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URBAN-RURAL DISPARITIES IN THE KNOWLEDGE, ATTITUDES & PRACTICES TOWARDS TUBERCULOSIS

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ABSTRACT

The study aimed to explore the knowledge, attitudes and practices towards tuberculosis (TB) among the residents living in the urban and rural areas. The study was carried out in ten districts across Pakistan. The 1000 respondents aged 15 years and above, including 392 urban and 608 rural respondents, were randomly selected using multistage sampling. An in-depth interview was taken from the respondents. The chi-square test was used to test the association between the variables. The differences in knowledge, attitudes, practices and information sources between the urban and rural respondents were highlighted through multivariate analysis. The study reported poor knowledge and awareness among people regarding the symptoms, treatment and prevention of TB. The overall health seeking behavior of respondents was found unsatisfactory. Widespread stigmas and myths were prevalent among people obstructing the intended treatment of TB. People have strong faith on the treatment of TB by traditional and spiritual healers. This inclination was found more in the rural areas. Television was the main sources for getting TB related information in both the urban as well as the rural areas. The urban-rural inequalities suggests that the area of residence must be kept in view designing future interventions for TB prevention and control, resulting in successful implementation of the programs and policies. The study provides guidelines to conduct advocacy, communication and social mobilization (ACSM) activities as part of the broader TB control strategy.

Keywords: Urban-Rural Inequalities, Tuberculosis, Pakistan, Knowledge

INTRODUCTION

An estimated one-third of the world's population is currently infected with TB. Tuberculosis is one of the major health problems in Pakistan also. The situation is very alarming as Pakistan is ranked fifth in the high TB burden countries worldwide (WHO, 2010). Since the last decade steady progress has been made to improve the situation. The National TB Control Program (NTP) in the country assisted by WHO since 2001 has treated more than 1.5 million TB patients. The program is free of cost. There are 5800 diagnostic and treatment centres providing free TB testing and treatment services across the country. In 1991, WHO recommended treatment strategy for detection and cure of TB known as Directly Observed Treatment (DOTS) (WHO, 1994). Pakistan adopted DOTS in 1995 and TB was declared as a national emergency in 2001 (NTP, 2005). However, Pakistan's National TB Control Program failed to meet the target of 70% case detection and 85% cure by WHO, and still Pakistan is far behind to meet the MDG targets by 2015 (WHO, 2010). The major reasons identified by previous researches includes poor knowledge about the disease and wide spread myths, lack of awareness about the public facilities available for the treatment and prevention of disease, low health seeking behaviour among people, believes in other modes of treatment like spiritual healers etc. (Agboatwalla et al, 2003; Alvi et al, 1998; Ali et al, 2003; Khan et al, 2006; Liefooghe et al, 1995 and Mushtaq et al, 2010). This paper is a comparative analysis of

the knowledge, attitudes and practices regarding TB among the rural and urban population of Pakistan. Thus, the study served as a baseline for designing ACSM (Advocacy, Communication and Social Mobilization) activities in the country.

MATERIALS & METHODS

A cross sectional study was carried out in 2010-11. The data of the study was collected from ten districts across Pakistan namely, Karachi, Sukkar, Lahore, Gujranwala, Rawalpindi, Quetta, Pasheen, Peshawar, Mardan and Muzafarabad. This is a comparative study of the knowledge, attitudes and practices of the people residing in urban and rural areas of the country.

The target sample for this study was 1,000 people selected through random multi-stage sampling from ten districts of Pakistan. 100 respondents were randomly selected from each district. From each of the ten selected districts, two tehsils were randomly selected and from each tehsil, five union councils (3 rural & 2 urban) were randomly selected. One village from each rural union council and one electoral ward from urban union council were again randomly selected. The division of union councils is based on the rural-urban distribution of population in Pakistan (65:35). Out of the sample, 608 respondents belonged to rural areas and 392 were from the urban cities.

A semi structured interview schedule was developed according to the guidelines of WHO (2010). The interview schedule consisted of socio demographic questions (locale, age, gender, job status, education, family members, income level, type of family etc.), knowledge about TB (symptoms, mode of transmission, prevention, treatment, source of information and seriousness of disease), attitudes and practices (health seeking behavior, access to health facilities, consultation about the disease, relation of family and community members with the TB patients and stigmas about TB and TB patients).

