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A DESCRIPTIVE STUDY OF THE KNOWLEDGE, ATTITUDES AND PRACTICES ON TUBERCULOSIS AMONG TREATMENT PARTNERS OF PEDIATRIC PATIENTS IN TARLAC CITY

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ABSTRACT

Objectives: This study aims to describe the knowledge, attitudes and practices towards tuberculosis (TB) among treatment partners of the pediatric patients seen at the out-patient department (OPD) of the Tarlac Provincial Hospital from August to October 2005.

Methods: A questionnaire-based survey was conducted to investigate the knowledge, attitudes and practices towards TB among treatment partners of pediatric patients (0 to 18 years old) seen at the OPD of Tarlac Provincial Hospital from August to October 2005. A pre-validated questionnaire, which consisted of 12 questions, was distributed to treatment partners of these patients. The chi-square test was used to compare different proportions and to test the association between the variables.

Results: Out of the 62 respondents, 35 (57%) scored "good" in their overall knowledge on TB. Sixty-one percent of the respondents had acceptable attitudes and practices toward the disease. Ninety-six percent of the respondents knew that TBs was a highly-infectious disease, but was curable. The main source of information about tuberculosis was the mass media (newspapers, television and radio) in 41% of the respondents. As regards the consequences of interrupted treatment, 69% of the respondents believed that complications would ensue, while 13% believed that patients would die from non-adherence to the TB medication. There was no significant difference in the proportion with good knowledge

disease and its presenting symptoms (57%) and acceptable attitudes and practices towards it (61%). There is still a need to strengthen the educational activities on TB through mass media; they are excellent venues for information-dissemination, thus, leading to better case detection.

INTRODUCTION

Tuberculosis (TB) has remained a major health problem worldwide, most noted in developing countries such as the Philippines. Despite the availability of effective drugs and the widespread use of the Bacille Calmette-Guerin (BCG) vaccine in 1993, the World Health Organization (WHO) declared TB as a global emergency. Around eight million new cases are diagnosed yearly, while more people are dying daily. In terms of the number of cases, Southeast Asia carries the biggest burden of disease. In economically-underprivileged countries, other contributing factors for the rise in the number of TB cases include: parasitic diseases, malnutrition, ignorance, superstition and overcrowding¹.

TB is one of the major public health problems in the country. It is the sixth leading cause of morbidity with a rate of 141.4/100,000 population. Data revealed that new sputum positive patients with treatment initiated by the local health unit is 81.9 per 100,000 population; there was a slight increase in the total TB cases compared to last year's report (153.7 per 100,000 population). For year 2002, the total number of TB cases registered was 155 per 100,000 populations which consisted of new sputum positive initiated treatment, old sputum positive patients being re-treated, and x-ray positive patients, for whom treatment was initiated⁴.

As of 2004, the province of Tarlac has a total population of 293,111 and based on its health statistics, cases of TB were quite significant; there were 6,719 new cases diagnosed both for the adult and pediatric populations⁵. The

Keywords: tuberculosis, treatment partners, pediatric patients, KAP

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between sexes, different levels of education and economic strata.

Conclusion: The treatment partners of the patients with TB at the OPD of the Tarlac Provincial Hospital showed good knowledge of the

Department of Pediatrics at the Tarlac Provincial Hospital diagnoses approximately 5 new cases per month in their out-patient clinic. These patients were accompanied by their caregivers, who we referred to as “treatment partners” in this paper. These treatment partners were directly involved in the patient’s treatment, such as bringing them to the clinic and administering the anti-TB medications at home. They were also the persons who attend lectures regarding TB and were given flyers during clinic visits. Throughout the treatment period, patients were scheduled to follow up monthly. Unfortunately, the DOTS program of the Department of Health did not extend to the pediatric population in this area.

In most of the TB-control efforts worldwide, clinical aspects of the disease received more attention than the human aspect. Previous studies had determined that the most important factors in the emergence of acquired resistance were people’s perception of TB and the patient’s non-adherence to anti-TB treatment. Research had also shown that improved communication between health care providers and the treatment partners, in the case of pediatric patients, contributed to better therapeutic outcomes.

This research, therefore, aims to describe the knowledge, attitudes and practices among treatment partners of pediatric patients diagnosed with TB at the OPD of the Tarlac Provincial Hospital from August to October 2005. It is hoped that factors, which hinder a better understanding of TB, shall be identified with the ultimate goal of improving the quality of case detection and therapeutic outcomes for TB patients in Tarlac City.

MATERIALS AND METHODS

Study Design

This is a descriptive study of the knowledge, attitudes and practices of the treatment partners of pediatric patients diagnosed with any kind of TB at the OPD of the Tarlac Provincial Hospital from August to October 2005.

Study Population

The target population for this study was the treatment partners of pediatric patients (0 to 18 years old) diagnosed, on follow-up, with TB at the OPD of the Tarlac Provincial Hospital. The

accompanying adults of said patients were interviewed. Those who acted as treatment partners, *i.e.* the caregivers, who were directly involved in the patient’s treatment, such as bringing them to the clinic and administering the anti-TB medications at home, were included in this study. Patients who recently completed treatment for TB were also included in the study. Excluded from this study were newly-diagnosed patients: those who were seen for the first time at the said clinic; and those patients not accompanied by caregivers.

Based on a five-year review of the hospital’s census, the OPD of the Tarlac Provincial Hospital had approximately 60 new cases of tuberculosis per year, 5 patients per month. This data became the basis for the number of questionnaires distributed during the entire period of this study.

Data Collection

A questionnaire-based survey to determine the knowledge, attitudes and practices about TB was conducted among treatment partners of pediatric patients seen at the OPD of the Tarlac Provincial Hospital from August to October of 2005. Ten percent of the target population was asked to answer the questionnaires for validation. The final questionnaire was revised based on the pre-validated questionnaire and preliminary data. The two-part questionnaire, translated in Filipino and consisting of 17 items, included information on the socio-demographic characteristics of the respondent, such as the gender, age, level of educational attainment, relationship of the treatment partner to the patient, and their monthly income. The knowledge of the respondents about TB was assessed on the following topics: presentation of the disease, modes of transmission, severity of the disease and its curability, diagnostic modalities used, and their sources of information about the disease. The attitudes and practices of the treatment partners were also investigated through questions about: causes of delay in seeking health care; the health facility visited to get initial care; and their thoughts on the consequences of not seeking help and not taking or interrupting medications.

The respondents were instructed to answer the questions on their own; with questions directed only to the author or the research assistant. Prior to the administration of the

questionnaire, the subjects were briefed on the objectives of this study.

Outcome

Every question was rated and a total score was obtained for the treatment partner's knowledge, attitudes and practices. The median score was, thereafter, computed. Those with a total score equal to or below the median were classified as having poor knowledge or poor attitudes and practices, while those above the median were considered to have good knowledge or good attitudes and practices.

STATISTICAL ANALYSIS

Descriptive statistics using measures of central tendencies were presented to evaluate the knowledge, attitudes and practices of the treatment partners regarding TB. The chi-square test was used to compare different proportions and to test the association between good knowledge, attitudes and practices towards TB and the different socio-demographic variables.

RESULTS

A total of 62 treatment partners were recruited as respondents to this study, of which 76% were female. With respect to the knowledge about TB, 35 out of the 62 treatment partners (57%) scored "good" in their overall knowledge about TB.

Socio-demographic Characteristics

The socio-demographic profile of the respondents and of those with good knowledge, attitudes and practices about the disease are shown in Table 1. Among the 62 respondents, there were 15 (25%) males and 47 (75%) females. Based on the median score obtained, 53.53% of the male respondents (12.9% of the sample population) and 57% of the female respondents (43% of the sample population) had good knowledge about the disease.

The mean age of the respondents was 36 ± 8.4 ranging from 19 to 51 years old. Better knowledge about TB was seen in the older age group (>40 years old) and in those who have higher levels of education (high school and college levels). Most of the treatment partners who were included in this study were parents (67.7%), thus they were more likely to have good

knowledge about TB than the other treatment partners, i.e. sibling, relatives and others. Thirty-one respondents of the sample population (50%) belong to those with monthly incomes of Php 1,000.00 to 4,999.00. Good knowledge of TB was, however, seen in those with monthly incomes of Php 5,000.00 to Php 9,999.00. Based on the statistical analysis done, there was no significant difference in the proportions of those with good knowledge and factors like gender and level of educational attainment. There was also no significant difference seen among respondents from different economic status. The same results were obtained comparing the attitudes and practices of the treatment partners (Table 2).

