

ATTITUDES TOWARDS TUBERCULOSIS AND SOURCES OF TUBERCULOSIS-RELATED INFORMATION: STUDY ON PATIENTS IN OUTPATIENT SETTINGS IN SPLIT, CROATIA

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SUMMARY – Attitudes towards tuberculosis may have severe impact on individuals and their families as well as on the effectiveness of tuberculosis control programs. The purpose of this study was to describe these attitudes and explore the sources of tuberculosis information available to the general population in Croatia through a cross-sectional survey based on structured questionnaire using convenience sampling among 386 subjects aged 18 years and over. Data were stratified by sex, age groups, educational background, personal monthly income and contact with tuberculosis patient. Being near to a tuberculosis patient would be uncomfortable for 39.9% of respondents and 26.4% of subjects would avoid any contact. If they were sick of tuberculosis, 9.6% of respondents would keep it from the society. Less than 10% of study subjects would be ashamed of their own or potential tuberculosis in their family. Almost twice less subjects with high education would hide the disease ($P=0.049$), or be ashamed if sick in comparison with less educated respondents ($P=0.036$). The subjects who were not in contact were less likely to feel uncomfortable about being near to a tuberculosis patient ($P=0.042$). As the source of tuberculosis information, 61% of the subjects reported TV, radio and journals. Internet was the least used source (13.2%). The subjects in contact received information from the family or friends ($P=0.025$), while those without contact were informed through mass media ($P<0.001$). Study results revealed high stigma-generating attitudes towards tuberculosis. The strong potential of mass media capable of reaching different population groups should be used as part of the stigma-reduction strategies.

Key words: *Tuberculosis; Attitude to health; Social stigma; Croatia*

Introduction

Tuberculosis (TB), a disease estimated to be as old as humanity, even today, in the third millennium, presents an important global public health threat. We have been faced with devastating statistics related to tuberculosis impact on human well-being. World Health Organization (WHO) estimated that there were up to 9.4 million new cases of TB while 1.7 million people died from TB in 2009. Overall, one-third

of the world population are currently infected with TB bacillus¹.

TB has been and still is often considered a 'dirty disease', a disease of the poor and marginalized people². The consequences of stigma are remarkably similar in different health conditions, cultures and public health programs. Stigma related to TB has a severe impact on individuals and their families and on the effectiveness of TB control programs³. Attitudes towards TB, which may generate stigma, can prevent people from getting tested for TB. By delaying seeking care, these people may develop more serious problems, meaning they will be more difficult to treat and, as they remain infectious for longer time, being the source of infection in the family and community.

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Concerns about stigma and discrimination for TB make it more difficult for patients to continue with care because their fear of being identified as being or having been infected with TB hinders their access to health service. They may also have a delay in changing their behavior to avoid the spread of TB. Again, this can lead to serious symptoms and increased transmission⁴. Stigma can also lead to isolation from friends and family, loss of employment and exclusion from community activities⁵.

Public health professionals are increasingly interested in attitudes towards people affected with TB as one of common approaches to measuring TB stigma^{3,5}. Several studies investigated attitudes towards TB and related stigma that might impact prevention and treatment of the disease among different study samples, mostly in high incidence countries^{2,5-8}. Little is known about these issues in middle incidence countries where TB lost its position among the most important national health priorities.

So far, no surveys have been conducted on the public attitudes towards TB in Croatia. In this study, we intended to shed new light on the current attitudes towards TB. We tried to describe the source of information on TB available to the general population. These might be used to develop useful stigma-reduction strategies focused on general population as one of the approaches to TB elimination in a middle incidence country such as Croatia.

Subjects and Methods

Design and setting

This cross-sectional study was part of a larger study, where we investigated TB knowledge among general population, which is described in detail elsewhere⁹. Study population was the same in both researches. However, the objectives and results of these studies were different. The study was conducted during January-February 2007 in five offices of randomly selected general practitioners (GPs) in Split, the second largest city in Croatia with nearly 189,000 inhabitants¹⁰. The respondents were patients and members of their families who visited their doctor for some medical problem or need. The nurses explained the purpose of the study and administered anonymous questionnaire to the respondents to fill it in the waiting room while waiting

to be admitted by the doctor. The study was approved by the Ethics Committee of the Public Health Institute of Split-Dalmatia County.

Inclusion and exclusion criteria

The study included respondents above age 18 who were willing to participate and to give verbal consent. Health care workers, students of medical professions and people with a prior history of TB were excluded to avoid selection bias.

