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Letters to the Editor

Are there 'ghost' leprosy patients in Nigeria? An audit of the point prevalence of leprosy at 30 September 1996 in seven States

OSAHON OGBEIWI

The Leprosy Mission International, Nigeria Coordination Office, P.M.B. 179, Minna, Nigeria

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How much do statistical reports of national leprosy control programs reflect the actual number of leprosy patients registered in clinics? An audit of the point prevalence at the end of September 1996 in seven States of Nigeria revealed that up to two out of every five reported cases did not exist. The proportions of 'ghost' cases in the individual States suggest that the level of over-reporting of prevalence statistics by leprosy control programs could be very high and could have significant economic concerns.

The registered prevalence of 14,309 cases reported by the World Health Organization (WHO) for Nigeria is 2% of the total global prevalence of leprosy.[1,2] The global figures of leprosy prevalence come from national statistical reports, which in turn are products of reports submitted by sub-national levels of the national leprosy control programme using standardized health information systems.[3]

A situational analysis of the leprosy control programs in seven States of Nigeria in April 1996 suggested a possible over-reporting by programme managers at the State or regional level of the national programme.[4] A prevalence audit was then done at the end of the third quarter of 1996 to verify the actual prevalence and determine the level of discrepancy between the reported and the actual registered figures. The States audited included Akwa Ibom in the southeast; Kwara, Kogi and Abuja (FCT) in the middle belt; and Niger, Kebbi and Sokoto in the northwest.

The audit was a descriptive cross-sectional review of records of all leprosy clinics in the seven States at the end of September 1996. Individual patient charts and clinic registers were examined, using a structured checklist to collect data on clinical and personal variables of registered patients.

The actual numbers of patients registered in the clinics and the exact numbers of doses of MDT (multidrug therapy) received by the end of September 1996 were counted directly from the registers before they were confirmed from the individual patient charts. Only the data of patients still on MDT were recorded in the checklists. In the analysis, the figures from all clinics in each State were summed up to determine the actual prevalence of leprosy in each State. The actual prevalence figures in each State were then compared with the figures reported in the quarterly statistical reports for the end of the third quarter of 1996.

The audit exercise reviewed 321 clinics in the seven States. There was a mean of seven patients per clinic (one PB and six MB), and a mode of zero to four patients per clinic. There was an actual total of 2276 (PB 358, MB 1918) patients at the end of September (prevalence rate, 1.3 per 10,000 population) in the seven States. Compared with the reported prevalence of 3586 (PB 950, MB 2636) cases (2.0 per 10,000), there was a total discrepancy of 1310 cases. In all, 592 (45.2%) and 718 (54.8%) of the discrepant cases were PB and MB, respectively. Out of the total reported for each classification, the discrepant cases were 62.3% and 27.2% for the total PB and MB cases, respectively. The observed differences between actual and reported prevalence figures in the seven States were statistically significant ($P < 0.05$).

The total 1310 discrepant cases actually include 1411 non-existent but reported cases and 101 unreported cases. The unreported cases were in only one project. The 1411 cases (39.3%) of the total reported prevalence were therefore the 'ghost cases' not found in the clinic registers but reported in the statistical reports of the projects. The range of proportions of 'ghost cases' in individual states was from 20.6% to 67.8%.

Reporting of 'ghosts' is common in Nigerian media.[5,6] A Local Government Council found in a staff audit in 1998 that 33% of the 1800 workers on its pay-roll did not exist and subsequently reduced its council's salary bill by 28%.[6] 'Ghost' leprosy patients are a similar phenomenon. Although the usual problem in reporting of disease occurrence is under-reporting,[7] the possibility of 'artifacts' in reports of leprosy prevalence has been mentioned in some texts.[8]

The discrepancies found by this leprosy prevalence audit confirm that reported statistics do not always agree with the actual registered figures. PB cases are more likely to be over-reported than MB. The proportions of 'ghost' cases in the individual States suggest that the level of statistical over-reporting in the national leprosy control programme as a whole could be high.

The significant over-reporting as proved by this audit is a cause for concern. It confirms that the actual prevalence figure for the whole country could be much less than is reported by the national authorities and WHO. The main concern in over-reporting which could be a purposeful act by leprosy supervisors and managers who prepare reports from clinic records is economic, particularly its likely effect on allocation of programme resources. It could easily lead to over-allocation of resources that are based on the number of patients in the clinics, e.g. MDT drugs. So, planning at national and global levels usually based on district and regional statistical reports[3,8] are flawed where fictitious reporting is practised. Therefore, routine audit of clinic records and actual case reviews could make an immense positive contribution to the global effort towards achieving elimination of leprosy by the year 2000.

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