

Research article

## Tuberculosis case finding in Rafsanjan: An epidemiologic study in Iran

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### Abstract

#### Aim and Background

Tuberculosis remains a major etiology for mortality in developing countries .It is a infectious disease that is increasing in last decades . It is more prevalent in crowded and low hygienic places. The purpose of

this survey is case finding and identifying of prevalence of tuberculosis in Afghani community of the Rafsanjan region, Kerman province, Iran..

### **Materials and methods**

This survey is a descriptive and cross-sectional study. All the Afghans in Rafsanjan were screened on physical examination and three sputum samples. Screening was done by physical examination like lung auscultation and collecting three samples of sputum. If the result was negative physical examinations were repeated and or pharyngeal exam was considered. When sinusitis diagnosed, Patients were treated by antibiotic. Follow up was done after fourteen days. Patients were excluded from the study if symptoms were disappeared. If the symptoms like cough remained after getting antibiotics three sputum samples were collecting again. If the samples were negative or the symptoms were healed on repeated visit, the patient was excluded from the study.

### **Results**

This study was done on about 6000 persons with afghan descent in Rafsanjan. In our study 50.9 percent of patients were male and 49.1 percent were female. About 2 percent of patients have past medical history of TB. About 7.1 percent of patients had positive family history of TB. The most relative person to the patients that suffered from TB was their mothers (37%) and then their fathers (22%). About 13.2 percent of the patients' needs follow up.

### **Conclusion**

Epidemiologic study about a disease in a population, cause acceleration of awareness about it. Its result is better than planning for attack against disease. It is concluded that Afghans population are a high risk group for TB. **Copyright © WJMMS, all rights reserved.**

**Key words:** Tuberculosis, Prevalence, Rafsanjan

**Declaration of interest:** None

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## **Introduction**

Tuberculosis (TB) prevalence surveys are the most directed tool to measure the TB burden in a population and monitor the performance of TB control programs in areas where routine surveillance systems are weak (1,2), but are logistically challenging and costly. The association between tuberculosis (TB) and poverty is well documented. Several studies and reviews concluded that, poverty not only exposes a person to more TB infection (3-10) but also influences all aspects of the TB disease process (11-14). It has been documented that poverty is associated with delayed care seeking (15, 16), late diagnosis (15, 17) progression of the disease (18), delayed initiation of treatment (15, 18), and inadequate follow up (19-21). It is also noted that poverty leads to poor adherence to treatment, more complications and poor treatment outcomes like default from treatment (4, 10, 22-25). It is clear that migration and its problems can lead to poverty and Socio-economical factors, sudden urbanization and psychological stress may influence the pattern of tuberculosis morbidity and infection among refugees as compared with the original population.

Annually 9 million new cases and 3 million mortality is because of TB (26).According to the WHO reports, 80% of patients with TB live in 22 countries specially Afghanistan and Pakistan (27-29).In England and Wales, it was shown that TB tends to be focused in some subgroups (30).In India has been reported nearly 20.7 million diabetic adults that 900,000 incident adult cases of pulmonary tuberculosis in 2000 (31).It has been shown that, incidence and prevalence of TB are higher in Golestan province in comparison with other provinces in Iran(32).

Many epidemiological studies have been conducted at different areas and at various times to determine incidence and prevalence of tuberculosis infection. We prepared this research in 2009 on all Afghans that are living in Rafsanjan region.

