0.91) were included. 82% applied International Classification of Headache Disorders (ICHD) diagnostic criteria. Median responder rate was 83.4%. Median age of migraineurs was 32 years (IQR 24.6-38.7). Prevalence period ranged from lifetime in 73 (28.5%), one-year in 149 (58.2%), two-years in 4 (1.6%), 6-months in 18 (%), and 3-months in 12 (7%) studies. Pooled crude migraine prevalence was 11.6% (95% CI 10.7-12.6%; random effects); 10.4% in Africa, 10.1% in Asia, 11.4% in Europe, 9.7% in North America, 16.4% in Central and South America. Weighted migraine prevalence stratified among females, males, rural, urban, and school/college was 13.8%, 6.9%, 11.2%, 8.4%, and 12.4% respectively. Sensitivity analysis revealed similar random-effects weighted prevalence between ICHD-using studies versus all studies (11.6%), likewise between one-year versus all studies (11.6%).

Interpretation: Migraine affects one in ten people worldwide; it is twice common in females. Higher prevalence was found among school/college students and urban residents. Geographical variations were observed with Central and South American region featuring higher prevalence compared to other regions.

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Abstract #: *2.093_NEP*

"Its spirit is strong": Shawi spirits, healers and diarrhea in the Amazon

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Background: Indigenous communities' perceptions of illness may not always reflect known biomedical causes of disease. These perceptions make some health interventions ineffective, reinforcing a higher burden of illness in Indigenous communities. In particular, waterborne illness remains a public health issue. The goal of this research was to explore how Shawi perceptions of the causes of diarrhea, as a symptom of waterborne illness, relate to Shawi beliefs and cosmology about water. Further, the research explored implications for the effectiveness of biomedical healthcare interventions in the Peruvian Amazon.

Methods: This study used participatory qualitative methods. 22 semi-structured interviews were conducted from August 21 to September, 2014, in two Shawi communities. Study communities were located on the shore of the Armanayacu River, in the Balsapuerto district of the Alto-Amazonas province, in the Loreto department of Peru. Interviews were conducted with: parents of children younger than ten, persons associated with traditional medicinal practices, individuals with expertise in Shawi spiritual beliefs, and health technicians at the government medical clinic used by each community. Interview results were analyzed using a thematic phenomenological approach combined with ATLAS.ti qualitative analysis software.

Findings: Qualitative analysis found that the two Shawi communities did not perceive drinking untreated water as able to cause diarrhea. Shawi perceptions about diarrhea correlated strongly with Shawi cosmology, spiritual beliefs, and the Shawi traditional health system. Community members perceived diarrhea to arise from three different pathways: diarrhea caused by water spirits, diarrhea caused by a traditional healer, or diarrhea caused from feelings of hunger due to food insecurity.

Interpretation: The number of participants was limited by time constraints, and analysis was made difficult by multiple language translations. However, the study clearly found that many Shawi perceptions of illness do not reflect biomedical causes of diarrhea (hygiene, sanitation, parasites). Current interventions for diarrheal disease in the Amazon do not recognize community perceptions of the causes, which may render these interventions ineffective. Therefore, understanding and appreciating Indigenous health perceptions is key to improving the design of waterborne illness health interventions.

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Influence of the 2014 West African Ebola epidemic on essential health service utilization in a Liberian district

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Background: The recent 2014 West African Ebola virus disease (EVD) epidemic has so far affected 10,672 Liberians, resulting in 4,808 deaths. This study aimed to delineate changes in essential health service utilization at the level of a Liberian district with comparisons to the previous year.

Methods: Data was collated from monthly Health Management Information System (HMIS) forms sent by the 11 health facilities in Zorzor district (population 40,704) to the Liberian Ministry of Health & Social Welfare over 2013-2014 and analyzed for trends. IRB approval was obtained for secondary data analysis as no individually identifiable health information was used.

Findings: There was a global decline in many key indicators, especially in the field of maternal and child health. Amongst the significant findings was a decrease in the number of four or more antenatal care visits (-66 women, $p<0.001$), maternal tetanus immunization (-32 women, $p=0.02$), male condom distribution (-681 units, $p=0.005$), Pentavalent vaccination for children under age 1 (-22 infants, $p=0.02$), vitamin A supplementation for children aged 12-59 months (-31 children, $p=0.01$), and for children under age 5, insecticidal net distribution (-24 units, $p<0.001$) as well as the number of children with diarrhea and pneumonia who were appropriately treated (-54 and -68 respectively, $p<0.001$).

Interpretation: The drop in infant immunizations, Integrated Management of Childhood Illness (IMCI) services for children under age 5, as well as antenatal care and family planning is concerning. Since Zorzor district only had 15 confirmed EVD cases, with just one affecting a healthcare worker, it is possible that this decrease in health service utilization is associated with fear and stigma rather than direct fallout. Further analysis was difficult as credible sources to derive denominators for the calculation of proportions and ratios were lacking, in addition to the nature of