Perspective

Addressing gaps in protection of health workers and infrastructures in fragile and conflict-affected states in Africa

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Abstract

Fragile and conflict-affected areas in Africa continue to face significant challenges in accessing healthcare, causing underperformance on a wide range of health-related objectives. Africa is a testament to unprecedented level of insecurity ranging from inter-ethnic, inter-communal and intra-communal violence; religious strife; assassination; armed banditry; and kidnapping. There have been documented cases of violence against healthcare workers as well as the infrastructures. These situations impacted health service delivery in several ways such as spread of infectious diseases through population displacement and overcrowding, impaired access to healthcare because of the damage to medical facilities, death of healthcare workers and social unrest. In a bid to safeguard healthcare workers, health units, and health transportation, several strategies, policies and laws were put in place by worldwide institutions, such as the United Nations Security Council and the World Health Assembly. There is need for concerted effort to sustain healthcare services and ensure continuity of care in the face of conflict and instability in Africa. In addition, establishing and implementing evidence-based measures like adequate security measures, adherence to international humanitarian law, accountability, and advocacy are all necessary to protect health infrastructure and healthcare workers from attacks, kidnappings, and violence would help close the gaps that currently exist in protecting health workers and infrastructure in unstable and conflict-affected states in Africa. This article aims examine gaps in protecting health workers and infrastructure during armed conflicts in African countries, and propose strategies to strengthen legal frameworks and promote adherence to international humanitarian law in order to safeguard healthcare services in fragile and conflict-affected states.

Keywords Health workers · Fragile states · Conflict-affected areas · Infrastructures · Africa

1 Introduction

Attacks on healthcare workers and facilities during armed conflict have grave humanitarian and public health impacts. In 2021, the International Committee of the Red Cross (ICRC) released an article on assaults against health personnel and infrastructure in several countries experiencing violence [15]. These attacks not only causes death and serious injuries to healthcare workers but also results in the loss of health infrastructures and services, including the renovation cost to restart the services provided after cessation of the conflict [47]. Health-related infrastructure such as hospitals,

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medical stores, vaccine storage, and ambulances ensures the availability of facilities and services to deliver health care to communities and needs to be protected and safeguarded against sabotage or harm that may disrupt services [32]. Moreover, the impact of armed conflict on health services poses a significant barrier to achieving the Sustainable Development Goals and ensuring the welfare of populations [3].

While international law and medical ethics demand protection and neutrality for healthcare during hostilities, violent assaults have continued. During armed conflicts, health workers face ethical dilemmas as they strive to uphold medical ethics and provide emergency care. This challenging environment often leads to violations of medical ethics, as health workers prioritize saving lives and treating patients amidst limited resources and pressures from conflicting parties [27]. The 1949 Geneva Conventions and their supplemental protocols place a high priority on the protection and dignity of healthcare workers [13]. Despite this healthcare workers are frequently the targets of direct attacks, hostage-taking, torture, imprisonment, detention, threats, harassment, intimidation, and hostility from parties involved in the conflict [37], Nonetheless, attempts have been made to create a multi-faceted response to defend health workers from violence during armed conflict [14, 17]. Research on this topic in Africa's fragile and conflict-affected states has been scant.

