Methods & Materials: *Ae. aegypti* eggs were collected from the two sites, hatched and reared to F_1 generation in a Biosafety level-2 insectary. Four-day old females were exposed to infectious, defibrinated sheep-blood mixed (1:1 ratio) with Dengue-2 virus isolated from Mandera-(5.08pfu/ml), using a membrane feeder. Fed mosquitoes were incubated under two sets of temperatures equivalent to the coastal-(29-31 °C) and Nairobi-(25-28 °C) region annual mean temperatures. In both experiments mosquitoes were monitored for up to 21days, and at 7day intervals, a third were randomly sampled, legs and abdomen separated. Abdomens were homogenized and virus quantified by plaque assay to determine midgut infection rates. Legs for mosquitoes with midgut infection were assayed for virus to determine dissemination rates. Results were compared using Chi-square/Fisher's exact test.

Results: A total of 1,117 female *Ae.aegypti* mosquitoes were tested. 87/517(16.8%; 95%CI: 13.7-20.3%) of Nairobi mosquitoes had infection. The proportion infected was significantly greater in high temperature (21.3%) than low temperature (12.0%; p = 0.0037). For Kilifi mosquitoes 54/600 (9%; 95%CI: 6.8-11.6%) were infected, this proportion also varied significantly with temperature (high = 11.6%, low = 6.8%; p = 0.0162). Among the infected mosquitoes, the proportion that had dissemination was significantly greater in Kilifi (40.7%; 95%CI: 27.6-55.0%) than Nairobi (10.3%; 95%CI: 4.8-18.7%; p < 0.0001).

Conclusion: There is significant difference in midgut infection rates under varying temperatures for both populations from the two geographical sites. Although it was observed that dissemination rates did not vary significantly with temperature in the two populations, the Kilifi population exhibited a high dissemination rates compared to the Nairobi population suggesting that the Kilifi population may be inherently more competent with a lower midgut barrier than the Nairobi population. These finding are important in understanding the distribution of re-emerging Infectious diseases in Africa.

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Bacteriuria and urinary schistosomiasis in primary school children in rural communities in Enugu State, Nigeria, 2012

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Background: According to a study conducted in1989, Enugu State has an estimated urinary schistosomiasis prevalence of 79%. Recently, studies have implicated bacteriuria co-infection in bladder cancer. These bacteria accelerate the multi-stage process of bladder carcinogenesis. Knowledge about the prevalence of this co-infection is not available in Enugu and the information provided by the 1989 study is too old to be used for current decision making.

Methods & Materials: We carried out a cross-sectional survey of primary school children aged5-15years, who were randomly selected through a multi stage sampling method using guidelines recommended by WHO for schistosomiasis surveys. An interviewer administered questionnaire was used to collect data on demography, socioeconomic variables and clinical presentations. Urine samples were collected between 10.00am and 2.00pm. Each sample was divided into two: (A) for prevalence and intensity using syringe filtration technique and (B) for culture. Intensity was categorized as heavy (>50ova/10mls urine) and light (<50ova/10mls urine). Significant bacteriuria was bacteria count $\geq 10^5$ colony forming units/ml of urine.

Results Of the 842 pupils, 50.6% were females. The prevalence of urinary schistosomiasis was 34.1%. Infection rate was higher(52.8%) among 13-15 years(Prevalence Ratio {PR} = 2.45, 95% Confidence Interval{CI} 1.63-3.69).Heavy infections wad 62.7% and egg count/10mls urine ranged from 21-1138.Significant bacteriuria among pupils with urinary schistosomiasis was 53.7% compared to 3.6% in the uninfected(PR = 30.8,95% CI 18.91-52.09). The commonest implicated organism was *Escherchia.coli*.

Conclusion We found high prevalence of bacteriuria co-infection among children with urinary schistosomiasis in Enugu State. This underscores the need for concurrent antibiotics administration and follow-up to avert later complications.

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