

**PREVALENCE OF DRUG RESISTANCE AMONG TUBERCULOSIS PATIENTS IN KANDY, SRI LANKA AND ASSOCIATED FACTORS**

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Tuberculosis (TB), a bacterial infection caused by the bacterium *Mycobacterium tuberculosis* (MTB), has been responsible for millions of deaths worldwide. The major challenge in combating TB is the emergence of drug resistance. Diverse research is being carried out to identify factors that favor the emergence of drug resistance under various settings. Herein, we intended to identify the prevalence of drug resistance in Kandy, Sri Lanka, and to identify the associated socio-demographic factors. Ziehl-Neelsen positive sputa were collected from TB patients reported to the chest clinic, Kandy, from February 2018 to July 2019. Sputa were decontaminated using the modified Petroff's method, inoculated onto Lowenstein-Jensen media, and were incubated at 37 °C for 4-8 weeks. MTB isolates were tested for drug susceptibility (DST) to first-line drugs: Isoniazid (INH), Rifampin (RIF) and Ethambutol (EMB), using the two methods, agar proportion method and mycobacterium growth indicator tube. Demographic data were collected using an interviewer-administered questionnaire and were analyzed using EpiData and EpiStat software. Accordingly, 76 patients yielded culture positive MTB isolates and upon DST, 17 (22.4%) isolates showed phenotypic resistance to at least one drug tested; four were resistant to INH, five to EMB, four to RIF and EMB, three were RIF mono resistant and one was resistant to INH and EMB. The majority of drug resistant patients were males, associated with poor income ( $p < 0.05$ ), smokers and alcohol consumers, and had a high sputum grade. A trend in acquiring drug resistance with increasing age was also observed (15-34 years: 14.8%, 35-64 years: 15.4% and 65 years and above (33.3%). Further studies on mutations that cause drug resistance and the associated clinical factors are being carried out.

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