

THE SOCIO-CULTURAL-PSYCHOLOGICAL MILIEU OF TUBERCULOSIS IN THE PHILIPPINE CONTEXT

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ABSTRACT

The socio-cultural context and psychological nature of tuberculosis – the knowledge, attitudes and practices (KAP) of patients with tuberculosis and symptomatic persons, household and community members, and health care providers – are discussed in this paper. The paper begins with a brief discussion of the magnitude of the tuberculosis problem in the Philippines. It then presents data on: (a) perceptions of community health problems; (b) awareness of community health programs and specific diseases; and (c) health workers' perceptions of priority health programs. Recent KAP studies on tuberculosis along with researches on the health-seeking behavior of tuberculosis patients and symptomatic persons within the Filipino context are also discussed. The paper ends with an action agenda for tuberculosis control in the Philippines.

A. Introduction

Tuberculosis has been referred to in literary works as "The Great Killer", "The Scourge" and "The Dreadful Plague". Charles Dickens described it as the disease that "medicine never cured" and "wealth never warded off". Despite the existence of tools for its diagnosis and cure, it remains one of the leading causes of mortality and morbidity in the world. Globally, 8 million new cases and 3 million deaths are reported each year, resulting in untold suffering on the part of patients, their households and communities, and society.

The greatest number of deaths due to tuberculosis occurs in Southeast Asia and the Philippines has one of the highest prevalence rates. Within the World Health Organization's Western Pacific Region (WPR), the Philippines has the highest incidence rate for all forms of tuberculosis (365.4 per 100,000 population). Of the 0.79 million tuberculosis cases in the WPR, China contributes 47.3% (375,481) of all new cases of all forms of tuberculosis and the Philippines ranks second (28.3% - 224,643 cases).

In 1988 tuberculosis ranked as the fourth leading cause of mortality, accounting for 8.3% of total deaths in the Philippines. In terms of morbidity, it was the fifth leading cause with a rate of 311.8 per 100,000 population. It is estimated that each person suffering from infectious or sputum-positive tuberculosis will "transmit the tuberculosis infection to an average of 10 persons in one year. approximately ten percent of these newly infected persons will become diseased within some years after primary infection, and fifty percent will become infectious. By the age of 14 years, almost thirty percent of children in the Philippines are already infected by the tubercule bacilli" [5].

Table 1. Regional Disparities: Poverty Incidence and Health Situation

<i>Region</i>	<i>Poverty Incidence (Percent)</i>	<i>Infant Mortality Rate (IMR/1000 live births)</i>	<i>TB Morbidity Rate per 100,000 popn 1988</i>	<i>Percent preschool children underwt. 1989-90</i>
PHILIPPINES	49.5	51.6	306.7	14.0
National Capital Reg.	31.8	35.4	170.0	10.8
I Ilocos	47.5	45.7	252.1	14.2
II Cagayan Valley	48.9	65.9	229.5	11.2
III Central Luzon	39.6	37.3	324.4	14.8
IV Southern Tagalog	49.3	41.0	309.3	14.4
V Bicol	65.3	53.9	739.2	19.4
VI Western Visayas	61.8	49.9	360.7	16.2
VII Central Visayas	54.6	41.9	178.1	14.8
VIII Eastern Visayas	60.5	65.9	275.5	16.7
IX Western Mindanao	52.0	99.1	346.7	11.3
X Northern Mindanao	51.5	77.4	263.0	9.4
XI Southern Mindanao	52.5	84.1	236.3	14.1
III Central Mindanao	47.1	101.3	386.7	11.3

Source: Tan ML. 1991.

As with deaths caused by other diseases, 60.6% of Filipinos who die from tuberculosis do not receive medical attention. The epidemiology of tuberculosis in the Philippines is characterized by disparities in the prevalence of the disease by region, by sex, by age groups and occupation. The data in Table 1 show the relationship which exists between the incidence of poverty and the morbidity due to tuberculosis. In general, the regional disparities in the incidence of poverty are reflected in the disparities in tuberculosis morbidity rates.

