

Burden of serious fungal infection in Senegal

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Introduction Senegal is a West African country with a high rate of tuberculosis and a relatively low HIV seropositivity rate. Surgical series of aspergilloma resection reports of serious and life-threatening fungal infections have been reported. We have estimated the number of serious fungal infections, partly to assess diagnostic and treatment deficiencies nationally.

Methods All published epidemiology papers reporting fungal infection rates from Senegal were identified. Where no data existed, we used specific populations at risk and fungal infection frequencies in those populations to estimate national incidence or prevalence, depending on the condition. 2011 population statistics were derived from the Statistics National Institute; HIV cases and AIDS deaths from the US World Factbook (2012); TB cases from Rapport CNLS (2012); and COPD cases from Thèse UCAD (Chirurgie dentaire).

Results 43% of the nearly 13M population are children and 3.5M are women between the age of 15 and 64. Estimates are: 175,000 Senegalese women get recurrent vaginal thrush; as tinea capitis exceed 40% of school age children, over 2M children have tinea capitis. Of the 11,408 cases of TB in 2011, most in HIV negative people, it is estimated that 740 new cases of chronic pulmonary aspergillosis (CPA) occurred and that the 5 year period prevalence is 2300 cases, perhaps 50% of total CPA cases as COPD etc are frequent in Senegal. Estimates of asthma prevalence in adults are 3.2% (2011) and 8.2% (2001) (mean 5%) and assuming 2.5% of asthmatics have ABPA, 92,000 patients with ABPA are likely and 122,00 with SAFS. Of the 59,000 estimated HIV positive patients, 160 (2.9%) of 5544 new AIDS cases each year have cryptococcal meningitis and as many as 1220 (22%) Pneumocystis pneumonia. Oral candidiasis (53%) and dermatophytosis (16%) is common in advanced HIV infection. Burden of candidaemia, invasive aspergillosis, mucormycosis and histoplasmosis were not estimated (? rare or undiagnosed). 113 cases of mycetoma were diagnosed (2008-2010) [Ndiaye et al 2011]. Eumycetoma (70%) were more frequent than actinomyceta.

Conclusion Using local data and literature estimates of the incidence or prevalence of fungal infections, over 17% of the senegalese population is estimated to suffer from a fungal infection each year. These figures are dominated by tinea capitis. Substantial uncertainty surrounds these estimates and epidemiological studies are urgently required to validate or modify these estimates.