POSTER ABSTRACT

Stratification and characterisation of complex medico-psychosocial conditions at primary health care level in Eastern DR Congo: methodological approaches

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Background: The importance of medico-psychosocial conditions MPSCs at primary health care level is deemed high among people with chronic comorbidities and mother-infant pairs with history of child malnutrition in sub-Saharan Africa. In Eastern DR Congo where up to 8% of children younger than 5 years are acutely malnourished, more than 1 in very 2 children are stunted and nearly 60% of diabetic patients present with high blood pressure, the real burden of MPSCs is unknown. Besides, there is dearth of evidence-based stratification of such complex conditions in low- and middle-income countries. This hinders integrated care of different medico-psychosocial sub-populations particularly in resource-constrained countries. This study sets out to suggest a rigorous approach to stratifying complex MPSCs and understanding their natural history in adults with chronic diseases and mother-infant pairs with acute malnutrition in post-war rural eastern DR Congo settings.

Method: This will be a community-based cohort study in adults with diabetes and hypertension and mother-infant pairs with acute malnutrition in four rural and two sub-urban health areas in South-Kivu Province, Eastern DR Congo. Participants will be identified through health centres record review and community health workers search. Pre-tested structured enrolment questionnaires, WHO Disability Assessment Schedule 2.0 WHODAS, Diabetes self-efficacy management scale, questionnaire and eight-item modified Medical Outcomes Study Social Support Survey mMOS-SS questionnaires will be administered by trained data collectors. Participants will be followed up as per 6 months scheduled visits. Principal component analyses with clustering will be run on social determinants of health, clinical factors, WHODAS and mMOS-SS scores to determine the CMPSCs levels at baseline. We shall use the R markovchain package for analyses and predictions of CMPCs trends over time. To identify the predictors of CMPSCs patterns, we shall fit multilevel mixed-effects regression models to account for repeated measurements in the same individual and possible variability in CMSPCs determinants by health areas. In addition to statistical predictions, we shall study the dynamic of CMPSCs in the six health zones through the 2 years follow-up period by agent-based modelling using NetLogo software. The agents under this study will comprise of mother-infant pairs with history of SAM, adults with multi-morbidities and health centres. We shall integrate the role

of history and conditional if-then rules in ABM to account for the inherent contextual and human factors in development of CMPSCs.

Discussion: Well-defined CMSCs categories could ease understanding of their evolution patterns and predictors, foster adequate and efficient integrated care and enhance quality of life at individual and community levels in low- and middle-income countries.