FINDINGS

Socio-Demographic Characteristics

Out of the total sample of 1000 respondents, 39.2% belonged to urban areas whilst 60.8% were from the rural areas. Males were 69.0% and females were 49.0%. More than half (58.8%) of the respondents were in the age range of 25-45 years whilst 32.6% respondents were in the age bracket of 15 -25 years. The data shows that 17.8% respondents were illiterate, 20.7% were primary passed, 20.3% had the high school education, 25.4% had college degree and 15.8% had university education. The married respondents were 54.6% whereas 45.4% were unmarried. Mean persons per household were 6.32 ± 2.36 in the urban areas and 7.12 ± 2.67 in the rural areas. The average family size was 5 and 71.2% respondents were living in 2 rooms accommodation. About half of the respondents had monthly income up to Rs. 10,000. Out of total females in the sample, 58.5% were housewives, 18.8% were working on daily wages, 14.8% were in services (public and private jobs) while the rest (7.9%) were home based workers. Among the male respondents, 40.2% were in services, 5.8% had land and were involved in agriculture, 19.5% had their own business, 15.8% were daily wage workers and 18.7% were unemployed.

Knowledge about Tuberculosis

Symptoms

Cough with blood and fever lasting for more than 2 weeks were perceived by respondents as the most commonly held symptom for TB in both the urban (39.7%) and rural (36.6%) areas. Other symptoms reported by the respondents were cough lasting for more than 3 weeks

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(urban 29.8%, rural 21.4%), and weight loss (urban 20.3%, rural 20.2%). The high mean value (28.00) of respondents living in urban areas as compared to their counterparts residing in the rural areas (26.11) shows more knowledge about the TB among the urban residents and the results were also found significant at .001 (Table1).

Transmission and Prevention

The possible modes of transmission of TB identified by the respondents included by coughing/sneezing by the TB patient (urban 32.1% & rural 39.7%), eating in the same utensils (urban 27.1% & rural 23.4%), and touching items/things in the public places (urban 18.6% & rural 15.9%). The findings were found significant at .05 (Table 1).

The preventive measures for TB suggested by respondents were to avoid sharing same food utensils (urban 64.7% & rural 60.3%), washing hands and face after touching items in the public places (urban 37.8% & rural 36.5%) and no use of drugs (urban 25.3% & rural 25.4%). The value of chi-square shows no significant differences on the preventive measures suggested by the urban and rural respondents.

Treatment

The Table 1 shows that the respondents would prefer to go to government hospitals (urban 60.5% & rural 57.2%) followed by homeopathic/traditional healers (urban 25.4% & rural 31.0%) in case of TB. The data indicates that the respondents relied most on the medicines given by local doctors, pharmacists and lady health workers (Urban 51.3% & rural 56.8%); preference for DOTS was found more in the urban areas (20.9%) as compared to the rural areas (14.7%). The differences between the urban and rural areas were found significant. The study also shows that 43.6% urban respondents and 35.4 rural respondents assumed TB as a hereditary disease. More urban (49.2%) than rural respondents (41.6%) interviewed viewed TB as disease prevailing for a long duration and needs consistent treatment. Less than half of the urban respondents (42.5%) and 38.1% rural respondents were positive about the treatment of TB through vaccination. The findings about the knowledge regarding place of treatment of TB, nature of TB disease were significantly associated with the residence area.

Attitudes and Practices

Intended health seeking behavior

The health seeking behavior of respondents was found to be very low. About half of the respondents visit hospitals or health clinic only once or twice in a year. However, in case of being identified as TB patient, majority of the respondents said they seek treatment for TB immediately (urban 89.2% & rural 78.9%). The urban respondents were more aware of the availability of free TB health facility as compared to residents of rural areas (40.4% & 36.4%, respectively). The association of free cost of TB health facility was found significant with locale.

Stigma

The people living in the urban areas felt more ashamed and embarrassed if identified as a TB patient as compared to residents of rural areas (35.7% & 21.8%, respectively). Almost an equal percentage of urban and rural respondents felt helplessness or no helplessness in case of having TB. Most of the respondents were of the opinion that relationships of a TB person suffer a lot. There was not much difference in the opinion of the residents of urban and rural areas. However, the finding was not statistically significant (Table 1).

Three-fourth of the respondents believed that a TB patient is not an efficient worker and the work performance is severely affected because of TB. The respondents living in the urban

and rural areas were found close in thinking patterns. Almost half of the respondents were sure that marital relationships suffer because of TB and also there are less chances of getting married (Table 1). Most of the respondents, more living in urban areas would be sympathetic towards TB patients (67.9% & 62.1%). A small percentage of respondents would try to avoid, however, the percentage is high in the rural areas (Table1). The finding was found significant.

Most of the stereotypes are prevalent in the society related to female TB patients. The study also found that the respondents had more undesirable attitudes towards female patients. Nearly half of the respondents were convinced that TB damages the reproductive process and causes infertility among females. Similarly, female TB patients can't breast feed throughout their life, even after cure of TB.

Source of Information

The respondents identified television as the major source for disseminating information about TB (urban 60.8 % & rural 50.4%). Other sources of information included radio, billboards, doctors, friends etc. (Table 1).