There are many different types of conflicts, including international and domestic ones involving two or more governments, liberation wars, insurgencies, civil wars, among others. In 2022 alone, over 1,000 incidents were documented across 15 African countries, including physical violence against workers, kidnappings, sexual assaults, and obstruction of treatment through facilities being cut off or supplies stolen. When medical professionals cannot operate safely, it negatively impacts crisis response and long-term public health outcomes [38]. For example, in Sudan, there was a notable surge of violent incidents that affected healthcare provision in 2021—52 instances were reported, as opposed to just 15 in 2020 [12]. Health workers were affected by the October 2021 coup, which resulted in the deaths of two doctors and 35 protest-related incidents [33]. On November 17, fifteen physicians were taken into custody and assaulted sexually by armed men [33]. High-profile events like the bombing of the Médecins Sans Frontières (MSF) hospital in Nuba Mountains village of Frandala, Sudan, have highlighted the dangers facing healthcare workers in conflict zones. This attack resulted in the death of 42 people, both staff and patients, and left numerous others injured [33]. The local populace was deprived of emergency care due to the region's frequent and targeted bombings, which make it unsafe for medical operations to take place (Degefe 2023). The conflict began when a political struggle broke out between military factions following the government's rocky transition to civilian control. This has resulted in hundreds of deaths and thousands more people fleeing for their lives [33]. The Security Council demanded that the warring parties in Sudan immediately stop their hostilities during the month of Ramadan and engage in constructive conversation in order to find a long-term solution to their differences [12]. Subsequently, it suggests an all-encompassing peace strategy that tackles the political dimensions of the conflict and suggests reorganizing Sudan's administrative, economic, and social domains to prevent further exploitation of ethnic divisions. The trend of healthcare workers' attacks is on the rise, and it is having a direct impact on already strained healthcare systems in conflict-affected areas []. This is especially significant as, in the wider debate, the prosecution for war crimes related to attacking healthcare infrastructure has been ineffective in deterring such acts [21]. Gaps in legal accountability and security measures leave health systems unprepared for the protection challenges presented by armed conflict. Therefore, this article aims examine gaps in protecting health workers and infrastructure during armed conflicts in African countries, and propose strategies to strengthen legal frameworks and promote adherence to international humanitarian law in order to safeguard healthcare services in fragile and conflict-affected states.

1.1 Impact of conflict on healthcare services

There are several historical and socioeconomic factors that have contributed to high levels of armed conflict in low- and middle-income countries. Many nations in the global south have experienced the legacy of colonial borders that artificially divided ethnic groups and exacerbated political tensions. They also face ongoing challenges like poverty, lack of opportunity, and competition over scarce resources which militant groups can exploit to mobilize support. According to the World Bank, 80% of people living in extreme poverty reside in countries that have recently experienced conflict [46]. Long-term underdevelopment and the pressure of meeting basic needs in these settings increases vulnerability to instability. Meanwhile, the abundance of small arms and a history of foreign involvement in regional disputes have lowered the threshold for violence to become an option. Conflict affects the provision of healthcare through various means, such as heightened healthcare demands due to violence and the proliferation of infectious diseases, reduced access to care caused by the destruction of healthcare infrastructure and the absence of healthcare professionals, and the impact of instability on individuals' ability to reach healthcare facilities [20]. The diagnosis and treatment of illnesses,

wounds, and other medical issues resulting from conflicts need the use of these services. In fragile and conflict-affected states in Africa, healthcare services are especially important for preserving the health and well-being of citizens [32]. Civilians are frequently the ones most impacted by conflict, including problems like food insecurity, lack of access to healthcare, and displacement [36].

Even though healthcare services are vital in Africa's fragile and conflict-affected states, they are frequently attacked by opposing groups, which results in their total destruction or incapacitating status [30]. When healthcare infrastructures are destroyed, citizens in conflict areas are left without access to treatment, which results in many fatalities and sufferings. It is difficult for both the general public and health professionals to reach underserved communities in conflict-affected areas due to general insecurity and instability [25]. It can be challenging and risky to travel to and from medical institutions. According to reports from the Central African Republic, young girls who had gunshot wounds travelled for days in order to get to the hospital in a safer manner [26], as government forces attacked physicians, hospitals, and civilians to obtain military edge [26]. As a result, healthcare workers from Central African Republic were displaced, and access to healthcare was noticeably reduced in places where there were more dangers to personal safety (Lara et al. 2021). The risks that medical personnel face when working in conflict areas have been brought to light by high profile incidents like the bombing of the Médecins Sans Frontières (MSF) hospital in Nuba Mountains village of Frandala, Sudan. This attack resulted in the death of 42 people, both staff and patients, and left numerous others injured [33].

