Treatment Adherence for Latent Tuberculosis Infection among the Kentucky Refugee population at the University of Louisville Refugee Health Program

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ABSTRACT

Background

Latent tuberculosis infection (LTBI) is highly prevalent among the immigrant and refugee population. A key component of the U.S. strategy to eliminate tuberculosis is the identification and treatment of individuals with LTBI. This study aimed to identify the percentage of refugees seen in our clinic who were diagnosed with LTBI and completed appropriate treatment through our local health department.

Methodology

We conducted a secondary data analysis of the University of Louisville Refugee Health Program Database. All newly arriving refugees who screened positive for LTBI from 2013-2014 were included. Data were analyzed using SPSS and Tableau.

Results

A total of 581 refugees were evaluated with 45 (8%) diagnosed with LTBI. Among the refugees with LTBI 20/45 (44%) started treatment and 12/45 (27%) completed treatment. There are 6/45 (13%) subjects who are currently on treatment and 2/45 (4%) discontinued therapy. Twenty five (56%) of refugees with the diagnosis of LTBI never initiated treatment.

Conclusion

Sixty percent of the refugees diagnosed with LTBI at the University of Louisville Refugee Health Program did not complete treatment or never started treatment. This is consistent with the suboptimal treatment completion rates nationally. This study shows that bridging the gap between disease identification and achieving optimal treatment is essential. Further studies are needed to understand the barriers for treatment initiation and adherence in our refugee population, in order to provide tailored strategies for treatment adherence in a cultural context of care.

INTRODUCTION

- Tuberculosis is a transmissible airborne disease with significant global burden.
- Approximately 1/3 of the world's population is infected with *M. tuberculosis* (MTB). The World Health Organization reported 1.5 million deaths worldwide in 2013 due to MTB.
- Latent tuberculosis infection (LTBI) represents a state in which the causative organism is suppressed and, therefore, inactive. Affected individuals are asymptomatic and chest x-rays have no evidence of active pulmonary disease.
- The risk of progression to active disease has been reported to be between 5-10%.[4]
- An estimated 11 million people in the U.S. are affected by LTBI.[1]

INTRODUCTION *CONTINUED*

- Identification of high risk groups and treatment of LTBI is therefore essential for the elimination of active TB, as the untreated individuals pose the greatest risk of conversion to active disease.
- High risk population groups for LTBI include immigrants and refugees from countries where the prevalence of active TB is high.[2]
- New diagnostic modalities have been developed to identify adeptly exposure to TB. Bridging the gap between disease identification and treatment completion remains a global challenge

OBJECTIVES

This study aimed to identify the percentage of refugees with LTBI identified at the university of Louisville clinic and the percentage of refugees with LTBI who completed therapy.

MATERIALS AND METHODS

This was a secondary data analysis of the University of Louisville Refugee Health Program Database. All newly arriving refugees who screened positive for LTBI from January 2013 to December 2014 were included. Collected data, including refugee demographic information and data on LTBI treatment completion and adherence, were entered into REDCap, a research database, and analyzed using SPSS and Tableau software.

RESULTS

- A total of 581 refugees were screened at the 550 clinic. Forty-five (8%) had LTBI.
- Figure 1 illustrates a flowchart with rates of treatment for LTBI.
- Figure 2 demonstrates adherence to treatment in refugees diagnosed with LTBI. 20/45 (44%) LTBI positive refugees started treatment and 25/45 (56%) did not initiate treatment. Twenty-seven percent of subjects who initiated treatment went on to complete it.
- Figure 3 shows the distribution of LTBI positive refugees by country of nationality.
- Figure 4 describes the age range for LTBI positive refugees.
- Figure 5 depicts gender distribution among LTBI positive refugees.

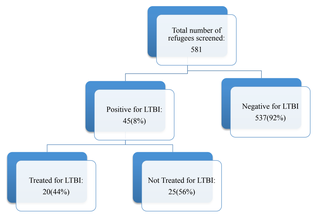

Figure 1. Refugees Screened for TB from January 2013 to December 2014

RESULTS *CONTINUED*

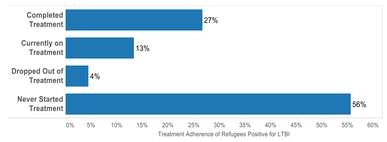

Figure 2. Treatment Adherence of Refugees Positive for LTBI

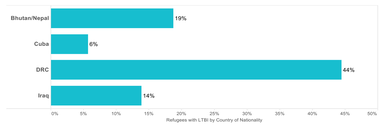

Figure 3.Refugees with LTBI by Country of Nationality

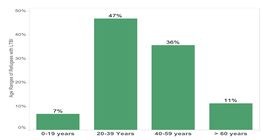

Figure 4. Age Range of Refugees with LTBI

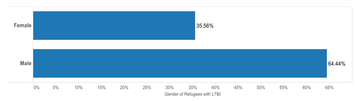

Figure 5.Gender of Refugees with LTBI

CONCLUSIONS

The lack of adherence to treatment for LTBI has been a long-standing problem. Our 27% rate of treatment completion is consistent with published literature on low adherence rates to treatment among high risk populations. Tuberculosis represents an important global health burden, with more than 9.2 million cases of reactivation of LTBI and 1.5 million deaths per year.[3] Eighty percent of active TB cases in the U.S. are the result of reactivated LTBI, especially among individuals born in endemic areas.[4] Therefore, it is crucial that refugees are screened for LTBI and that appropriate access to treatment and adherence to therapy are ensured. Coordination of care with a multidisciplinary team/medical staff, public health workers, case managers and the individual patient is fundamental.[5] Further studies focused on understanding the unique barriers to treatment completion are needed in order to provide a tailored, cultural context of care that ensures successful treatment adherence and prevents the reactivation and transmission of TB.

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