Reproductive Health

COMMENT

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# Collateral damage: the overlooked reproductive health crisis in conflict zones

Sylvester Reuben Okeke[1,2], Deborah Oluwatosin Okeke-Obayemi[3], Monicah Ruguru Njoroge[2] and Sanni Yaya[4*]

## Abstract

Conflict-affected regions face severe reproductive health challenges that disproportionately impact adolescent girls and young women (AGYW) and children, who are especially vulnerable due to the breakdown of healthcare systems and limited access to essential services. AGYW are at heightened risk due to restricted access to family planning, prenatal care, and emergency obstetric services, while children face malnutrition, disease outbreaks, and developmental delays. These challenges have profound long-term consequences for both their physical and psychological well-being. This commentary explores the underlying causes of reproductive health challenges in conflict zones, including the collapse of healthcare infrastructure, increased sexual violence, forced displacement, and the specific vulnerabilities AGYW and children face. The commentary underscores the urgent need for interventions that address both immediate and systemic gaps in reproductive healthcare, particularly for AGYW and children. A unique policy framework is proposed, integrating emergency reproductive health interventions—such as mobile clinics and emergency health kits—with long-term strategies for rebuilding healthcare systems. The framework emphasizes gender-sensitive, context-specific approaches and sustained investments in healthcare infrastructure to effectively address these challenges and mitigate the long-term effects on vulnerable populations. By aligning with global and regional policy frameworks, including the Inter-Agency Working Group on Reproductive Health in Crises (IAWG) and the Minimum Initial Service Package (MISP), the commentary advocates for embedding reproductive health into all phases of humanitarian action—from emergency response to recovery. This integrated approach provides actionable recommendations to improve the well-being of AGYW, children, and other vulnerable populations, fostering sustainable advancements in reproductive health outcomes.

**Keywords** Reproductive health, Conflict zones, Maternal mortality, Gender-based violence, Family planning, Humanitarian interventions

## Introduction

The global humanitarian crisis is worsening, fueled by conflicts, forced displacement, and a growing population of refugees, asylum seekers and internally displaced persons. The United Nations reports that more than 100 million people are currently displaced globally, with adolescent girls and young women (AGYW), along with children, bearing a disproportionate burden. In conflict-affected areas, these vulnerable groups face significant challenges, including limited access to healthcare, shelter, and protection.

*Correspondence:
Sanni Yaya
sanni.yaya@gmail.com
[1] Centre for Social Research in Health, UNSW Sydney, Sydney, Australia
[2] School of Population Health, UNSW Sydney, Sydney, Australia
[3] Department of Counselling and Human Development, University of Ibadan, Ibadan, Nigeria
[4] The George Institute for Global Health, Imperial College London, London, UK

Conflicts pose severe reproductive health challenges, particularly for women and children in regions with fragile healthcare systems. Globally, an estimated 60% of preventable maternal deaths occur in conflict-affected settings, where maternal mortality rates can be twice as high as those in stable regions [1]. The destruction of health facilities, mass displacement, and heightened risks of sexual and gender-based violence further reduce access to essential sexual and reproductive health (SRH) services.

For example, in South Sudan, fewer than 20% of births are attended by skilled healthcare personnel, contributing to one of the highest maternal mortality rates in the world [2, 3]. Similarly, in regions such as Darfur, South Sudan, and Gaza, limited access to skilled birth attendants, emergency obstetric care, and contraceptive services has exacerbated maternal and neonatal mortality rates [4]. The absence of prenatal and postnatal care, combined with ongoing conflict, places pregnant women at heightened risk of preventable complications [3, 4]. Children are also profoundly affected, suffering from malnutrition, preventable diseases, and developmental delays, which further strain already overwhelmed healthcare systems [5].

Socio-economic factors such as poverty, displacement, and food insecurity compound these reproductive health challenges [6]. The collapse of healthcare systems in conflict-affected regions severely limits access to essential medical services, resulting in long-term health consequences and poor maternal and child health outcomes [7, 8]. Internally displaced persons (IDPs) and refugees face even greater barriers, particularly in overcrowded camps where SRH services are often insufficient or nonexistent. For instance, only 30% of pregnant women in refugee camps in sub-Saharan Africa receive the recommended four antenatal visits [9, 10].