During the conflict, civil society started to challenge state activities and demand news, which was a significant historical turning point in Sudan (Lara et al. 2021). Advances in photo journalism enabled civil society organizations to look into and record armed conflict situations in the future [19]. While it is undeniable that Sudan empowered civil society to demand investigations and state accountability for alleged violations of the laws of war, this case study reveals that there is limited public awareness regarding violations of International Humanitarian Law. Even though publicity campaigns are conducted, they may be more impactful if they explicitly promote formal investigations [4]. Armed conflict has a significant impact on public health, resulting in wide range of effects that fall into two categories: direct and indirect. The immediate morbidity and death brought on by the use of explosives and firearms during hostilities are the main focus of direct repercussions. Evidence suggests that both military personnel and civilians are affected by causalities from conflict-related incidents, which frequently result in higher rates of morbidity and mortality than are typically seen in places untouched by conflict. Important infrastructures that support health, like the availability and safety of food and water, sanitary conditions, electricity, transportation, and communication, are also harmed by conflict [30]. Famine and starvation can result from damaged agricultural infrastructure. Delivering medicine to the remote communities in the Central African Republic has become considerably more difficult as a result of the violence disrupting the nation's already inadequate logistics and transport capability [42]. In general, a community is more susceptible to disease epidemics when basic services are lacking. For example, millions of people in Somalia lack access to basic healthcare as an outcome of the continuous conflict that began in 1991 and virtually destroyed the nation's healthcare system. Similar to this, decades of conflict in the Democratic Republic of the Congo have resulted in a serious scarcity of health personnel and equipment, putting civilians at risk for avoidable illnesses, injuries and death [34].

A widely recognized idea stemming from international human rights law, medical ethics, and international humanitarian law is known as "medical neutrality." Its foundation is the idea that medical care should not be interfered with during times of military war or civil upheaval. It advocates for the freedom of health workers and first responders to treat patients regardless of their political beliefs. Thus, assaults on and mistreatment of health workers equipment, and infrastructures are prohibited by international humanitarian law. There is a correlation between the rise in violence and the decline in adherence to the principles of international humanitarian law [4]. Adopted in 2016 [40], Resolution 2286 of the United Nations (UN) Security Council vehemently denounces attacks on healthcare infrastructures and health workers during times of conflict. The violation of medical neutrality has come to be recognized as a war crime, because of its effects on people living in and around conflict zones, as well as on medical professionals who have a duty to save lives and treat the injured [19]. It is imperative that healthcare services in fragile and conflict-affected states of Africa be preserved and protected. Ensuring people have access to essential medical care and preventing needless deaths are two benefits of maintaining healthcare services [4]. Furthermore, in conflict situations, healthcare services can serve as a stabilizing force, building confidence between opposing groups and communities [45]. For instance, in Cameroon, where armed organizations classified as terrorist organizations have long incited violence and turmoil. World Health Organization (WHO) works to promote peace and lessen communal conflict in the country's far northern region [35]. To foster trust in government authorities and enhance community unity, WHO, in collaboration with the International Organization for Migration, assists in delivering fairer health and social services that align with identified needs through inclusive and participatory methods (such as community health dialogue forums). This involves supplying essential

healthcare equipment to facilities affected by attacks, improving healthcare accessibility, and mitigating feelings of neglect.

1.2 Attacks on health workers and health infrastructures during armed conflicts

During an armed conflict, there is a significant risk of attack, interference, or obstruction to the security of healthcare staff and facilities. Attacks during armed conflicts have included attacking, demolishing, or pilfering healthcare infrastructures; using healthcare facilities for military objectives; obstructing access to healthcare; firing on emergency vehicles; and using violence, threats, or intimidation to stop health professionals from carrying out their moral obligations to patients [18]. Many international accords pertaining to human rights, such as the Geneva Conventions [13], the International Covenant on Civil and Political Rights [29] and the International Covenant on Economic, Social, and Cultural Rights [29], as well as customary international law [7], are violated by each of these acts. These attacks also negatively impact health systems, access to healthcare, and health personnel, who frequently flee the nation or conflict zone as a result of these attacks. However, few of these crimes have been prosecuted in national or international criminal courts, and the great majority were not methodically monitored and documented, there are few protection tactics, and when violations are discovered, there is hardly any effort made to put pressure on the offenders to follow the law [18].