This paper presents a description of the socio-cultural context and psychological nature of tuberculosis in the Philippines. The discussion focuses on: (1) perceptions of community health problems and programs; (2) perceptions on causation/etiology of tuberculosis; (3) perceived sources of infection; modes of transmission of tuberculosis; and susceptibility to tuberculosis; (4) perceived signs and symptoms of tuberculosis; (5) health-seeking behavior of tuberculosis patients and symptomatics; (6) case finding/detection; and (7) prevention of tuberculosis. The paper draws mainly from the author's review of literature for her Clinical Epidemiology design thesis which is on qualitative approaches to health-seeking behavior of tuberculosis patients.

B. Perceptions of Community Health Problems and Programs

1. *Perceptions of Community Health Problems*

In the 1987 National Health Survey (NHS) [8], data are presented on people's perceptions of their health problems in the context of their communities. Nationwide, the lack of a regular supply of medicine and the expenses entailed in seeking medical care ranked first and second, respectively among the major problems cited by both urban and rural residents (Table 2). Over forty percent of the respondents cited the lack of health facilities, sanitary toilets, and health personnel as problems. Rural-urban differentials and the relative importance attributed to the different community concerns and conditions are evident in the data.

2. *Awareness of Community Health Programs and Specific Diseases*

A few studies [8, 4, 14] show that although many household members have heard of community health programs, their awareness of available health services and programs does not necessarily mean they utilized these services.

Of the nine most frequently mentioned health programs in the NHS survey, immunization (85.2%) was first and family planning (83.1%) second. The tuberculosis control program ranked eight (64.3%) which contrasts with the level of awareness of Filipinos regarding tuberculosis. Specific types of diseases and the percentage of households who expressed awareness of the diseases were: (1) tuberculosis (97.2%); (2) heart diseases (93.2%); (3) cancer (89.1%); (4) diarrhea (86.2%); (5) malaria (83.5%); and (6) schistosomiasis (28.2%). Tuberculosis had the highest percentage awareness among households and this correlates with the large number

Table 2. Percentage of Households who Perceive Selected Community Conditions as Health Problems, NIIS 1987

<i>Conditions in Community</i>	<i>Phil.</i>		<i>Urban</i>		<i>Rural</i>	
	<i>%</i>	<i>Rank</i>	<i>%</i>	<i>Rank</i>	<i>%</i>	<i>Rank</i>
Medicines not always available	66.0	1	49.4	1	76.0	1
Services too expensive	60.3	2	48.2	2	67.5	2
Lack of health services	46.7	3	28.6	3	57.4	3
Lack of sanitary toilets	43.8	4	33.6	5	49.9	5
Lack of health personnel	41.9	5	27.2	9	50.7	4
Health facilities too far	38.4	6	19.1	11	49.8	6
Inefficient drainage system	37.0	7	44.7	3	32.5	10
Inadequate garbage disposal	36.7	8	40.0	4	34.7	8
Inadequate water supply	31.3	9	28.2	7	33.1	9
Lack of transportation	29.6	10	13.0	12	39.5	7
Frequent occurrence of diseases	25.4	11	21.8	10	27.5	11
Pollution	17.3	12	27.3	8	11.4	12

Source: DOH 1990, National Health Survey 1987.

of respondents who reported having had the disease. Among the 13 geo-political regions in the country, Region 4 (Southern Tagalog) had the most number of persons who were aware of tuberculosis and the most number of persons who reported that they had the disease.

Tiglaio and Tempongko's [14] research which was conducted in Cavite reported that "only a small percentage (8.4%) realized the magnitude of the TB problem in their community when asked indirectly. When the question was asked differently, a higher proportion answered it as leading health problem".

The three major sources of information on health programs for both rural and urban areas in the Philippines which were reported by the respondents include [8]: (1) home visits/consultations with health personnel; (2) television, radio and movies; and (3) friends, relatives or neighbors. The first sources of information on tuberculosis control for urban were television, radio and movies; and for rural residents, home visits/consultation with health personnel. In Tiglaio and Tempongko's [14] study, TV and radio were also the most common source of correct information on tuberculosis. It appears that the role of health centers and schools in health education on tuberculosis has not yet been effectively tapped.

