**Utilisation of mother and child health services in Chad: rural sedentary and mobile pastoralist populations**

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**Background:** Utilization of maternal and child health services is associated with improved maternal, neonatal and infant health outcomes. Considering Chad’s high level of maternal and infant mortality, understanding the factors affecting utilization is crucial. Globally, through the prioritisation in the Millennium Development Goals, the international community has made important strides towards reducing maternal and child mortality. However, inequalities and large disparities in access to health care still persist within countries. According to the Sustainable Development Goals (SDGs) the reduction of inequalities is targeted with universal policies considering more the needs of disadvantaged and marginalized populations.

In Chad, over 75% of the total population lives in rural areas and 3.7% among them are mobile pastoralists. Remote rural zones are characterized by insufficiently equipped health centers and shortages of qualified health workers. Despite having to deal with a high burden of disease, mobile pastoralists in the Sahel hardly have access to health services because the provision of services adapted to their way of life is challenging. This study examines patterns and determinants of maternal and infant health services utilization among sedentary and mobile populations in two rural health districts in Chad (Yao and Danamadji).

**Methods:** A random household survey in both districts included 1284 respondents. The questionnaire covered among others the utilisation of maternal and infant health services and socio-demographic characteristics. We used multivariate generalised linear models with a random effect at household level to estimate utilisation rates and the factors that best predict the outcomes.

**Results:** 13% of the sedentary and 8% of the pastoralist mothers had skilled attendants at delivery. Only 2% of pastoralist against 49% of sedentary children were vaccinated with BCG. We observe that the utilisation of family planning techniques is particularly low among mobile pastoralists (4%) and in the Central Chadian district of Yao (1%). Utilisation of different health services was consistently significantly associated with a higher socio-economic status of the household and with being in Danamadji than Yao.

**Conclusions:** Utilisation of mother and child health services was low in rural Chad. Whereas utilisation rates of health services were systematically lower for mobile pastoralists, the dominant drivers for low health service utilisation seem to be economic and geographical factors. To foster more equal access in the light of the SDGs, next to improving the quality of services, adapted information for illiterate women and appropriate health financing schemes for poor households must be foreseen.