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Original Article

Defaulting Rate of TB Patients among Seasonal Migrants (A Case Study of Balochistan)

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Abstract

Objective: The objective was to bring evidence about the contribution of seasonal migration to defaulting and low treatment success rate (TSR) in Balochistan province of Pakistan.

Methods: Directly Observed Therapy (DOTS) has been implemented in 22 districts of Balochistan province. A cohort study was conducted in five randomly selected districts between October 2005 and March 2006. A total of 291 new PTB patients during the two quarters were interviewed before summer migration by using a structured and pre-tested interview schedule regarding their health seeking behavior and other determinants about seasonal migration to determine default and TSR among migrant and non-migrant patients.

Results: The overall default rate at surveyed districts was very low (2.4%) as compared to national level which is 17%, whereas it was 4.4% among migrant patients. It was evident that TSR was also high which was 96% and 100% among migrant and non-migrant patients respectively. It shows that migration has very low impact on default and low TSR. The main factors of low default and high TSR were the high commitment of patients for seeking their medical checkup as well as regularity in medication by both migrant as well as non-migrant patients.

Conclusion: The high degree of commitment for seeking medical checkup and regularity in medication were the two main factors for low default rate and high TSR in the surveyed districts.

Introduction

Tuberculosis is endemic in Pakistan. With the population of 152 million about 1.5 million people are infected and Pakistan ranks sixth among the 22 high-burden tuberculosis countries worldwide (177 per 100,000) and death toll due to TB mounts to round 50,000 annually.¹ About 75% patients fall in the earning age group 14-49 years.¹ According to the World Health Organization (WHO), Pakistan accounts for 43 percent of TB disease in the WHO Eastern Mediterranean Region.

The Ministry of Health of Government of Pakistan began implementing the DOTS strategy since 1995, with Balochistan as a pilot province. Between 2000 and 2002, DOTS coverage increased in Pakistan from 9 to 45 percent.² In 2001, the government declared TB a national emergency that is why DOTS is continuously expanding and overall TB control system is steadily improving.

From 2000 to 2001, both DOTS coverage and the DOTS detection rate for Pakistan were approximately doubled. Comparing 1999 and 2000 cohorts the default rate (17%) is still the highest among high burden countries (HBCs) and a major barrier to reaching the global target of 85% cure rate and 70% case detection rate (CDR) by 2005. In Balochistan more than 40% population always migrate from south to north and north to south. The relationship between migration and emergence/re-emergence of infectious disease has long been reported.³ The National TB Program (NTP) therefore needs to address problems of case finding, diagnosis and treatment in migrant patients. The

present study was therefore undertaken keeping in view the same scenario for finding out the main reasons of default in Balochistan specially focusing on seasonal migration.

Material

A cohort study was conducted in five randomly selected districts (Bolan, Khuzdar, Nushki, Sibi and Nasirabad) of the twenty two DOTS implemented districts of the province of Balochistan in (2005-6) using the random number list of Epi Info. By assuming that the least frequent predictor of defaulting exists in 2% of non-defaulters and 10% of defaulters, therefore, the least reliable sample size was 322 patients, at 95% confidence interval and 80% study power. With 20% drop outs, the total sample size was approximately 400 PTB patients. But it was only 291 positive cases during the period of two quarters.

A total of 291 new sputum smear positive pulmonary TB patients registered during the two quarters (1st October, 2005 to 30th March, 2006) were interviewed before summer migration by using a structured and pre-tested interview schedule regarding (age, sex, occupation, literacy, income level, causes and period of migration) to determine default and TSR among migrant and non-migrant patients. To train the field staff a training workshop was organized at each district. The data collected by the field staff and was cross checked with routine records maintained at center/health facilities. Statistical analysis was performed by using the Chi-square test for test of association between time of migration and main reasons of migration.

Results

There were 142 (49%) males and 149 (51%) females (Table 1). Out of these the migrant cases were 86 females

Table 1: Comparative Analysis of Migrants & Non Migrant and Default Rate.

| Districts | Total Number of Cases | Migrant Cases | Default Cases | Percentage | |
|-----------|-----------------------|---------------|---------------|--------------------|------------------------|
| | | | | Default in Migrant | Default in Total Cases |
| Sibi | 28 | 15 | 5 | 33.33 % | 18% |
| Bolan | 108 | 70 | 0 | 00.00% | 0 % |
| Nasirabad | 51 | 26 | 0 | 00.00% | 0 % |
| Noshki | 25 | 16 | 1 | 6.25 % | 4 % |
| Khuzdar | 79 | 42 | 1 | 2.00 % | 1.26% |
| Total | 291 | 169 | 07 | 4.14 % | 2.40 % |

and 83 males. The default cases among migrant female and male were 8.45% and 3.38% respectively whereas there were no default in non-migrant cases.

