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Knowledge, attitude and practice of private practitioners regarding TB-DOTS in a rural district of Sindh, Pakistan

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Abstract

Background: Tuberculosis is prevailing in both urban and rural areas of Pakistan. Knowledge, attitude and practice (KAP) of private practitioners (PPs) regarding tuberculosis management have been reported only in urban areas of Pakistan. This survey was conducted for the first time in a rural area of Sindh, Pakistan.

Methods: This survey was conducted in January 2007 at Thatta, a rural district of Sindh, Pakistan. Study subjects were twenty-two allopathic qualified (MBBS) doctors of district Thatta, who were practicing in private setups for at least last one year. Before TB-DOTS training PPs had filled the KAP questionnaire regarding tuberculosis (TB) diagnosis and management through DOTS. Survey data was analysed through SPSS version 11.05 software.

Results: On average, five TB suspects per month were seen by each PP. Only 14% of PPs advised sputum microscopy solely for pulmonary TB diagnosis, while 86% of PPs used different combination of tests (chest x-ray/sputum microscopy/ESR/tuberculin test) for TB diagnosis. Over 40% PPs did not prescribe TB treatment regimen according to TB-DOTS category. Majority PPs (85%) did not follow the treatment through sputum microscopy and instead relied on clinical improvement and x-ray clearance. Nearly 60% of TB patients at PPs clinic did not show compliance to the TB treatment and none of PPs were following the retrieval of default cases.

Conclusions: A gross lack of PPs knowledge and right practice regarding TB diagnosis and management through DOTS was identified and needed to be addressed through providing DOTS training.

Keywords: Tuberculosis, DOTS, private practitioners, knowledge, practice.

Introduction

World Health Organization (WHO) declared TB a global emergency in 1993.[1] The WHO in its Report of 2007 estimated that globally 8.8 million people were infected with TB and 1.6 million people died of TB in 2005.[2] Majority of the infected people i.e. 7.4 million (84%) belonged to Asia and Sub-Saharan Africa.[2]

Pakistan ranked 6th amongst the 22 High Burden Countries (HBCs).[1] It contributed about 44% of TB burden in the Eastern Mediterranean Region. Approximately 1.5 million people have been infected with TB in Pakistan and around 280,000 new cases of TB are being added every year.1,3 According to the WHO, the estimated incidence of sputum smear positive (SS+ve) TB cases in Pakistan was 80/100,000 and for all type of TB cases, it was 177/100,000 per year.[1] TB was responsible for 5.1 percent of the total national disease burden.[1]

In Pakistan nearly two-third of the population first seeks health care from private health care provider for their illness. A survey conducted in 1996, showed that about 80% of TB patients first seek care from private practitioners in the province of Sindh, Pakistan.[4] A similar study was conducted in India, also found that 86% of TB patients had first approached private practitioners.[5]

Pakistan adopted the WHO recommended Directly Observed Treatment Short course (DOTS) strategy in 1995 for the better control of TB. In 2005, DOTS coverage was 100% in public sector in the country.1 There was no active involvement of private sector in national TB control program (NTP) that made it difficult to control TB in the country without their active involvement.

The diagnostic and curative abilities of private practitioners did not seem appropriate in provision of care TB patients as reported in studies conducted in India[6-9] and Pakistan.[4] Often diagnosis of TB was inaccurate, treatment regimens were nonstandard, ineffective and treatment completion was poor, resulting in unsatisfactory cure rates.[6-9] This status of PPs called for assessment of their knowledge, attitude and practice (KAP) regarding TB-DOTS with a view to identify the knowledge gaps and training needed for effective implementation of DOTS program in the private sector.

The aim of the present survey was to determine the knowledge, attitude and practices of private practitioners

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regarding diagnosis of TB and management through DOTS guidelines, before involving these PPs in a pilot project on publicprivate mix (PPM) model of DOTS implementation in Thatta district. Previously similar KAP survey has been reported in urban areas of Pakistan such as, Karachi (2005),[10] and Lahore/Rawalpindi (2003).[11] This survey was conducted for the first time in a rural area of Sindh, Pakistan.