Table 1. Socio-demographic Characteristics and Good Knowledge Scores of the Treatment Partners of Pediatric Patients seen in Tarlac City.

Characteristic	Total Sample N=62 No. (%)	Good Knowledge No. (%)	Significance
<i>Gender</i>			
Male	15(24)	8(12.9)	$X^2=0.022$ df =1, NS
Female	47(76)	27(43)	
<i>Age</i>			
20-29 y/o	18(29)	10(16)	$X^2=0.033$ df =2, NS
30-39 y/o	15(24)	8(12.9)	
>40 y/o	29(46.7)	17(27)	
Mean (SD)		36(± 8.4)	
Mode		27.41	
<i>Level of Education</i>			
Primary	6(9.7)	3(5)	$X^2=1.24$ df =2, NS
Secondary	42(67.8)	20(32)	
Tertiary	15(24.2)	12(19)	
<i>Relationship to the Patient</i>			
Parent	42(67.7)	30(48)	
Sibling	3(4.8)	2(3)	
Relative	9(14.6)	3(5)	
No Relation	8(12.9)	---	
<i>Monthly Income</i>			
>Php 1,000	11(17.7)	1(2)	$X^2=2.93$ df =3, NS
Php 1,000-4,999	31(50)	15(24.1)	
Php 5,000-9,999	10(16.2)	4(22)	
>Php 10,000	10(16.2)	5(8)	

Knowledge about Tuberculosis

As regards the treatment partners' knowledge about TB, Table 3 shows that 96% were aware that TB is a highly infectious disease, while 96% believed that it is a curable disease. According to 41.9% of the respondents, knowledge and awareness about TB were obtained through mass media (television, radio and newspaper); 27.6%

through the hospital staff; 22.5% from lay persons and/or personal experience; 3% from leaflets and booklets; and 2% through lectures. Meanwhile, 85% of the respondents believed that TB is transmitted by respiratory droplets through coughing, while 61.3% believed it's through the use of patient's personal things such as utensils. The following symptoms were frequently noted on patients with TB: productive cough (56.5%), cough of more than 2 weeks (58%), fever of more than 2 weeks (46.7%), poor weight gain (50%), hemoptysis (43.5%), decreased appetite (33.8%), night sweats (30.7%), and body malaise (45.2%). According to respondents, diagnostic modalities for the detection of TB included chest x-ray (91.9%), sputum examination (45.2%), and PPD (17.7%).

Table 2. Socio-demographic Characteristics and Good Attitudes and Practices Scores of the Treatment Partners of Pediatric Patients seen in Tarlac City.

Characteristic	Total Sample N=62 No. (%)	Good Attitudes and Practices N=62 No. (%)	Significance
<i>Gender</i>			
Male	15(24)	10(16)	$X^2=0.05$ df =1, NS
Female	47(76)	28(45)	
<i>Age</i>			
20-29 y/o	18(29)	8(13)	$X^2=0.65$ df =2, NS
30-39 y/o	15(24)	10(16)	
>40 y/o	29(46.7)	19(30)	
Mean (SD)	36(+ 8.4)		
Mode	27.41		
<i>Level of Education</i>			
Primary	6(9.7)	2(3)	$X^2=0.31$ df =2, NS
Secondary	42(67.8)	18(29)	
Tertiary	15(24.2)	8(13)	
<i>Relationship to the Patient</i>			
Parent	42(67.7)	28(45)	
Sibling	3(4.8)	2(3)	
Relative	9(14.6)	6(10)	
No Relation	8(12.9)	2(3)	
<i>Monthly Income</i>			
>Php 1,000	11(17.7)	1(2)	$X^2=7.6$ df =3, NS
Php 1,000-4,999	31(50)	10(16)	
Php 5,000-9,999	10(16.2)	8(13)	
>Php 10,000	10(16.2)	9(14.5)	

Table 3. Knowledge of the Treatment Partners about Tuberculosis.

