

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

on advice of religious leaders The relation and trust of religious leaders on TB clinics increased significantly (100%). The CDR increased in intervention districts from 2 to 40%.

Conclusion: Awareness about TB in these religious leaders improved and they conveyed the message to the masses. Involving the religious leaders in raising awareness of the community proved to have a beneficial impact on the health seeking behavior of TB suspects, and on increasing CDR in the community.

Introduction

Pakistan has the seventh highest TB burden globally and account for 44% of the total TB burden in the Eastern Mediterranean Region of the WHO (EMRO). In Pakistan among the total population of 154.794 million., 101,562 TB cases (all forms) were notified (incidence: 66/100,000 population).^{1,2}

Pakistan is an Islamic state with about 98% Muslims and 2% religious minorities including Christian, Hindu, Parsi.⁸ Religion play a major role in the lives of the masses. Balochistan is the largest (218,400 sq ms) but the least populated province of the country with the literacy rate of 26.4%.⁷ It has 400 tribes, sub-tribes and clans. It has three main language groups: Baluchi, Pushto and Brahvi, as well as Persian, sindhi, and saraiki is also spoken in various areas but Urdu is widely understood in all regions of the province. Though people speak different languages, there is a similarity in their literature, beliefs, moral order and customs. The cementing factor is religion which provides a base for unity and common social order.^{7,8}

The National targets of DOTS strategy was to reach 70% Case Detection Rate (CDR) and 85% Treatment Success Rate (TSR) by 2005.³⁻⁵

Previously Balochistan reported 28% CDR, 80% TSR and 12% default rate. (PTP Balochistan 2005).⁶ In order to raise the CDR to 70% and reduce the default rate less than 5%, there was a need to develop innovative interventions so that important targets set by WHO are achieved.

Muslims are directed to offer prayers (Nama'az) five times every day and Friday afternoon prayers (Jumma) hold special place when in addition to the Nama'az, leader (Ima'am) also deliver a speech (sermon or Khutba) before the Namaaz listening which attentively is mandatory..

Accordingly, it is important to assess the knowledge of their leaders, raise their awareness about the disease and involve them in motivating the community.

In other Muslim countries like Iraq,⁹ Iran,¹⁰⁻¹³ Syria,¹⁴ Sudan,¹⁵ Somalia¹⁶ and Tanzania¹⁷ other social

groups like family physicians,¹⁸ Health Care Workers and role of Laboratory 12 were studied for their role in awareness of TB and measure to make early diagnosis possible to facilitate the control of TB, but no such study has been done on the knowledge of Religious Leaders (R.L) and their role in awareness of TB.

In view of the above, an intervention study was designed to involve religious leaders, in raising awareness of the community about the adequate health seeking behavior with the ultimate goal of increasing the CDR. Three districts of Balochistan province were selected randomly to assess the knowledge of religious leaders about TB. Workshops were then held to educate RL about the importance of early case detection, proper health seeking behavior and other aspects of TB control. This was followed by a campaign, launched with the help of religious leaders, to raise awareness about TB among the local population. The impact of the intervention was evaluated by interviewing the patients who were attending TB clinics and CDR was compared between the intervention and control districts.

Material and Methods

An interventional study conducted in three randomly selected districts out of 29 districts of Balochistan province of Pakistan, from April 2005 to March 2006.

The qualified RLs regularly who had religious education and who were offering leading Friday weekly prayers in three interventional districts were offered to participate in this programme on voluntary basis. Those consented to participate were included in this study. Three more districts which were socially, geographically and ethnically identical with interventional districts were included as controls.

After base line interview by trained staff in all intervention and control districts, the R.Ls in interventional districts were provided one day orientation/ training workshop about knowledge of symptoms, duration and treatment of TB and facilities available regarding TB in their area. The training material about TB was developed in Urdu, the spoken language of all participants, which included topics like history, symptoms, duration of treatment of TB and the importance of completion of treatment. The role of religion to help patients of TB was described by one senior religious leader. Posters and other relevant literature about TB published by National and Provincial Tuberculosis control Programme was also distributed among the participants of workshops. After workshops a campaign was started in intervention district by religious leaders about awareness of tuberculosis, in which they delivered speech about TB during Friday afternoon sermon (Khutba-e-Jumma).

The response of this campaign was assessed by interviewing consented patients at seven TB clinics of six districts. Patients were asked that who has prompted them to come to TB clinic for treatment. The CDR was noted in all six districts from 2nd quarter to 4th quarter of 2005 and 1st quarter of 2006.

Results

Eighty seven religious leaders were included in this study. Out of which, 76 (87.35%) were Muslim, 7 (8.04%)

Table 1: Response of Religious Leaders to advised people about Tuberculosis.

Response	Before Intervention n=42		After Intervention n=39		Control District n=45	
	#	%	#	%	#	%
Yes	17	40.48	39	100	32	71.11
No	10	23.81	0		13	28.89
Don't Know/ No Answer	15	35.71	0		0	0.00

Table 2: Patients response at TB clinics, in intervention and control districts.