In 32 countries and territories that are experiencing political unrest and armed conflict in 2022, there were 1,989 assaults and threats against healthcare personnel and facilities, according to the Violence Against Health Care in Conflict 2022 report published by Safeguarding Health in Conflict Coalition (SHCC), an international non-profit organization dedicated to safeguarding healthcare personnel, services, and infrastructure [38]. Of the thirty-two countries and territories, fifteen were located in Africa: Burkina Faso, Cameroon, Democratic Republic of the Congo, Ethiopia, Kenya, Libya, Mali, Morocco, Mozambique, Niger, Nigeria, Somalia, South Sudan, and Sudan. In comparison with 2021, there was a decline in reported instances of using violence against or obstructing healthcare in Ethiopia and the Central African Republic in 2022 [38]. The report did point out that there has been a rise in cases in a few West and Central African nations, such as Burkina Faso, Cameroon, and Mali.

First, the report emphasizes that, in Mali, there were 73 instances of aggression directed towards healthcare professionals or obstructions of care in 2022, up from 20 in 2021. 55 attacks against health workers (26 health workers were abducted in 11 incidents when travelling to or from work, to a charitable facility, or to remote areas to deliver medical care services). 9 of such attacks were against health facilities (essential medical equipment and supplies were stolen from pharmacies and health centers). And 9 attacks were also against health transportation (at least 8 emergency vehicles or ambulance motorcycles were stolen in 2022), which is comparable to the number that occurred in 2021 [38]. The European Commission estimates in 2022, five health centers in Mali's northern and central areas were non-operational, and the other four-fifths were only partially operational because of staffing shortages and insecurity. Additionally, in Cameroon, there were 70 instances of violence against medical personnel or obstructions to treatment in 2023 as opposed to 31 in 2022, 10 in 2021, and 17 in 2020. 67 assaults on medical personnel (of which 12 were arrested and 35 kidnapped), 2 assaults on medical facilities, and 1 attack on medical transportation [38]. In comparison, in 2022, three workers were abducted and four were taken into custody.

There have been 76 documented cases of violence against healthcare personnel or obstruction of care in Burkina Faso since 2022. There have been 34 assaults on healthcare personnel, 9 on medical facilities, and 33 on medical transports [11]. Additionally, there were 10 instances of violence against healthcare professionals or obstructions to treatment in Somalia in 2020 as opposed to that of 2019 which is 12. In these circumstances, eleven health professionals were abducted and six health workers were slain [38]. Likewise, the data from 2022 Safeguarding Health in Conflict report shows that there were 35 incidents of violence directed towards healthcare personnel or obstructions of healthcare in the Central African Republic (CAR) in 2022, compared to 107 in 2021 and 8 in 2020 [38]. There are currently 33 assaults against medical personnel, one on a medical facility, and one on medical transportation. It's unclear if this indicates a decrease in violent crimes or more challenges in reporting them. Health care providers' capacity to supply medical facilities with the essential resources was compromised in 2022 by health supply theft and looting. On April 2, 2021, Coalition of Patriots for Change fighters launched an attack on the civilian population, demolished a bridge and plundered a hospital in the Mbomou prefecture of the Central African Republic. Similarly, data from Ethiopia's Tigray area shows that there were 97 instances of healthcare obstruction throughout the nation in 2021 as opposed to just 7 in 2020. 42 health facilities and 55 health workers were attacked (at least 8 health workers were killed and 13 others were sexually assaulted) [38].

In Nigeria, there were 67 instances of violence against medical personnel or obstructions to treatment in 2022 as opposed to 56 in 2021.There have been 60 attacks on healthcare professionals (of which 37 were kidnapped and seven

killed), 4 attacks on healthcare facilities, theft of medical supplies from pharmacies and health centers, and 3 attacks on healthcare transportation. This made it more difficult for medical professionals to keep safe staffing levels, effectively satisfy patient requirements, and ensure that hospitals have the supplies they need [11]. There were 179 instances of violence against Democratic Republic of the Congo healthcare professionals or obstructions to healthcare services in 2022, up from 127 in 2021. 125 attacks on medical personnel (at least 50 were abducted, and seven more were slain); 29 attacks on medical facilities, resulting in the theft of medical equipment and the burning of health facilities; and 25 attacks on health transportation [11].