Instrument

A structured questionnaire was designed based on the experience of the first author concerning the Croatian people's considerations about TB and on the related surveys carried out in different countries. The questionnaire was pilot tested for clarity and consistency in patients of one randomly selected GP office over a one-week period and was modified accordingly. The results were re-tested after filling it to verify the answers.

The study instrument focused on the basic demographic data (age and sex), socioeconomic status (education, personal monthly income), and contact with TB patient. Attitudes towards TB were included in five questions, and four questions referred to the sources of TB information where multiple answers were allowed. The questionnaire consisted of closed questions (yes/no). It took 10 min to complete the questionnaire.

Data analysis

Attitudes towards TB and sources of information were stratified by sex, age groups (18-29, 30-39, 40-49, 50-59, 60-69 and ≥ 70 years), educational level (no schooling and elementary school, secondary school, high education with more than 12 years of formal education), monthly personal income (less than minimal net income, minimal to average net income and above average net income in Croatia in 2006) and contact with TB patient.

Difference between stratification groups were compared using t-test and χ^2 -test. Statistical significance was set at $P < 0.05$. Statistical analyses were performed using Statistica 7 program.

Results

Demographic and socioeconomic data

A total of 386 respondents, 153 (40%) male, mean age 44.4±17, and 233 (60%) female, mean age 40.4±15, were included in the study. There were no statistically significant sex differences according to age groups ($P=0.112$), level of education ($P=0.374$) and contact with TB patient ($P=0.449$); however, it was found for higher personal income in males ($P<0.001$).

Most individuals were in the 18-29 age group (27%). The most frequent level of education reported was secondary school (64%). More than half of the respondents earned monthly between minimal and average salary (58%).

Contacts with TB patient were reported by 43 (11.1%) respondents, of them 11 (2.9%) in the same household, 13 (3.4%) in the family, and 15 (3.9%)

Table 1. Demographic and socioeconomic characteristics of respondents ($N=386$)

Respondent characteristic	Number of respondents (%)
Sex	
Male	153 (39.6)
Female	233 (60.4)
Age group	
18-29	105 (27.4)
30-39	68 (17.7)
40-49	94 (24.5)
50-59	58 (15.1)
60-69	35 (9.1)
≥70	23 (6.0)
Level of education	
No schooling and elementary school	32 (8.3)
Secondary school	247 (64.0)
Higher education	107 (27.7)
Personal monthly income (€)	
≤Minimal salary (246)	67 (20.8)
Minimal-average (247-630)	187 (58.1)
Above average salary (>631)	68 (21.1)
Contact with TB patient	
Yes	43 (11.1)
No	343 (88.9)

Table 2. Attitudes towards tuberculosis

Attitudes towards tuberculosis	Respondents, n (%)
I wouldn't feel comfortable about being near to tuberculosis patient	154 (39.9)
I wouldn't touch or shake hand with tuberculosis patient	102 (26.4)
I would hide my tuberculosis	37 (9.6)
I would be ashamed of my tuberculosis	32 (8.3)
I would be ashamed of tuberculosis in my family	30 (7.8)

among other contacts. Four respondents had contact with two TB patients. Stratified demographic and socioeconomic data are shown in Table 1.

Attitudes towards TB

Being near to a TB patient would be uncomfortable for 39.9% of respondents. Contact (touching, handshaking) with TB patient would be avoided by 26.4% of respondents. If sick of TB, 9.6% of respondents would keep it from the society. Less than 10% of the subjects would be ashamed of their potential TB and almost the same percentage of subjects would be ashamed of potential TB in the family (Table 2).

With regard to the attitudes towards TB, there were no significant differences among the respondents according to sex and monthly salary.

Subjects of younger age were more likely to hide the disease than older subjects ($P=0.006$). Almost twice less subjects with higher education would hide the disease ($P=0.049$), or be ashamed if sick in comparison to less educated respondents ($P=0.036$).

The subjects who were not in contact with TB patients were less likely to feel uncomfortable about being near to them ($P=0.042$).

Sources of TB information

The most common source of information (61.1%) were mass media (TV, radio and newspapers). Internet was the least used source to get some TB information (13.2%) (Table 3).

