

Type: Poster Presentation

Final Abstract Number: 52.037

Session: *Epidemiology and Public Health II*

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

Diarrhoeal diseases in under-five children in Emekuku, Nigeria: A hospital-based case-control study

I.N. Dozie*, C.J. Njoku, U.M. Chukwuocha

Federal University of Technology, Owerri, Nigeria

Background: Patterns of Diarrhoeal disease among underfives was determined in Emekuku, Nigeria**Methods & Materials:** Structured questionnaires were administered to caregivers of children. Cases were 88 children with loose, watery faeces pathologically diagnosed with diarrhoea captured immediately after diagnosis by the physician and administered with the questionnaire. Controls were 88 children diagnosed of any other disease other than diarrhoea.**Results:** Most cases of diarrhoea were acute (93.2%) while 5% were bloody, with mean number of stools/child/day being 4.3 times (SD 1.92). Age (6-12 month) (OR = 2.164, 95%CI = 0.16-28.98); breast-feeding (complementary feeding) (OR = 1.649, 95%CI = 0.186-14.63) (P < 0.001); birth weight < 2.5 kg (P < 0.026), maternal employment (unemployed women) (OR = 2.575, 95%CI = 0.94-7.030); toilet type (pit toilet) (OR = 8.199, 95%CI = .44-154.37); hand washing with water only (P < 0.001); rain water (OR = 3.189, 95%CI = 0.08-117.12); and crowding index (>3 in a room) (OR = 2.407, 95%CI = 0.98-5.88) were significantly associated with diarrhoeal disease.**Conclusion:** Interventions encouraging exclusive breastfeeding and hygiene practices should be scaled up.<http://dx.doi.org/10.1016/j.ijid.2014.03.954>**Type: Poster Presentation**

Final Abstract Number: 52.038

Session: *Epidemiology and Public Health II*

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

Vaccine associated paralytic poliomyelitis (VAPP) in India and its public health implications: A systematic review of literatureJ.L. Mathew^{1,*}, S.K. Mittal²¹ Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India² Pushpanjali Crosslay Hospital, Ghaziabad, India, Ghaziabad, India**Background:** India is at the threshold of certifying polio eradication. However, this is at the cost of ignoring vaccine associated paralytic poliomyelitis (VAPP) and its national as well as global public health significance.**Objective:** To estimate the burden of VAPP cases in India, trends over time, relationship to vaccine doses used, and comparison with

other South East Asia Region (SEAR) countries, during 1998 to 2013.

Methods & Materials: A systematic literature review was undertaken through multiple databases using the term 'vaccine associated paralytic poliomyelitis' or 'VAPP'. The standard definition of VAPP was used. The outcomes of interest were (i) annual incidence of VAPP, (ii) comparison of VAPP to wild-type poliovirus cases, (iii) comparison of VAPP to non-polio paralysis cases, (iv) comparison of VAPP to number of OPV doses used, and (v) comparison of VAPP in India to other WHO SEAR countries.**Results:** Preliminary search yielded 494 citations. Restriction using the filter 'India' narrowed to 49 citations. However, only one of these reported VAPP data. The weekly WHO Surveillance Bulletins, permitted calculation of VAPP-compatible cases (defined as acute flaccid paralysis with isolation of single vaccine virus strain and absence of any wild poliovirus strain) in India and SEAR countries, as well as annual number of acute flaccid paralysis (AFP) cases. There were no publications confirming the total number of OPV doses used annually.

In India, the annual incidence of VAPP-compatible cases shows a rising trend from 1998 to 2013, outnumbering wild-type polio since 2004. A steady upsurge occurred from 2005. Despite absence of wild-type P2 strain since 1999, the steady state of VAPP-compatible P2 showed a sharp rise from 2009. The burden of VAPP-compatible cases in India is significantly higher than all other WHO South-East Asia Region countries combined, and the ratio has been rising since 2007.

Conclusion: There is a high burden of VAPP-compatible poliomyelitis in India. Its public health significance is that the impending certification of polio eradication will be at the cost of ignoring the ethical, economic and epidemiologic consequences of VAPP. Injectable polio vaccine is a safe and efficacious alternative to oral polio vaccine.<http://dx.doi.org/10.1016/j.ijid.2014.03.955>**Type: Poster Presentation**

Final Abstract Number: 52.039

Session: *Epidemiology and Public Health II*

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

Study of socio-demographic risk factors of dengue fever in a tertiary care hospital in PakistanA. Maqbool¹, M. Mushtaq^{1,*}, M.-U.-D. Ahmad¹, M. Nisar²¹ University of Veterinary and Animal Sciences, Lahore, Pakistan, Lahore, Pakistan² University of Veterinary & Animal Sciences, Lahore, Pakistan**Background:** Vector borne disease are of public health importance and are still considered a threat which can seriously affect human health in many parts of the world. These diseases are increasingly reported in the majority of tropical regions. Socio demographic and house hold protection factors play an important role in the occurrence of vector borne disease.**Methods & Materials:** A total of 600 patients (300 cases and 300 controls) were selected for a case control study during epidemic of dengue fever (August to November 2011) at tertiary care hospital in Lahore, Pakistan. Patients confirmed positive by ELISA

were considered as cases and negative as controls. Data regarding socio-demographic factors were collected through a predesigned questionnaire after taking verbal consents from the patients. Data was entered and analyzed by SPSS 16. Chi square test was applied to see the association between various socio-demographic factors and dengue fever. Odds ratio was calculated to determine the risk of these factors at p -value < 0.05 .

