Background: As tuberculosis (TB) rates decline in the United States, many new cases are among individuals who migrated from countries with a high incidence of TB. Public Health - Dayton & Montgomery County screens incoming refugees for active and latent TB. The objective of this study was to estimate the number of active cases of TB prevented through screening and treatment of LTBI.

Methods: Data was collected through retrospective chart review of refugee seen between July 1, 2011- June 30, 2015. Refugees younger than 5 years old were excluded. New cases of active TB identified from July 1, 2011 through August 31, 2017 were reviewed for cases in refugees. The number of expected new, active TB cases was 100-150 per 100,000 person-years of follow-up (McBride, 2012).

Results: A total of 607 charts were reviewed: 373 male and 234 female. Ages ranged from 6 to 77 years, average 27.4 years. The leading countries of origin were Kenya (79), Iraq (68), Rwanda (59), Ethiopia (55), and Nepal (52). There were 3 cases of active TB diagnosed on initial evaluation; there were no cases of active TB diagnosed in 2,341 person-years of follow up. Among refugees, 23.1% had positive T-Spots; highest in the 36-45 age group (35.0%) and refugees from South – East Asia (29.6%). LTBI was diagnosed in 21.1% of refugees; highest in the 46-55 age group (33.3%) and refugees from South – East Asia (27.8%). The majority of subjects with LTBI completed treatment (78.9%). Treatment completion was highest among the 13-17 age group (100.0%), males (81.4%), and refugees from South – East Asia (92.9%); lowest in the >56 age group (40.0%) and European region (50.0%).

Conclusion: Based on published data, an estimated 2.3-3.5 active cases of TB were prevented through this program. Treatment completion rates were higher than reported for non-refugee populations. Results indicate the program is effective at screening for and preventing development of active TB.

Abstract

Methods

Data was collected through retrospective chart review of refugee seen at PHDMC between July 1, 2011- June 30, 2015. Refugees younger than 5 years old were excluded (screening was done with TST) New cases of active TB identified from July 1, 2011 through August 31, 2017 were reviewed for cases in refugees. Countries were grouped by WHO Region for further analysis. The number of expected new, active TB cases was estimated at 100-150 per 100,000 person-years of follow-up (based on data from McBride).

Results

- 607 charts were reviewed, 373 male and 234 female
- Ages ranged from 6-77 with the average of 27.4 years
- LTBI was diagnosed in 21.1% of refugees
- 78.9% of subjects diagnosed with LTBI completed treatment
- There were 3 cases of active TB diagnosed on initial evaluation
- There were no cases of active TB diagnosed in 2,341 person-years of follow up

Subject Data Summarized by Region

WRO Region Total LTBI Completed Treatment

Africa 296 69 (23.4%) 52 (17.5%)

Americas 36 5 (14.3%) 4 (60.0%)

Eastern Mediterranean 178 33 (17.9%) 26 (78.8%)

Europe 39 8 (18.4%) 4 (80.0%)

South-East Asia 110 15 (13.6%) 14 (93.3%)

Western Pacific Region 3 0 (0.0%) 0 (0.0%)

Total 607 135 (21.9%) 100 (78.8%)

Conclusion

- LTBI is a common diagnosis in arriving refugees
- The highest incidence of LTBI was seen in refugees from South-East Asia
- Treatment completion rates were higher in this study than reported for non-refugee populations
- An estimated 2.3-3.5 active cases of TB were prevented through this program
- Results indicate the program is effective at screening for and preventing development of active TB

References

5. McBryde ES, Denholm JT. Risk of active tuberculosis in immigrants: effects of age, region of origin and time since arrival in a low-exposure setting. MJA 2012; 197(8), 458-461.