To address these challenges, global efforts such as the Minimum Initial Service Package (MISP) have played a critical role in delivering lifesaving SRH services during humanitarian crises. MISP focuses on addressing immediate needs, including access to emergency obstetric care, contraception, and the prevention of sexually transmitted infections, particularly in the early phases of humanitarian emergencies [4, 11]. These initiatives aim to reduce maternal and neonatal mortality and improve health outcomes for crisis-affected populations.

However, significant gaps persist, particularly in protracted crises such as those in Sudan, Gaza, and Eastern Europe, where short-term interventions often fail to ensure long-term sustainability and comprehensive care [4, 11, 12]. While MISP is invaluable in providing emergency responses, settings where there is prolonged conflict require systemic rebuilding of healthcare infrastructure to address both immediate needs and future sustainability [12].

This commentary highlights the reproductive health challenges faced by women and children in conflict-affected regions, examining both the direct impacts—such as gender-based violence—and the systemic consequences of disrupted healthcare systems. It underscores the urgent need for integrated, context-specific solutions to ensure sustained improvements in reproductive health outcomes.

## Reproductive health under fire: the hidden toll of conflicts

Reproductive health challenges in conflict-affected regions are profound and multifaceted, disproportionately affecting displaced and vulnerable populations. A systematic review indicates that refugee and displaced adolescent girls and young women in Africa have limited sexual and reproductive health (SRH) knowledge and lack access to essential services, underscoring significant gaps in providing SRH education and care [13]. Similarly, the United Nations High Commissioner for Refugees (UNHCR) stresses how forced displacement exacerbates preexisting poor delivery of reproductive health services [14].

The destruction of healthcare infrastructure, displacement of healthcare workers, and limited access to SRH services in conflict settings contribute to rising maternal and neonatal mortality [1, 2, 15]. For instance, in areas like Darfur and South Sudan, the absence of skilled birth attendants and emergency obstetric care leads to preventable deaths from complications such as hemorrhage [8]. Disruptions in contraceptive supplies and family planning services expose women to unplanned pregnancies, increasing associated health risks [9]. Compounding these challenges, overcrowded and unsanitary refugee and/or IDP camps often lack adequate prenatal and postnatal care, further contributing to maternal and neonatal morbidity and mortality [9, 16].

The impact of crises on SRH extends beyond active conflict. Evidence from post-conflict Liberia demonstrates that survivors of sexual violence face persistent barriers to care, highlighting the need for targeted, long-term interventions [17]. Successful approaches, such as clinical outreach refresher training in crisis settings (e.g., Burkina Faso, Nepal, and South Sudan) and community-driven initiatives where refugees provide SRH services to fellow refugees (e.g., Guinea), have shown promising results, though gaps remain [18, 19].

Socio-economic factors like poverty, food insecurity, and lack of education further exacerbate SRH challenges

[3, 6]. In conflict settings, families often prioritize basic survival—food, shelter, and security—over healthcare needs [7]. Financial barriers, including transportation costs and fees for medical services, are significant, particularly when health systems have collapsed, as seen in parts of Africa, the Middle East, and Eastern Europe [20]. Inadequate awareness of reproductive health rights, coupled with limited maternal education programs, leads to worsening health outcomes for women and children in these settings [2].

The collapse of healthcare infrastructure is a hallmark of conflict-affected regions, resulting in shortages of medical personnel, essential medicines, and equipment [8, 21]. Women in these settings face significant barriers to accessing maternal healthcare, family planning, and emergency obstetric services, which contributes to persistently high maternal mortality rates [1, 8, 21]. The deliberate use of sexual and gender-based violence as a tactic of war adds another devastating layer to SRH challenges in conflict affected settings [22]. Women and girls subjected to exploitation and abuse often suffer unintended pregnancies, sexually transmissible infections including sexually transmissible blood-borne viruses, and psychological trauma, with both immediate and long-term consequences for reproductive and mental health [1, 22, 23].

Forced marriages and early pregnancies are also prevalent in conflict settings, driven by economic insecurity or efforts to protect daughters from violence [24]. Early childbearing places young girls at severe risk of maternal mortality and other health complications [8, 25]. Displaced women, particularly those in refugee camps, face additional challenges, including limited access to contraception, antenatal care, and safe delivery services [9]. As a result, maternal and neonatal mortality rates remain alarmingly high, alongside poor child health outcomes [25, 26]. Moreover, the lack of access to safe menstrual products further impacts the dignity, social engagement, and emotional health of menstruating girls and women [27].

