021; Global Health Council, 2021). In many low- and middle-income countries (LMICs), occupational health and safety are often neglected, which is attributed to a lack of political commitment, insufficient resources, poor data collection systems, and weak enforcement of regulations (Rai et al., 2021). An analytical study by Liese and Dussault (2004) found that poor working conditions and health threats contribute to problems in the recruitment and retention of healthcare workers in LMICs, augmenting the issue of shortages of healthcare workers in these countries. Findings from studies conducted in high-income countries cannot be generalized to LMICs because exposure to LMICs is likely to be different from those in high-income countries due to differences in legislation and regulations, healthcare systems, work practices, and the availability of control measures (Rai et al., 2021; Global Health Council, 2021; Owie & Apanga, 2016; WHO 2020).

The Global Health Council (GHC) clearly states that frontline health workers, including CHWs, provide essential health services to communities with the least access to quality care, especially in remote and rural areas (Global Health Council, 2021). According to the Frontline Health Workers Coalition (Frontline Health Workers Coalition, 2014 & Frontline Health Workers Coalition, 2021), CHWs are frequently invisible in policies, strategies, and budgets at the national and sub-national levels despite their active involvement in the health system. The lack of adherence to a standard definition and the related lack of human resource information systems data on CHWs cause significant challenges in making data-driven decisions about how to involve CHWs in national health systems. Occupational hazards among community health workers (CHWs) are rarely researched or mentioned among the challenges they face (Njororai et al.,

2020). The paucity of research in this area is the rationale behind this study. While the overall OHS policy statement in Kenya states what employers should do to ensure worker safety and protection, it was designed to focus on levels 2-5 of the healthcare system. This leaves gaps for Level 1, in which CHWs are linked to Level 2. Thus, it is unclear who is responsible for ensuring OHS for CHWs when they are not fully integrated into the formal health system, and their work is primarily voluntary and part-time.

This study aimed to assess the implementation practices and knowledge of occupational health and safety among CHWs in western Kenya, with Vihiga County serving as the case study. The study findings are helpful for stakeholders and CHWs to ensure that they pay attention to OHS matters in implementing, monitoring, and evaluating the safety of the workplace and working conditions. This will address the challenges and could be a springboard for motivation in this group of workers and others, contributing to sustaining them as a much-needed resource for healthcare delivery, especially with the anticipation of universal healthcare.

Methods

Study Setting and Design

This cross-sectional study used quantitative approaches to assess compliance with occupational health and safety policies among community health workers in Vihiga County, Kenya. Vihiga County is located in the western region of Kenya and has five administrative sub counties: Hamisi, Emuhaya, Luanda, and Sabatia. It has a population of 590,013, of which 51.92% are women and 64.40% of the total population are under the age of 30 years (KBNS, 2019).

Sample and Sampling Procedure

The sample size was estimated to be 309 participants using Slovin's formula based on the population size (N) of 930 community health workers in the county (Perry et al., 2014) and a margin of error (e) of 5%, assuming a non-response rate of approximately 10 %. Vihiga County was chosen because it has institutionalized the schemes of service for community health services, and the researchers believed they would provide the rich data required. Two sub-counties, Emuhaya and Hamisi were randomly selected. Eleven and nine community health units were selected from the Emuhaya and Hamisi sub-counties, using simple random sampling. Community health units are specific locations where community health and extension workers operate. Eleven and nine community health units were selected for this study, respectively. All community health workers in the sampled community units in the administrative locations were included as study participants.

Table 1

Sampling Strategy of Community Health Units and Community Health Workers

	Sub-county	Total number of Community Units	Sampled community units	Sample
Vihiga	Hamisi	30	11	134
County	Emuhaya	28	9	175
	Total	58	20	309

Questionnaire Development

We designed a questionnaire with both closed- and open-ended questions to assess compliance with occupational health and safety among community health workers in Western Kenya. The first section of the questionnaire addressed the demographic characteristics of the participants. In contrast, the second section had six questions or statements to assess community health workers' compliance with occupational health policy. The questions covered the existence of occupational health policies, training, routine inspection of the workplace, policy implementation, and the use of personal protection equipment (PPE). To assess compliance with occupational health and policy, the total score was obtained by summing the individual scores of six questions, each ranging from 1 to 5. Therefore, the total score ranged from 1 to 30.