## Materials and methods

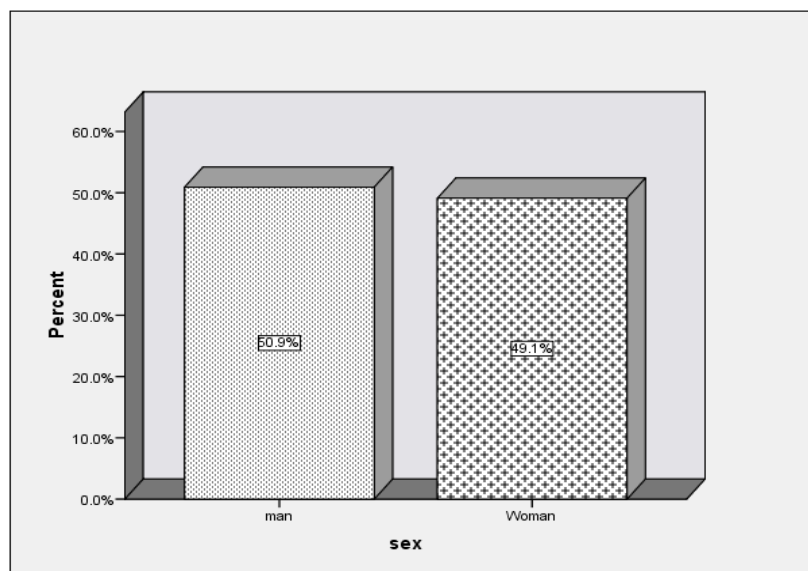
This was an observational, ecological survey conducted during 2009. In this study, demographic form, data for diagnosis, treatment and outcomes were collected. Data were analyzed by SPSS.

In this study 30 research performers were trained about transmission ways and preparation of sputum samples and TB screening in intermittent meeting in about 2 months. About middle of September screening was started. As low socio – economic and education of population, face to face interview was suggested. Doubtful persons like who had chronic cough more than 2 weeks were been selected and standard form was completed. Screening was done by physical examination like lung auscultation and collecting three samples of sputum. Collected samples were transferred to laboratory for seeing the mycobacterium tuberculosis, etiologic agent of tuberculosis. Results of sputum samples were rendered to the doctor. If the result was negative physical examinations were repeated and oropharyngeal exams were considered. Patients were treated with antibiotic by sinusitis diagnosis. Follow up was done after fourteen days. Patients were excluded from the study if symptoms were disappeared. If the symptoms like cough remained after getting antibiotics, three sputum samples were collected again. If the samples were negative or the symptoms were disappeared on repeated visit, the patient was excluded from the study.

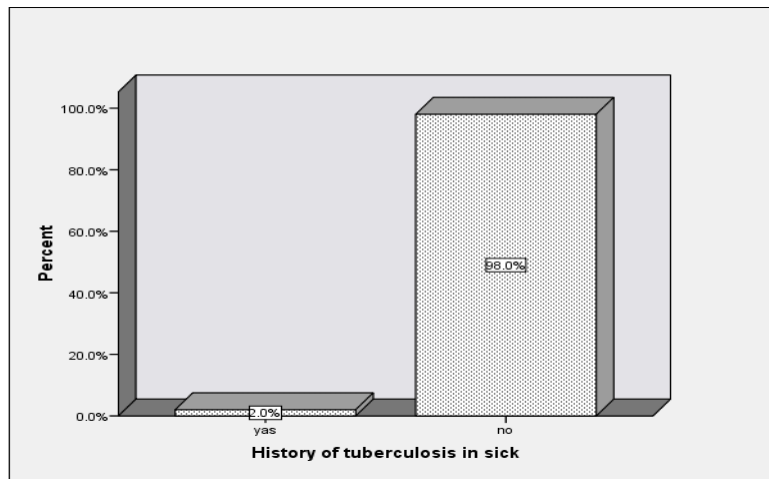
## Results

This study was done on about 6000 persons with Afghans descent in Rafsanjan. In our study 50.9 % of patients were male and 49.1% were female. About 2 percent of patients have past medical history of TB. About 7.1 percent of patients had positive family history of TB. The most relative person to the patients that suffered from TB was their mothers (37%) and then their fathers (22%). About 13.2 percent of the patients' needs follow up.

