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ABSTRACT

Background and objectives: Tuberculosis (TB) remains as a major global health issue. It causes ill-health among millions people annually. Based on WHO reports about 9 million new cases of TB and about 1.5 million deaths are occurred each year. TB now is counted as a reemerging disease among infectious diseases. Despite the great efforts for control of TB, new cases, drug resistance, treatment failure and relapse are increased in recent years. In this research we studied smear positive, failure and relapse of TB in five years. Methods: This is a descriptive cross- sectional study which has recorded on 990 TB patients those has referred to Ahvaz East Centers, during 2008-2013. Results: This study has shown that the new TB cases along studied years are increased. The pulmonary rate was varied from 73% to 84.5%. Smear positive rates of them were 58% to 76%. The clinical recovery was from 81 to 87% and relapse from 8 to 11%. Treatment failure was varied from 0 - 4%. Conclusion: The overall results of this study show that clinical improvement, control of previous TB patients and new cases were not satisfied. The treatment failure and relapse were more than the expected rates. It is necessary to control TB as an emerging disease based on global goals of World Health Organization.

KEYWORDS: "Tuberculosis", "Infectious disease" Smears positive".
INTRODUCTION

Tuberculosis is a disease with a known cause and clear epidemiology, and the principles of its treatment has been known since about half a century and more than a quarter century, its short-term treatment regimen goes to work.\textsuperscript{[1]} Considerable cases of TB patients in many parts of the world including Iran still undiagnosed or are not treated appropriately. About 14.5 million people worldwide are infected with the disease which more than 80\% of these cases are only in 22 countries of the developing world. Each year, about 9 million active TB cases occurred and about 1.5 to 2 million people dying from the disease.\textsuperscript{[1]} Based on year 2008 scale about 9.4 million incident cases of TB occurred with 1.8 million deaths.\textsuperscript{[2]} The latest estimates are that there were about 8.5 million new TB cases in 2012 and 1.3 million Tb deaths.\textsuperscript{[3]} In spite of the great achievements of human society still TB remains as a major health problem,\textsuperscript{[1]} however cumulative total of 56 million people were successfully treated for TB between 1995 and 2012, saving approximately 22 million lives.\textsuperscript{[3]} Annual 600 thousands are infected with the disease in the eastern Mediterranean region includes Iran, people a year are affected. According to the World Health Organization, Iran ranks ninth among 22 countries in terms of the number of people with tuberculosis,\textsuperscript{[4]} and ranks 42 among 192 countries in terms of death rate control.\textsuperscript{[5]} More than 90\% of TB cases and deaths occur in developing countries, where about 75 percent of disease is seen among economically most active age group 15 to 54 years. TB that is counted as biggest single - agent cause of death among infectious diseases even more than AIDS, malaria and measles, remained among the Top 10 global burden of diseases. It is expected to remain in this level till 2020, while the most infectious diseases are decreased.\textsuperscript{[1, 6]} TB incidence has increased in the recent years in Iran\textsuperscript{[7]} because of deficiency in monitoring of patients during treatment as well as neglected the follow-up of exposed individuals, particularly in families of patients with smear-positive pulmonary.\textsuperscript{[8]} it would not only wasting money, time and also can rise the drug-resistant tuberculosis called Multi-Drug-Resistant TB (MDR-TB) that its treatment is extremely difficult and costly or may impossible.\textsuperscript{[8]} The importance and priority of TB control programs was in the extent that in 1993 declared as a global emergency disease by the World Health Organization. Because of the emergence and spread of multidrug-resistant bacilli (MDR, again TB disease is considered as a disease with the risk of no cure rank diseases. The sixth goal of the UN Millennium Development Goals to decrease by 50 percent the prevalence and mortality rate in 2015 (based on 1990 rate) and the renewed emphasis on DATS strategies for countries worldwide.\textsuperscript{[8]} World treatment results in 2006 show treatment failure and recovery rate of 2\% and 78\% and in Eastern Mediterranean countries 1\% and 75\% and in
Iran is 3% to 77% respectively. Other affective factors to increase the incidence of tuberculosis are poverty, migration, lack of access to health facilities and drug addiction. Also disobey patients for taking medications properly and regularly, careless treatments of physicians are reported as factors increase the MDR-TB and treatment failure. High treatment failure rate is also are associated to AIDS, alcoholism and drug addiction attributed Injection. Therefore, careful monitoring and supervision of tuberculosis, the Treatment without the lag time and educate patients about their disease, Proper treatment and medication prescribed by physicians and quadruple regimen and full duration treatment of TB can be effective for prevention of tuberculosis and reducing the treatment failure, and the resistance.

