

areas while 1 high risk (20 scores) area involving trade in live birds. Bauchi state recorded 5 moderate areas (12–13 scores) involving returning trucks, contaminated eggs from infected areas and wild birds while a high risk (20 scores) was established. Chisquare ( $\chi^2$ ) analysis showed that LBMs had significant association ( $P = 0.004$ ) with the prevalence of AI but no such association ( $P = 0.147$ ) with ND. Temperature ( $P = 0.033$ ) rainfall ( $P = 0.033$ ) were important metrological factors associated with seropositivity of AI while altitude ( $P = 0.001$ ), humidity ( $P = 0.000$ ) and rainfall ( $P = 0.003$ ) were strongly associated with ND in this study. Further, the odds ratio at 95% CI (1.313–6.333) showed three times likelihood of AI and ND occurrence in the presence of LBMs.

**Conclusion:** There existed moderate to high risk of AI introduction and spread in the two states. Newcastle disease was a major threat to poultry farming, other endemic poultry diseases contributed significantly to economic losses in these States. Risk assessment and participatory disease investigation would give an early warning to inform strategic livestock policy reforms in Nigeria and other developing nations.

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#### What are the burden and spectrum of skin infections in Cameroonian prisons?



E.A. Kouotou<sup>1</sup>, J.R.N. Nansseu<sup>2,\*</sup>, I. Sieleunou<sup>3</sup>, L.-L. Mogueu Bogne<sup>4</sup>, H. Adegbedi<sup>5</sup>, J. Tameyi Tatsa<sup>6</sup>, A. Sangare<sup>7</sup>, R. Moyou Somo<sup>1</sup>

<sup>1</sup> Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I, Yaoundé, Cameroon

<sup>2</sup> Faculty of Medicine and Biomedical Sciences of the UNiversity of Yaoundé I, Yaoundé, Centre, Cameroon

<sup>3</sup> University of Montréal, Montréal, Canada

<sup>4</sup> University of Mountains, Bangangté, Cameroon

<sup>5</sup> University Hospital National Centre of Cotonou, Cotonou, Benin

<sup>6</sup> University of Montréal, Bangangté, Cameroon

<sup>7</sup> Treichville University Teaching Hospital,

Treichville, Cote d'Ivoire

**Background:** Sub-Saharan African (SSA) prisons are characterized by overpopulation, promiscuity, poor hygiene, precarious quality of life and total lack of health care, which are known drivers of skin infections (SI). The present study sought to investigate the burden and spectrum of SI among detainees in Cameroon, a SSA country.

**Methods & Materials:** Three prisons were randomly selected in the West region of Cameroon where we consecutively recruited 755 inmates who voluntarily accepted to participate in the study. They were independently examined by two well-trained and experienced dermatologists, the diagnosis being confirmed on the basis of clinical findings. Discordant cases were resolved by discussion and consensus.

**Results:** Ages of participants ranged from 14 to 82 years with a mean of  $32 \pm 12$  years. There were 17 females (2.3%). We recorded a total of 324 SI (42.9%; 95% confidence interval (CI): 39.4–46.4%). They were dominated by parasitic infections: human

scabies (242/324: 74.7%) and bodily pediculosis (1/324: 0.3%); then followed fungal infections: dermatophytes (33/324: 10.2%), pityriasis versicolor (29/324: 9.0%), onychomycosis (14/324: 4.3%), and microsporid ringworm (1/324: 0.3%). Lastly, bacterial infections were recorded: impetigo (2/324: 0.6%) and furunculosis (2/324: 0.6%). Age ( $p = 0.918$ ), sex ( $p = 0.919$ ), marital status ( $p = 0.358$ ) and religion ( $p = 0.505$ ) were not associated with the occurrence of SI. Contrariwise, after multivariate logistic regression analysis, low level of education (adjusted odds ratio 1.54, 95% CI: 1.13 – 2.10;  $p = 0.006$ ) remained an independent factor increasing the likelihood to be affected. Of note, other dermatoses were encountered: eczema (49 cases), prurigo (5 cases), urticaria (3 cases), seborrheic dermatitis (2 cases), acne (34 cases), keloids (5 cases), and ichthyosiform xeroderma (2 cases).

