**High Maternal and infantile mortality in Mali**

Maternal and infant mortality is a public health problem in Mali. Its prevalence is estimated at 325 maternal deaths per 100,000 live births, with 97.1 cases of mortality (i.e. 85,222) per 1,000 among children under 5 (UNICEF, 2023), including 54 cases per 1,000 who die before their first birthday (USAID, 2017) and 33 cases per 1,000 who usually die in the neonatal period (D.H.S, 2018 ; UNICEF, 2023). This rate differs geographically from one region to another and the mother's level of education (D.H.S, 2018 ). Rural parts of Mali carry a disproportionate burden of the country's high under-five mortality rate. A range of household factors are associated with poor under-five health in resource-limited settings.

In fact, the prevalence of maternal healthcare utilization was found to be low (45%) due to difficult geographical accessibility and poverty. For example, the rate of the recommended four antenatal visits per pregnancy is estimated to 27.6 % in 2021 (INSTAT, 2021). Such limited use of antenatal care (ANC) has been associated to maternal education level, age, economic status, and the presence of skilled birth attendants at the health centers (Bain et al., 2022). Other factors of maternal mortality have included the collapse of the healthcare system, dangers of social and fatalistic religious beliefs, social obligation of motherhood, and the women's financial dependence on men. All of which have been considered as obstacles to women's health and safety during childbirth (Ornella Moderan, 2017).

With a view to improving these indicators, the government, through its partners, has put in place a series of actions to strengthen the Malian health system. These include setting up a Maternal Death Surveillance System, strengthening emergency obstetric and neonatal care, strengthening midwifery, improving the supply chain in Mali, providing family planning services, supporting the organization of free supply campaigns and setting up private midwifery practices to bring health services closer to remote community (UNFPA, 2018). In addition to these actions, several strategies have been deployed by the World Health Organization to reduce the burden of key indicators affecting vulnerable groups such as women and children.

Despite the high number of midwives in Mali and the government's efforts to provide training in death audit coupled with maternal and perinatal death surveillance and response at most health facilities in the country, maternal and infant mortality rates have remained. However, it’s unknown wich most influence maternal and child mortality rate in Mali. C’est ainsi que l’Hopital du Mali avec le financement de l’Université des Sciences des Techniques et des Technologies de Bamako en collaboration avec University Clininal Reseach Center (UCRC) a conduit une étude pilote à Sikasso, une des régions du Mali à fort taux de décès maternel et infantile afin d’y évaluer la qualité et l’accessibilité des soins de santé maternelle et infantile.

**Question:** How improving access to quality healthcare for reproductive-age women can reduce maternal and infant mortality in Mali?

**Goal:**

Evaluer la qualité et l’accessibilité des soins de santé maternelle et infantile.

1. **Study Area & Population:**
   * The study will be conducted in three villages located in Sikasso, a region in Mali with a high rate of maternal and infant deaths.
   * The focus of the study will be women of childbearing age residing in the three villages: Kologoba, Niena, and Zegoua.
2. **Study Design:**
   * A cross-sectional study design will be used.
   * Data collection will involve the use of questionnaires, which will be filled out based on information from obstetric records and maternal death registers.
   * The study period will be from January 1 to December 31, 2023, spanning 12 months.
   * Cases of maternal death recorded from other villages or beyond 42 days postpartum, regardless of origin, will be excluded.
3. **Data Collection:**
   * Electronic data capture will be implemented using REDCAP, a secure web application for data management.
   * In case of application failure, paper versions of the questionnaires will be available as a backup.
   * All maternal deaths meeting the inclusion criteria and recorded in the three villages during the study period will be exhaustively registered.
4. **Statistical Methods:**
   * Data analysis will be performed using R-Studio software version 4.3.0.
   * The chi-square test or Fisher's exact test will be employed to analyze proportions.
   * The significance threshold will be set at α=0.05.
   * Logistic regression will be utilized to assess the risk factors associated with maternal and infant mortality.
5. **Ethical Aspect:**
   * Approval from the FMOS Ethics Committee will be sought to ensure the study's ethical compliance.
   * Participants' anonymity will be respected to protect their privacy and confidentiality.

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