

Random sample survey of knowledge, attitude and practices (KAP) about tuberculosis among parent of category -I pediatric patients

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Abstract: This human behavior study by random sample survey was conducted from 2013 – 2015 at Rajendra Institute of Medical Sciences, Ranchi, Jharkhand. It was done among the 40 parent of CAT-1 patients (RNTCP) at the time of admission or within 24 hours to avoid any bias due to hospital stay. This quantitative cross sectional study of Human behavior indicated that majority of parent of Cat-1 patients acknowledged shame (62.5%) but were indifferent about hiding their ward's condition (45%). 37.5% had an indifferent attitude towards their ward's illness. 52.50% acknowledge that TB affects their relationship with others. Prolonged fever (22.50%), Cough (20%), Cough with blood (15%) is considered as earliest symptoms by the parent. 65% will treat male child first but 45% prefer treatment for female child also.

32.50% & 30% will seek treatment from PP & government doctors respectively. But 35% were clueless about place from where to seek treatment. 55% say TB affects growth and development of child. 70% say that TB affects the chances of marriage of their child. 70% do not know TB can cause infertility in child especially female child. 50% are unaware that TB can cause serious complication. 62.5% of parent still considered TB a hereditary disease. 65% do not know whether TB can occur with touching or not? 65% agree that TB is long standing disease but only 30% know that vaccination for TB is available. 35% of parent thought that Long treatment for TB can harm patients. Only 35% agree that good drugs for TB are available.

Current KAP study among parent of CAT-1 patients tries to find out relation between awareness about TB among parent of CAT-1 patients admitted in tertiary care hospital and its relation to early identification and treatment of their children by DOTS strategy. Study also tries to find out deficiencies in knowledge among parent of serious TB patients to be addressed in RNTCP program implementation.

Keywords: TB, Human Behavior, Knowledge, Attitude, Practice

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I. Introduction

Tuberculosis, or TB disease, is a debilitating and usually life-threatening illness caused usually by the introduction of *Mycobacterium tuberculosis* through Respiratory route. The majority of TB disease presents in the lungs as *pulmonary TB*. TB disease may become manifest in any organ of the body. This is possible by passage of tubercle bacilli through the lymphatic and blood vessels. These manifestations are referred to as *extra-pulmonary TB*⁽¹⁾

Pulmonary TB, if left untreated, will kill half of all patients within 5 years and the majority of these within 18 months. India has one fourth of total global burden of TB. ⁽²⁾DOTS is the recommended strategy for treatment of TB and all diagnosed Pediatric TB patients are expected to be registered under RNTCP. Intermittent short course chemotherapy given under direct observation is advocated in the RNTCP. Improper and incomplete coverage by DOTS for treatment of tuberculosis in children is still a matter of concern. This may be due to lack of sufficient data to convince and motivate pediatricians for using DOTS. Children being most sensitive segment of society, bear the brunt of this situation.

Knowledge of TB among parent of children suffering from Category I illness could be a crucial factor for use of DOTS in disease control. It is expected that if person or the family members, who are facing the problem are more enlightened, success of tuberculosis control program in community is assured. Current study has been planned to know the knowledge, attitude & practices adopted by the family members of diagnosed TB affected children of CAT-1 in accepting DOTS treatment within reasonable period.^(2,3)

II. Material And Method

A questionnaire based survey for assessment of Knowledge, Attitude and Practices adopted by the parent and family members of patients admitted in Department of Paediatrics of Rajendra Institute of Medical sciences had been prepared and conducted from 2013 -15. A semi structured master questionnaire is prepared and field tested before use in actual practice. A preliminary version of the survey questionnaire had been composed and field-tested. The base questionnaire is inspired by survey questionnaire of Impact Assessment of RNTCP – II communication campaign on KAP of target audience in 12 States of India conducted by SEDC - Synovate for the Ministry of Health and Family Welfare, Government of India in Dec, 2009.⁽⁴⁾

Questionnaire was created to test knowledge of TB and preference for its method of treatment among parent. Result was based upon response of questions regarding Human Behavior, Knowledge about disease, about availability of drugs, individual risk perception, attitude and practices.