**Conclusion:** Skin infections are preponderant in Cameroonian prisons, mainly dominated by human scabies and dermatophytes and perhaps highlighting the poor health care delivered in these milieus. Urgent measures need to be taken to enhance and strengthen the health care provided in our penitentiaries. In this regard, the health personnel working there should be trained to properly diagnose and manage these pathologies, and medicines made available free of charge.

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#### Assessing the baseline burden of otitis media in children 2 to 3 years of age for estimating the effects of 13-valent pneumococcal conjugate vaccine (PCV) on otitis media



J. Njuma Libwea<sup>1,\*</sup>, M. Kobela<sup>2</sup>, P. Koki Ndombo<sup>3</sup>, R. Syrjänen<sup>4</sup>, H. Huhtala<sup>1</sup>, N. Fointama<sup>5</sup>, K. Shiro<sup>6</sup>, H. Nohynek<sup>4</sup>, P. Nourti<sup>1</sup>, A. Palmu<sup>7</sup>

<sup>1</sup> University of Tampere, Tampere, Finland

<sup>2</sup> Expanded Programme on Immunization, Cameroon, Yaounde, Cameroon

<sup>3</sup> Mother and Child Hospital, Yaounde, Yaounde, Cameroon

<sup>4</sup> National Institute for Health and Welfare, Tampere, Finland

<sup>5</sup> University of Yaounde 1, Yaounde, Cameroon

<sup>6</sup> Ministry of Public Health, Yaounde, Cameroon

<sup>7</sup> 4. National Institute for Health and Welfare (THL), Tampere, Finland, Tampere, Finland

**Background:** Otitis media is a common illness resulting in major resource use in children under-five years of age in high income countries. However, there is paucity of data on its epidemiology and clinical presentation in low-resource settings. We aimed to estimate the disease burden of otitis media in Cameroon and to determine the possible risk factors.

**Methods & Materials:** A population-based cross-sectional descriptive prevalence study of otitis media (OM) was performed on randomly selected children aged 2 to 3 years in Yaounde, Cameroon. Two rounds of studies were planned: first for PCV-unvaccinated children between March and June in 2013, and the second round for PCV-vaccinated children 2 years later. OM bur-

den was estimated using tympanometry and pneumatic otoscopy for otitis media with effusion (OME) and by parental questionnaires for acute otitis media (AOM). Here we report the baseline results from the first round.

**Results:** Out of the 529 children enrolled, 427 were included in the final analyses and the rest were excluded due to indeterminate tympanogram data. Nonetheless, there were no major differences in the baseline characteristics between the two groups. Of those subjects, 84/427 (19.7%) were diagnosed with at least one form of otitis media or its complications. This consisted of 21 (4.9%) children with bilateral OME (i.e. OM in both ears) and 44 (10.3%) with unilateral OME. Based on otoscopy and parental questionnaire, an additional 14 (3.0%) children were diagnosed with AOM, 3 (0.7%) with unilateral CSOM based on inspection and 2 (0.5%) with unilateral ear perforations. No statistically significant relationship was found between OME and any of the predictor variables. However, multivariate logistic regression analysis identified a strong association between the existence of OME and one health outcome i.e. notification of any ear related problems/symptoms in the last 6 months prior to study period (Odds Ratio: OR = 2.5 and Confidence Interval: 95% CI = 1.3 – 5.0).

**Conclusion:** The findings indicate that as many as every one in five children in our study population were affected by middle ear disease between the ages of 2 and 3 years.