Further assessments were performed to categorize the extent of compliance as low or high. Respondents who scored below the mean were classified as having low compliance, and those who scored above the mean were classified as having high compliance with occupational health policy. Other issues addressed were the roles of authorities or occupational health committees as defined in the policy, hindrance to policy implementation, recommendations to implement policy, and occupational health programs for community health workers in the County. The questionnaire was pretested on 20 participants in neighboring sub-counties before distribution and actual data collection. Data quality assessment for completeness of data elements and data validity were undertaken before commencing with the statistical analyses.

Data Collection

Three research assistants were recruited**,** trained, and taken through the content of the data collection tools, process, and ethical issues. Data collection was supervised by a field coordinator who ensured data quality. Altogether, 309 surveys were conducted with all community health workers and extension workers in the selected community health units.

2.7. Data Processing, Analysis, and Presentation

The quantitative data were coded and entered into a statistical package for social sciences (SPSS software version 23, SPSS Inc., Chicago, IL, USA). Descriptive statistics were used to examine the

frequency distribution of demographic characteristics and hindrances to occupational health policy compliance. Compliance with occupational health and policy was assessed by computing the total score obtained by summing the individual scores from the six questions, each ranging from 1 to 5. The total score ranged from 1 to 30. Respondents who scored below the mean were classified as having low compliance, and those who scored above the mean were classified as having high compliance with the occupational health policy role of CHWs. Generalized linear models were used to assess the extent to which various demographic characteristics influenced the implementation of occupational health policies among community health workers. Tables were used for data presentation. Statistical significance was set at $p < 0.05$.

2.8. Ethical Considerations

The study was conducted in accordance with the guidelines of the Declaration of Helsinki and was approved by the University of Eastern Africa, Baraton Ethics Review Committee, Kenya. Administrative permission was obtained from the Vihiga County Administration, Medical Services Department, and public health community leaders. Informed consent was obtained from all subjects involved in the study who signed a Consent Form that explained the voluntary participation and purpose of the study. Privacy and confidentiality of the information were assured; voluntary participation and withdrawal from the study at any stage without victimization were allowed, and the subjects' anonymity was assured.

Results

Demographic Characteristics of Community Health Workers

With a response rate of 90%, 278 participants completed the questionnaire. Approximately one-third of the participants were females 211(75.9%). Participants ages ranged from 18 to 68 years, with a mean of 36.8 years and a peak of 41-50 years 113 (40.6%). Most of the participants were married, comprising 198 (67.6%). Participants with no formal education had the lowest presentation as community health workers 11(4.0%). More than half of the participants were self-employed, 144 (51.8%).

Table 2

Demographic Characteristics of Community Health Workers.

Demographics	**n**	**%**
Gender		
Male	67	24.1
Female	211	75.9
Age		
18-20	2	0.72
21-30	25	9.0
31-40	79	28.4
41-50	113	40.6
51-above	2	0.72
Marital status		
Married	198	67.6
Single	27	9.7
Divorced	9	3.2
Widow/widowed	39	14.0
Separated	5	2.0
Level of education		
No formal education	11	4.0
Primary	113	40.6
Secondary	154	55.4
Employment		
Self-employed	144	51.8
Employed	15	5.4
No employment	119	42.8

Compliance with Occupational Health and Policy by Community Health Workers

The total score for the six questions addressing compliance with occupational health policy ranged from 1 to 30, with an average score of 15.5 and a standard deviation of 6.7. Nearly three-quarters (76.6%) of the participants had low compliance with occupational health policy (see Table 3). A relatively high compliance score was in the 20-30 age group, with a mean score of 2.86±1.07 SD. Among the participants who recorded high compliance, a greater proportion were females (59.1%), with a mean score of 2.71±1.18.