Amani Africa [2] reports that 434 occurrences of violence and obstruction against healthcare were registered in the Democratic Republic of the Congo (DRC) in 2019 alone. This information comes from the Peace and Security Council (PSC)'s findings. Compared to 87 in 2022, Insecurity Insight found that since there was fighting between the Sudan Armed Forces (SAF) and the Rapid Support Forces (RSF) on April 15, 2023, and February 6, 2024, there have been at least 284 occurrences of assaults against healthcare professionals or obstruction of healthcare in Sudan. There have been at least 61 health professionals slain, 30 kidnapped, and 63 injured. Furthermore, at least 62 instances of damage have been reported to health facilities [11].

According to [49, 50], there have been reports of increased hostilities in South Sudan resulting in the health services interruption and the destruction of multiple health facilities in the capital city [41]. Due to this, access to healthcare services was restricted and medical supplies for conflict victims were negatively impacted [43]. Additionally, the Safeguarding Health in Conflict Coalition report for South Sudan indicates that in 2022, there were 50 instances of assaults against healthcare workers or obstruction of healthcare in the nation (48 attacks on healthcare workers and 2 assaults on health facilities) [39].

1.3 Strategies for enhancing protection of health services

The World Health Organization (WHO) suggested that integrative, participatory, gender- and culture-sensitive, non-discriminatory, and systematic approaches be used to combat violence in healthcare [48]. Protecting health workers in African countries against violence requires multifaceted interventions to tackle both the immediate safety concerns and the underlying socio-political issues. To do these, adequate security measures, governments, humanitarian groups, and the international community should work together to bolster legislative frameworks, increase public awareness, and put policies in place that will guarantee the safety of health workers and infrastructures in Africa's fragile and conflict-affected states. International community should make use of alternative accountability checks like public advocacy campaigns to reduce offender's impunity, as criminal prosecutions of suspected International Humanitarian Law offenders are rare and typically take years to conclude. The development, promotion, and integration of best practices for the protection of healthcare in conflict settings, both before and during conflict, have been made possible through partnerships with professional and international organizations. [8]. Parties to a conflict have a duty to uphold International Humanitarian Laws for protection of healthcare and to permit humanitarian systems to function through hostilities [24]. In areas where they have territorial authority, states and armed organizations have an obligation to respect international humanitarian law, which includes offering healthcare services or facilitating access for providers of alternative healthcare [48]. Acts of violence against healthcare workers have become increasingly common, indicating that in addition to hospital-based measures, legislators, law enforcement, the media, and other civil society organizations must collaborate to guarantee the safety of healthcare providers [23]. Long-term measures to protect health systems from conflict include raising public awareness of the indirect costs of conflict, ensuring that offenders face just punishment, closing legal loopholes, and preserving the public's faith in medical professionals [22, 23].

1.4 International legal framework for the protection of healthcare during armed conflicts

International humanitarian law, human rights law, and medical ethics provide the foundation for international legal frameworks that safeguard health during armed conflict. These frameworks include the 1949 Geneva Conventions and the two additional protocols to the Geneva Conventions (1977). Collectively, these frameworks provide security in both non-international and international military conflicts (such as civil wars). The First Geneva Convention, which was signed in 1864, laid the groundwork for medical personnel and facilities to remain inviolable during hostilities between states. Later, after World War II, this was updated and expanded in 1906, 1929, and 1949. Later, in order to handle non-international conflicts, the Conventions saw the development of additional protocols. International humanitarian law (IHL), a subset of international law that has been developed since 1864, incorporates these conventions as well as the humanitarian

principles that were adopted by the Red Cross and Red Crescent Societies and later by the UN General Assembly in 1991 [44]. IHL provides protection to individuals who are not involved in or have withdrawn from armed conflict, including injured fighters, civilians, and military personnel who practice medicine and religion [9]. These frameworks impose on warring parties the need to refrain from attacking, threatening, or impeding healthcare workers and facilities, as well as from interfering with the medical care provided to sick or injured fighters and civilians. Along with allowing healthcare workers to treat the ill and injured, warring parties must also abstain from exploiting hospitals for military objectives and protect patients from abuse, harassment, or violence.

