Disclosures. **All authors:** No reported disclosures.

1657. Notes From the Field: A Survey of Mobile Device Usage Among Individuals in KwaZulu-Natal, South Africa

Breanna R. Campbell, MD[1]; Koeun Choi, BS[2]; Megan Gray, MD[1]; Chelsea Canan, PhD, MPH[1]; Anthony Moll, MBChB[3]; Rebecca Dillingham, MD, MPH[1]; Sheela Shenoi, MD MPH[4]; [1]University of Virginia, Charlottesville, Virginia; [2]Stony Brook School of Medicine, New York City, New York; [3]Church of Scotland Hospital, Tugela Ferry, KwaZulu-Natal, South Africa; [4]Yale School of Medicine, New Haven, Connecticut

Session: 164. Stepping off your Doorstep - Global Health
Friday, October 4, 2019: 12:15 PM

Background. mHealth (mobile health) is a promising tool to deliver healthcare interventions to underserved populations. Across low- and middle-income countries (LMIC), the prevalence of smartphones has risen to 42%. Effective mHealth deployment in LMIC requires an understanding of how LMIC populations use mobile technology. We characterized the use of mobile devices in rural KwaZulu-Natal, South Africa to tailor mHealth interventions for people living with HIV and at risk for acquiring HIV.

Methods. We surveyed participants in community settings and offered free HIV counseling and testing. Participants self-reported their gender, age, relationship status, living distance from preferred clinic, receipt of monthly grant, condomless sex frequency, and circumcision status (if male). Outcomes included cell phone and smartphone ownership, private data access, health information seeking, and willingness to receive healthcare messages. We performed multivariable logistic regression to assess the relationship between demographic factors and outcomes.

Results. Among 788 individuals surveyed, the median age was 28 (IQR 22–40) years, 75% were male, and 86% owned personal cell phones, of which 43% were smartphones. The majority (59%) reported having condomless sex and most (59%) males reported being circumcised. Although only 10% used the phone to seek health information, 93% of cell phone owners were willing to receive healthcare messages. Being young, female, and in a relationship were associated with cell phone ownership. Smartphone owners were more likely to be young and female, less likely to live 10–30 minutes from preferred clinic, and less likely to receive a monthly grant. Those reporting condomless sex or lack of circumcision were significantly less likely to have private data access.

Conclusion. Most participants were willing to receive healthcare messages via phone, indicating that mHealth interventions may be feasible in rural KwaZulu-Natal. Smartphone-based mHealth interventions specifically geared to prevent or support the care of HIV in young women in KwaZulu-Natal may be feasible. mHealth interventions encouraging condom use and medical male circumcision should consider the use of non-smartphone SMS and be attuned to mobile data limitations.

Disclosures. **All authors:** No reported disclosures.

1658. Lipase and Factor V (but not Viral Load) Are Prognostic Factors for the Evolution of Severe Yellow Fever Cases

Luciana Vilas Boas Casadio, MD[1]; Ana Paula Salles, MSc[1]; Fernanda Malta, PhD[1]; Gabriel Fialkovitz, MD[2]; Yeh-Li Ho, MD, PhD[2]; Michele Gomes-Gouvêa, PhD[1]; Luiz Marcelo Malbouisson, MD, PhD[3]; Anna S. Levin, MD, PhD[2]; Raymundo Azevedo, MD, PhD[2]; Flair Carrilho, MD, PhD[2]; João Renato Rebello Pinho, MD, PhD[2]; [1]Instituto de Medicina Tropical, Faculdade de Medicina da Universidade de São Paulo, Sao Paulo, Brazil; [2]Faculdade de Medicina da Universidade de São Paulo, Sao Paulo, Brazil; [3]Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Sao Paulo, Brazil

Session: 164. Stepping off your Doorstep - Global Health
Friday, October 4, 2019: 12:15 PM

Background. Yellow Fever (YF) is still a major threat in developing countries and a cause of outbreaks in Africa and Latin America, despite a highly efficacious vaccine. In 2018, the Brazilian state of São Paulo witnessed a new YF outbreak in areas where the virus has not been detected before. In our study, we included all patients who were admitted to Intensive Care Units of Hospital das Clínicas, University of São Paulo Medical School during the 2018 YF outbreak. The aim is to describe the clinical and laboratorial characteristics of severe cases of YF, evaluate viral parameters such as viral load and genotype among these cases, and determine markers associated with fatal outcome.