Table 3

Policy Compliance by Community Health Workers in Vihiga County

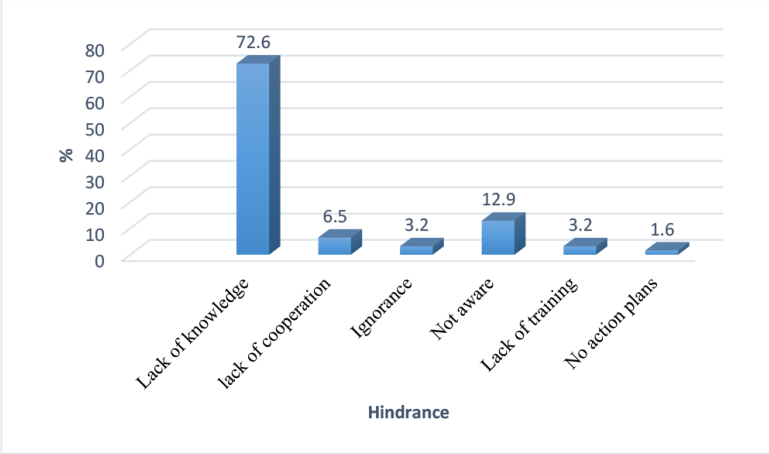
Policy	SD (1)		D (2)		N (3)		A (4)		SA (5)		Mean & SD	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*Mean*	*SD*
Occupational health safety policy exists	36	12.4	126	45.5	45	16.2	62	12.6	9	3.2	2.6	1.1
The occupational health policy for CHWs is being implemented	36	12.9	131	47.1	46	16.5	58	20.9	7	2.6	2.5	1.0
Use PPEs is enforced	37	13.3	127	45.3	53	19.8	22	7.9	37	13.3	2.6	1.2
Environment hazards are reported to concerned body	35	12.6	127	45.3	52	18.7	28	9.7	37	13.3	2.7	1.2
Occupational health basic principles are taught to concerned body	37	13.3	127	45.3	48	17.3	57	20.5	9	3.2	2.5	1.1
Routine Inspection at my workplace	35	12.6	127	45.7	53	19.1	28	9.5	35	12.6	2.6	1.2
Overall mean											15.5	6.7

Hindrance of Occupational Health Policy

Participants were asked what barriers hindered their compliance with the occupational policy. Lack of knowledge (72.6%) was identified as a leading hindrance to compliance with occupational health policies.

Figure 1

Hindrance of Occupational Health Policy



Factors Influencing Compliance of Occupational Health Safety Policy

Generalized Linear regression analyses were performed to examine the effects of several possible explanatory variables. Using compliance of OH safety policy for health workers as the dependent variable, the following independent variables were entered into the logistic regression model: age, sex, educational level, marital status, the existence of occupational health safety policy, training, lack of training, and ignorance. Three sets of analyses were sequentially performed.

In the first entry, the existence of an occupational health safety policy, lack of training, and ignorance were excluded from the model to allow for the assessment of demographic variables. A strong positive correlation between gender and compliance of OH safety policy for health workers was demonstrated ($p<0.016$): As summarized in Table 4, the effects of age, marital status, education level, and employment status were not statistically significant ($p>0.05$). Ordinal logistic regression with robust standard errors was fitted to the model factors in the second and third regression models. Hindrances, including training, lack of knowledge about the policy, and ignorance, were included separately. Female community health workers were more likely to comply with occupational health and safety policies than their male counterparts (OR=1.3; Cl=0.45-5.51). Those aged 21–30 years are seven times more likely to comply with the OH safety policy than other age brackets. Other factors mentioned were lack of awareness (OR=2.9; CI=0.15-20.51), Lack of cooperation from clients (OR=1.8; Cl=0.15-23.06), No action plans and ignorance to occupational policy were not significant (OR=1.7; Cl=0.074-41.58) and (OR=0.04; Cl=0.02-3.96).