The additional protocols (Protocol I, article 16, parts 1 and 2; [13]),Protocol II, article 10, parts 1 and 2; prohibit the use of coercion to force healthcare workers to act in a way that is contrary to medical ethics; and they also impose an obligation on the parties to uphold the principles of medical ethics. Healthcare workers cannot be punished for adhering to professional ethics. These obligations are hovered on nations and other combatants regardless of whether the parties have signed the conventions and protocols, according to the International Committee of the Red Cross (ICRC), the foremost authority on the Geneva Conventions. This interpretation is based on customary international law [7]. The following can be considered violations: using methods that deviate from accepted medical standards (Additional Protocol I, article 115), intentionally attacking healthcare workers (UN. Rome statute of the International Criminal Court, 2009), or "willfully causing great suffering or serious injury to body or health" (Convention IV, article 1474). These requirements are further enhanced by human rights law, which forbids states from extrajudicial executions, arbitrary detention, torture, and other ways of denying someone their life or freedom without following the due process of law [29]. It also mandates the observance of medical ethics (UN Committee on Economic, Social and Cultural Rights, 2000). Abhorrent attacks against healthcare workers and systems continue to be a characteristic of modern armed conflict, despite the existence of these widely accepted conventions, principles, and laws limiting the application of force in armed conflict. In addition to denouncing violations of International Humanitarian Law, international institutions must thoroughly document attacks on health workers and conduct investigations and prosecutions of violent offenders in order to protect healthcare workers in conflict zones and ensure proper accountability and implementation of International Humanitarian Law [6]. The international Committee of the Red Cross positions itself as a particular defender of the corpus of international humanitarian law as well as a special defender of war victims. It uses a sophisticated, non-traditional approach to handle and balance these two tasks. This approach involves communicating covertly with parties engaged in conflict, being ambiguous when expressing its legal opinions to them, and occasionally avoiding using legal arguments altogether in order to persuade parties to abide by international law.

1.5 Bolstering frameworks for the protection of healthcare services

Attacks on healthcare during conflict impede access to healthcare for populations in unstable and conflict-stricken states, which is a significant barrier to putting up a successful health response. All violent attacks in war situations on healthcare workers, equipment, vehicles, and facilities are included in the Attacks on healthcare during conflict [31]. International community needs to take immediate action to address three critical needs that our case vignette highlight in order to encourage increased adherence to International Humanitarian Law. Initially, in order to encourage responsibility, national and worldwide inquiries concerning assaults investigations on hospitals and other IHL infractions must be carried out in an impartial, thorough, and open manner (Lara et al. 2021). Secondly, in order to advocate for inquiries into International Humanitarian Law violations, there is a need for more civil society participation and publicity [1]. Accountability is much less likely to happen in the absence of public awareness campaigns or request for inquiries from national and international organizations [51]. For instance, in an attempt to record and make public attacks on hospitals during armed conflict, an increasing number of civil societies organizations have started conducting investigations utilizing publicly available web data, thanks to the advancement of mobile technologies and social media. Lastly, when it is feasible, national or international actors ought to pursue criminal charges for these kinds of attacks [5]. A few instances of initiatives that have been carried out include the World Health Assembly's (WHA) adoption of resolution 65.20 in 2012, which urged stakeholders to act on the following issues: enhancing risk management and emergency preparedness; fortifying health recovery and coordination; and creating systems to gather and disseminate information on patient attacks and healthcare during emergencies [51]. Political initiatives were launched with the introduction of the Surveillance System for Attacks. For example, the UN Security Council (UNSC) adopted Resolution 2286 on the protection of healthcare during conflicts in 2016, demanding that all armed forces adhere to human rights and humanitarian law [28].