## Walls of war: breaking barriers to sexual and reproductive health

Barriers to accessing sexual and reproductive health (SRH) services in conflict-affected settings are complex, arising from socio-cultural, structural, and systemic challenges. In conflict settings, barriers to parent–child communication on SRH topics are heightened by social norms and taboos that limit open discussion and education [28]. Additionally, the lack of human rights-based accountability in humanitarian contexts leads to insufficient focus on sexual and reproductive health and rights [29]. Structural violence and marginalization, particularly for separated youth and vulnerable populations, further hinder access [30]. Migrants, and displaced populations face compounded SRH challenges, exacerbated by broken and disrupted healthcare systems [31].

Addressing SRH needs in humanitarian settings is crucial, as these services can be a matter of life and death. However, they are often under-prioritized [32]. Refugee women exposed to gender-based violence require trauma-informed care, highlighting the necessity for sensitive and specialized interventions in resettlement contexts [33]. A comprehensive review of SRH recommendations for migrants to Europe stresses the importance of tailored approaches to overcome barriers specific to migration and conflict [34]. These studies collectively underline the need for culturally sensitive, human rights-based, and trauma-informed strategies to address SRH challenges in conflict-affected settings.

Physical barriers, such as destroyed infrastructure and unsafe roads, further prevent women from accessing healthcare, especially in rural and isolated areas [6, 8]. The constant threat of violence adds to this challenge, as both healthcare workers and patients fear traveling or providing services in conflict zones [9]. In regions like Darfur and the Democratic Republic of Congo, the destruction of roads and healthcare infrastructure severely limits access to SRH services, leaving women vulnerable to complications during pregnancy and childbirth [8, 35, 36].

Economic barriers also prevent women from accessing SRH services. Conflict-induced economic devastation leads to widespread poverty, making healthcare services and transportation unaffordable [3, 37, 38]. Financial constraints are often the primary reason women do not seek healthcare, even when services are available [25]. The disruption of livelihoods and reduced household incomes due to conflict create insurmountable financial barriers, further limiting the use of family planning and maternal health services [5, 25].

Socio-cultural barriers, including cultural norms and stigma surrounding reproductive health, further restrict access to SRH services in conflict zones [3, 9]. In conservative societies, cultural norms discourage women from seeking care, especially for family planning, abortion, or sexually transmisable infections treatments [39–41]. Religious and community leaders may oppose these services, intensifying the reproductive health challenges faced by women in conflict-affected areas [6, 35].

These combined barriers highlight the urgent need for comprehensive strategies that address physical, economic, and socio-cultural impediments to accessing SRH services in conflict-affected regions. By tackling

these diverse challenges, it is possible to improve reproductive health outcomes for women and children in these vulnerable settings.

## Broken bodies, broken systems: gender-based violence's impact on reproductive health

Gender-based violence (GBV), particularly sexual violence, is a pervasive and devastating issue in conflict-affected regions, with profound impacts on reproductive health and overall well-being [22]. Sexual violence is often used as a weapon of war, resulting in immediate physical harm as well as long-term consequences such as unintended pregnancies, sexually transmisable infections, and severe psychological trauma [10, 22]. Survivors frequently lack access to essential healthcare, with healthcare infrastructure in conflict zones often unable to provide critical post-violence care, such as emergency contraception, STI prophylaxis, or psychological counseling [22, 42].

The psychological trauma linked to GBV further exacerbates reproductive health challenges [22]. Survivors often experience post-traumatic stress disorder (PTSD), depression, and anxiety, which remain untreated in conflict settings where mental health services are scarce. This emotional burden can prevent women from seeking antenatal or postnatal care, increasing the risk of complications for both mother and child [22]. For instance, untreated PTSD or depression during pregnancy has been associated with adverse birth outcomes, including low birth weight and preterm delivery [42].

Social stigma intensifies these challenges. In many conflict-affected areas, survivors of sexual violence face ostracism, which further hinders access to healthcare services [22]. This isolation affects both the mother and child, limiting their access to nutrition, shelter, and basic healthcare, thereby exacerbating health disparities in these regions [7, 22].

The use of gender-based violence (GBV) as a weapon of war underscores broader systemic failures in conflict settings. Displacement places women and girls in particularly vulnerable positions, often leading to exploitation in overcrowded refugee camps or unsafe routes for basic resources such as food and water [10]. Survivors in these situations are frequently left without legal recourse or support systems. Moreover, healthcare providers in conflict zones are often ill-equipped to meet the complex reproductive and psychological needs of GBV survivors due to resource constraints and lack of specialized training [22].