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#### Staphylococcal foodborne illness outbreak, Tshwane District, Gauteng Province - South Africa, June 2015



T. Ntshiqha<sup>1,\*</sup>, H. Mpangane<sup>2</sup>, D. Mpambane<sup>3</sup>, M. Moshime<sup>3</sup>

<sup>1</sup> University of Pretoria, Pretoria, South Africa

<sup>2</sup> National Institute for Communicable Diseases, Johannesburg, South Africa

<sup>3</sup> Tshwane District Outbreak Response Unit/EPI directorate, Pretoria, South Africa

**Background:** *Staphylococcus enterotoxin A* is one of the few *Staphylococcus aureus* strains producing gastroenteritis symptoms and is a common cause of food-borne illness worldwide. Although food-borne illness is a notifiable disease in South Africa, its burden is not well known, possibly due to under-reporting. On May 31 2015, three public hospitals in Pretoria notified Tshwane-Outbreak-Response-Unit (ORU) of 51 cases presenting with vomiting and stomach cramps following consumption of food at a local hotel on May 30 2015. All patients were treated and discharged within 24 hours. The ORU conducted further investigations to determine the magnitude, clinical-manifestation and likely source of the outbreak.

**Methods & Materials:** On June 1<sup>st</sup> 2015 the team visited the three affected hospitals and collected demographic and clinical details of those affected. We interviewed potentially exposed persons using a structured questionnaire. Food samples (chicken, cabbage, rice, brown onion soup) were collected from leftover food

and sent to the laboratory for enterotoxin testing. Clinical specimens were not collected.

**Results:** Of the 50 potentially exposed persons, 37 were cases. The reported symptoms included: abdominal cramps (37/37, 100%); vomiting (32/37, 86%); nausea (13/37, 35%) fever (9/37, 24%); diarrhea (12/37, 43%). The mean age was 23 years (range 9 – 58 years) and males were the most affected group (76%, 28/37). The median incubation period was 2.5 hours and symptoms lasted a median of 24 hours. The food-specific attack rate was 74% (37/50) among those exposed to chicken and 28% (14/50) among those who ate rice and/or brown onion soup. *Staphylococcus enterotoxin A* was isolated from the chicken and no pathogens were isolated from other foods.

**Conclusion:** *Staphylococcus enterotoxin A* was the likely cause of the outbreak with poor hand hygiene practices among food handlers being the likely source of infection. The relationship between staphylococcal foodborne illness and poor hand hygiene among food-handlers is well established in the scientific literature with cross contamination frequently occurring during food preparation. Ongoing hand washing awareness should be conducted to improve hand hygiene practices among food-handlers in affected food establishments. Training could improve the knowledge and outbreak response capacity among the environmental health practitioners and emergency unit health care workers.

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#### Factors associated with high HIV related stigma among commuter populations in Johannesburg inner city, South Africa



P.S. Nyasulu<sup>1,\*</sup>, N. Tshuma<sup>2</sup>, K. Muloongo<sup>3</sup>, L. Chimoyi<sup>4</sup>

<sup>1</sup> Monash University, Johannesburg, Gauteng, South Africa

<sup>2</sup> CARE, Johannesburg, South Africa

<sup>3</sup> CARE, Johannesburg, South Africa

<sup>4</sup> Wits Reproductive Health and HIV Research Institute (Wits RHI), University of the Witwatersrand, Johannesburg, South Africa

**Background:** Stigma remains the single most important barrier to individual confidence. Despite education about stigma and its morphing characteristics, it has continued to exist. The main objective of this study was to identify factors related to HIV stigma among a commuter population in the Johannesburg inner city of South Africa.

**Methods & Materials:** Data were collected using a self-administered closed ended questionnaire loaded onto personal tablet computers during a community outreach campaign. All measures were self-reported. The outcome was measured by asking the respondents to rate their perceptions of levels of stigma as 'high or low'.

**Results:** A total of 1146 participants were involved in the study of which 585 (51.0%) reported high-levels of stigma. Overall, being married/cohabiting (aOR: 1.47 95%CI: 1.05-2.04), divorced (aOR: 4.36 95%CI: 1.48-12.81), aware of HCT services (aOR: 2.10 95%CI: