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Study of Knowledge and Attitude of Private General Physicians of Karaj City Regarding National TB Programs – 2002

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ABSTRACT

***Background**: At the present time among various infectious diseases, tuberculosis is considered as one of the leading causes of death in adult population. These death rates are even higher than those caused by AIDS and Malaria.*

The diagnostic and therapeutic failure of the physicians results in the emergence of Multi-Drug Resistance (MDR). On the other hand, the best approach for controlling this situation is by implementing Directly Observed Treatment Short Course (DOTS) strategy. The requisite for reaching DOTS aims and objectives is through the cooperation and participation of all sections that are involved in offering health and medical services including private physicians. This cooperation requires the physicians to have satisfactory knowledge and assenting attitude towards these programs. This research was conducted with the aim of studying the level of knowledge and attitude of private general physicians, in regard to the National TB Programs (based on DOTS strategy).

***Materials and Methods**: This cross-sectional study was carried out on 340 general physicians working in the private sector of Karaj city. The cases were chosen by random sampling method.*

***Results**: Also 66% of the physicians believed that TB is still recognized as a major health problem and issue worldwide. More than 75% of them have considered TB a serious threat to Iran. Only 1.8% of the general physicians had satisfactory level of knowledge. Meanwhile, 89.1% of them had a positive attitude towards National TB programs. Only 27.1% of physicians knew the most important symptom of pulmonary TB and about 43% recalled the short course of four-drug treatment.*

***Conclusion**: Majority of the general physicians had a positive attitude towards the National TB Program. But only few percent had satisfactory level of knowledge in this regard.* **(Tanaffos 2003; 2(6): 67-73)**

***Key Words**: Cross-Sectional Study, Knowledge, Attitude, Satisfactory knowledge, Assenting attitude, Random sampling*

INTRODUCTION

Today, despite the existence of effective anti-TB medications and well-equipped diagnostic tools, TB still remains a major cause of human deaths, being on the increase over the ages.

Currently, among different infectious diseases present in the world, TB is the most common cause of mortality in the adult population, even more than

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those caused by malaria and AIDS. Until now, about one-third of the world population (2 billion people) have been infected with the bacilli. Furthermore, every 4 second, 1 individual develops TB while every 10 second, 1 person dies due to this disease. In Disability Adjusted Life Years (DALY), TB ranks seven, and it is predicted that by the year 2020, it still remains in the same stand. In the year 1993, WHO recognized TB as a "global emergency" in the world. The reason for this announcement was the appearance and spread of MDR (Multi-Drug Resistance) which could cause the emergence of TB as an untreatable disease in the world. One of the global failure factors in the re-emergence of this disease was the physicians' delay in the diagnosis and treatment. (1)

Fortunately despite the presence of immense difficulties, global control of TB is possible. Majority of high burden TB states have national TB programs. The important point in this regard is the participation of physicians in the TB control programs, of their respective countries. The successful implementation of the national programs which is based on "Directly Observed Treatment Short Course" (DOTS) strategy, needs the partaking of all sectors involved in health and medical services including private sections.(2)

In the WHO classification of the regions, the highest burden of TB second to Africa is the Eastern Mediterranean region, where Iran is also included. Meanwhile Iran is adjacent to Pakistan and Afghanistan in which TB is of the highest prevalence.(3)

In the year 2001, the number of smear positive TB cases in Iran were 8.7×100,000 while the estimation made by WHO was 24×100,000. (Only about 36% of pulmonary TB cases have been recorded and reported). In fact it is possible that some TB cases still remain undiagnosed or even after being diagnosed were not recorded. No records are available on their treatment. Keeping in mind that DOTS case detection had a gradual rise of about 40%.

Many researches have demonstrated the high load of TB in private sector. Also, they have pointed to the fact that treatment and follow-up of TB in this sector is not satisfactory, resulting in debility, high rates of mortality and morbidity, serious drug resistance, and high socioeconomic costs. If the private sector continues its activities in a separate division, the aims and objectives of DOTS will become indistinct and vague, finally loosing its control on TB. The pre-requisite for their participation is having an acceptable and satisfactory level of knowledge and attitude (5). Thus, we decided to conduct a study on the general physicians of Karaj City in order to determine the level of their knowledge and attitude in regard to the National TB Programs.