Methods

This survey was conducted in January 2007 at taluka Thatta, of district Thatta, a rural district of Sindh, Pakistan. Thatta is a coastal, rural district bounded on the western side by Karachi. Total population of the district is 1.1 million (1998 census). Majority of the population relies on agriculture and fishing.12 In district Thatta, DOTS program was implemented in public sector in 2003 by establishing 11 diagnostic and 39 treatment centres scattered throughout the district. Thatta city receives major chunk of TB patients from the district for the treatment. There is only one public sector hospital, District Headquarter Hospital (DHQ), which provides DOTS coverage.

Private practitioners of Thatta, who had basic medical degree of MBBS, and doing private practice for at least last one year, were included in this cross-sectional survey.

About 200 private practitioners were practicing in Thatta and almost 100 (50%) of them were treating TB patients. Details were provided by a member of Pakistan Medical Association (PMA) district Thatta. Convenience (non-probability) sampling technique was employed to select 50 private practitioners for TB-DOTS training who did private practice at 'Doctors Street', in the central part of the Thatta city where majority of PPs are clustered. Twentytwo PPs participated and filled KAP questionnaire before DOTS training. PPs' knowledge, attitude and practice regarding TB-DOTS were assessed including suspected TB case, diagnosis, treatment, follow-up and outcome evaluation by administering a structured multiple choice questionnaire.

Survey data was analysed using SPSS, version 11.05 software. Descriptive statistics were used in the case of most of the variables.

Study was approved by Ethics Review Committee (ERC) of Aga Khan University, Karachi. Written consent was taken from all the participating private practitioners before data collection.

Results

A total of 22 private practitioners participated in the TB-DOTS training and completed the KAP questionnaire before training. All the participating PPs were male qualified doctors with MBBS degree. Two of them had post graduation in medicine. Mean age of PPs was 39±7.4 years (range: 27-63) and mean duration of practice was 11.5±5.6 years (range: 1- 28). Average five TB suspect cases per month were seen by each PP.

Table-1: Practices of PPs to advise investigation for diagnosis of pulmonary TB (n=22).

Tests	Number	Percentage
Sputum microscopy only	3	14.0
Chest X-ray & Sputum microscopy	13	59.0
Chest X-ray & ESR	1	4.5
Chest X-ray, Sputum microscopy & ESR	2	9.0
Chest X-ray, ESR & Tuberculin test	1	4.5
Tuberculin test only	1	4.5
Chest X-ray, Sputum microscopy, ESR & Tuberculin test	1	4.5

Table-2: Practices of PPs regarding TB patients recalled for follow up (n=22).

Follow up	Number	Percentage
Weekly	2	9.0
Fortnightly	8	36.0
Monthly	11	50.0
Weekly for 1st two months then monthly	1	5.0

Table-3: Patients counselling practice of private practitioners (n=22).

Information Shared	Number	Percentage
Patient suffered from TB	9	41
TB is a curable disease	21	95
Duration of treatment	10	45
Importance of drug compliance	10	45
Importance of follow up	8	36
Side effects of TB drugs	6	27
Dissemination prevention	2	9

The knowledge of PPs regarding main symptoms of pulmonary TB suspects in adults (history of cough more than three weeks) was assessed. Twothird (68%) PPs replied correctly and one-third (32%) PPs considered a combination of cough with other symptoms (blood stained sputum, evening low grade fever and weight loss) for TB suspect. With regard to PPs practice regarding diagnosis of pulmonary TB, only 3 (14%) PPs advised sputum microscopy alone for diagnosis whereas majority PPs 19(86%) used combination of tests, i.e. chest x-ray, sputum microscopy, erythrocyte sedimentation rate (ESR), and tuberculin test for the diagnosis (Table-1).

Most of the PPs, i.e., 16 (73%) prescribed DOTS recommended fixed-dose combination therapy to the TB

patients, while 6 (27%) PPs prescribed 4 separate drugs. Regarding drug regimen for category one (new case), 16 (73%) PPs prescribed correctly 2 months treatment of HREZ (H=Isoniazid, R=Rifampicin, E=Ethambutol, Z=Pyrazinamide) for initial intensive phase and 13 (59%) PPs correctly prescribed 6-months treatment of HE for continuation phase. In the case of category two (re-treatment case), 13 (59%) PPs prescribed the correct treatment, 2SHREZ+1HREZ (S=Streptomycin), for 3-months initial intensive phase and only two (9%) PPs knew the 5 months HRE treatment for the continuation phase.