Response	Intervention District .n=226		Cont District .n= 202	
	#	%	#	%
Religious Leader	63	27.88	36	17.82
Doctor	76	33.63	44	21.78
NGOs	1	0.44	11	5.45
Others (Relatives and friends)	86	38.05	111	54.95

Table 3: Number of Religious Leaders(RL) and the rise in Case Detection Rate (CDR).

District	No of RL	Ratio in Population	Rise in CDR
K. Saifullah	8	1:29316	2%
Mastung	15	1:13333	20%
Nushki	16	1:6250	40%

Table 4: Impact of awareness of religious leaders on case detection rate. Case notification and detection rates in the intervention and control districts.

	Killa Saifullah (I.D)†	Pishin (C.D)‡	Nushki (I.D)	Kharan (C.D)	Mastung (I.D)	Kalat (C.D)
2nd Quarter 2005	Smear +ve	75	61	60	23	10
	Case Notification rate	32	19.5	60	11.6	5
3rd Quarter 2005	Smear +ve	17	47	20	60	8
	Case Notification rate	32.8	15.05	20	32.27	4
4th Quarter 2005	Smear +ve	46	28	60	47	3
	Case Notification rate	19.6	8.97	60	23.71	1.5
1st Quarter 2006	Smear +ve	39	43	64	28	23
	Case Notification rate	16.6	13.77	64	14.13	11.5
total notified ss+ve		237	179	204	158	44
Case notification rate*		101.05	57.33	204.00	79.72	22.00
estimated no ss +ve		211.1	281.0	90.00	178.4	180.0
CDR**		112.3	63.7	226.7	88.6	24.4

*Case Detection Rate, †Intervention District, ‡Control District, **Significant rise in CDR in intervention districts, p< 0.05.

Hindu and 4 (4.59%) were Christian. Ethnically 47 (54.04%) were Baloch, (including Balochi and Brahvi speaking) 27 (31.03%) Pashtoons and 13 (14.94%) other tribes. The majority of people in Killa Saifullah (intervention district) and Pishin (control district) speaks Pashto, in Nushki (intervention district) and Kharan (control district) speak Balochi and in Mastung (intervention district) and Kalat (control district) speak Brahvi.

Forty two R.Ls consented to participate in the program in 3 intervention districts, only one religious leader in Nushki district refused to participate. Total forty two RLs in three districts and forty five RLs in three control districts contacted and interviewed..

After the intervention, in intervention districts, these Religious Leaders were interviewed again to assess the knowledge and practice about awareness of TB. Three religious leaders were excluded from the study who were not available, as two were relieved from their duties and one was not available who went on "Tableegh" (the religious duty) for 4 months.

Discussion

The religious leaders basic knowledge about TB was based on wrong sources of information, mostly on "Unani" non medical books, and they were also consulting non medical ways of treatment. This situation exist in Asian countries, in India even family physicians had many misunderstanding about the diagnosis and treatment of TB. After training workshops and distribution of literature about TB, the knowledge and attitude of religious leaders significantly changed and 92.3% religious leaders became in contact with TB patients. In Iran such programme was launched for the training of private sector Physicians and emphasizing for continuation of such programmes for control of tuberculosis.¹² In Iraq, Hashem Dhafer found that the optimal knowledge of patients about TB is 64.4%.⁹ In other countries also people has false concepts about TB and

cultural beliefs about TB may become risk factor in spread of disease.¹⁸ In United states Jane E. Poss found that etiology of tuberculosis varies by cultures.¹⁹

In our study religious leaders visited and trusted more after intervention campaign as compare to control districts, indicates that TB awareness programme is acceptable for religious leaders, which resulted in increase of CDR from 2-40%. In other countries, specially in big cities people become influenced by electronic media, in Colombia health education campaign in media resulted in 52% rise in smear positive cases.²⁰ In Iran and Iraq private physicians were involved in diagnostic and preventive programmes to control the TB.⁹

The role of religious leaders is becoming eminent in Pakistan. Many social and medical programmes are including religious leaders, like Polio eradication programme, AIDS control programme and Population planning because Political support, the support of health professionals and the community are vital for success of these programmes.²¹

In Ethiopia when religious leaders were included in awareness programme, it resulted in increased awareness about TB.²² The impact of involving the RL was significantly higher among the illiterate members of the community, who brought their female family members for treatment to the TB clinic based on the advice of religious leaders. The over all effect of awareness in religious leaders resulted in increase in CDR in these districts.

Conclusion

As a result of intervention, the knowledge of religious leaders about TB increased significantly and they successfully conveyed the message to their audience which resulted in visit of 27.88% more patients to TB clinics. The intervention resulted in increase in case detection rate from 2 to 40 % in intervention districts.

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