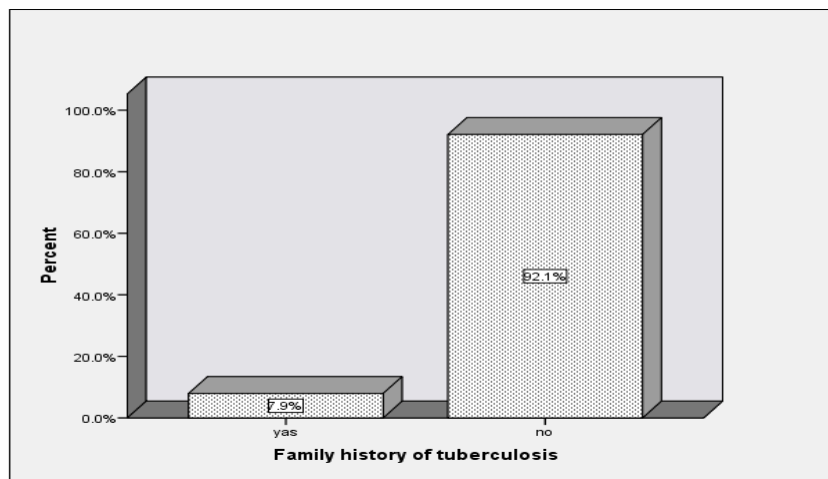
**Chart1.** Distribution of 6169 patients according to sex



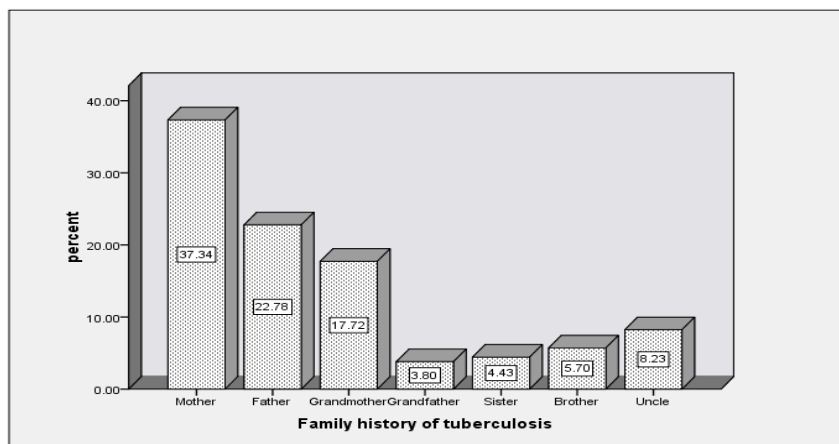
**Chart2.** Distribution of 6169 patients according to positive past medical history



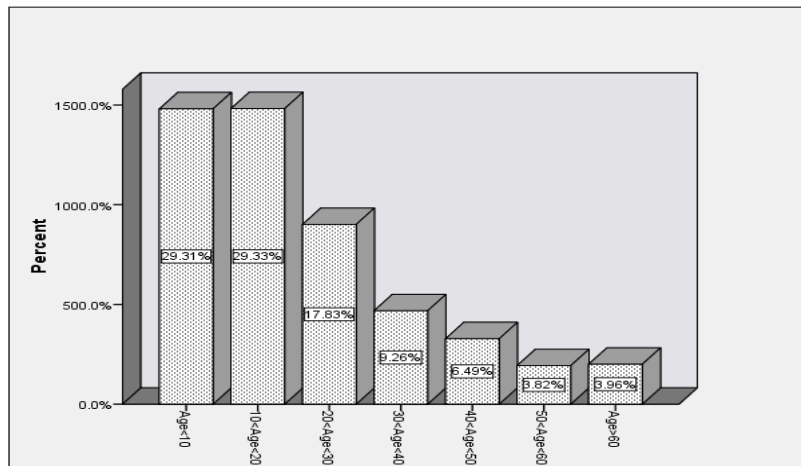
**Chart3.** Distribution of 6169 patients according to positive family history



