



**Dual Healing in Crisis: A WHO-Guided Approach to Integrating Mental Health and Psychosocial Support within Cardiac Care in Sudan’s Conflict-Affected Regions**

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**Abstract**

In conflict-affected regions, the compounded effects of stress, trauma, and inadequate healthcare services heighten both mental health and cardiovascular risks. Sudan's ongoing armed conflict exemplifies these challenges, with the population facing violence, displacement, and a significant burden of mental health and cardiovascular conditions. This review explores the integration of mental health and psychosocial support (MHPSS) into cardiac care, emphasizing the benefits and challenges of such an approach. Drawing on WHO-endorsed frameworks, such as the mhGAP Humanitarian Intervention Guide and Problem Management Plus (PM+), this review proposes a tailored framework for delivering comprehensive MHPSS interventions in cardiac care settings. Key interventions include community-based programs, caregiver training, and culturally sensitive approaches that address the specific psychological needs of cardiac patients in Sudan. This article contributes to a deeper understanding of enhancing cardiac care outcomes through integrated

MHPSS in conflict settings, promoting resilience, adherence, and recovery.

**Keywords:** Mental Health and Psychosocial Support, Cardiac Care, Conflict-Affected Healthcare, WHO Guidelines, Sudan Healthcare Crisis, Trauma-Informed Care, Integrated Health Services

**Introduction**

Armed conflicts exert a profound impact on physical and mental health, creating a double burden on vulnerable populations. In Sudan, the prolonged conflict and ongoing violence have created a crisis with large-scale displacement, severely strained healthcare resources, and extensive trauma, all contributing to an increased prevalence of both mental health disorders and cardiovascular disease (CVD). The intersection of armed conflict, mental health, and cardiovascular health is complex, as the stressors associated with war exacerbate existing health conditions and create new challenges for affected populations (Charlson et al., 2019; Carpinello, 2023).

The burden of mental health disorders in conflict zones is well-documented. Studies estimate that over 20% of

individuals in conflict-affected regions suffer from conditions like PTSD, anxiety, and depression, with these disorders significantly impacting morbidity and mortality rates, particularly among vulnerable groups such as women and children (Charlson et al., 2019; Carpiello, 2023). In Sudan, the ongoing conflict has deepened this issue, and mental health issues have escalated in prevalence due to the widespread violence and instability, further straining an already fragile healthcare system (Khogali, 2023).

The high burden of CVD in conflict settings, including Sudan, is equally concerning. CVDs are a leading cause of global mortality, and in conflict zones, stress-related CVDs like hypertension and heart attacks have increased in frequency. Chronic stress, trauma, and reduced healthcare access contribute to the higher rates of CVD observed in Sudan. Exposure to traumatic events can elevate CVD risk by exacerbating underlying mental health conditions, which may lead to physiological changes that adversely impact cardiovascular health (Ebrahimi et al., 2021; Howard et al., 2022).

In Sudan's context, the limited resources for CVD prevention and treatment further intensify the burden of CVD on the population. The relationship between mental health and cardiovascular health is well-established, with stress, anxiety, and depression known to contribute to lifestyle factors—such as smoking, poor diet, and physical inactivity—that are risk factors for CVD (Bush et al., 2023). The chronic stress and trauma of living in a conflict zone like Sudan heighten susceptibility to these conditions. Pre-existing CVD conditions may also worsen due to the additional psychological stressors associated with conflict (Saxon et al., 2016).

The healthcare system in Sudan faces severe challenges due to the ongoing conflict, affecting both mental health and CVD care. Khogali (2023) points out that indirect

causes of mortality, including mental health issues and chronic diseases, significantly contribute to the disease burden in conflict settings. Factors like damaged infrastructure, a shortage of medical personnel, and limited access to essential services hinder the healthcare system's ability to address these dual health needs effectively. Consequently, there is a pressing need for health system reforms and increased support to manage the dual burden of mental health and CVD in these regions.

Addressing the dual impact of mental health and CVD in Sudan's conflict zones calls for an integrated approach that combines mental health and psychosocial support (MHPSS) with cardiovascular care. The World Health Organization (WHO) highlights the necessity of mental health care as an integral part of comprehensive healthcare, especially in areas affected by conflict (Charlson et al., 2019). MHPSS programs that incorporate mental health support within cardiovascular care can promote resilience and improve adherence, leading to better overall health outcomes. Psychosocial interventions, for instance, can help patients manage stress and anxiety, which may in turn improve cardiovascular health outcomes (Carpiello, 2023).

### **WHO Frameworks for MHPSS Integration in Conflict Settings**

**mhGAP Humanitarian Intervention Guide** The WHO's mhGAP Humanitarian Intervention Guide provides a framework for managing mental disorders in non-specialized healthcare settings, which is particularly useful in conflict-affected areas like Sudan. This guide promotes training healthcare providers to assess both mental and physical conditions, recognizing psychological factors in managing physical health (Charlson et al., 2019). Training healthcare workers in mhGAP enables facilities to support cardiac patients with

concurrent mental health issues, promoting improved cardiac outcomes through integrated care.