Methods. Acute severe YF cases (n = 62) were admitted to the Intensive Care Unit of a reference hospital and submitted to routine laboratorial evaluation on admission. YFV-RNA was detected in serum and urine by RT–qPCR and then sequenced. Patients were classified in two groups: survival or death.

Results. In the univariate analysis the following variables were associated with outcome: ALT, AST, AST/ALT ratio, total bilirubin, CKD-EPI, ammonia, lipase, factor V, INR, lactate, and bicarbonate. Logistic regression model showed two independent variables associated with death: lipase (OR 1.018, 95% CI 1.007 to 1.030, P = 0.002), and factor V (OR –0.955, 95% CI 0.929 to 0.982, P = 0.001). The estimated lipase and factor V cut-off values that maximized sensitivity and specificity for death prediction were 147.5 U/L (AUC = 0.879), and 56.5% (AUC = 0.913). Patients who were discharged from the hospital continued to be followed-up in the outpatient clinic. Seven patients had their urine and blood screened weekly for YFV until the test was negative. After the onset of symptoms, viremia and virúria were present for a maximum period of 28 days and 47 days, respectively.

Conclusion. YF acute severe cases show a generalized involvement of different organs (liver, spleen, heart, kidneys, intestines, and pancreas), and different parameters were related to outcome. Factor V and lipase are independent variables associated with death, reinforcing the importance of hemorrhagic events due to fulminant liver failure and pointing to pancreatitis as a relevant event in the outcome of the disease.

Parameter	Survival (n = 21)	Death (n = 41)	*P* value
Age (years), median (IQR)	42 (27.5 - 48)	45 (35.5 - 58)	0.208
Gender, n (%) Male	16 (32%)	34(68%)	0.525
Female	5 (41.7%)	7 (58.3%)	
Days of symptoms *, median (IQR)	6 (4.5 - 7)	5 (4 - 7)	0.489
ALT (U/L), median (IQR)	2,694 (1,416 – 3,642)	5,009 (3,242 – 7,734)	**< 0.0001**
AST (U/L), median (IQR)	3,384 (2,333 – 5,097)	11,350 (6752 – 15,820)	**< 0.0001**
AST/ALT, median (IQR)	1.33 (1.16 - 1.7)	2.04 (1.67 - 2.77)	**< 0.0001**
Total bilirubin (mg/dL), median (IQR)	3.38 (1.18 - 5.58)	5.85 (4.16 - 8.09)	**< 0.0001**
CKD-EPI (mL min−1 1.73 m−2), median (IQR)	85 (65.5 - 114)	11 (6 - 25)	**< 0.0001**
Ammonia (µmol/L), median (IQR)	53 (41.5 - 62.5)	90 (62.5 - 141.5)	**< 0.0001**
Lipase (U/L), median (IQR)	66 (49 - 139.5)	531 (159 - 1560)	**< 0.0001**
Factor V (%), median (IQR)	90 (62 - 121.5)	32 (11 - 42.5)	**< 0.0001**
INR, median (IQR)	1.33 (1.15 - 1.51)	2.5 (1.97 - 3.51)	**< 0.0001**
Lactate (mg/dL), median (IQR)	16 (11 - 21.5)	39 (24.5 - 61.75)	**< 0.0001**
Bicarbonate (mmol/L), median (IQR)	20.7 (18.95 - 23.4)	14.7 (11.7 - 18.7)	**< 0.0001**
Viral load (log10 copies/mL), median (IQR)	6.1 (5.47 - 7.05)	6.1 (5.53 - 7.22)	0.623

*Table 1. Demographic and clinical laboratory data for 62 patients with severe yellow fever, classified according to their outcome (survival or death). Univariate analysis. ALT, alanine aminotransferase; AST, aspartate transaminase; CKD-EPI, Chronic Kidney Disease Epidemiology Collaboration; INR, international normalized ratio; IQR, interquartile range; p<0.05 was considered significant. * days of symptoms up to day of hospitalization*