Half of the PPs prescribed anti-TB treatment (ATT) to the patients on a monthly basis (Table-2). None of the PPs were providing treatment under supervision, had any treatment supporter for the patients, and maintaining any record of TB patients. No PP was found following any methodology for retrieval of default cases or screening of contacts' tracking in patients' families.

Majority of the PPs, 19 (86%), did not advise sputum microscopy for treatment/follow-up of TB patients at the end of 2nd, 5th and 7th months of treatment. Most of the PPs relied on X-ray chest clearance with clinical improvement of the patients. At the completion of treatment, none of the PPs evaluated or recorded the treatment outcome as cured, treatment completed or treatment failure.

Drug compliance of TB patients at PPs clinics was not satisfactory. Only 40% of TB patient had completed their full course of treatment (8 months) under their follow-up at clinics, whereas rest of the patients were either not taking treatment (default) or were not taking treatment from other places. Regarding non-compliance of TB treatment, 9 (41%) PPs responded that poverty was the main cause of non-compliance, 7 (32%) identified illiteracy/ unawareness, 4 (18%) said side effects of TB drugs, and 2 (9%) thought that longer duration of treatment and lack of counselling were the basic reasons for non- compliance of treatment.

Eight (36%) PPs referred text books as a source of TB knowledge, and seven (32%) attended trainings for TB updates through NTP/NGOs training program. Regarding source of their knowledge about TB, 5(23%) PPs identified continuing medical education and two (9%) through medical periodicals.

Discussion

In Pakistan, private sector is actively involved in public health care provision in both urban and rural areas of the country. Effective control of TB in the country needs to involve private sector along with national TB control program. Present KAP survey was conducted in a rural district of Sindh to test the pilot model of Public-Private Mix (PPM) partnership in tuberculosis control through the WHO recommended DOTS guideline. Our limitation was the enrolment a small number of PPs for a pilot study in order to see the trend of enhanced case detection rate (CDR), and management through PPM model. This PPM model has been successfully utilized in other developing countries.[13]

The sample comprised males only that may be because majority of female private practitioners practice gynaecological and paediatrics practice in Thatta. Sixty percent of TB patient at PPs did not complete their treatment and became defaulters. The reasons behind this were described by PPs as: nonaffordability of treatment cost, unawareness about the disease, once the symptoms improved patient left the treatment, longer duration of the treatment, side effects of the treatment, and lack of counseling to the patients.

This survey showed that two-third of the PPs considered cough of more than 3 weeks duration as the cardinal symptom to suspect pulmonary TB case. Comparing this result with the study conducted in 2003 at Lahore/Rawalpindi, Pakistan, only one out of 245 (0.4%) PPs knew about the main symptom of TB.[11] The possible reason behind this could be that DOTS program had not been introduced in the private sector at that time. Now in 2007, DOTS cover the entire country, therefore, in public sector as well as private sector most of the PPs had basic concept of DOTS program.

For diagnosis of suspected pulmonary TB, still majority (68%) of the PPs depend on combination of tests such as X-ray chest, sputum microscopy and ESR. Only 14 percent recommended sputum microscopy, the only diagnostic test for pulmonary TB. Similar result (78% depends on multiple test and only 12% recommend sputum microscopy) has been reported in a study conducted in Delhi, India.[9]

Most of the PPs had no clear idea about what treatment regimens to prescribe for both DOTS categories (new cases/re-treatment cases) and for how long. For treatment outcome evaluation, most of the PPs still relied on X-ray chest and clinical improvement. All PPs preferred to treat TB patient on their own and only referred TB cases in the case of treatment failure to the specialist TB clinics.

PPs just prescribed the anti-TB drugs. They neither supervise the treatment nor do follow-up according to DOTS guideline as well as proper counselling of the

patients regarding drug compliance. Once patient stops taking the treatment, there is no mechanism at to retrieve default cases. Therefore, default rate is very high at PPs' clinics, which ultimately increase the burden of re-treating TB. Repeated intermittent TB treatment practice of PPs without skilful handling, lack of counselling and record keeping would increase the percentage of treatment failure and MDR-TB in the country.

Conclusion

There was a significant gap between the WHO provided DOTS guideline and PPs' knowledge, attitude and practice regarding TB diagnosis and management. Because of lack of skill, PPs would ultimately enhance the burden of MDR-TB and treatment failure cases. There is a need to provide DOTS training to PPs and develop a monitoring system to improve and evaluate knowledge, attitude and practice of PPs periodically.

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