Considering the sources of information, there were no statistically significant differences according to sex, age and level of education. Those respondents

Table 3. Sources of tuberculosis information

Sources of tuberculosis information	Respondents n (%)
TV, radio, newspapers	236 (61.1)
Internet	51 (13.2)
Health care service	157 (40.7)
Family, friends	91 (23.6)

with salary higher than average were better informed through TV, radio and newspapers ($P=0.013$). Contact with TB patient showed significant correlation with the sources of information. Subjects who were not in contact were twice as likely to be informed through TV, radio and newspapers ($P<0.001$). Unlike them, respondents who were in contact received information from family or friends ($P=0.025$).

Discussion

This is the first survey assessing attitudes towards TB and sources of TB information in Croatia. To the best of our knowledge, this was one of rare studies performed in middle-TB incidence countries in recent years in English literature, especially in Europe. The initial assumption of the authors was that there were attitudes towards TB in general population, which generate serious stigma for TB patients. Opposite to other studies, where TB patients^{5,8,11} or health care workers^{2,7} were mostly included, we focused our research on the general population.

Attitudes and sources of TB information were analyzed in a sample of patients in Split, sociodemographically consistent with the national household survey conducted in 2001 in this county¹⁰.

The findings are limited to urban sample of the second largest city in Croatia. Moreover, the city of Split has been the most developed part of the Split-Dalmatia County. It is necessary to point out that Split is the capital of Split-Dalmatia County with a long-standing favorable epidemiologic situation in TB control compared to other Croatian counties^{12,13}.

It should also be noted that average monthly personal income assesses the economic status in a different way than average monthly family income divided by the number of family members (data not considered in this study).

This study resulted in high stigma generating attitudes towards TB. A significant proportion of the respondents would be uncomfortable being near to TB patients and they would avoid physical contact such as touching and handshaking. This is in accordance with other similar studies⁴⁻⁸.

Interestingly, the situation changed when the respondent was a subject with potential TB, with less than 10% of them stating they would hide TB, be ashamed of their own potential TB or TB in their family. They would probably ask for or need social support and understanding. These reactions could be explained by common human behavior in stressful situations, such as TB as a stigmatized disease.

Attitudes towards TB, which generate stigma, were negatively related to the highest level of education. Highly educated people would be twice less ashamed if sick in comparison to the less educated respondents. This is not a surprising finding since a higher TB knowledge score (transmission and contagiousness included) has been associated with a higher education level after excluding other demographic or socioeconomic factors, as shown in our previous research and other researches^{7,9,11}. Gaps in the knowledge about the disease etiology and transmission could contribute to severe misconceptions (such as TB as inherited disease, transmission during brief contact, spread through touching or sexual intercourse), which can lead to social stigma among patients and their families. Fear from causal transmission, willingness to interact with affected individuals and moral values of blame, shame, responsibility, guilt, punishment and judgment are probably responsible for stigmatization of TB patients⁸. However, the reasons for these attitudes were not the objective of this study.

This undoubtedly points to the need of increasing education activities in the general population, focused and adjusted especially to less educated groups of the study population. Increasing knowledge is one of the approaches in stigma-reduction activities¹⁴. The main component of stigma is fear from infection. Better knowledge leads to less fear and less stigma.

So far, there has been no media-based health education on tuberculosis, which can be a powerful tool to provide basic information on the earliest symptoms of TB and contagiousness of TB patient as well as on the prevention of TB spread. Most often, the only

way to hear about tuberculosis in Croatian media is celebration of the World TB Day, which is marked mainly by official reports containing data on TB notification rates that are hardly understandable to the general population.

Despite these facts, most respondents chose TV, radio and newspapers as a source of information, especially those with a salary higher than the average. In the light of the fact that media are very often sources of different health information, there is a potential in the media for health education that should be used more^{15,16}.

Low use of Internet as a source of TB information in comparison to other sources of TB information suggests a limited, but not to be neglected, potential of education of computer-literate individuals. Although Internet can be used in health education, as one half of the Croatian population are Internet users¹⁷, more accessible media such as TV, radio and newspapers should be used primarily. Less than half of the respondents were informed through health care service. In the GP waiting rooms, one can usually see messages or posters of pharmaceutical companies and far less often educational materials of the Ministry of Health and Social Welfare or similar sources. All health care workers should act as destigmatizers in personal communication with TB patients, their families and contacts. There are places and needs for educational materials (brochures, flyers, posters, etc.) related to TB focused on correct fact about transmission and contagiousness with positive messages regarding successful cure and social support.

As shown in one study, one mass media health education campaign led to a 64% increase in the number of direct smears processed by laboratories and 52% increase in the number of new cases of positive pulmonary TB as compared to the previous period¹⁶.