Majority of cases were from Bolan district 108 (37.1%) and most migrant cases 41.4% were also from the same district (Table 2). Most default cases were reported from Sibi district.

Migration due to season (Table 2) was the most commonly reported reason for migration. This was followed by search for job, heritage and others.

Table 2: Reasons /Period of Migration.

| Reason of Migration | Month of Migration | | | | Total |
|----------------------------|--------------------|-----|------|------|-------|
| | April | May | June | July | |
| In Search of Job | 10 | 10 | 07 | 04 | 31 |
| Due to Season | 40 | 16 | 27 | 32 | 115 |
| Heritage | 06 | 02 | 04 | 02 | 14 |
| Due to Some other reasons. | 04 | 01 | 02 | 02 | 09 |
| Total | 60 | 29 | 40 | 40 | 169 |

The main reasons of migration with the association of month of migration was checked for the independence of the two criteria at 5% level of significance, Chi-square test was applied and it is calculated as 8.65 and compared with the tabular value as 16.92. It is calculated that the two criteria are dependent.

The majority of patients migrate during the month of April and July, while the weather is hot in their basement areas. It has been also observed during the study that 56% of the respondents were not satisfied with the existence TB treatment services.

Karl Pearson's Coefficient of means square contingency is calculated as 0.2207 and lies in the range of $0 < c < 0.866$. It is evident that almost all TB carriers migrate during summer season due to hot weather to the area where weather is pleasant and some of them in search of job. Most of the patients migrate at the beginning of the hot season i-e in the month of April.

Discussion

The overall default rate at surveyed districts was very low (2.4%) as compared to national level, which is 17%, whereas it was 4.4% among migrant patients. TSR was evidently high, 96% and 100% among migrant and non-migrant patients respectively. The study shows that

migration has very low impact on default and low TSR. The low default rate is due to DOTS coverage by the NTP during last five years and awareness, commitment of patients with their treatment.

A previous study from Tiruvallur district, Tamil Nadu (India), had reported irregular and incomplete treatment on account of migration is likely to increase the burden of TB in the community.⁴ The main factors of low default and high TSR in the present study were the high commitment of patients for seeking their medical checkup as well as regularity in medication by both migrant as well as non-migrant patients.

Two most important sources of patients' information about TB were their physician and hospitals. The majority of patients (53%) reported fever followed by coughing were the major symptom motivating the patients to seek health care.

More than half 56% of the respondents were not satisfied with available services at the TB service centre and 87% of the respondent's emphasised that there is need to improve services of TB centers. The most important source of patient's information and awareness were physician and hospitals staff. This study was limited only up to five districts there similar such studies are required in other districts of the province.

Conclusion

It is concluded from the study that to over come the problems of treatment, the existing services in the TB centers should be improved. Coverage can be enhanced if treatment facility is provided through mobile network. For creating more awareness the electronic media may be used.

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Original Article

Impact of training of Religious Leaders about Tuberculosis on Case Detection Rate in Balochistan, Pakistan

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Abstract

Objective: to study the impact of involving religious leaders in increasing awareness of the community regarding timely care seeking with the ultimate goal of increasing case detection rate of tuberculosis in Balochistan.

Methods: An intervention study conducted between April 2005 and March 2006 in which baseline knowledge of religious leaders about Tuberculosis (TB) was assessed by a questionnaire interview followed by one day orientation and training workshop. Trained religious leaders launched TB

awareness campaign by delivering speech (Surmon or Khutbaa) in Friday weekly prayers. The impact of this campaign was assessed by interviewing the patients attending the TB clinics of six districts and recording of Case Detection Rate (CDR) of 2nd, 3rd, 4th quarter of 2005 and 1st quarter 2006 in these districts.

Result: A significant increase in knowledge about TB and its symptoms (95-100%) and about duration of cough for TB suspects (90%) was noted among the religious leaders after training. They conveyed the message to masses in effective manner. 27.88 % patients attended the TB clinics