DISCUSSION

In Pakistan, Tuberculosis is one of the major health concerns. Pakistan ranks fifth amongst the high TB incidence countries worldwide. Approximately 420,000 new TB cases are identified each year (WHO, 2010). WHO is supporting the National TB Control Program (NTP) in Pakistan since 2001 and the DOTS programme is working under the supervision of NTP. The DOTS is available at all public hospitals and health clines and is absolutely free and more than 1.5 million TB cases have been treated successfully. The current detection rate of positive TB cases is 63% and the treatment success rate is 91% (WHO, 2010). However, research has indicated that the facilities in the rural areas are not well adequate and sufficient enough to meet the requirements (WHO, 2010; Alvi, et al, 1998). Further, there is poor and not up-to-date knowledge about the treatment process. The people residents of both the urban and rural areas are not well aware of the DOTS programme and free treatment of TB in the country. People get frightened by the name of TB and mostly don't discuss with others, even with close friends (Khan et al, 2006 and Ali et al, 2003). Therefore, inspite of extensive efforts of NTP, the situation is not improving rather it is getting worse. Mfinanga et al (2003) reported that people had basic knowledge about the symptoms of TB and were not sure when actually to consult a doctor for treatment. The present study also found that most of the respondents were convinced that persistent cough or fever is the indications for checkup for TB. Wang et al (2008) have reported similar findings. The knowledge about the duration of treatment is also found limited as most of the respondents thought of TB as a disease longing throughout the life cycle (Khan et al, 2006 and Ali et al, 2003). The urban area respondents have comparatively better understanding about the disease. The awareness about a disease is a pre-requisite for treatment. The low level of knowledge and awareness are the actual reasons for high rates of TB cases in Pakistan. Infact, as the present study showed that the general health seeking behavior of people is not very positive, people used to visit health clinics once or twice a year and that too, not for routine check-ups, but in case of getting ill. Wandwalo and Morkve (2000) also recorded the same attitudes in Tanzania. People have strong believes in the local traditional healers and spiritual ways of healing, rather than visiting doctors/health clinics.

The situation gets more adverse because of stigmas prevalent about TB both in the urban and rural areas. The previous researches have also indicated stigmatization related to the treatment of TB (Armijos et al, 2008; Kelly, 1999; Macq & Martinez, 2006; Jaramillo, 1999;

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Baral et al, 2007). Majority of the respondents said that they would isolate themselves and would feel ashamed in case of being identified as TB patient. Respondents believed that although people would have sympathetic attitude towards TB patient, but infact, they try to avoid them (Long, 2001). Further, a strong perception was found among the respondents about the effects of TB on work performance. Lack of knowledge and awareness in this aspect actually adversely affects the work efficiency. Social stigma adversely affects TB patients and its consequences can be seen at home, in the workplace and the community. Hence, there is a dire need to create awareness among about TB and it will be a major milestone to be achieved by NTP in Pakistan, particularly in the rural areas. A mass level campaign must be designed to meet the targets. All the major stakeholders including media must be partners in this campaign. The study revealed that the major source of getting information is Television. This is very much true with low levels of literacy in the remote rural areas. In the urban areas also because of commercialization and to keep pace with the modern world, electronic media has become a vital part of life. Thus, mass media could play a vital role in creating awareness about the symptoms, treatment and prevention of TB (Jaramillo, 2001).

CONCLUSIONS AND RECOMMENDATIONS

The results of the study indicated unsatisfactory level of knowledge and unhealthy attitudes and practices regarding TB more in the rural areas as compared to urban areas. Pakistan now is at rank fifth among the 22 high burden TB countries in the world. No doubt, the situation raises question about the performance of National TB Control Program, but it's not only due to shortcomings of NTP, there are widespread stigmas and myths prevalent regarding the treatment and effects of TB across the country. These myths have turned TB into a social stigma. The stigmatization is a major hindrance in unwillingness of TB patients in getting in-time advice for treatment. (Ali et al, 2003). It's only in the last decade that researches have started exploring the knowledge, attitudes and practices of TB patients, Health Providers/Doctors and common people about TB. A lot more reserach is needed to identify the real gaps for devising future strategies. Urban-rural disparities and socio-cultural factors must be taken into account in planning future approaches (Khan, 2000). These factors play a vital role in the successful implementation of DOTS programme.

