LETTER TO THE EDITOR

TUBERCULOSIS DRUG RESISTANCE IN CANAKKALE, TURKEY

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https://doi.org/10.21101/cejph.a5284

In 2013, the incidence of tuberculosis was 17.2 per 100,000 people according to the latest report of the National Tuberculosis Programme of the Ministry of Health of Turkey. Canakkale is located in north-western part of Turkey. Our city ranks twelfth highest with the incidence of 21.1 per 100,000 people. The aim of this study was to investigate primary drug resistance rates for tuberculosis in our province. We performed a retrospective chart review for all patients who were followed and treated in dispensaries of the city between January 2008 and December 2012. Data were analysed using SPSS program. Ninety-eight of 115 patients were new cases. Total drug resistance rates are presented in Table 1.

Isoniazid resistance is associated with KatG mutations. In the KatG gene region, the most affected codon is determined to be at position 315 but the mutation rate was 73% in Western Turkey (1) and 63% in the Eastern region (2). The difference in isoniazid resistance may be due to regional variations. Rifampin resistance was slightly lower in our region. Since rifampin can be used in the treatment of staphylococcal infections and legionella (3), this difference may be due to nonmycobacterial therapies. Ethambutol resistance was 7% in Istanbul (4) but 2.4% in Trabzon city (5). Our results (6.1%) were consistent with national variations. In conclusions, we found higher streptomycin resistance (18.4%) in our province when compared to national data (9.4%). Streptomycin resistance in Istanbul was 12% in 2014 for 1,541 cases (4) but 5.2% in another city between 2005 and 2010 (5). Animal husbandry is one of the important economic activities in our city. Streptomycin is widely used in our region for the treatment of tularemia and salmonellosis (6). Consequently, the extremely high resistance of streptomycin in our region may be due to treatment of zoonotic diseases. In one study consisting of 26,228 patients from Germany, resistance rates were reported as 7% for streptomycin, 7% for isoniazid, and 2% for rifampicin (7). Resistance rates in Spain between 2001 and 2015 were 5.3% for isoniazid, 1% for rifampicin, 3% for streptomycin, and 0.2% for ethambutol (8). Of the 316 M. tuberculosis isolates in Kosovo, resistance to isoniazid, rifampicin, ethambutol, and streptomycin was seen in 8%, 3%, 17% and 72% of isolates, respectively (9). These findings suggested nearly similar results for isoniazid and rifampicin but great differences for streptomycin resistance.

Table 1. *Comparative drug resistance in our city and Turkey*

Drug resistance	Our city	Turkey
Isoniazid	11.3%	13.6%
Rifampin	3.5%	5.1%
Streptomycin	18.4%	9.4%
Ethambutol	6.1%	4.2%
Isoniazid and rifampin	3.5%	2.5%

Conflict of Interests
None declared

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Received December 16, 2017
Accepted in revised form July 14, 2020