Because of the high failure rate in the treatment group without monitoring the study, factors such diseases as AIDS, alcoholism and drug addiction is attributed to injection. Considering the National and international emphasis on the prognosis of patients with positive pulmonary tuberculosis and targeted mortality rate reduction to 50 per cent to 2015 based on 1990 rate, and eliminating of the disease in 2050, such studies are necessary to understand the current status and resolution of defects and improve the conditions.

MATERIALS AND METHODS

Ahvaz is situated in the north west of Iran is the capital of Khuzestan province. The estimated population is 3.5 million. Ahvaz is divided to two districts west and east of Karoon River. Each part is responsible for Health services of about half of city residents. This study was a descriptive cross – sectional study. We aimed to measure the rate of positive sputum smears, relapse and Multi-Drug-Resistant TB in East District. Studied population is included all patient referred to Health centers and preventive diseases units reported to Ahvaz Main Central East Health, in 5 years (2009-2013). The study was conducted in coordination with the authorities. Medical records of patients were reviewed and extracted data were registered in Check lists .Data were analyzed using the SPSS (version 17) software.

RESULTS

Results show that new TB cases during the years 2009 to 2013 has been increased. Pulmonary tuberculosis rate during the five studied years was varied from 73% to 84.5%. Smear-positive rate ranged from 58% to about 76%. The most positive smears occurred in year 2012 and the lowest in 2011 (Fig. 1). No significant differentiation was found in recovery rate in five studied years, ranged between 81 to 87 per cent (Fig. 2). Relapse rate has
ranged from 8% to 11%, with maximum rate of 11% in 2011 and a minimum of 8% in 2013 (Fig.3). Treatment Failure rate was ranged from zero to a maximum of 4%. From 2009 to 2013 treatment failure rates were 1.2, 0, 4, 1.5 and 0/8 percent respectively. Drug resistance has not been reported in years 2009 and 2010, but reported rates from 2011 to 2013 show an increasing in the order of 1, 1.5 and 1.65 per cent.

**Fig. 1: Smear- Positive Rates in Five Studied Years.**

**Fig. 2: TB Recovery Rates in Five Studied Years.**
DISCUSSION AND CONCLUSION

The results of this study show that majority of cases are patients with pulmonary tuberculosis as reported in other studies.[14] This obey the national pattern of tuberculosis that most common type is pulmonary tuberculosis.[15] The smear positive patients which ranged from 58% to about 76% is over national rate of 53%,[15] while the rate is less than some other provinces.[15, 16] No significant differences is seen in recovery rate over five years. This study showed that the relapse rate of 8% to 11% in studied years is approximately equal to other studies.[17, 18] Treatment Failure rate is fluctuated from zero to a maximum of 4% in 5 studied years , so just one year the failure rate is over the expected rate of the World Health Organization (2%). The rate in four other years is varied from zero to 1.5% and is more appropriate comparing with other studies.[17, 19, 20, 21] Drug resistance is not reported in the first two years of the study so the rate considered zero. Overall result show that average rate of other three years is 0/8 % that is more than average rates of other studies.[18] Studies show that treatment failure is affected by factors such as sex, aging , inadequate patient information, lack of health education and diabetes[22] and smoking increases the risk of relapse after successful treatment of TB.[23] Some studies show a significant relationship between age and sex with poor outcomes of TB and mortality.[25] In spite of the great efforts of our colleagues, overall results of this study show that the TB status in Ahvaz Main East Center is not satisfied as expected and still TB remains as a problem in this strict .Therefore, it needs more efforts of executive people in charge of Tb control and also investigating above recommended and other possible affective factors in further studies.
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REFERENCES