MATERIALS AND METHODS

This cross-sectional study was conducted on 340 general physicians that were chosen by random sampling method. In order to assess the knowledge and attitude of the participants, a questionnaire was prepared. This questionnaire was organized after a thorough study and counseling with experts in this regard. Initially the questionnaire was given to a group of 10 individuals as a pilot study. The invariant was determined by alpha-coefficient (α coefficient of the knowledge questions=0.76, α coefficient of the attitude questions=0.72). The questionnaire consisted of 10 questions regarding the attitude, which were based on Likert scale and scored. Meanwhile, questions regarding the knowledge were 20 in number. These multiple choice questions (MCQ's) were designed from different topics such as diagnosis, case detection, follow-up, and treatment based on the country's protocol. Finally questions regarding the demographic specifications, participation in various TB seminars, and any previous record of working in governmental sector were asked. In case of questions concerning attitude, the aim was not to go beyond the second step of the attitude scope.

While in the knowledge questions, they even included analysis. The grading/scoring of the questions concerned with attitude were from one to five, based on their assenting attitude towards the

NTP. The method of assessment was in the form of quantitative one (i.e. sum of the scores obtained in the "attitude questions" divided by 50 and multiplying this figure into 100 percent). In other words, this obtained figure would be regarded as the "attitude score". If the attitude score was above/equal to 70%, it meant an "assenting attitude" while a score of less than 70% meant a "discordant attitude". It can also be evaluated as an ordinal qualitative variable. In the case of questions concerned with knowledge, the percentage of scores obtained was considered as the "knowledge score". A score of more than/equal to 75% was taken into account as "satisfactory knowledge", while that which is less than 75% considered as "unsatisfactory knowledge". It is to be pointed that correct answers had "5" points while incorrect ones carried "zero" point. Both the attitude and knowledge underwent ranking and quantitative analyses.

Table 1: The absolute and relative frequency distribution of the measured variables of general physicians under-study.

Variables	Number	Subdivision	Absolute Frequency	Relative Frequency
Sex	340	Female	74	21.8
		Male	266	78.2
Any record of attending TB seminars	339	Yes	107	31.6
		No	232	68.4
Record of working in governmental sector	340	Yes	201	59.1
		No	139	40.9
University of education	338	Major universities	200	59.2
		Affiliated colleges	90	26.6
		Azad university	36	10.6
		Foreign university	12	3.6
Present Job	340	Only in private sector	278	81.8
		Both in private and governmental sectors	62	18.2

Table 2: Percentage of correct answer to knowledge questions of general physicians in detail

Question Number	Question	Percent of Correct Answer
1	Best approach for fighting TB	27.1
2	Best approach for preventing pulmonary TB	36.8
3	Most important type of TB from health point of view	86.8
4	Most common symptom of pulmonary TB	27.1
5	Case detection in National TB Program	60.6
6	The basis of diagnosing pulmonary TB in suspected cases	40.9
7	Proper approach in case of TB diagnosis	88.5
8	"Tuberculin Test" correct answer	32.9
9	Proper approach when confronting a child of less than 6 yr in close contact with a smear+ pulmonary TB patient	35.3
10	Best approach to a pregnant woman in the first trimester having a smear + pulmonary TB	67.6
11	Contraindications of anti TB drugs in liver cirrhosis	14.1
12	Concept of MDR	36.2
13	Proper approach to nausea and anorexia following anti-TB medication use	37.6
14	Best evaluation of neonate of a nursing mother who is smear+	34.7
15	Proper diet to smear + pulmonary TB patient	43.2
16	Proper approach in a suspected TB case having 2 positive smear test out of 3	37.6
17	Follow-up of patients during treatment course	36.2
18	Concept of direct supervision on treatment	75.9
19	Method of diagnosing TB in children	49.1
20	Proper approach to a smear negative patient that becomes positive during treatment	46.5

Table 3: Relative frequency distribution in different levels of knowledge and attitude

Variables	Level	Percentage (%)
Knowledge	Satisfactory	1.8
	Unsatisfactory	98.2
Attitude	Assenting	89.1
	Discordant	10.9

The data were analyzed using SPSS software. Statistical tests of t-test, K^2, Anova, Wilcoxson, Kruskal-Wallis, Raspirmen, and Pearson coefficient of correlations were used. In order to show the simultaneous effect of several independent variables on the level of knowledge and attitude, multi-variable linear regression test was employed. $p<0.05$ was considered significant.

RESULTS

The mean age of the physicians under-study was 35.75±7.6 years old (The minimum and maximum ages were 27 yrs. and 79 yrs. respectively). Also, 31.6% of them had records of attending previously held TB seminars. Other specifications are noted in Table 1. Meanwhile 66% of the physicians reckoned TB as a major world health issue. Furthermore, 75% of them regarded this disease as an important problem of Iran.

About 60% of the physicians agreed to the fact that all the individuals are susceptible to TB. Meanwhile 80% of them believed that physicians are responsible for the appearance of MDR in the society, and 76% were against the incomplete treatment of TB. Table 2 shows the percentage of correct answers to the knowledge questions. In regard to more important and vital points, 27.1% of physicians believed that the best strategy for fighting TB was DOTS.