Addressing GBV in conflict-affected regions requires comprehensive, multi-sectoral interventions, with trauma-informed care being a critical component of sexual and reproductive health (SRH) services. Immediate priorities include establishing accessible healthcare services for survivors, integrating mental health support, and ensuring the availability of emergency contraception and STI prophylaxis. Trauma-informed care is essential in ensuring that survivors receive sensitive and appropriate treatment, addressing both their physical and psychological needs. Long-term strategies must also tackle societal stigma, strengthen legal protections, and rebuild healthcare systems to provide inclusive, survivor-centered care. By addressing both the immediate and systemic consequences of GBV through trauma-informed, holistic approaches, we can mitigate its impact on reproductive health and break the cycle of marginalization faced by survivors and their children [22, 42].

## Restoring dignity: reproductive health interventions for vulnerable populations

Efforts to address reproductive health challenges in conflict-affected regions have been led by governments, NGOs, and international organizations, though success has varied.

Community-based interventions have proven effective in improving access to maternal health services in conflict zones. For example, in Guinea and Nigeria, community health workers have been trained to provide antenatal care and family planning in remote and conflict-prone areas [7, 43]. These programs have improved healthcare access for women facing barriers due to collapsed infrastructure and insecurity, leading to reductions in maternal morbidity and mortality [21]. However, these community-based efforts often struggle with funding shortages and security risks, as healthcare workers are frequently targeted by armed groups or limited by scarce resources [7].

International organizations, such as the United Nations Population Fund (UNFPA) and Médecins Sans Frontières (MSF), have played a crucial role in delivering reproductive health services in crisis areas. Through mobile clinics and referral systems, these organizations have ensured that women in remote or conflict-affected regions receive skilled birth attendance and emergency obstetric care [21, 44]. In countries like the Democratic Republic of Congo and Pakistan, mobile clinics have been vital in reducing maternal and neonatal mortality by reaching women who would otherwise have no access to care [45]. The long-term success of these interventions, however, hinges on sustained funding and investment in healthcare infrastructure, particularly during prolonged crises [21].

NGOs have also tackled reproductive health challenges through specific programs like the Safe Abortion

Referral Programme in Thailand, which has provided migrant women with access to safe abortion services, significantly reducing unsafe procedures and related complications [46]. Similarly, refugee-led initiatives in Guinea have successfully provided sexual and reproductive health (SRH) services to displaced populations despite the complexities of conflict and displacement [19]. However, transitioning emergency measures into long-term SRH services remains a challenge, especially in extended crises [7].

Emergency reproductive health kits, distributed by organizations like UNFPA, have been a critical intervention in the early stages of crises. These kits include supplies for safe deliveries, contraceptives, and treatments for survivors of sexual violence [7]. They have helped prevent maternal deaths and address the consequences of sexual violence in conflict settings. Alongside these kits, mobile health units have delivered antenatal care, family planning, and STI treatment to populations unable to access fixed healthcare facilities due to insecurity or geographic isolation [21, 44]. For example, mobile clinics in Syria have provided essential services to millions of women and children since the onset of conflict, offering a lifeline in otherwise inaccessible areas [7].

Capacity building is another key component of reproductive health interventions. Organizations like MSF and the International Committee of the Red Cross (ICRC) have trained local health workers to provide basic reproductive health services, ensuring communities can access care even when international agencies cannot operate [21, 45]. This approach not only meets immediate health needs but also contributes to the long-term resilience of healthcare systems in conflict zones [21].

Beyond direct interventions, global policy advocacy has played a crucial role in prioritizing reproductive health during humanitarian crises. Initiatives like the Global Health Initiative and the Inter-Agency Working Group on Reproductive Health in Crises (IAWG) advocate for the integration of reproductive health into broader humanitarian responses [24]. These frameworks push for sustained investment in women's health as a key component of recovery and reconstruction, ensuring that reproductive health challenges are addressed not just in the immediate aftermath of crises but also over the long term [12, 21].

## Beyond borders: crafting policy solutions for reproductive health

International organizations have been pivotal in advocating for and implementing sexual and reproductive health (SRH) interventions in conflict-affected regions, ensuring access to critical services for women and children during crises [24]. However, to effectively address the challenges faced in these settings, several key recommendations must be prioritized to improve SRH outcomes and support sustainable health systems. These recommendations are grounded in evidence-based practices and are essential to overcoming current barriers.