In present study, random survey was conducted among the 40 parent within 24 hours of admission to avoid any bias due to hospital stay. Interview was conducted in a conversational manner with all questions memorized by the interviewer and worked into the course of natural conversation without papers so as to minimize inaccuracy of data due to intimidation on the part of the person being interviewed. Responses were quantified and recorded later by the interviewers as numerical values on a response page. Interviews were conducted by pre trained doctors and nursing staff posted in department of pediatrics. Forty interviews were conducted over a period of forty eight months. Data was statistically analyzed by using Microsoft windows Software.

III. Result

K.a.p. Survey was conducted among parent of CAT-1 pediatric patients at the time of admission or within 24 hours to avoid any bias due to hospital stay for treatment under DOTS strategy. Most of them already had 1 or more consultation with quack or indigenous medicine practitioner or private practitioner or some local government doctor before coming to tertiary care hospital like Rajendra Institute of Medical Sciences. Participants had been explained about usefulness of DOTS treatment before initiation of therapy by the attending doctors.

The study covered 40 Parent of CAT-1 Pediatric Patients at the time of admission or within 24 hrs. of admission to avoid any bias due to hospital stay or any intermingling with other parent or patients admitted in ward for treatment.

This social behavioral research had been conceptualized as a process keeping in mind the need for flexibility.

The process has three components namely;

1. **Baseline;** where a Communication Needs Assessment of the target audience including KAP related to TB, their media habits and information sources used and preferred were collected.
2. **Tracking;** where impact of IEC strategy was tracked.
3. **Endline;** where IEC strategy was evaluated and changes in KAP may be recorded.^(5,6,7)

The present report of the Baseline Study aims to understand the KAP of parent of CAT- 1 patients present with their wards in hospital during their treatment & tried to assess the interest of the parent of CAT-1 patients.

Data-Analysis:

Table-1 shows 62.5% parent acknowledged shame but 37.5% had shown indifference to response from others.

Table -2 shows 45% are indifferent about hiding the diagnosis of TB. Acknowledge and denial is equal in their preference.

Table -3 shows that 52.50% acknowledge that TB affects their relationship with others.

Table -4 indicates that Prolonged fever 22.50%, cough 20 % and cough with blood 15% is considered as earliest symptom of TB with about 15% not sure about earliest symptom.

Table -5 shows that sex preference for starting treatment (when diagnosed with disease) is 65% preference for male.

Table -6 shows that 32.50 %, 30% will seek the treatment from PP & government doctors respectively. Still 35% do not know where to seek the treatment.

Individual perception risk--

Table -1 show that 62.50% do not know whether TB affects their relationship with others but 22.50% answer in affirmative.

Table -2 shows that 55% say that TB affects growth and development of child.

Table -3 shows that 70% still think that TB affects the chances of marriage. Only 5% say that it does not.

Table -4 shows that 70% do not know that TB can cause infertility. 25% say that it does not causes infertility.

Table -5 shows that 50% are unaware that that TB can cause serious complications. 35% say it does not complication.

Table -6 shows that 75% still do not know about its effect on pregnancy outcome. 10% do not think that it affects pregnancy.

Table -7 shows that 37.50% think that it affects relationship with friends and relatives. 30% do not know what to answer.

Table -8 shows that 62.5% do not know whether TB is hereditary disease or not? But 12.50% agree and equal no. of parent disagree that it is hereditary disease.

65% do not know whether one can get TB by touching. 10% strongly agree and 15% partially agree that one can get TB by touch.

65% agree that TB is long duration disease and 32.5% parent agree to some extent.

30% agree that one can get vaccinated against TB but still 20% do not know about any vaccination against TB.

35% disagree to some extent that long term treatment against TB can harm patients and 15% strongly disagree that long term treatment can harm patient.

But still 35% agree to some extent and 15% strongly agree that good drugs for TB are available.

IV. Discussion

Tuberculosis, or TB disease, is a debilitating and usually life-threatening illness caused by the respiratory entry of *Mycobacterium tuberculosis* complex (which includes three sub-types) into the body. The majority of TB disease presents in the lungs as *pulmonary TB*. But it can also become manifest in any organ of the body. These manifestations are referred to as *extra-pulmonary TB*.