Table 4

Factors Influencing Compliance of Occupational Health Safety Policy

Factor	Coefficient	OR (95%CI)	P (value)
Age			
18-20	-.248	0.78(0.01-77.15)	.916
21-30	2.027	7.6(1.49-18.68)	.015
31-40	.396	1.49(0.41-5.45)	.550
41-50	.303	1.36(0.45-4.11)	.592
51 and above	0[a]	1(-,-)	-
Gender			
Female	.703	1.3(0.45-5.51)	0.016
Male	0[a]	1(- ,-)	-
Marital status			
Married	-0.987	0.4(0.002-56.41)	0.700
Single	1.178	3.3(0.02-517.69)	0.649
Divorced	3.605	36.8(0.15-9332.29)	0.202
Widow/widower	-0.951	0.4(0.002-62.93)	0.714
Separated	0[a]	1(--)	-
Education level			
No formal Education	0[a]	1(- -)	-
Primary Education	0.761	2.1(1.02-4.50)	0.045
Secondary education	0[a]	1(- -)	-
Bachelor degree	-	-	
Employment status			
Self-employed	-0.909	0.4(0.46-3.50)	.410
Employed	-2.121	0.1(0.008-1.75)	.121
No employment	-1.311	0.3(0.025-2.87)	.278
Barriers/hindrance			
Lack of knowledge	1.93	2.9(0.15-6.51)	0.000
Lack of cooperation from clients	-2.6	1.8(0.15-3.86)	0.006
Ignorance	-7.6	0.54(0.018-8.90)	0.450
Not aware	-2.4	1.4(0.12-18.58)	0.005
Lack of training	-3.6	0.04(0.02-3.96)	0.63
No action plans	-2.1	1.7(0.074-41.578)	0.94
Existence of occupational health	3.503	4.7(0.074-41.59)	0.001
Safety policy			

Function or Role of the Occupational Health and Safety Committee in the County or Facility

The study assessed the roles of occupational health and safety committee as implementers of occupational health policy identified by community health workers in the County were; enforcing corrective measures 50(18%). Coordinating capacity building and management of incidents and emergencies comprised 48(17.3%).

Table 5

Function or Role of the Occupational Health and Safety Committee in the County or Facility

Function	Yes (%)	No (%)
1. Enforce corrective measure	50(18)	227(81.7)
2. coordinate capacity building	48(17.3)	229(82.4)
3. Management of incidents and Emergencies	48(17.3)	229(82.4)
4. Conducting workplace audits& risk assessments	47(16.9)	230(82.7)
5. Liaise with human resources	39(14)	238(85.6)
Other roles		
6. Provide guidance	4	1.4
7. Provide security	13	4.7
8. Don't know	5	1.8
9. Medicines not sold to private hospitals	4	1.4
10. Support supervision	5	1.8
11. No committee	7	2.5
12. Provide health insurance	2	0.7

Discussion

Optimizing community CHW programs requires evidence-based policy implementation to effectively and efficiently manage their work. We observed that CHWs in Vihiga County, Western Kenya, played critical roles in improving health service delivery in the county. Notwithstanding, there are challenges and gaps in the implementation of health system policies. The key findings of our study imply that CHWs have no knowledge of the existence of health policies in the county. This study shows that even if there are health policies, they are not seriously implemented, taught, or enforced in the workplace. This may be due to a lack of effective supervision by CHWs in the community. These findings largely support existing knowledge on CHWs' safety policy implementation and compliance (Mogakwe et al., 2020; Baatiema et al., 2016; Huang et al., 2018).

In his study, Kondor (2018) found that 69.3% of healthcare workers did not comply with the national infection

prevention control policy. His study indicated that time constraints were significantly associated with compliance. In other words, health workers who never had time constraints were 92.36 times more likely to comply with infection prevention and control policy than those who always had time constraints. Our study concurs with the findings of Gracia-Zapata et al. (2010) that health workers' adherence to standard precautions is very low.

