

# European Respiratory Society Annual Congress 2013

**Abstract Number:** 906

**Publication Number:** P4464

**Abstract Group:** 10.2. Tuberculosis

**Keyword 1:** Epidemiology **Keyword 2:** Tuberculosis - management **Keyword 3:** MDR-TB

**Title:** Risk factors for anti-TB drug resistance in Poland

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**Body:** Aims: To find out factors associated with resistance to isoniazid (IR) and multidrug resistance (MDR). Methods: Data on cases with drug susceptibility testing results registered in the Central TB Register from 2002 to mid-2012 were analyzed (11391). Chi-squared test to assess statistical significance (SS), bivariate and multivariate analyses (MVA) were used. Results: IR (352) was in higher proportion (SS) in retreatment cases (5.4% v 3.0%;  $p < 0.0001$ ; odds ratio (OR) 1.68, 95% confidence interval (CI) 1.33-2.13); in men (3.4 v 2.5%;  $p < 0.05$ ; OR 1,09, CI 1,02-1,15). IR proportion was little, not significantly (NS), higher in unmarried (3.3% v 2.9%); homeless (3.2% v 3.1%); subjects with positive sputum smears (ss)(3.1% v 3.0%). IR proportion was lower in unemployed (2.8% v 3.2%); subjects less educated (3.1% v 3.3%)(NS). Mean age of cases with IR was  $51.8 \pm 15.9$  yrs, with no resistance  $52.1 \pm 17.2$  yrs. In MVA, RI remained significantly associated with history of previous anti-TB treatment and with male sex. MDR (88) was in higher proportion (SS) in cases with the history of previous treatment (2,9 % v 0,5%;  $p < 0.0001$ , OR 3,75, CI 2,87-4,9); in NS higher proportion in men (0.9% v 0.6%); unmarried (0,8% v 0,7%, OR 1,04, CI 0,87-1,25); unemployed (0,9% v 0,7% ); with low education (0,9% v 0,5%; OR 1,09, CI 1,01-1,18). The proportion of MDR in homeless was lower (0,2% v 0,8%; OR 1,03, CI 1,01- 1,06)(NS). MDR was in the same proportion in cases with ss+ and ss-)(0,8%). Mean age of patients with MDR was  $52.2 \pm 15.6$  yrs; without resistance  $52.1 \pm 17.2$  yrs. In MVA the independent risk factor of MDR was only history of previous treatment. Conclusions: The main determinant of anti-TB drug resistance in Poland is history of previous treatment.