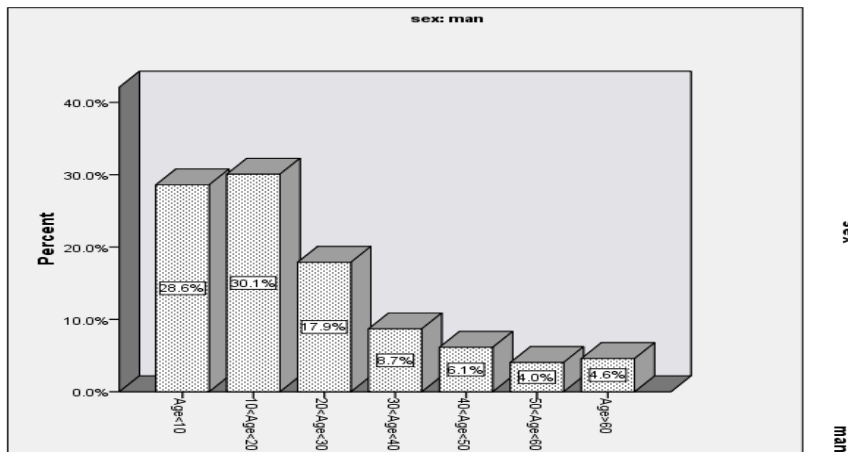
**Chart4.** Distribution of patients with positive family history according to irrelativeness



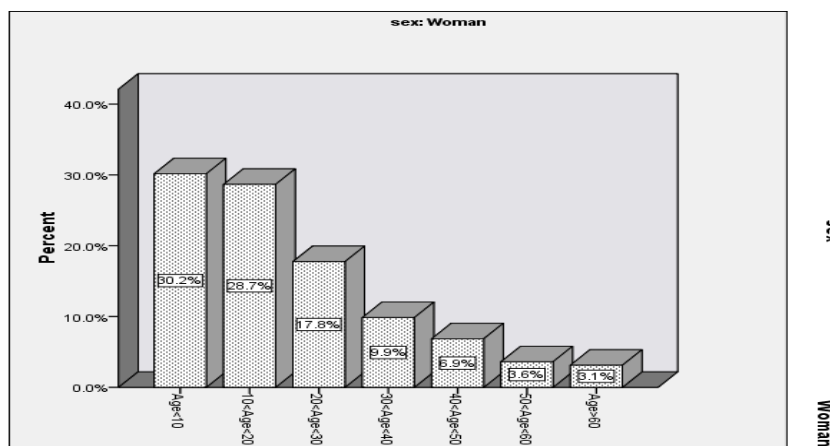
**Chart5.** Distribution of 6169 patients according to age



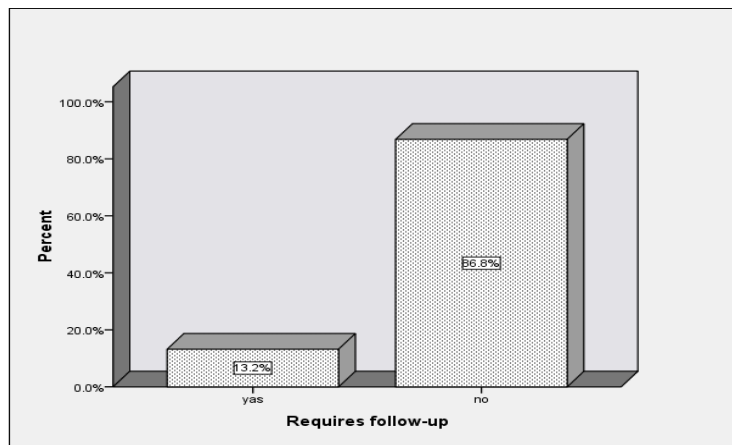
**Chart6.** Distribution of male patients according to age



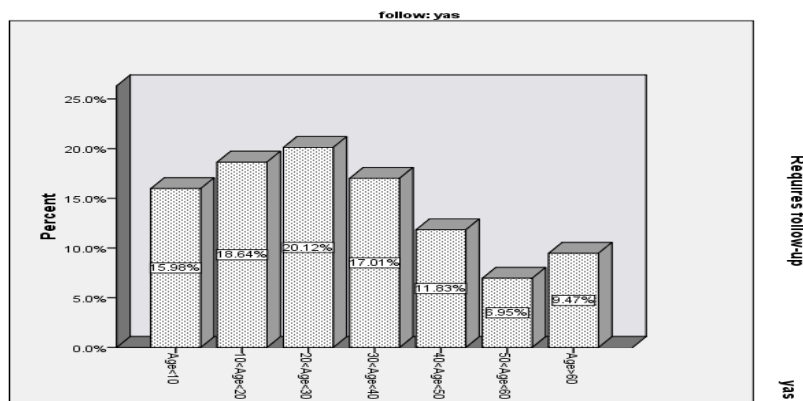
**Chart 7.** Distribution of female patients according to age



