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The Tigray Healthcare System: Understanding the Collapse and Its Implications.

The signing of the Pretoria Peace Agreement on 2 November 2022 marked the conclusion of the Tigray War after exactly two years of fighting. Since 2 November 2020 Tigray, North Ethiopia, has faced a devastating armed conflict. The conflict began, the Ethiopian Prime Minister states, as a law enforcement operation that rapidly evolved into a regional conflict involving military forces from Eritrea, Somalia, and Amhara. More than 6 million people have been affected, and 500,000 deaths have been reported with thousands fleeing to neighboring nations for safety. During the war, Tigray's healthcare systems completely collapsed, as a result of the numerous attacks, the healthcare worker's low wages (or the lack thereof), the health facilities being used as military bases, and an actual blockage of fuel and medicine. In July 2022 the Ethiopian government suspended all MSF's operations until October 2022. This clearly shows how the government has restricted any type of aid groups from providing humanitarian help to those people in need.

According to Médecins Sans Frontières (MSF), Tigrayan healthcare facilities have been attacked in an attempt to debilitate them, on the other hand, Ethiopian authorities assure that most healthcare facilities have been restored, but MSF reports that only 13% of the healthcare facilities visited by MSF are currently available. Supporting this data is research conducted between November 2020 and June 2021 and published by the Ethiopian Human Rights Commission and UN Human Rights, which found that most of the healthcare facilities are currently inaccessible as a result of vandalism and being used as military bases, as previously stated.

With the collapse of the healthcare system many pre-existing issues have resurfaced, becoming even more problematic and urgent. For instance, research done by the Regional Health Bureau and Mekelle University in May 2022, shows that the Maternal Mortality Ratio (MMR) in the Tigray region has multiplied fivefold since the conflict began. According to medical professionals, this level is similar to that of 22 years ago. Moreover, during the first eight months of Tigray's active war, the provision of HIV services in rural health facilities and the majority of the region has significantly decreased as a result of the conflict. This paper will examine the extent of the health system collapse and its ramifications for the Tigrayan population. What is the impact of the Ethiopian war on the healthcare system in the Tigray region, why has it struggled so much and what caused it?

The accessibility of Tigray's healthcare facilities is generally low. There isn't a single healthcare facility in the region that has adequate staffing by Ethiopian government criteria for all kinds of health personnel; which states that two health extension workers are required per health post, with only 29.6% meeting this requirement and more than 50% having only one worker. 95.4% of healthcare facilities are understaffed in at least 6 of the 11 categories of health workers. Pharmacists and laboratory technicians, with university degrees, are the fields in greatest need of workers. Only pharmacy technicians and laboratory technicians with diplomas are sufficiently or overstaffed in most healthcare facilities among the various categories of health workers. When a siege was imposed in Tigray, eight months after the beginning of the conflicts, withholding the passage of all sorts of humanitarian help, civilians who survived hostilities were dying from starvation and illnesses caused by the blockade. Health facilities were one of the most affected by the war, with millions left without the chance of getting surgical help at a time when requests for surgical assistance were on the rise. Patients with chronic illnesses, including

those receiving dialysis, bear an unfair share of the cost of the healthcare system's collapse. The survival of patients with end-stage kidney disease, including kidney transplant recipients, is in danger. Dwindling supplies, a barely functional dialysis service, a lack of access to the nation's kidney transplant center in Addis Ababa, and severe shortages of immunosuppressive medicines are among the primary challenges to providing care to this group of patients amid war and blockade. The civil war has had a significant impact on hemodialysis in the Tigray region. The number of patients enrolled in the hemodialysis program has drastically decreased since the start of the war, according to data from the Ayder Hospital's hemodialysis unit registry for the years 2015 through 2021. Patient flow is down 37.3% from the previous yearly average. Since patients could not travel to hemodialysis administrations in the rest of the country due to the total blockade, this frequently runs counter to the assumption that enrollment would increase. Within the first year after the war began, the mortality rate multiplied in comparison to the prewar era.

