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Knowledge among a TB course Participants regarding pulmonary tuberculosis.

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ABSTRACT

Objective:

To assess the knowledge regarding tuberculosis, among a heterogeneous group of doctors and health workers, dealing with tuberculosis.

Design: Cross-sectional study

Method: A standardized questionnaire was administered among the participants of "second certificate course in tuberculosis" at Ojha Institute of Chest Diseases, Karachi. It was filled before start of the course. The questions covered were knowledge related to diagnosis, treatment, National Tuberculosis Program (NTP) guideline, and Directly Observed Treatment Short course (DOTS).

Results:

Out of 128 participants 75 (58.5%) filled the form. Majority, i.e. 67 (89.3%) responded that TB spread via droplets; 72 (96%) knew the major symptoms of pulmonary tuberculosis; 64 (85.3%) responded that sputum smear is single best investigation for diagnosis; 47 (62.7%) were able to write correct prescription for the

intensive phase and 32 (42.7%) for the continuation phase. Only fifteen (20%) knew components of DOTS, while 42 (56%) would prescribe Fixed Dose Combination (FDCs) to their patients.

Conclusions:

The knowledge of our physicians about tuberculosis diagnosis and treatment is reasonably good but need to improve knowledge about Directly Observed Treatment Short course (DOTS) and National Tuberculosis Program (NTP) guideline.

Key words: tuberculosis, knowledge, physicians, diagnosis, treatment

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Introduction

In 1993, World Health Organization (WHO) declared tuberculosis a global emergency[1]. Even today it is a major public health problem. WHO estimates[2] that in Pakistan there are 181 new cases per 100,000 which mean around three lack cases each year and 60,000 death/year with this deadly but potentially treatable disease. In Pakistan, the General practitioners contribute significantly in the health care delivery. About 80% of our patients first report to the general practitioners[3] for their ailment because they are readily approachable. It has been reported[4] that most of our General Physicians are treating tuberculosis but their knowledge about diagnosis and treatment of tuberculosis is inadequate as well as they are not aware of WHO guideline on tuberculosis. Other studies have demonstrated[5, 6] that general physician do errors in the management of tuberculosis which in turn have significant negative consequences including drug resistant tuberculosis.

We did this study in a segment of general doctors to assess the current knowledge about pulmonary tuberculosis.

Methods

This cross-sectional study was conducted among the participants of "second certificate course in tuberculosis" at Ojha Institute of Chest Diseases, Karachi. The certificate course was organized on the occasion of world tuberculosis day in April 2009. A standardized questionnaire was used in this study covering knowledge related to diagnosis and treatment. The participants were asked about symptoms suggestive of tuberculosis, use of laboratory tests and X-rays, write anti-TB prescription and their knowledge about Directly Observed Treatment Short course (DOTS) and National Tuberculosis Program (NTP) were also tested. The participants filled the questionnaire before start of the course so there was no influence of knowledge shared during the course. The responses were analyzed using SPSS (version 13.0, SPSS, Chicago, IL, USA).

RESULTS

The questionnaire was circulated among all the 128 participants, of whom 75 (58.5%) responded. Among the responder 51(68%) were male. There were 41 (54.7%) medical graduate (MBBS), 16 (21.3%) postgraduates (DTCD, FCPS, MD), 6 (8%) non-medical graduate, 2 (2.7%) homeopathic doctors and 10 (13.3%) were technologist, registered nurses, microbiological technicians etc. This last group is labeled as others. Among medical doctors, there were 36 (48%) General Practitioners, 16 (21.3%) PG students, 5 (6.7%) were house officers and remaining belongs to different positions. Twenty-five

(33.3%) were practicing for <5 years, 16 (21.3%) 5-10 years while 24 (32%) for >10 years. Ten participants were not practicing.

Knowledge about TB, diagnosis & NTP guideline

A large proportion of the participants 67 (89.3%) responded that TB spread via droplets, 08% via direct contact and 2.6% via sharing utensils. When these responses were compared among medical graduates, non-medical graduates and others groups by using chi-square, the results were found non significant (p 0.005). Regarding symptoms of pulmonary tuberculosis, 50 (66.7%) knew all the major symptoms suggestive of pulmonary tuberculosis while 22 (29.3%) knew most of the symptoms and only three participants did not know any symptom. Regarding best investigation to diagnose pulmonary tuberculosis, 64 (85.3%) responded that sputum smear for Acid Fast Bacilli (AFB) is the single best investigation. Forty-seven (62.7%) participants were aware of National Tuberculosis Program (NTP) guideline. Some participants were of the opinion that both AFB smear and chest X-ray should be used for diagnosis.

Knowledge about Treatment / prescribing habits

Forty-seven (62.7%) participants were able to write a totally correct prescription with correct duration for intensive phase, while 8 (10.7%) wrote correct drugs but incorrect dosage. Thirty-two (42.7%) participants were able to write a correct prescription for continuation phase while 22(29.3%) did not write the continuation phase treatment which may indicate that they were unsure about treatment. Six (8%) and 11 (14.7%) participants wrote inadequate dose and inappropriate frequency of medicine administration respectively. More than half (56%) prescribed Fixed Dose Combination (FDCs), while

26.7% preferred separate drugs. It was interesting to note that only 36% knew the correct contents of FDCs tablets i.e. name of all four drugs while 57% did not respond, which may mean that they were not sure of the content.