Knowledge Variable	Total Sample
	(n = 62) No. (%)
Knowledge of the Disease	
Yes	60 (96.8%)
No	2 (3.2%)

Tuberculosis is highly infectious	
Yes	60 (96.8)
No	2 (3.2)
TB is a curable disease	
Yes	60 (96.8)
No	2 (3.2)
Sources of Information	
Friends	14 (22.6)
Hospital S	17 (27.4)
Media (Radio, Television, Newspapers)	26 (41.9)
Booklets, Pamphlets	3 (4.8)
Lectures	2 (3.2)
<i>Multiple Response Questions:</i>	
Symptoms of the Disease	
Productive cough	37 (59.7)
Cough >2 weeks	39 (62.9)
Fever >2 weeks	46 (74.2)
Poor Weight Gain	13 (21)
Hemoptysis	22 (35.5)
Decreased Appetite	22 (35.5)
Night Sweats	16 (25.8)
Body Malaise	27 (43.5)
Routes of Transmission	
Respiratory route	53 (85.4)
Blood-Bourne	3 (4.8)
Physical Contact with Patients	7 (11.3)
Kissing	4 (6.5)
Use of Patients' Personal Things	38 (61.3)
Through Child Birth	2 (4)
Diagnostic Modalities for Tuberculosis	
Chest x-ray	53 (91.9)
Sputum Exam	28 (45.2)
Blood Examination	6 (9.7)
PPD	11(17.7)

Attitudes and Practices

In studying the attitudes and practices of treatment partners in Tarlac City, medical consult was immediately sought by 85.5% of the sample population, as soon as, symptoms were observed. Reasons for not seeking medical consult in 14.5% of the respondents were due to financial difficulties (54%); patients became better (22.2%); and self-medication (11.1%). Eight percent (8%) of the respondents would hide the disease from other people. Medical consult was done at the hospital (56.5%); at the local health center (45.2%); by a family doctor (27.4%); and a specialist/pulmonologist (27.4%). As regards the effect of interrupted treatment, 69% of the respondents believed that complications would set in; 60% believed that the disease would be transmitted to other people; and 13% believed that it would result to death.

Table 4. Attitudes and Practices of the Treatment Partners on Tuberculosis.

Variable	Total Sample (n = 62) No. (%)
Was medical consult sought?	
Yes	53 (85.5)
No	9 (14.5)
Reasons for the Not Seeking Medical Consult	
Became Better	2 (22.2)
Economic	6 (54)
Self-medicated	1 (11.1)
Would you hide from other people?	
Yes	5 (8.1)
No	57 (91.9)
<i>Multiple Response Questions:</i>	
Where was medical consult sought?	
Family Doctor	17 (27.4)
Pulmonologist	11 (17.7)
Hospital	35 (56.5)
Local Health Center	28 (45.2)
Traditional Faith Healer	1 (1.6)
Reasons for Seeking Medical Consult	
Productive Cough	35 (56.5)
Cough >2 weeks	36 (58)
Fever >2 weeks	29 (46.7)
Poor Weight Gain	31 (50)
Hemoptysis	27 (43.5)
Decreased Appetite	21 (33.8)
Night Sweats	19 (30.7)
Body Malaise	28 (45.2)
Consequences of not seeking consult/medications	
Complications from the Disease	43 (69)
Would transmit the disease to other people	37 (60)
Death	23 (37)

DISCUSSION

A knowledge, attitudes and practices (KAP) survey is a representative survey of a specific population to collect information on what is known, believed and done in relation to a particular topic, in this case TB. KAP survey data are essential to help plan, implement and evaluate advocacy, communication and social mobilization work¹⁷.

A questionnaire-based survey was conducted among the treatment partners, i.e. caregivers, of pediatric patients diagnosed with TB at the OPD of the Tarlac Provincial Hospital. Fifty-seven percent of the respondents scored good pertaining to the knowledge about the disease, and 61% had good attitudes and practices about it. There was no significant difference in the knowledge,

attitudes and practices between sexes, age groups, levels of education and different economic strata.

Most of the respondents were aware that TB is a highly infectious but curable disease. Despite this fact, a significant number still would not disclose if they were inflicted with the disease for fear of being excommunicated and left out. The relatively-poor outcome based on the knowledge, attitudes and practices among the respondents showed that there is a need to implement activities that would educate the public about the disease. These activities should put emphasis on the seriousness of the disease, the modes of transmission, the sequelae of treatment interruption and the curability of TB.