Globally, one of the most prevalent public health issues is still HIV/AIDS. By 2020, approximately 37.6 million people were living with HIV worldwide, of whom 27.4 million were receiving antiretroviral therapy. HIV has a very noticeable effect in areas affected by war, such as Tigray in northern Ethiopia. In Ethiopia and the Tigray region, respectively, there were 745,719 and 65,718 HIV-positive individuals living on antiretroviral therapy as of 2020. The lifespan and quality of life of those with HIV have significantly increased since the development of antiretroviral therapy. Even with the distribution of antiretroviral therapy and expanded service accessibility, issues like war have hurt the use of antiretroviral therapy services. Due to the disruption of HIV/AIDS programs and limited access to antiretroviral therapy, all consequences of the war, patients with HIV have been denied with provision of HIV services, especially in rural health facilities and war-torn areas. This situation is similar to what happened in numerous

war-torn nations like South Sudan, Somalia, Afghanistan, the Democratic Republic of the Congo, and others, where protracted conflict forced the closure of treatment facilities, leading to complete or partial stock-outs of antiretroviral therapy and other essential supplies for HIV service provision, such as prevention programs. In the past, an effort has been made by MSF to create a helpline for patients to communicate with to address the challenges of a shortage of medications by providing patients with antiretroviral therapy medicines, but the communication blackout and lack of helpline communication that could have been established by humanitarian organizations made it challenging to reach out to people in Tigray.

In comparison to the indicated global rate of 223 maternal deaths per 100,000 live births (2020), Ethiopia has a high maternal mortality ratio of 401 deaths per 100,000 live births (2017). By 2030, the global maternal mortality ratio (MMR) is expected to be less than 70 per 100,000 live births, which is the SDG target for maternal deaths. The conflict has caused these data to worsen. Based on a study done by the Regional Health Bureau and Mekelle University, published in May 2022, the MMR in the area has multiplied fivefold since the conflict began. According to health experts, this level is comparable to that of 22 years ago. In Tigray, the United Nations Fund for Population Activities (UNFPA) has provided sexual and reproductive health services to more than 96,000 displaced women and girls through the deployment of 193 midwives and health extension workers to support affected health facilities and maternity waiting homes in 2023. With the help of Canada, the Ministry of Women and Social Affairs, the World Bank, UNOPS, Irish Aid, USAID, and Italy, these services are made available. Furthermore, during the first quarter of 2023, 34 health facilities in the area received more than 237 metric tons of reproductive health kits, dignity kits, medical equipment, and supplies. With these resources, more than 500,000 people will receive services for gender-based violence and sexual

and reproductive health. Based on recent research, maternity waiting homes in Ethiopia contribute to an 80% decrease in maternal fatalities and a 70% decrease in stillbirths. The UNFPA uses these homes as one of its primary strategies to increase pregnant women's access to comprehensive obstetric care while they are away from health facilities, especially in rural areas, and to prevent maternal and newborn deaths and injuries from home deliveries, which have been worryingly common during the active war, with antenatal care, supervised delivery, postnatal care, and children vaccination not being available throughout the conflict. However, despite efforts to increase the coverage of maternal and reproductive health care, more support is needed to build back the healthcare system’s capacity to respond to the women in need in the region, as the provision of maternal and newborn care remains challenging due to the high number of non-functional health facilities, shortages of medical supplies, and the scarcity of ambulances and fuel for referrals.

A complex humanitarian catastrophe has a considerable impact on a population, including effects on their mental and physical well-being. The effects of war and humanitarian crises on infrastructure, economies, and social structures are profound, including the orphanage of a large number of children. To effectively address the situation, quick action, and international cooperation are required. In conclusion, improving accessibility to healthcare facilities, increasing the availability of medical treatment, and addressing healthcare worker scarcity is crucial. Humanitarian and developmental aid are essential in the post-conflict culture for social and psychological recovery as the blockade and the community's suffering.

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