In order to promote international humanitarian law and international human rights law, the International Committee of the Red Cross and Red Crescent (ICRC) ensures participating in global fora through humanitarian diplomacy and

the procedure include lobbying international organizations whose activity addresses topics that are pertinent to the organization [16]. International Committee of the Red Cross and Red Crescent also makes the guidelines known to warriors and ensuring national law implementation and dissemination,integrating the law with the four components of armed forces—training and equipment, sanctions, education, and doctrine; and, finally, enhances their promotion of lawful behavior [10].

2 Recommendation and conclusion

Healthcare workers aim to give everyone in Africa's fragile and conflict-affected states unbiased, consistent care. Prioritizing the safety of these important players is necessary to make sure the efficient operation of health infrastructure in fragile and conflict-affected states in African countries. It is necessary to sustain healthcare services and ensure continuity of care in the face of conflict and instability. Establishing and enforcing evidence-based measures to protect health infrastructure and healthcare workers from attacks, kidnappings, and violence would help close the gaps that currently exist in protecting health workers and infrastructure in unstable and conflict-affected states in Africa. In order to protect these medical professionals and infrastructures they rely on in these areas, adequate security measures— such as fortifying security arrangements, guaranteeing the safety of health workers, offering education on self-defense and resolving conflict, as well as setting up procedures for reporting and handling violent events—should be given top priority. Increasing the number of security guards on duty or erecting safe perimeters will improve the safe zones established for healthcare infrastructures.

Insofar, they are not participating in direct combats, patients, healthcare infrastructures, health worker, and other parties ought to be protected during times of conflict under the express provisions of International Humanitarian Law. The international community must step up and match words with deeds by directing the United Nations Security Council to provide protection for health workers and infrastructure in war zones and to initiate dialogue with all parties, including governments and warring groups, to uphold the principles of medical neutrality in conflict areas. Fragile and conflict-affected countries in Africa are signatories to the International Humanitarian Law. The governments of Africa's fragile and conflict-affected states, as well as the parties looking into attacks on healthcare facilities need to thoroughly examine the intentions of the culprits which will undoubtedly strengthen International Humanitarian Law and the objective of safeguarding healthcare in general since nothing is known about how military decision-makers confirm what goes on inside a medical facility, thorough independent investigations conducted with due diligence from national security in order to clarify the process by which these choices are taken and justified. Lastly international community should make use of alternative accountability checks like public advocacy campaigns to reduce offender's impunity, as criminal prosecutions of suspected International Humanitarian Law offenders are rare and typically take years to conclude.

To defend health workers and healthcare infrastructures, governments should rewrite their military doctrine, social education programs, and training programs. By denouncing attacks on health workers and infrastructures, it is necessary to increase and reinforce accountability, visibility, and monitoring. Establishing methods to track and record assaults on health workers and infrastructures is essential, as is encouraging domestic and international frameworks to hold those responsible for these types of attacks accountable. Promoting adherence to international humanitarian law, which mandates the safety of health workers and infrastructures, during hostilities, is imperative. Governments, humanitarian groups, and the international community should work together to bolster legislative frameworks, increase public awareness, and put policies in place that will guarantee the safety of health workers and infrastructures in Africa's fragile and conflict-affected states. The impartiality and sanctity of healthcare should be respected, and armed groups, nearby communities, and other interested parties ought to be included in fostering understanding of this. Ensuring the protection of healthcare workers and the infrastructure they rely on in unstable and conflict-affected governments in Africa requires coordination across governmental, agency, and global health actors in these circumstances. To deal with the root causes of conflicts, peacebuilding initiatives, communication, and conflict resolution procedures must to be encouraged and supported to help safeguard health infrastructure and healthcare personnel in fragile and conflict-affected states across Africa.

Ultimately, the safety of healthcare workers and the infrastructures they depend on to provide high-quality healthcare delivery is a fundamental human right. The infrastructure and protected health personnel must stop being targeted right away. Healthcare personnel and the medical system as a whole are not objectives for the military. International humanitarian law provides them with protection. It is deplorable and forbidden to attack them. Thus,

it is crucial that all governments and parties involved in fragile and conflict-affected regions of Africa make sure that healthcare workers and the infrastructures are properly protected.

Data availability No datasets were generated or analysed during the current study.

Declarations

Competing interests The authors declare no competing interests.

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