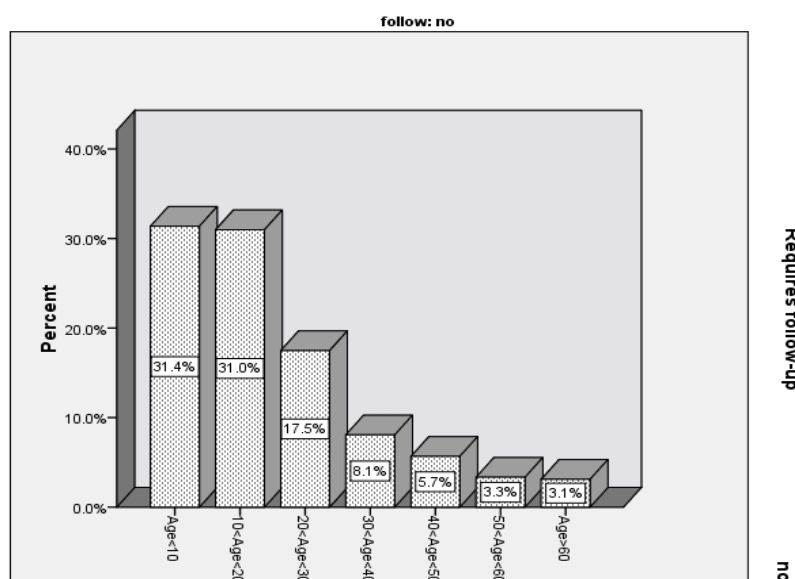
**Chart8.** Distribution of 6169 patients according to need for follow up



**Chart9.** Distribution of patients who needs follow up according to age



**Chart10.** Distribution of patients who do not need of follow up according to age



## Discussion

In our study population of the both sexes were nearly equal. The population of examined region was young. Approximately, 2% of individuals had previous history of TB. Although its amount is low apparently, but it is significant. This population can spread disease among other persons in the region and out of it. According to familial history, in first irrelativeness, mothers' of patients and then their fathers and in the next relation other family were positive for TB. We could conclude that it is possible that some persons with history of TB are infected by their mother via breast feeding or duration of pregnancy. One other cause is close contact of person with mother, because their fathers are out of home most of the time because of their job. According to chart 8, 13.2% of population must be considered for follow up. As they are in high risk group.

Epidemiologic study of the disease in a population causes acceleration of awareness about it. Its result is better than planning for attack against disease. Afghan population are a high risk group for TB. The purpose of this study was to identifying of TB epidemiology and case finding in afghan province in 2010.

To stop the cycle of transmission, the risk of new generations becoming infected must be restricted by the early identification and curative treatment of newly emerging infective sources. Newly infected persons must be prevented from progression to overt disease (33).

In study that done 1989 in Pakistan the prevalence of TB among refugee children from Afghanistan was about 14 % (34).

In our study only one person was suffering from TB that is lower than Pakistan study. It might show that after 20 years there is a significant reduced in prevalence of TB among Afghan refugees. An important point is in Iran, Afghans children get routine vaccination of BCG like Iranians. It might be the reason of this significant difference.

In a study in Ardabil, Iran, it has been shown that mean age of patients with TB was five years more younger than Mazandaran, Iran study (35-37).

In our study, only one case was detected, but because of young population of this region, it is necessary to educate, train and attention specially in aged group.

Suggestions: Improving life standards like location situation could reduce incidence of TB. Screening due to cure the patients and try to clean the population from TB also must be done. More training must be done to references in consultation centers. All patients with TB may be evaluated for HIV.

## Conclusion

Epidemiologic study about a disease in a studied population cause acceleration of awareness about it. Its result is better than planning for attack against disease. Afghans population are a high risk group for TB.

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