

# The Impact of War in Sudan on Renal Medical Services

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Sir,

On the 15th of April 2023, a conflict between the Sudanese National Army and the Rapid Support Forces erupted in Sudan. The conflict, which began in the capital city of Khartoum, rapidly spread throughout central and western Sudan, causing thousands of deaths and displacing millions within and outside the nation.

According to the United Nations (UN) 12.5 million people have been displaced, while 24 million people [half of the country's population] need humanitarian assistance. The devastating crisis has led the international community to label the Sudan crisis as the world's worst ongoing humanitarian disaster, health care services have not been spared from the deplorable impact of this war, particularly in terms of providing medical care to renal patients who require careful and constant follow up, particularly dialysis patients and kidney transplant recipients.

Sudan has a high prevalence rate of chronic kidney disease (CKD), affecting about 7% of the population. Each year, around 1,000 new patients develop End Stage Renal Disease.<sup>1</sup> Before the war, there were

8,000 patients on dialysis across 105 units in the country, and 4,500 kidney transplant recipients were receiving immunosuppressive therapy. Most renal services, about 95%, are provided by the public sector and funded by the government.<sup>2</sup> Since the war began, the World Health Organization (WHO) estimates that 70% to 80% of medical facilities in central and western Sudan have closed, and about 45% of healthcare facilities in other areas have also stopped functioning. All four renal transplant centers have ceased operations.<sup>3</sup>

While there is no specific data on the mortality rate among kidney patients, the scale of the tragedy can be seen in reports like the WHO's statement that 200 patients in one dialysis unit in western Sudan are thought to have died due to the halt of dialysis services because of the war and lack of medical supplies.<sup>4</sup> Other dialysis units that are still operating have had to cut back on the number of sessions each patient receives to manage the rising number of displaced kidney patients. Reports show that 57% of dialysis patients could not keep up with regular sessions, 62% developed health complications, 62.7%

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faced severe anxiety, and 40% suffered from severe depression.<sup>5</sup>

One small dialysis center in northern Sudan, which was meant to handle 30 sessions a day, had to provide 85 sessions daily. Because of supply shortages and broken machines, 13 patients died.<sup>6</sup> Furthermore, 81% of dialysis patients needed hospitalization due to kidney failure symptoms from not getting enough dialysis.<sup>7</sup> Renal patients are also at high risk from serious infectious diseases in displacement camps. In 2024, there was a cholera outbreak<sup>8</sup>, and malaria cases are increasing<sup>9</sup>.

The economic situation for Sudanese kidney patients has worsened due to high unemployment rates following the war. About 74.7% of dialysis patients are now unemployed, adding to their financial struggles.<sup>5</sup>

The Sudanese Society of Nephrology and Transplantation (SSNT) noted that 60% of nephrologists and many experienced dialysis nurses have fled to neighboring countries during the war. This has made it harder to maintain kidney services in the functioning units that have not been destroyed. It's important to note that before the war, Sudan already had a low number of healthcare providers, with only 3.6 physicians per 10,000 people.<sup>10</sup> Healthcare workers in the remaining dialysis units are facing significant financial losses, with many not receiving their pay for months.<sup>11</sup>

Due to the serious situation for renal patients in Sudan, national and international organizations are calling for immediate help. On May 19, 2023, the International Society of Nephrology (ISN), European Renal Association (ERA), and American Society of Nephrology (ASN) issued a joint statement expressing deep concern about how the war is affecting healthcare for renal patients in Sudan. They formed a task force through the ISN-Renal Disaster Preparedness Working Group to reach out to Sudanese renal patients, nephrologists, and healthcare providers to offer support and assistance.<sup>12</sup> The WHO provided sufficient resources for 6,000 dialysis sessions in August 2023 and 30,000 sessions in December 2023, and it is currently seeking additional supplies for this vital service.<sup>13</sup> The Qatari government provided 50 dialysis machines to Sudan in October 2024 in order to alleviate the war-related shortage.<sup>14</sup> Additionally, Sudanese physician's associations in Saudi Arabia, Qatar, the United Kingdom, and the United States are contributing to the financing of dialysis sessions and guaranteeing that Sudanese renal transplants recipients continue to receive immunosuppressive treatment.

Kidney patients in Sudan are presented with challenges that are a sad reminder of the war's human costs and the desperate plight for global help. If urgent action is not taken, thousands of lives are at stake. The international community should act now to provide timely humanitarian assistance and restoration of health services for the most vulnerable persons in Sudan. Coordinated actions to address the

urgent and developmental needs of kidney patients could help mitigate some humanitarian crises and begin a path to recovery and stability. The priority is to ensure the uninterrupted delivery of dialysis supplies, drugs, and equipment to the affected areas; these should aim mainly toward central and western Sudan. While the WHO has contributed to this effort, more support is currently needed towards stabilizing dialysis services. Further, mobile dialysis units can be deployed to conflict and isolated areas to reach such patients. Furthermore, there is a need for clear demarcated safe zones or protected areas in which dialysis centers may operate without disruption. Urgent actions are needed to ensure continuous access to dialysis, reconstruction efforts on health infrastructure, and addressing emotionally distressing and financially debilitating interventions necessary for patients and health care providers. Focusing on the needs of kidney patients and encouraging cooperation between national and international groups will help soften the hardened effects of this conflict. The case of Sudan's kidney patients represents the most urgent call for worldwide concern and continued humanitarian efforts during war.

**No use of generative AI:** This article was prepared without the use of generative AI tools for content creation, analysis, or data generation. All findings and interpretations are based solely on the authors' independent work and expertise.

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