Compliance with the community health policy by the CHWs is based on the existence of the policy and its enforcement. Our study showed that 65.4% of the CHWs who had complied or thought their colleagues were complying reported that occupational health policies existed in the workplace. On the other hand, those who had not complied noted that no policy existed at the workplace. Hence their compliance to the health policy was directly associated with the teaching or enforcement (χ =80.6; p=0.000) and the existence (χ=76.6; p=0.000 of the policy at the workplace. Policy development is the first step toward the successful delivery of health services.

The second step is the effective implementation. Our findings indicate that the factors affecting CHWs' compliance with occupational health safety policies in Vihiga County include lack of cooperation, lack of awareness of policies and monitoring, and lack of standard occupational health and safety implementation practices. Our findings are consistent with Akagbo et al. (2017), Timilshina et al. (2011), and Abubakar et al. (2015), respectively.

Age, gender, and educational level also played significant roles in implementing and complying with the implementation and compliance of occupational health safety policies among CHWs. Younger female community health workers were more likely to enforce and comply with occupational health and safety policies than their male counterparts (OR=1.3; Cl=0.45-5.51). Jhpiego et al. (2018) demonstrated that, out of the total number of CHWs compliant with performance standards, 85% were female and 69% were male. Another study in Zambia (Hamer et al., 2012) found that female CHWs were more compliant with positive treatment protocol results than facility-based CHWs. Murphy et al. (2021) suggested that the implementation of the CHW policy must be adaptable and appropriate for the context in which it is implemented to achieve the objectives of primary healthcare and to support the implementation and rollout of universal health coverage. According to Hardee et al. (2012), policy implementation not only specifies the institutions responsible for implementing the policy but also ensures that the institution has the capacity for implementation. Thoughtful consideration of policy implementation is important because once adopted policies are not always complied with as planned and do not necessarily achieve the intended results (Bhuyan et al., 2010). Policy implementation should be an ongoing process, although pressures, resistance, and stakeholder barriers may exist.

The ability to critically assess barriers to policy compliance and address their root cause is critical to the successful implementation of health policies. The root cause of noncompliance with health safety policy implementation in any community can be sociological, political, structural, institutional, or cultural. This research is unique because it presents detailed countryside CHW policy compliance across Vihiga County in Western Kenya. It was evident that CHWs had a passion and commitment to make a difference within the county they served, but health and safety policy implementation challenges still existed.

Limitations of the Study

This study concentrated and covered only county government-facilitated community units in Vihiga to examine and evaluate compliance with occupational health and safety policy among community health workers.

Occupational health policy compliance was also measured from the perceived view of the community health workers and community health extension workers who are the recipients of the policies. However, due to limited time and resources, the study did not include service implementers who are county health officials. Hence, the study's results may not accurately depict the county's occupational health policy implementation and compliance performance. Thus, the study results are carefully conveyed for validity and generalizability.

Conclusion and Recommendations

This study provides evidence of occupational health policy compliance to improve care and safety among community health workers across community health strategy units, which is a level-one healthcare delivery in Kenya. It also revealed that compliance with the community health policy by CHWs is based on the existence and enforcement of the policy. Optimizing community CHW programs requires evidence-based policy implementation to effectively and efficiently manage their work. The study observed that CHWs in Vihiga County, Western Kenya, played a critical role in improving health service delivery. Notwithstanding, there are challenges and gaps in the implementation of health system policies. The key findings of our study imply that CHWs do not know of the existence of health policies in the County. This study shows that even if there are health policies, they are not seriously implemented, taught, or enforced in the workplace. This may be due to a lack of effective supervision by CHWs in the community. These findings largely support existing knowledge of CHWs policy implementation and compliance. The root cause of non-compliance to health safety policy implementation in different contexts could be sociological, political, structural, institutional, or cultural. It was evident that the CHWs had the passion and commitment to make a difference within the counties they served. However, challenges to health and safety policy compliance and implementation still exist.

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Conflicts of Interest: None declared.

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