It was observed that 40.9% of them chose the sputum smear test (performed 3X) for the diagnosis of TB. At the same time, cough more than 3 weeks duration (which is the commonest symptom in a suspected TB case) was selected by 27.1% of the physicians.

The concept of MDR was clear to only 36.2%. About 43.2% pointed towards a proper therapeutic regimen. The mean for the "level of general knowledge of NTP" was 46.53±13.53. The mean for the "level of specific knowledge in the case of diagnosis and case detection" was 43.88±19.34, while the mean for the "level of the specific knowledge in regard to treatment and follow-up" had been 48.54±14.7.

There was a significant negative linear correlation between age and knowledge as r=-26%, p=0.0005. Also, the same relation existed in case of general knowledge and duration from medical graduation in the form of r=-0.22%, p=0.0005.

However, in case of knowledge and attitude of physicians, a positive linear correlation existed r=0.3, p=0005.

In case of multivariate linear regression model, past records of attending TB seminars, working in governmental sectors, age and being informed of the most important approach for fighting TB were considered as significant independent variables of the "level of knowledge". Meanwhile having information regarding the most important approach for fighting TB and previous records of working in governmental sectors were considered as significant independent variables in case of "level of attitude".

DISCUSSION

In this research, 66% of the physicians believed that TB is still a major health issue in the world.

Nearly with the same percentage, it is assumed that "any person who breathes has the chance of acquiring TB". In other words, these two questions completed each other. On the other hand, 80% had confidence that physicians had a role in the appearance and development of MDR. In fact, those who had reached this judgment were against the "incomplete treatment" of TB patients. On the other hand, the percentage of physicians who accepted the fact that treatment must be supervised by direct observation had a clear concept of "direct observation on treatment" (75%).

About 75% of the physicians considered TB as a serious topic and threat in Iran, while in a study conducted in South Korea in 1993, only 39.4% had such a belief regarding TB in their country (6). Meanwhile a research carried out in Karachi showed that only 21.3% of the family physicians did not consider TB as a serious threat for their home land. This result was similar to ours (7). It was also noted that only 27.1% of our physicians were familiar with DOTS. In a study conducted in Gorgan City in 2001, about 42% of the physicians were acquainted with DOTS (8). The study conducted in Gorgan City was carried out on all groups of physicians including general physicians, specialists, private workers, and those working in governmental sectors. Only 27.1% recognized cough of more than 3 weeks duration as the main symptom of TB. This could explain the statistical difference of "diagnosed TB" present between our data and that of WHO estimation. Moreover, 40.9% of the physicians considered the sputum smear test (3X) as the basis of diagnosing TB. In the research conducted in South Korea this figure was 39% (6). Meanwhile in the case of study carried out in India in 1997, only 12% of the physicians counted on smear test as a diagnostic procedure (9).

In case of a proper therapeutic regimen including its duration and combination, 43% gave correct answer. The physicians participating in the Bombay study in 1989, recalled 80 different types of prescriptions (10). In a research conducted in Karachi 11% of general physicians chose the proper and correct treatment (11). In an analysis carried out in Delhi, 29.4% of the participating physicians selected and prescribed "NTP based therapy" for the treatment of TB patients (9). However, in an investigation conveyed in Uganda in 1999, none of the medical centers had used the standard medical therapy (12). Meanwhile, the results of our study, compared to other investigations, showed that more number (and thus percent) of physicians chose the standard therapy, which could be due to the type of questions asked (MCQ's). However, in other conducted researches, only the type of suitable medicine along with its proper dose and duration was inquired.

As it was mentioned in the result section, the mean percentage of "attitude score" was 81.68±8.04, while that of "knowledge score" was 46.53±13.5. According to the grading performed, most of the physicians had an "assenting" attitude towards the National TB Programs (NTP), but only 1.8% had satisfactory knowledge. This is contrary to the view that initially the individual is informed (knowledge), which is later changed to attitude and finally transformed into practice. In fact, no one can insist on the fact that these three elements must follow one and other consecutively all the time. Actually, in most of the cases, an individual in order to adapt to social expectations changes his views and opinions. He even sometimes hides his outlook from others and tries to be what he is expected to be.

In fact by performing this research, the participating physicians believed that the topic under discussion is a very important one and; thus, directed their beliefs and views towards the same side and direction (13). Using linear regression model of physicians' knowledge, a negative correlation was detected with age. A significant positive correlation

was observed in cases of being familiar with DOTS strategy, attending TB seminars, and past records of working in governmental sections. Except with the second variable (i.e. being familiar with DOTS strategy), other coefficient variables were not very important.

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