Knowledge about follow-up of tuberculosis patients

When asked of the useful tool for use in TB follow up, forty-three (57.3%) mentioned that sputum smear is the most useful test in follow up of pulmonary tuberculosis patients while eight (10.7%) opted for chest X-ray. Another 14 (18.7%) suggested that Erythrocyte Sedimentation Rate (ESR) should be used for follow up while 6 (8%) responded that Mantoux test (MT) is the most useful test in the follow up. Four did not answer this question.

Knowledge about TB Treatment during pregnancy

Fifty-two (69.3%) marked that in case of pregnancy, both pregnancy and anti-TB drugs should be continued. Eight (10.7%) would like to hold anti-TB drugs till delivery, one consider termination of pregnancy while two did not answer this question.

How many of their TB patients complete the treatment?

Sixteen percent responded that more than 75% of their patients complete treatment, while 14.7% marked 50-75%. Forty-two (56%) did not attempt this question.

Knowledge about DOTS

Only 15 (20%) participants knew all the five components of DOTS. Thirty (40%) participants did not attempt while seven (9.3%) did not know even a single component.

Knowledge about NTP guideline and categories

While 40 (53.3%) participants said that they categorize TB patients before starting treatment, only 25 (33.3%) correctly knew the categories.

Referral practice

Regarding referral practice, 52 (69.3%) participants refer the cases to TB clinic or chest institute and 6.7% refer their cases to chest specialist. Eight (10.7%) participants refer cases at the outset after diagnosis while 17 (22.7%) refer their cases once patients were not responding.

Practice of contact tracing

Fifty-eight (77.3%) participants said that they ask their patients' to bring symptomatic family member for screening purpose.

Knowledge about source of updating knowledge

Fifty (66.7%) responded that they update their knowledge by attending medical conferences, reading books and medical journals. Five (6.7%) update their knowledge through medical representatives of pharmaceuticals.

Patient education about TB

Sixty-seven (89.3%) responded that they educate their patients at the beginning of the treatment about tuberculosis and treatment.

DISCUSSION

This study shows a major difference of knowledge in comparison to previous studies reported from Pakistan. Most of the participants knew correctly the mode of spread and symptoms suggestive of tuberculosis. It was encouraging to see that 85.3% participants considered sputum microscopy as the investigation of choice for pulmonary tuberculosis. This shows marked difference in comparison to 38% and 43% reported by Rizvi[4] and Romana[7] while it is similar with Arshad[8].

The participants used sputum microscopy for follow up which is also similar with Arshad's study[8] (57.3% v/s 61%), but the later study was among chest specialists and pulmonary trainees. Some of the participants consider ESR and even MT as a tool for follow up which shows that old age concepts die hard.

It was encouraging to see that our doctors' prescribing practice has improved in comparison to previous local studies[4, 7]. About 62.7% doctors were able to write correct prescription for the intensive phase and 42.7% % for the continuation phase. The poor knowledge about use of drugs in continuation phase was also observed by Romana[7]; 35% and 29% of their patients was able to write correct prescription for intensive and continuation phases respectively. In this study, some of the participants continued four drugs for the whole treatment period while others used three drugs during continuation phase in a new case. Use of unnecessary drug increases the total cost of treatment as well as exposes the patients to the toxic effect of medication. Similar observation was also reported by Uplikar[9] from India. Prescription errors have also been reported from developed country like USA. In a study from Baltimore[10], 15% prescription error was seen.

There are some concerns in this study. While 53.3% participants acknowledged that they categorize patients before starting treatment, only 33.3% correctly knew the categories. It has been shown[11] that low compliance with WHO guidelines makes the situation worse in the control of tuberculosis.

Only 20% in this study knew all five components of DOTS; as most of the participants were non-specialists (general practitioners and junior doctors) it indicates that NTP's interaction and dissemination of its guidelines among general doctors need to more vigilant.

In this study, 66.7% participants update their knowledge by attending medical conferences and reading books and medical journals. It was noted that only 6.7% depended on updates provided through pharmaceuticals representatives. In a study reported from India[12], 40% of their doctors rely on pharmaceuticals representatives to update their knowledge in the field of tuberculosis.

It was also encouraging to see that most of the participants refer cases to chest clinic or institute for proper management, educate their patients, and try to trace contacts.

In this study, overall knowledge of the participants about tuberculosis is much better in comparison to previous studies. This may either reflect better understanding of doctors about TB in general over the period of years, or a selection bias (many participants were keen learners and may have attended other such sessions in the past). Interestingly similar trend in the knowledge about tuberculosis has also been reported in patients suffering from tuberculosis[13]. Doctors and health care workers are the sources of information to the patients[14] so their knowledge should be up to the mark. Efforts should be made to

develop liaison between general practitioners and NTP so they should adopt DOTS strategy.

Conclusion

The knowledge of our physicians about tuberculosis diagnosis and treatment is reasonably good but their knowledge about DOTS and NTP guideline need to be updated. We suggest NTP should organize regular workshops for practicing physicians which will not only improve their knowledge but will also develop good relationship with private practitioners. This whole activity will pay back in the form of increase case detection rate.

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