Based on this survey, the media, as well as, personal experience were successful means of disseminating information about TB. This survey also found that consults were sought mainly in the hospital and the local health centers. These were promising venues for better detection of TB cases—predicting better therapeutic outcomes for patients. This finding also indicated the need to strengthen health education activities through mass media and to foster collaboration between hospitals, local health center and the National TB program.

The respondents were aware of the different symptoms associated with TB. Despite this, the health-seeking behaviors of the respondents were not commensurate to their knowledge about the disease. As seen in other studies, knowledge was not the only factor that affected patient's health-seeking behavior or adherence to treatment, but his (or in this study's case, the treatment partners') attitudes and practices. This study found that in the pediatric population, the treatment partners' knowledge, attitudes and practices were important: they played significant roles in the adherence to anti-TB treatment, and thus in the prevention of complications and progression of the disease. In addition to knowledge, a number of factors also affected the attitudes and practices of these people, such as the stigma of the disease, their financial capacity, and health perception.

In a study assessing gender perspectives in TB-related knowledge, attitudes and practices in Sindh Province, Pakistan, knowledge on TB was generally poor, especially, among rural women

who were not allowed to freely visit health facilities unaccompanied. Social isolation and rejection, as well as, misconceptions on TB-transmission, contributed to the idea that TB is a disease to be feared. TB was considered a “death penalty” by most females, whereas others considered it dangerous but curable¹⁷.

In a study done in Cambodia, the delay in seeking TB treatment was explored. A total of 1,004 new, smear-positive, pulmonary TB patients over 15 years of age were enrolled in the project, while supporting data were collected at DOTS facilities in eight provinces.¹⁰ The study defined five different kinds of delay in TB care and treatment: total delay, patients’ delay, system delay and two components of system delay namely providers’ delay and services’ delay. The KAP survey identified the following factors that were associated with the longer delay in seeking TB care and treatment: residence located far from health facilities, lack of awareness or knowledge on TB, older age group, lower socioeconomic status, and cost of transportation and service fees.

A similar study done in Iraq, comparing the knowledge, attitudes and practices among patients with TB and health care workers¹¹, showed that the country’s national TB program had a good impact on the knowledge of the respondents.

Correct knowledge and positive perception of the community towards TB and its management is a prerequisite for them to seek early treatment. A study done in Mpwapwa district, Central Tanzania, on the knowledge, attitudes and practices with regards to TB and its treatment showed that TB was an important health problem. However, knowledge of the community on its cause was poor. This was likely the cause of delay in seeking treatment²⁰.

It was also found out that non-adherence to treatment for pediatric patients in Tarlac City were mainly due to lack of economic resources. The DOTS Program for TB was already being implemented in Tarlac City, but it only catered to the adult population. Extending the program to include the pediatric population may contribute to better therapeutic outcomes, thus preventing emergence of acquired resistance.

CONCLUSIONS/RECOMMENDATIONS

The Philippines is reported to be in one of the top 22 countries that are cumulatively contributing to the 80% of estimated TB cases globally¹⁶. The treatment partners of those patients with TB at the OPD of the Tarlac Provincial Hospital showed good knowledge (57% of the sample population) about the disease: its presenting symptoms; its infectiousness and curability; modes of transmission; and the diagnostic modalities needed for TB. Sixty-one percent of the respondents had good attitudes and practices with respect to the disease. The personal stigma and limited financial resources contributed to fair case detection and non-adherence to treatment, which led to the emergence of acquired resistance. The treatment partners’ knowledge, attitudes and practices played significant roles in the adherence to anti-TB medications, thus preventing the complications and progression of the disease.

Based on the results of this study, it would be favorable, in our present health situation, to include pediatric patients in the DOTS program of the government. It was also found out that there is still a need to strengthen the educational campaign on TB through mass media; because they are excellent venues for information-dissemination, there is a greater chance for better case detection.

It is highly recommended that this survey be extended to include the treatment partners from the rural areas to have a better picture of the knowledge, attitudes and practices of our population. A comparison with the health workers’ knowledge, attitudes and practices is also another area for research. Increasing the size of the sample population is also recommended.

Finally, there is a need to educate the public on TB and eventually extend the DOTS program to the pediatric patients in Tarlac City; this would ensure adherence to the anti-TB treatment and prevention of the emergence of acquired resistance.

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