

Letter regarding published article titled “A Five-Year Retrospective Analysis of Clinico-epidemiological Pattern of Leprosy in a Coastal District of South India”

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Dear Editor,

This is in response to the article titled, “A Five-Year Retrospective Analysis of Clinico-epidemiological Pattern of Leprosy in a Coastal District of South India,” published in the Indian Journal of Leprosy in June 2024 (Sirohiya et al 2024). While the study provides valuable insights into the trends of leprosy in Dakshina Kannada, India, its findings warrant critical evaluation to ensure clarity and accuracy in the interpretation of its conclusions. The study mentions that out of 252 cases that fulfilled the case definition of leprosy, paucibacillary (PB) status was seen in 9.9% (n=25) and multibacillary (MB) in 90.1% (n=227) of cases, according to the WHO/NLEP classification. This appears to represent an overclassification into the MB group, as multiple epidemiological studies have consistently reported the MB to PB ratio to be approximately 60:40, rather than the 90:10 observed in this study (Butlin & Lockwood 2020). In fact, the table detailing the biopsy

proven diagnoses of 145 of these leprosy cases shows a tuberculoid (TT) pattern in 24 (16.6%) patients, borderline tuberculoid (BT) in 48 (33.1%), and indeterminate leprosy in 5 (3.4%) patients – all three of which would typically fall within the paucibacillary spectrum (Giridhar et al 2012). TT and indeterminate leprosy cases alone add up to 29, exceeding the cited figure of 25 PB cases.

The number of smear-negative BT cases is also not specified, and would raise the PB numbers further. Given the absence of clinical diagnostic data, there is a distinct possibility of the number of PB cases being significantly higher if the biopsy reports of the remaining 107 patients were also available. This discrepancy casts doubt on the basis of classification used to differentiate paucibacillary from multibacillary cases.

The article mentions that slit skin smear (SSS) testing for acid-fast bacilli was positive in 120 patients, however, only 59 of them had a documented bacteriological index (BI)

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value. Additionally, there is no mention of morphological index (MI) value, which would be a better indicator of viability of these bacilli, and could help in assessing treatment effectiveness. This reflects a significant gap in data recording, and highlights the inherent limitations of retrospective studies. Moreover, there is a misrepresentation of diagnostic priorities as the emphasis on the higher number of biopsies over SSS gives the impression that biopsy is a universally required diagnostic tool, when in fact, SSS is less invasive, more cost-effective, and easier to perform in routine clinical settings.

The study also reports a 24% prevalence of lepra reactions, with type 1 reactions being predominant. However, given the high proportion of MB cases, one would expect a greater number of type 2 (erythema nodosum leprosum (ENL)) reactions occurring in MB patients. Type 1 reaction has been reported in only 1 PB patient, presumably in one of the 48 borderline tuberculoid or 6 borderline borderline (BB) patients, as such reactions are not expected to occur in TT or indeterminate leprosy, and are rare in borderline lepromatous (BL) cases (Mendiratta et al 2023). This low figure raises questions about the accuracy of data recording and interpretation.

The study mentions the WHO/NLEP criteria for disease classification but does not appear to follow them strictly. Rather than emphasizing the number of lesions (as per WHO/NLEP), the study seems to rely on SSS and histopathology, causing

further inconsistency. Moreover, introducing the Ridley-Jopling classification (TT, BT, BB, BL, LL) alongside the WHO/NLEP system adds more confusion to the study's methodology.

In conclusion, while this study tries to shed light on the trends in leprosy epidemiology, especially during the COVID-19 pandemic, it brings out the need for more comprehensive and accurate data recording to ensure reliable conclusions. Furthermore, incorporating treatment response data would provide valuable insights into drug resistance and efficacy. Moving forward, it is important to strengthen the discussion on how findings like these can guide public health interventions, particularly for early detection and disability prevention, thereby contributing to the ultimate goal of leprosy elimination.

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