Results: Results regarding various hypothesized risk factors were Job status (OR=1.47), Type of housing (OR=2.21), Door Mesh (OR=0.305), Mesh on Windows (OR=0.58), Use of Insect Killer (OR=0.52), Stagnant water in house (OR=1.881), Water storage tank (OR=0.31), Water leakage in main supply (OR=2.47), Buckets/Tubs Covering (OR=0.701), Disposal of house hold waste (OR=0.244), Outdoor plants near the house (OR=1.113), Water in vicinity of plant (OR=1.159), Morning Walk (OR=2.918), Covering of sleeves when go outdoor (OR=0.863), Covering of feet when go outside (OR=0.703), Going out at Dawn (OR=2.11), Going out at dusk (OR=2.189).

Conclusion: Dengue illness in Lahore is due to the presence of potential risk factors present inside/outside of homes as well as behaviour such as lack of personal and home protection which exposed them to the dengue vector.

<http://dx.doi.org/10.1016/j.ijid.2014.03.956>

Type: Poster Presentation

Final Abstract Number: 52.040

Session: Epidemiology and Public Health II

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

The impact of insecticide treated nets on malaria transmission potential in Kamuli district, Uganda



F.G. Kabbale^{1,*}, A. Akol¹, E. Matovu¹, A. Onapa²

¹ Makerere University, Kampala, Uganda

² RTI, Kampala, Uganda

Background: The main entomological justification for use of insecticide-treated bed nets (ITNs)/Long Lasting Insecticide-treated bed nets (LLINs) as the main malaria vector control method in Uganda is that most biting by *Anopheles gambiae sensu lato* and *Anopheles funestus* group, the principal vectors is believed to occur between 10:00pm and 5:00am when most people are in bed and under bed nets. Hypothetically, this biting pattern changed following prolonged use of ITNs/LLINs, rendering this intervention less effective, explaining the continued morbidity and mortality due to malaria in endemic Uganda. A longitudinal study was conducted to determine the *Plasmodium falciparum* sporozoite-infective biting hours of the night and the parasite transmission intensities under prolonged use of ITNs/LLINs in Kamuli district.

Methods & Materials: A *P.f.* circum-sporozoite protein ELISA was carried out on 551 (112 pools) and 1640 (331 pools) *Anopheles gambiae s.l.* and *An. funestus* group caught at different hours of the night in intervention (with ITNs) and non-intervention (without ITNs) zones respectively. The circumsporozoite positivity of the vectors was related to the time of biting humans, while the annual entomological inoculation rates (AEIRs) were obtained by multiplying the average annual human biting rate by the sporozoite rate.

Results: Results showed no impact of ITNs/LLINs on the sporozoite-infective biting hours of the night and probably reduced

sporozoite infection rates. Infective biting by the vectors occurred throughout the night, with peak infection occurring between 20:00 and 04:00 hours in both zones, indicating protective effectiveness of ITNs against malaria sporozoite-infective biting by the vectors. In both zones, the malaria transmission potential was higher outdoors than indoors, and was several fold higher in the non-intervention than in the intervention zone, indicating that ITNs may have reduced the EIRs in the intervention zone. The AEIRs in both zones exceeded one, placing Kamuli district far from malaria elimination phase like most of the country

Conclusion: An integrated approach to malaria control should be adopted in Kamuli district and other parts of the country to reduce the transmission intensity to levels that could interrupt *P. falciparum* malaria transmission, and possibly driving Uganda closer to the malaria elimination phase.

<http://dx.doi.org/10.1016/j.ijid.2014.03.957>

Type: Poster Presentation

Final Abstract Number: 52.041

Session: Epidemiology and Public Health II

Date: Friday, April 4, 2014

Time: 12:45-14:15

Room: Ballroom

Risk factors for Lassa fever in endemic communities of Edo State, Nigeria



E.A. Tobin¹, D. Asogun^{2,*}, C. Happi³, E. Ogbaini¹, S. Gunther⁴

¹ Irrua Specialist Teaching Hospital, Irrua, Nigeria

² Irrua Specialist Teaching Hospital, Irrua, Edo, Nigeria

³ UCH Ibadan, Ibadan, Nigeria

⁴ Bernhard-Nocht-Institute for Tropical Medicine, Hamburg, Germany

Background: Lassa fever is an acute febrile illness caused by the Lassa virus, a member of the family of Arenaviridae, whose natural hosts are rodents of the genus *Mastomys*. The community based descriptive cross sectional study set out to assess the prevalence of risk factors and serostatus to Lassa virus specific IgM and IgG antibodies in Lassa fever endemic communities in Esan West local government area of Edo state, Nigeria.

Methods & Materials: The knowledge and risk practices on Lassa fever of four hundred and twenty one respondents selected by means of a multistage sampling technique was determined using an interviewer administered structured questionnaire. Their Lassa specific antibodies IgG and IgM were determined using ELISA.

Results: One hundred and ninety three (76.6%) respondents had poor knowledge, and 18 (7.1%) good knowledge. Knowledge was significantly associated with level of education ($p=0.02$). There was no association of knowledge with occupation ($p=0.67$) and sex ($p=0.69$).

One hundred and ninety three (45.8%) respondents had high risk of rodent contact, 228 (54.2%) had low risk. Overall, 142 (33.7%) were at risk of disease from poor food hygiene practices, whereas the majority, 279 (66.3%) had low risk. IgM was found in 2 (1.3%) respondents, and IgG, in 62 (35.0%). Sex ($p=0.09$) and occupation ($p=0.21$) were not found to have any statistically significant association with IgM status. IgG status was significantly associated with educational level ($p=0.025$), age ($p=0.003$) and marital status ($p=0.006$).