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APPENDIX

Table 1. Knowledge, Attitudes & Practices of Respondents by Locale

KAP Indicators	*Urban (%)*	*Rural (%)*	*P value ($\chi 2$)*
Symptoms of TB			11.34**
Rash	8.0	8.3	
Cough/Sneeze	29.8	21.4	
Coughing with Blood	39.7	36.6	
Severe Headache	8.2	6.0	
Nausea	4.9	3.2	
Chest Pain	22.7	25.0	
Short-ness of Breath	10.8	12.3	
Weight Loss	22.6	25.0	
Fever	24.9	27.8	
Fever ≥7 days	10.4	11.5	
Weakness	20.3	20.2	
Modes of Transmission of TB			5.211*
Hand Shake	7.2	7.5	
Eating in same Dishes	27.1	23.4	
Cough/Sneeze by TB patient	32.1	39.7	
Smoking	15.0	13.5	
Touching Items in Public Places	18.6	15.9	
Preventive Measures against TB			3.09
Avoid Shaking Hands	8.2	6.0	
Covering Mouth while Coughing/Sneezing	11.2	10.3	
Avoid sharing utensils	64.7	60.3	
Washing hands after touching items in public places	37.8	36.5	
Closing Windows at Home	22.1	21.8	
Having Good Nutrition	8.8	6.7	
No Drugs	25.3	25.4	
Treatment of TB			11.057*
Doctor/Pharmacy/BHU/LHV	51.3	56.8	
DOTS	20.9	14.7	
Herbal Treatment	18.7	20.2	
Others	9.1	8.3	
Place of Treatment			17.214*
Govt. Hospitals/Clinics	60.5	57.2	
Private Hospitals/Clinics	7.2	4.8	
Homeopathic/Traditional Healers	25.4	31.0	

NGO Clinics	6.8	7.1	
TB as Hereditary Disease			13.547**
Agree	43.6	35.4	
Disagree	34.9	38.5	
Don't Know	21.5	26.2	
TB Long Duration Disease			9.975*
Agree	49.2	41.6	
Disagree	33.7	39.3	
Don't Know	17.1	19.0	
Vaccination against TB			2.462
Agree	42.5	38.1	
Disagree	30.7	29.3	
Don't Know	27.5	32.5	
Visit to Health Clinic			12.678*
Once a Year	34.1	25.8	
Twice a Year	24.9	31.0	
Once in last Five Years	12.4	7.5	
Twice in last Five Years	23.4	28.2	
Not in last Five Years	5.2	7.5	
Free treatment of TB			3.040*
Yes	40.4	36.4	
No	20.5	25.9	
Don't Know	39.1	37.7	
STIGMAS			
Feel Ashamed			19.369**
Yes	35.7	21.8	
No	42.7	45.0	
Don't Know	21.6	33.2	
Feel Helplessness			1.756
Yes	48.3	48.2	
No	46.7	44.5	
Don't Know	5.0	7.3	
Effect on Relationships with People/Community			2.027
Yes	65.7	60.5	
No	22.9	26.4	
Don't Know	11.4	13.2	
Effect on Work Performance			4.497
Yes	75.4	71.4	

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No	10.2	15.5	
Don't Know	14.4	13.2	
Effect on Marital Relationships			5.278*
Yes	53.3	52.7	
No	26.2	20.5	
Don't Know	20.5	26.8	
Less chances of getting Married			4.095
Yes	55.9	52.7	
No	23.6	20.5	
Don't Know	20.5	26.8	
Infertility among Females			.600
Yes	43.0	45.5	
No	27.7	27.7	
Don't know	29.3	26.8	
Breast Feeding Aborted			3.543
Yes	40.3	46.8	
No	15.9	12.3	
Don't Know	43.8	40.9	
Reaction towards TB patient			2.677*
Sympathetic	67.9	62.1	
Avoidance	17.4	19.6	
Helpful	14.7	18.3	
Source of Information			17.230*
TV	60.8	50.4	
Radio	11.8	14.7	
Newspaper	3.3	7.9	
Billboards	2.4	3.2	
Doctor/Pharmacists	8.5	4.8	
Friends	11.1	16.6	
Religious Leaders	2.0	2.4	

*p<.005
**p<.001

Table 2. Summary of Differences in Knowledge, Attitudes & Practices of Respondents by Locale

KAP's Indicators	*Locale*	*Mean*	*Std. Deviation*	*N*	*F-value*
Knowledge on TB	Urban	28.00	7.708	392	
	Rural	26.11	7.187	608	
	Total	27.55	7.625	1000	10.361***
Health Seeking Behavior	Urban	8.98	2.427	392	
	Rural	8.75	2.350	608	
	Total	8.92	2.410	1000	1.532*
Health Care	Urban	1.38	1.302	392	
	Rural	1.39	1.143	608	
	Total	1.38	1.265	1000	.007
Stigmas about TB	Urban	4.88	1.855	392	
	Rural	4.81	1.699	608	
	Total	4.86	1.818	1000	.228
Attitude towards females	Urban	8.23	2.597	392	
	Rural	7.98	2.808	608	
	Total	8.17	2.649	1000	1.548*