### Sustained investment in healthcare infrastructure

To address the long-term needs of conflict-affected populations, it is essential to invest in rebuilding healthcare infrastructure, particularly in regions where systems have collapsed due to prolonged conflict [1, 8]. Strengthening local health systems enables the continuity of reproductive health services beyond the immediate emergency phase, ensuring that women and children receive care during both crises and recovery periods. Studies have shown that building resilient health systems in post-conflict regions can result in improved health outcomes and greater sustainability of health services [7, 11]. Investment in infrastructure also supports capacity building within local health systems, creating long-term benefits for maternal and child health [7].

### Consistent supply of reproductive health commodities

Maintaining a consistent supply of reproductive health commodities, such as contraceptives and medical equipment, is critical to providing uninterrupted care in resource-constrained settings [8]. Evidence from several humanitarian contexts shows that ensuring reliable supply chains helps prevent gaps in services and reduces the risk of preventable maternal and child deaths. Coordinating procurement and distribution mechanisms across sectors—governments, NGOs, and international agencies—ensures that essential commodities are available when needed most [11].

### Integrating SRH services into broader humanitarian responses

Integrating SRH services into broader humanitarian responses is crucial to ensuring reproductive health remains a priority throughout all stages of humanitarian action—from emergency response to long-term recovery [11]. Such integration requires robust collaboration among governments, NGOs, and international agencies to align policies and optimize resource allocation [24, 45]. For example, multi-sector partnerships can be formed to strengthen the link between emergency relief and sustainable health systems. Literature on integrated approaches in humanitarian crises has demonstrated that SRH integration into broader health systems leads to more comprehensive care and improves overall health outcomes in conflict zones [24].

### Gender-sensitive approaches in SRH programs

Programs that adopt gender-sensitive approaches are especially effective in improving SRH outcomes in conflict settings. These programs address the unique challenges faced by women and girls, such as exposure to gender-based violence (GBV), limited mobility, and sociocultural barriers to healthcare access. Tailored interventions that empower women and engage local communities increase the effectiveness and reach of SRH services. Research consistently shows that gender-sensitive approaches that involve community participation lead to better health outcomes and stronger engagement with SRH services, even in resource-constrained environments [24].

### Addressing funding gaps and political barriers

While progress has been made, long-term success in SRH interventions requires addressing funding gaps, political obstacles, and systemic inefficiencies. A collaborative approach, supported by sustained international commitment, is crucial to improving SRH outcomes in conflict zones. Evidence indicates that consistent, long-term funding and political support are necessary for the sustained delivery of SRH services and for overcoming barriers to care, such as insecurity and lack of access.

To ensure the health and dignity of women and children in conflict-affected regions, these recommendations must be prioritized. By addressing healthcare infrastructure, ensuring a consistent supply of SRH commodities, integrating SRH into broader humanitarian responses, adopting gender-sensitive approaches, and addressing systemic funding and political challenges, it is possible to improve SRH outcomes in these vulnerable settings. A holistic, multi-sectoral approach, with sustained international commitment, is key to breaking the cycle of inadequate SRH services and achieving long-term improvements in maternal and child health.

## Conclusion

Conflict-affected settings, such as Darfur, Gaza and South Sudan, face severe reproductive health challenges, particularly for women and children. These challenges stem from the destruction of health facilities, displacement, and heightened risks of sexual and gender-based violence, leading to rising maternal and neonatal mortality rates and exacerbating existing socio-economic inequalities.

Despite these challenges, efforts by governments, NGOs, and international agencies—including community-based programs, mobile health clinics, and reproductive health kit distributions—have shown varying levels of success. However, addressing the complex reproductive health needs in conflict zones requires sustained and integrated approaches.

Key strategies to improve reproductive health outcomes include sustained investment in healthcare infrastructure, ensuring consistent supply chains for reproductive health commodities, and integrating SRH services into broader humanitarian responses. Collaboration among governments, NGOs, and international agencies is crucial for ensuring comprehensive and effective care for women and children in conflict-affected areas.

Prioritizing reproductive health across all phases of humanitarian action—emergency response through to long-term recovery—can significantly improve SRH outcomes and enhance the overall well-being of vulnerable populations, helping to build a more resilient future for conflict-affected communities.

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