Detection of mycobacteria in raw milk and assessment of risk factors among fulani herdsmen in Bwari Area Council, Abuja, Nigeria

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Background: Cross sectional study was carried out to detect mycobacteria in raw milk samples of from Fulani herds in Bwari Area council, Nigeria, ZN-stain technique, PCR and culture on LJ slants. Heard prevalence, Knowledge attitude with associated risk factors for transmission of zoonotic TB were evaluated using structured questionnaires.

Methods & Materials: Study Area Bwari area council (BAC) is one of the six area councils of the Federal capital territory. Located along coordinates 7° 08′ E and 9° 24′ N. Study Population: The pastoral Fulanis of Abuja are transhumant. They rear cattle, sheep and goats. Sampling: Milk samples were collected by cattle owner into 50ml sterile falcon tubes as part of their routine milk collection, labeled and transported to the laboratory in cold chain. Samples were tested for M. bovis by PCR, ZN stain and cultured on LJ slants (figure 2).

Results: One hundred and forty five samples were analyzed. Positive detection rates by ZN-staining and culture were 6.89% and 1.3% by PCR respectively. Herd prevalence per satellite town by ZN-stain technique were 8.89%, 10.00%, 3.33% and 5.00% for Bwari, Dei-Dei, Kubuwa and Ushafa respectively. Herd prevalence by PCR for Bwari was 2.22% while that of Dei-Dei was 3.33%. Kubuwa and Ushafa had 0% prevalence each by PCR. Awareness level on cause and transmission mode of M. bovis from cattle to human through questionnaire revealed 64% (11/17) and 82% (14/17) were neither aware of the causative agent nor its zoonotic significance respectively. There was high risk of M. bovis transmission due to frequent raw milk consumption without boiling (OR = 5.76; CI= 1.32 – 25.18 and OR= 0.0947; CI = 0.0194 - 0.4619) with P < 0.05 respectively in the studied herds.

Conclusion: Mycobacterium bovis was detected in cow’s milk from Fulani herds of Bwari Area council, calls for implementation of public health control measures such as improved hygiene and milk pasteurization.

Impact of outpatient neuraminidase inhibitor treatment on hospitalisation in patients infected with influenza A (H1N1)pdm09: An IPD analysis

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Background: Neuraminidase inhibitors (NAIs) were widely deployed during the 2009 A(H1N1) pandemic. While evidence exists to support their effectiveness in reducing mortality in hospitalised patients, the impact of outpatient or community-based treatment on hospital admission has not been established. Our aim was to investigate the association between outpatient or community-based NAI treatment and admission to hospital in patients with A(H1N1)pdm09 virus infection.

Methods & Materials: We performed an Individual Participant Data (IPD) meta-analysis on a pooled dataset of 6,030 patients from nine different countries. ‘Hospital admission’ was the main outcome and ‘NAI treatment initiated in the community or as an outpatient’ was the main exposure variable. We estimated Odds Ratios (OR) and 95% Confidence Intervals (95% CI) using generalised linear mixed modelling to account for clustering within each contributing study centre; and we adjusted for pre-admission antibiotics and NAI treatment propensity in the final model. To account for relatively frequent exposure to NAI treatment and an overall high likelihood of hospitalisation, we also estimated Risk Ratios (RR) using a random effects probit model.

Results: Of the 6,030 patients included in the pooled analysis, 5,738 (95.16%) had laboratory confirmed influenza A(H1N1)pdm09, and the remainder were clinically diagnosed with ‘pandemic influenza’. A total of 1,541 patients (25.56%) received outpatient or community-based NAI treatment and 4,250 (70.48%) hospitalisations occurred, indicating a population at overall high risk of influenza-related hospitalisation. After adjustment for pre-admission antibiotics and NAI treatment propensity, outpatient or community-based NAI treatment was associated with a decreased odds of hospital admission (OR: 0.33, 95% CI: 0.28 to 0.39) compared to no NAI treatment. From our random effects probit model, we obtained a corresponding adjusted RR of 0.52 (0.48 to 0.57).

Conclusion: In a population with confirmed or suspected A(H1N1)pdm09, and at high risk of hospital admission, outpatient or community-based NAI treatment substantially reduced the likelihood of requiring hospital admission.

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