**Problem Management Plus (PM+)** PM+ is an evidence-based psychological intervention designed for low-resource settings, consisting of five sessions that focus on stress management, problem-solving, and emotional regulation. PM+ helps patients manage high distress due to cardiac issues and surrounding conflict. The intervention provides tools for self-regulation, essential in conflict settings where mental health services are limited (Charlson et al., 2019).

**Common Elements Treatment Approach (CETA)** CETA provides a modular framework adaptable to individual patient needs, making it suitable for conflict settings. By utilizing CETA's modular approach, providers can select from psycho education, cognitive restructuring, and behavioral activation modules that address anxiety, depression, and other forms of psychological distress relevant for cardiac patients (Charlson et al., 2019).

**Self-Help Plus (SH+)** SH+ is a low-intensity, self-guided intervention designed to empower individuals in managing their mental health. For cardiac patients with limited access to mental health professionals, SH+ can offer strategies for managing anxiety, stress, and depression through structured exercises, supporting both mental health and adherence to cardiac care regimens (Charlson et al., 2019).

### **MHPSS Interventions for Cardiac Patients in Conflict Zones**

**Cognitive Behavioral Therapy (CBT)** CBT is widely effective in managing anxiety and depression among cardiac patients, helping them to address chronic stress and related mental health symptoms. By focusing on reframing negative thought patterns and developing adaptive coping mechanisms,

CBT improves both mental health and quality of life. For cardiac patients in conflict zones, CBT can also help mitigate the psychological effects of trauma, which is critical given the compounded stress of ongoing conflict (Ski et al., 2015). In Sudan, incorporating CBT into cardiac care might involve training healthcare providers in basic CBT techniques, enabling them to offer immediate support to patients.

### **Community-Based Support Programs**

Community-based support programs are essential in fostering resilience and promoting coping mechanisms among cardiac patients. In conflict-affected areas with limited resources, these programs can be implemented through local community health workers or peer support groups. Research shows that shared experiences and mutual support are effective in helping cardiac patients manage stress and reduce feelings of isolation (Saxon et al., 2016). Community programs may include group therapy sessions, family support networks, and peer counseling, each tailored to meet the unique social and cultural needs of patients in Sudan's conflict zones.

### **Integrated Mental Health Services**

The mhGAP framework from WHO encourages the integration of mental health services into primary care, which is particularly relevant for cardiac patients in conflict zones. Integrating these services enables early identification and management of mental health symptoms, which can prevent the escalation of psychological distress (Charlson et al., 2019). A practical step in Sudan could be incorporating mental health screenings into routine cardiac care visits, allowing healthcare providers to address mental health needs as part of a holistic treatment approach.

### **Psychoeducation**

Psychoeducation is a powerful tool that improves understanding among cardiac patients and their

caregivers about the connection between mental health and cardiovascular health. Delivered through structured workshops, psychoeducation can empower patients with stress management techniques and coping strategies, which are particularly valuable in high-stress environments like conflict zones. For example, training sessions might cover topics such as recognizing early signs of stress, managing anxiety, and the importance of treatment adherence for better health outcomes.

### **Mindfulness and Stress Reduction Programs**

Mindfulness-based interventions are effective in reducing anxiety and depression, and they have been shown to improve cardiovascular health. Mindfulness techniques, which focus on stress reduction, can help cardiac patients in conflict zones manage their psychological responses to stressors, ultimately contributing to improved mental and cardiovascular health (Jackson et al., 2022). For implementation in Sudan, healthcare providers can introduce brief, adaptable mindfulness exercises that patients can practice independently, even in low-resource settings.

### **Psychological First Aid (PFA)**

PFA is an immediate intervention aimed at stabilizing individuals experiencing severe distress in conflict zones. For cardiac patients, PFA can provide essential emotional support following traumatic events, helping them manage the immediate impact on both mental and cardiovascular health. Training healthcare workers in Sudan to deliver PFA would ensure that they can offer timely support to patients during crises, reinforcing the resilience of both patients and the broader healthcare system (Allabadi et al., 2021).

### **Supportive Counseling**

Supportive counseling offers cardiac patients a safe space to discuss their trauma, emotions, and personal challenges. In conflict settings, supportive counseling has

been shown to significantly improve the quality of life among cardiac patients by fostering an environment of empathy and emotional support. In Sudan, expanding access to supportive counseling through trained community health workers could make a meaningful difference for cardiac patients, providing them with consistent support despite the constraints of a conflict-affected healthcare system.

### **Culturally Sensitive Interventions**

Culturally adapted interventions are crucial in ensuring that MHPSS programs resonate with local populations. In Sudan, culturally sensitive MHPSS approaches might involve using local languages, incorporating cultural norms, and engaging respected community leaders to increase patient trust and acceptance. Such tailored interventions improve engagement, reduce stigma, and enhance the effectiveness of mental health interventions in conflict settings (Gilmoor et al., 2019).

