Arsenicosis in Two Villages in Terai, Lowland Nepal

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(Received November 13, 2003; accepted November 21, 2003)

Key words: arsenic, arsenicosis, melanosis, keratosis, leucomelanosis, groundwater, prevalence, Nepal

Although arsenic contamination of groundwater has been detected recently in the Terai region of Nepal, scarce data have been available regarding the possible health effects of the contamination. A study was carried out in two rural villages of Nawalparasi district, where the existence of arsenic contamination has been reported. Almost all tubewells in one of the two villages (Goini, G) exceeded (ranging from 0.104 mg/L to 1.702 mg/L) the maximum permissible limit for arsenic in drinking water in Nepal (0.05 mg/L), and only a few tubewells (19.5%) in the other village (Kunuwar Big, KB) were below this level (0.004 mg/L to 0.972 mg/L). Prevalence rates of arsenicosis diagnosed on the basis of the presence of dermatological manifestations were 11.3% (56 out of 495 examined) and 6.5% (34/525) in G and KB, respectively, with an overall prevalence rate of 8.9%. In terms of gender, the prevalence rate was higher in males (11.5%; 61/531) than in females (5.9%; 29/489), supporting previous observations including our own. Most (71.1%) of the identified patients were 20–49 years old, and the prevalence rate appeared to be higher among those in their 30s or 40s in the both sexes. The youngest patient was 10 years of age. All the patients were either in the mild or moderate stage of the disease and most (78.9%) were in the mild stage. Melanosis with some other manifestations was observed in 95.6% of the patients, while keratosis was found in 57.8%. Leucomelanosis without any other manifestations, which has not been reported either in Bangladesh or India, was observed in 3.3% of the identified patients. Only one patient had Bowen’s disease. To our knowledge, the current study provides for the first time quantitative information regarding the arsenicosis patients in Nepal.

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