Contact with TB patient showed significant correlation with sources of information. Respondents in contact received information usually from family or friends. Non-stigmatizing attitudes towards TB among relatives and friends of TB patients may be a helpful tool in beneficial social environment and a noteworthy support for their cure.

This is in line with recommendations of advocacy, communication and social mobilization activities promoted by Stop TB Partnership, which supports im-

plementation of the new WHO Stop TB Strategy¹⁸. One of the purposes of communication is to increase knowledge about TB in the general population. Information, education and communication activities focused on family and friends of TB contacts should be the task of every health professional working with TB patients. These activities should be supported with social mobilization of communities and civil societies^{19,20}.

In conclusion, TB has a profound stigma and this may result in delays of accessing care and barriers to treatment success. Information on stigma and social environment of TB patients are important for understanding patient dynamics, its effect on the disease, and odds of successful treatment outcome. Social support as a facilitator and stigma as a barrier are diametrically opposed concepts that show the need for information on TB care and treatment⁷.

Analyzing TB-related social stigma as a social process enables better understanding of the key social structural factors in the organization of the health care system and identification of locally acceptable interventions to reduce stigma. There is growing recognition that attention to knowledge and social behavioral factors regarding TB control is needed⁷.

It is necessary to stress that no gold standard exists for measuring TB stigma⁵. A more complete assessment of stigma in our study population would require developing a standardized, quantitative instrument or extensive patient interviews and qualitative analysis.

This study showed significant attitudes towards TB generating stigma. TB is still considered a shameful disease, i.e. attitude that may lead to a tendency to cause TB patients to hide their disease and avoid telling others about it. This first study of the attitudes towards TB and sources of TB information in Croatia might be a starting point to wider national population-based studies. Nevertheless, the findings undoubtedly stress the need to develop destigmatization strategies and favorable attitudes towards TB instead of avoidance or discrimination.

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Sažetak

STAVOVI PREMA TUBERKULOZI I IZVORI INFORMACIJA O TUBERKULOZI: STUDIJA BOLESNIKA U IZVANBOLNIČKIM SREDINAMA U SPLITU, HRVATSKA

A. Jurčev-Savičević

Stavovi prema tuberkulozi mogu snažno utjecati na bolesnike i članove njihovih obitelji, kao i na učinkovitost nacionalnih programa za borbu protiv tuberkuloze. Ovim se istraživanjem željelo istražiti stavove o tuberkulozi kao i izvore informacija o tuberkulozi dostupnih općoj populaciji u Hrvatskoj. Podatci su se prikupili presječnim istraživanjem slučajno odabranih 386 osoba starijih od 18 godina, a stratificirali su se prema spolu, dobnim skupinama, stupnju obrazovanja, prosječnom mjesečnom prihodu te kontaktu s oboljelim od tuberkuloze. U blizini oboljelog od tuberkuloze neugodno bi se osjećalo 39,9% ispitanika, a 26,4% anketiranih bi izbjegavalo svaki kontakt. Da obole od tuberkuloze, 9,6% ispitanika bi krilo svoju bolest od okoline. Manje od 10% ispitanika sramilo bi se svoje bolesti ili bolesti unutar svoje okoline. Skoro dva puta manje ispitanika s visokim obrazovanjem bi skrivalo bolest ($P=0,049$) ili bi se sramilo u usporedbi s manje obrazovanim ispitanicima ($P=0,036$). Ispitanici koji dosad nisu bili u kontaktu s tuberkuloznim bolesnikom manje bi se osjećali neugodno ako bi bili u njegovoj blizini ($P=0,042$). Kao izvor informacija o tuberkulozi 61% ispitanika navelo je televiziju, radio i novine. Internet je bio najmanje spomenut izvor (13,2%). Ispitanici koji su bili u kontaktu s tuberkuloznim bolesnikom informacije su primili od obitelji ili prijatelja ($P=0,025$), dok su se ispitanici koji nisu bili u kontaktu obavještavali preko sredstava javnog priopćavanja ($P<0,001$). Ovo istraživanje je pokazalo stavove o tuberkulozi koji doprinose stigmatizaciji tuberkuloznih bolesnika. Jaki potencijal sredstava javnog priopćavanja koja su dostupna različitim skupinama unutar opće populacije treba se primjereno iskoristiti kao dio strategije za smanjenje stigme.

Ključne riječi: *Tuberkuloza; Stav prema zdravlju; Društvena stigma; Hrvatska*