3. *Health Workers' Perceptions of Priority Health Programs*

Barangay health workers (BHWs) and barangay health midwives (BHM)s were asked by Sarmiento [12] the following question: "How do you rank the Tuberculosis Control Program in Comparison to other health programs in terms of preference?". On the average, the BHWs ranked tuberculosis control activities sixth. Twenty-eight percent of the BHWs ranked the National Tuberculosis Control Program (NTP) tenth and 22% as fourth in their priorities. For the BHM)s, on the average, tuberculosis control activities were fifth in their priorities; 27% ranked it as their last (i.e., 10th) priority. This shows that despite the successful integration of the NTP into the PHC (i.e., availability of tuberculosis control services at all levels of the PHC system), the health workers were not all that enthusiastic about actively pursuing their tuberculosis control duties. Sarmiento [12] hypothesizes on the possible reasons for the low priority which health workers assign to tuberculosis control activities:

Requirements of the program are considered to be onerous and much more difficult to comply with. In casefinding, there is a need for patients to be seen several times. Sputum collection as a procedure is not well accepted and they fear that they may get the infection in the process. For the treatment component, supervision of patients require them to do follow-up of defaulters in their homes which oftentimes are distantly located, to ensure completion of treatment. Likewise, collection of sputum 3x for the follow-up examination has to be done to determine its efficacy [12].

C. *Knowledge, Attitudes and Practices (KAP) on Tuberculosis in the Philippines*

This paper briefly reviews the results of twelve studies [2, 7, 5, 17, 18, 12, 16, 3, 4, 14, 10, 11] done on different aspects of KAP on tuberculosis in the Philippines. The review is not by any means exhaustive but it does present data from some of the more recent studies on the socio-cultural-psychological milieu of tuberculosis in the Filipino context.

1. *Perceptions on Causation/Etiology of Tuberculosis*

Awareness levels of patients on the etiology, mode of transmission treatment and duration of tuberculosis are generally low [11]. These findings are borne out by all the KAP studies reviewed in this paper.

The most common explanations for the etiology of tuberculosis among the respondents in four studies [2, 16, 14, 4] include: (1) "hot and cold" explanations; (2) heredity or genetic/congenital predisposition of contracting tuberculosis; (3) not taking good care of one's self or physical abuse (e.g., excessive drinking and smoking; fatigue; "over sex"; etc.); and to a much lesser extent, (4) the germ theory.

Mark Nichter's [3] research on tuberculosis in Bicol and Mindoro highlights the fact that:

The general image people have of "weak" lungs and TB influences their perception of illness causality. It is widely believed that these conditions are caused by phlegm drying or sticking to the lungs. This is incidentally the same image they have for the cause of bronchitis and whooping cough in children. Some people believe bronchitis, whooping cough or *trankaso* leads to weak lungs and TB [3].

The implications of these perceptions of tuberculosis for health education are emphasized by Ortega & Associates [4]:

Through the years of the government's efforts to disseminate information on tuberculosis, the people seemed not to have understood that there is a big difference between the etiology of tuberculosis and the predisposing factors which increase prevalence of the disease. . . . If it is clear to a person that TB is due to a tangible living microorganism which could be killed, avoided, and controlled, he would perhaps not lose hope when he or one of his family gets the disease. He would not blame his poverty, his neighbor who is sick, etc. for his illness. He can plan ways to avoid it, and not merely accept that is a God given or a hereditary thing [4] (emphasis added).

The idea that tuberculosis is caused by the tubercle bacillus appears to be an "alien" concept among Filipinos as was shown in the studies which were reviewed. This gap in knowledge represents a major challenge for health education.

2. Perceived Sources of Infection; Modes of Transmission of Tuberculosis; and Susceptibility to Tuberculosis

The respondents in Ortega's study [4] cited as sources of infection for tuberculosis (1) physical exhaustion; (2) poor body resistance; (3) unsanitary health practices; (4) not taking care of one's self; (5) blood transfusion; and (6) inhalation of cough droplets.