The actual global disease burden of childhood TB is not known, but it has been assumed that 10% of the actual total TB caseload is found amongst children. Global estimates of 1.5 million new cases and 130,000 deaths due to TB per year amongst children were reported. *However these figures appear to be an underestimate of the size of the problem.*

Pulmonary TB, if left untreated, may kill half of all patients within 5 years and the majority of these within 18 months.^(1,2)

Childhood TB prevalence may indicate four of the following stages in society:

1. Community prevalence of sputum smear-positive pulmonary tuberculosis (PTB)
2. Failure of TB control strategy of the World Health Organization with Age-related prevalence of sputum smear-positive PTB globally.
3. Prevalence of childhood risk factors for disease.
4. Stage of epidemic

Children can present with TB at any age, but the majority of cases present between 1 and 4 years. The maxim is that – the younger, the earlier and the more disseminated. It is a known fact that Proper identification and treatment of open infectious cases will prevent childhood TB. However childhood TB was accorded low priority by National TB Control program. This situation created increased morbidity and mortality among children below 5 years of age in India. The presence of tuberculosis in children indicates presence of open cases of tuberculosis in society, a fact which was largely neglected by the policy makers of tuberculosis control program. PTB in children ranges from Smear Negative PTB to smear positive. The PTB to extra-pulmonary TB (EPTB) ratio is around 3:1. The PTB prevalence is normally low between the ages of 5 and 12 years, but it increases in adolescence when PTB manifests like adult PTB (post primary tuberculosis).

It was realized in course of time that TB is major hindrance to social, economic & national development. Human life improvement is greatly affected by invasion of this disease. Naturally any government is worried about control and elimination of disease. Needless to say that many western countries have done this long ago. RNTCP is one such initiative taken by Government of India and WHO. RNTCP or the Revised National Tuberculosis Control Program is the State-run Tuberculosis Control Initiative of the Government of India. It incorporates the principle of Directly Observed Treatment-Short course (DOTS). This program provides free of cost, quality Anti-Tubercular drugs across the country through the numerous Primary Health Centre (PHC), CHC, District Hospitals, government health facilities and the growing numbers of the private-sector DOTS-providers.⁽⁵⁾ RNTCP is essentially a patient focused program and presently covers 600 million populations in the country. The program lays equal emphasis on creating a system that reliably cures the patient and moves beyond simply detecting cases. The program believes that cured patients act as one of the best motivators promoting case detection and patient adherence to treatment.

This study identifies the information needs and the preferred sources of the beneficiaries for receiving messages related to TB and to map Media habits/preferences of the Beneficiaries.

Symptoms

People were aware about the symptoms of TB. 45% were indifferent about hiding the diagnosis of TB but 62.5% of parent acknowledged shame in admitting TB.

Prolonged fever, cough or cough with fever and cough with blood was considered as earliest symptom of TB. 15% of respondents are still not sure earliest symptom of TB. There was male preference for initiating treatment for TB.

32.50% and parent will seek treatment for TB from PP or government doctors respectively. But still 35% do not know where to seek treatment. 62.5% do not know whether the disease is hereditary or not.

Myths about mode of Spread

Myths about mode of spread still exist. This study emphasized that about 15% of the parent were totally unaware of the mode of spread of TB.

Prone to TB

65% of parent surveyed do not know that whether one can get TB by touch or not. Though 65% agree that treatment of TB is of long duration and unsupervised treatment can harm patients. Only 15% strongly agree that good drugs for TB are available.

Those living in congested locality and unhygienic conditions and persons having low immunity were identified as potential TB victims by most of the respondents.

TB is curable

Majority of the respondents in both the categories feel that TB is completely curable and agreed that only medicine can cure TB completely. Majority also felt that once cured a TB patient can lead a normal life.

Treatment of TB

32.5% and 30% will seek treatment from PP or government doctors respectively.

Majority of the respondents preferred government hospital for seeking treatment for TB.

Cure

37.50% of parent thought that it affects relationship with friends and relatives. 75% still do not know its effect on pregnancy outcome. 70% do not know that TB can cause infertility.

Precautions

30% agree that one can get vaccinated against TB but still 20% are ignorant about vaccination against TB and its availability.

The respondents pointed out that covering face while coughing and using separate utensils was the major precautions that patients and their family took to control the spread the infection. They also opined that TB patient should be kept in isolation to prevent spread of infection.

Preference for system and place of treatment

Clear preference for treatment by Allopathic system of medicine and Government Hospitals and Private Practitioners emerged out of the study. Distance from residence, non-availability of medicine and unfriendly behavior of staff were stated to be the main causes for not preferring treatment in government Hospitals by the parent.

Gender bias/Stigma & Discrimination

65% of parent show gender bias and preference for early treatment of male child, when this question was poised to them subtly.

