Introduction: Multimorbidity, coexistence of two or more chronic conditions, is becoming more common across different demographic groups in sub-Saharan Africa. We investigate the nature and prevalence of multimorbidity in fishing communities on Lake Victoria in Kenya.

Methods: We conducted a cross-sectional survey enrolling 679 participants in the fishing communities to establish the prevalence of HIV and non-communicable diseases (NCDs) and associated risk factors. The NCDs targeted included diabetes mellitus detected by random blood glucose (RBG); kidney dysfunction detected by serum creatinine level and proteinuria. Hypertension was defined as systolic blood pressure $\geq 140$ mmHg and/or diastolic blood pressure $\geq 90$ mmHg; diabetes mellitus defined as RBG $> 7.8$ mmol/L and; renal dysfunction defined as estimated glomerular filtration rate (eGFR) $< 60$ mL/min or proteinuria. HIV was tested using rapid Determine assays and reactive results confirmed with UniGold assays. Additionally, participants were determined as having the condition if they reported being on medication for the condition. We analyzed the results using descriptive statistics and used Chi-square test to discern if there were statistically significant differences by gender.

Results: Overall, HIV prevalence was 36% while 15%, 12% and 8% of the participants were suspected to have kidney dysfunction, hypertension and diabetes mellitus, respectively. Overall, 12% of the participants had multimorbidity. The most common multimorbidity among those with any of the four chronic conditions was HIV and Kidney dysfunction (29%) followed by hypertension and kidney dysfunction (22%), HIV and hypertension (20%), HIV and diabetes (18%), diabetes and kidney disease (6%) and lastly diabetes and hypertension (5%). Apart from HIV, we observed no statistically significant gender differences for any of the NCDs or various multimorbidity conditions.

Conclusion: These fishing communities have high burden of both HIV and NCDs resulting in high prevalence of different multimorbidities.