ABSTRACT

Helminthiasis and Malaria Co-Infection Among Women of Reproductive Age in a Rural Setting of Kilifi County, Coastal Kenya: A Mixed Method Study

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Soil transmitted helminthiasis (STH), *Schistosoma haematobium* and malaria co-infection lead to increased susceptibility to other infections and poor pregnancy outcomes among women of reproductive age (WRA). This study sought to establish risk factors, burden of co-infection with STH, *S. haematobium* and *Plasmodium* sp. among WRA in Kilifi County, Kenya.A mixed method cross-sectional study was conducted on 474 WRA in 2021. Simple random sampling was used to select WRA from four villages in two purposively sampled sub-counties. Study participants were interviewed, and stool samples collected and analysed using Kato-Katz technique for STH. Urine samples were collected for examination of *S. haematobium* while malaria microscopic test was done using finger prick blood samples. Further, 15 focus group discussions (FGDs) were conducted with purposively selected WRA and qualitative data analyzed thematically using Nvivo software. Quantitative and qualitative methods were triangulated to comprehensively strengthen the study findings. Prevalence of *S. haematobium* was 22.3% (95%CI: 13.5–36.9), any STH 5.2% (95%CI: 1.9–14.3) and malaria 8.3% (95%: 3.8–18.2). Co-infections between any STH and *S. haematobium* was 0.8% (95%CI: 0.2–3.2) and between *S. haematobium* and malaria 0.8% (95%CI: 0.2–3.1). Multivariable analysis showed increased odds of any STH infections among participants in Rabai Sub-County, (aOR = 9.74; p = 0.026), businesswomen (aOR = 5.25; p<0.001), housewives (aOR = 2.78; p = 0.003), and casual laborers (aOR = 27.03; p<0.001). Qualitative analysis showed that the three parasitic diseases were common and responsible for possible causes of low birth weight, susceptibility to other infections and complications such as infertility and cancer later in life.The study demonstrated that STH, *S. haematobium* and malaria are still a public health problem to WRA. Some of the associated risks of infection were geographical location, socio-economic and WASH factors. Hence the need to implement integrated control efforts of the three parasitic infection.

Keywords: Malaria, Schistosoma haematobium, Schistosomiasis, Helminth infections, Pregnancy, Parasitic diseases, Medical risk factors, Co-infections