The responses of the beneficiaries reflecting gender bias and discrimination surprised us as gender equality has been widely propagated by social activists and officials repeatedly.^(4,5)

Maria Christina N. Bacay-Domingo & Anna Lisa Ong-Lim et al (2009) in her study tried 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. 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. Sixty-one percent of the respondents had acceptable attitudes and practices toward the disease. Ninety-six percent of the respondent understood 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 between sexes, different levels of education and economic strata.

It was concluded that the treatment partners of the patients with TB at the OPD of the Tarlac Provincial Hospital showed good knowledge of the disease and its presenting symptoms (57%) and acceptable attitudes and practices towards it (61%).⁽⁴⁾ This conclusion is slightly different from our study, where we still have a larger percentage of parents showing ignorance about TB. There is still a need to strengthen the educational, knowledge based activities on TB through mass media as they are excellent venues for information-dissemination, thus, leading to better case detection. In another study, British National Medical trust (BNMT) had been working with the government of Nepal to combat tuberculosis (TB) since 1967. One such intervention proposed was KAP (Knowledge, Attitude and Practice) study on TB. KAP studies were planned to assist in the program planning and monitoring as it provides important baseline indicators against which the program performance could be assessed.

The survey result showed that the overall knowledge about TB was low in the study communities and people also had misconceptions about the disease. For example:

- Overall, 26.1% had not heard about TB
- A sizeable proportion of respondents (21.8%) still did not know that TB could be cured with the help of appropriate dose of medication
- Nearly one-quarter of (23.3%) respondents did not know about the availability of TB drugs in the public health institutions
- More than one-third of the respondents (about 35%) did not know about the cost of treatment.⁽⁶⁾

These findings indicated the need of implementing more educational programs in the district so that people have correct knowledge about TB. Many similar findings are also present in current study done in the year 2009. These findings strongly advocate need of recasting mass-media activity regarding tuberculosis control program in our region. The attitude and practices of parent are not very different from findings of Nepal study.

D. Mariani, R. Gcaba, J. Dalton et al in Survey on Knowledge, Attitude and Practice (KAP) on Professional Nurses Working at Primary Health Care Level in KwaZulu Natal in South Africa in April 2003 had shown following result-

- After one year from the course, the knowledge of TB and STD declined and was not different from the knowledge of those who did not receive training.⁽⁷⁾ This shows the need of continuing Medical Education for Paramedical workers & Nurses.

Another study done in Peru in 2009 had surveyed Health community workers practicing in 30 clinical setting in eastern Lima with multiple-choice questions to assess knowledge of TB. Knowledge gaps included identification of patients at high risk for TB, assessment of treatment outcomes, and consequences of treatment failure.

The most commonly cited modifiable barriers were structural, including laboratory facilities and staffing of TB clinics, with 52.1% and 62.5% of HCPs, respectively, citing these as problematic. Findings of above mentioned studies are almost similar to our study.⁽⁸⁾

Current KAP study done in Jharkhand was to identify specific gaps in the parent of children already suffering from Cat-I TB. These parents could become potential ambassadors for dissemination of knowledge and could easily propagate the benefits of RNTCP and DOTS. They have tasted the fruits of those programs and are real beneficiaries. These actual case studies may have real impact in this tribal dominated region.

One limitation of this study was its small sample size and cross-sectional design; thus poor knowledge of parent of Cat-I patients cannot be interpreted as a cause of poor TB control. However these non-professional parent have much higher daily interaction with TB patients than physicians or nurses, who may only be present once a week at the health centre and their interpretation of situation is more authentic than of health service providers. Agreement with several attitude statements suggested areas for further inquiry. Further studies are needed to assess actual practices, such as how medications are dispensed or if masks are worn, and to assess whether poorer knowledge impacts these practices. Another limitation was that we did not have information about the content, frequency, structure, or details of the TB training program run by government for community and health workers.

Although the study lacked doctor and nurse participation, representation of parent was more enthusiastic. Lower knowledge among non-professional parent was not unexpected.

In general, knowledge about TB diagnosis and treatment in our surveyed population was fair; however, specific competencies in recognizing high-risk patients was lacking among parent of cat-1 patients, suggesting areas for

increased education. Parent's informed about lack of support and had different opinion about treatment implementation. They suggested the need for increased say and individual participation in TB treatment control programs within this community.

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