### **Resilience-Based Approaches**

Resilience-based programs empower cardiac patients by fostering psychological resources to navigate conflict-related challenges. These programs can help patients build adaptive coping mechanisms and maintain mental stability, ultimately promoting both mental health and cardiovascular resilience. In Sudan, resilience-based approaches could include skill-building workshops on emotional regulation, problem-solving, and stress management, aimed at providing patients with sustainable mental health benefits and encouraging recovery (Siriwardhana et al., 2015).

## **Proposed Framework for Integrating MHPSS into Cardiac Care Amidst the Current Armed Conflict in Sudan**

### **1. Capacity Building and Training**

- **Objective:** Equip healthcare providers, including primary care practitioners and cardiac specialists,

with the essential skills to deliver mental health and psychosocial support (MHPSS) amidst the specific challenges posed by ongoing armed conflict.

- **Key Components:**

- **Crisis-Specific Training Curriculum:** Design training sessions that address the mental health impacts of conflict-related trauma, such as post-traumatic stress disorder (PTSD) and acute stress responses, in alignment with the WHO mhGAP Humanitarian Intervention Guide.
- **Skill Development in Trauma-Informed Care:** Train healthcare workers to recognize and address trauma-induced psychological symptoms among cardiac patients, helping them understand the link between psychological distress and cardiovascular complications, such as hypertension and heart failure, exacerbated by conflict-related stress.

## 2. Routine Screening and Referral Pathways

- **Objective:** Facilitate the early identification and management of mental health symptoms in cardiac patients to reduce the health risks associated with untreated psychological distress.
- **Key Components:**
  - **Conflict-Aware Screening Protocols:** Implement mental health screenings tailored to recognize symptoms commonly induced by conflict, such as anxiety, depression, and PTSD, as part of standard cardiac assessments.
  - **Referral Networks Amidst Conflict Constraints:** Establish accessible referral pathways that connect cardiac patients with specialized mental health services, especially in locations impacted by resource scarcity or disruption due to the conflict. Ensure these pathways are adaptable to changing security conditions.

- **Interdisciplinary Case Consultations:** Facilitate regular virtual or in-person consultations between cardiac care providers and mental health specialists to coordinate care in high-risk cases, helping bridge gaps caused by staff shortages in conflict zones.

## 3. Community-Based Support and Outreach

- **Objective:** Strengthen community resilience and provide accessible MHPSS services specifically adapted for conflict-affected populations with cardiovascular conditions.
- **Key Components:**
  - **Deployment of Community Health Workers (CHWs):** Train CHWs in delivering basic MHPSS strategies, enabling them to support cardiac patients through peer-led support groups and resilience workshops that are specifically responsive to the stresses of living in conflict zones.
  - **Engagement of Family and Caregivers Amidst Displacement:** Incorporate family-centered interventions that train caregivers in stress management and emotional support strategies, recognizing the role of family stability in promoting recovery during displacement or shelter living.
  - **Culturally and Conflict-Sensitive Programming:** Adapt interventions to align with Sudanese cultural practices, considering the role of religious and community leaders in mental health advocacy, to reduce stigma and foster trust in MHPSS services within disrupted communities.

## 4. Policy and Governance Support

- **Objective:** Establish policy support for sustainable MHPSS integration within cardiac care, ensuring responsiveness to the needs of populations in conflict settings.

- **Key Components:**

- **Advocacy for Conflict-Specific Mental Health**

**Policy:** Collaborate with Sudanese governmental agencies, local NGOs, and international humanitarian organizations to prioritize mental health policy reforms that emphasize MHPSS integration into emergency and cardiac care.

- **Securing Emergency Funding and Resources:**

Seek partnerships to fund mental health resources specific to conflict-affected areas, including mobile clinics, telemedicine capabilities, and training for local health workers.

- **Cross-Sector Collaboration for Resilience:**

Partner with humanitarian organizations and local health agencies to share resources, coordinate aid, and build a resilient healthcare network capable of delivering MHPSS in conflict zones.

## **Conclusion**

Integrating MHPSS into cardiac care in the context of the ongoing armed conflict in Sudan is vital for addressing the intertwined health impacts of chronic disease and psychological trauma. The compounded stress of violence, displacement, and disrupted healthcare systems requires a structured approach to MHPSS, using adaptable frameworks like mhGAP, PM+, CETA, and SH+. These interventions are foundational for delivering care that addresses both mental health and physical needs amidst instability. By involving community health workers, prioritizing culturally sensitive practices, and training family caregivers, MHPSS programs can foster resilience and promote healing even in conflict conditions. In this way, Sudan's cardiac care framework not only addresses immediate health needs but also builds a supportive environment for long-term recovery and stability, offering a comprehensive model adaptable

to other high-conflict regions MHPSS: Mental Health and Psychosocial Support

## **List of Abbreviations**

CVD: Cardiovascular Disease

WHO: World Health Organization

mhGAP: Mental Health Gap Action Programme

PM+: Problem Management Plus

CETA: Common Elements Treatment Approach

SH+: Self-Help Plus

CBT: Cognitive Behavioral Therapy

PFA: Psychological First Aid

CHWs: Community Health Workers

PTSD: Post-Traumatic Stress Disorder

NGOs: Non-Governmental Organizations

## **Authors' contributions**

Mohammed Salah Alfahal was the sole contributor to this article.

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