PC-101292-14 Community-based case finding of TB-HIV patients in Kampala, Uganda

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Background: Case detection of TB and/or TB-HIV is central to successful control of the dual epidemics. Standard approaches for case detection have been employed by National TB programs as recommended by the World Health Organization. Innovative community-based approaches may contribute to early detection, timely linkage to care and improved outcomes such as survival.
Objective: To assess the effectiveness of community-based screening for TB and TB-HIV co-infection and linkage to care.
Design and methods: A cross-sectional house-to-house survey was conducted in Rubaga division of Kampala from January 2008–June 2009. Subjects aged 15 years or older consented to participate. Measurements included a questionnaire to identify chronic coughers (cough > 2 weeks), TB-related symptoms, rapid HIV testing, and tuberculin skin tests (TST). Two smear examinations were done and rapid HIV testing was performed based on the Uganda Ministry of Health recommendations.
Results: Of the 5103 participants, 199 (4%) reported chronic cough. We identified 39 (20%, 95%CI 14%–25%) new cases of active TB. Among chronic coughers, 85 (43%, 95%CI 36%–50%) were HIV positive, 53/85 (62%) were new HIV diagnoses. Of 22/199 (11%) TB-HIV+ co-infected persons, 11 (61%) were not in care. All newly identified TB, TB-HIV and HIV infected cases were linked to appropriate care.
Conclusions: Community based case-finding was effective in identifying undiagnosed TB, TB-HIV and new HIV cases in Kampala. Among chronic coughers, one in five had smears positive TB, about two in five had HIV infection and about one in ten were TB-HIV co-infected. These findings highlight the potential utility of community-based approaches in increasing case detection in high-burden settings.

PC-101478-14 Association between the seasonality of TB incidence, sunlight and Vitamin D concentration

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Background: Tuberculosis (TB) incidence has been reported to increase in summer months in several countries and the reasons are unclear. Skin exposure to sunlight increases Vitamin D (VitD) blood-levels, which may augment anti-TB immunity. We therefore studied the chronological association of TB diagnoses, the onsent of TB symptoms, VitD blood-levels and sunlight.
Methods: The study was nested within a micronutrient supplementation trial in a shantytown in Northern Lima, Peru. Average monthly TB incidence was calculated based on the number of cases diagnosed. The date of symptom onset was determined at interview. 292 measurements of VitD blood-levels were done from 2003–2005 and below-median VitD concentration was classified as low. Average daily sun hours data were obtained from historical records.
Results: Any effect of oral VitD supplementation on blood-levels was overwhelmed by a major effect of season. Winter months with fewer sunlit hours resulted in more people with low VitD concentration. Consequently the trough in VitD blood-level in winter was 23% lower than the peak in summer (56 vs. 43 nmol/l) and the average concentration was significantly different between these two seasons (P = 0.0005). TB symptoms rose along with an increasing fraction of the population having low VitD-levels and peaked 1–2 months after low VitD-concentrations became most prevalent. TB diagnoses peaked a further two months later in the beginning of summer in Peru (median delay between symptom onset and diagnosis: 60 days, interquartile range 30–95).