Perceived modes of transmission of tuberculosis include [2, 18, 4, 14]: (1) blood transfusion; (2) direct contact; (3) using personal belongings of tuberculosis patients; (4) eating leftovers of a person sick with tuberculosis/infected food and water; (5) inhalation of cough droplets of a tuberculosis patient; (6) garbage/poor environment; and (7) sexual contact.

Adults are generally perceived to be the age group most susceptible to tuberculosis. In Ortega's study [4], males and females were believed by most respondents to be equally susceptible. According to Sison-Castillo [16], however, it is perceived that "most often it is the menfolk who incur this illness because they

drink more regularly than women do". Statistics show that there is a higher prevalence of tuberculosis among males than females and among the adult population in the Philippines.

What is the importance of people's perceptions regarding sources of infection, modes of transmission and susceptibility to tuberculosis? If people are cognizant of the sources of infection and modes of transmission and perceive that they or their household members are at risk for developing tuberculosis, they might do something to lessen the risks of infection. Increased awareness and knowledge of the sources of infection and modes of transmission might, in turn, lead to improved recognition of signs and symptoms; and hopefully, this will lead to earlier, efficient and effective case finding/detection, treatment and cure.

3. Perceived Signs and Symptoms of Tuberculosis

The most common symptoms associated with tuberculosis and/or experienced by tuberculosis patients and symptomatics are [7, 5, 12, 16, 17, 4]: (1) cough (i.e., cough of a long duration and/or streaked with blood); (2) fever (i.e., recurring feverish states usually occurring in the late afternoon); (3) chest and/or back pain; (4) general feeling of malaise (i.e., weakness, fatigue or physical exhaustion); (5) unexplained weight loss; and (6) hemoptysis. Sison-Castillo's data [16] indicate that there are also emotional-psychological changes (e.g., irritability, sensitivity, phobia for cold baths) associated with tuberculosis.

4. Health Seeking Behavior of Tuberculosis Patients and Symptomatics

Upon experiencing various signs and symptoms associated with tuberculosis, how do patients and symptomatics respond? As seen in Table 3, patients and

Table 3. Actions Taken for Relief of Symptoms Associated with Tuberculosis

Actions Taken by Tuberculosis Patients	National Prevalence Survey (1981-1983)	Sarmiento (1990)	Ortega (1991) ¹	
			Rural	Urban
Self-medication	39%	31%	30%	13%
Co. sultation with private physician	25%	26%	65%	93%
Consultation in RHU/BHS	21%	24%	-	-
Consultation in hospital	10%	6%	-	-
Consultation with a relative who is a non-medical worker	-	-	7.5%	6.7%
Consultation with a traditional healer	-	-	5.7%	-
Other sources of relief ²	4%	13%	-	-

¹Multiple responses given. Data on tuberculosis patients not tabulated by Ortega and associates.

²Other sources of relief not specified

symptomatics attempt to relieve some of the symptoms they experience through different means. Usually they resort to self-medication and/or consultation with household members, relatives and friends. If self-medication does not work, the patient usually consults a doctor; if he/she has the means to pay for medical services, he/she consults a private physician. If the patient cannot afford a private physician, he/she will go to a government health center, usually the Rural Health Unit (RHU) or the Barangay Health Station (BHS).

The National Prevalence Survey further reveals that patients with varying degrees of tuberculosis take different causes of action:

Self-medication was minimum (17%) among bacteriologically confirmed TB cases, low (26%) for those with radiographic abnormalities suggestive of TB, and highest (43%) among those with symptoms but no evidence of TB. Of the bacteriologically confirmed cases who sought medical help, the highest proportion (34%) contacted private practitioners, followed by health centers (25%) and hospitals (21%) [5].

When asked what types of treatment they thought tuberculosis patients utilized, the majority of respondents (range of 71% to 96%) in Ortega's study [4] said that medical consultation and treatment were the preferred health-seeking behavior of tuberculosis symptomatics. This is in contrast to the findings of Tiglao and Tempongko [14] that "There were still some who would prefer the *herbolario* to discuss their illness with than the health personnel".

In Ortega's research [4], twenty-nine percent of the service providers, in contrast to only four percent of the tuberculosis cases/symptomatic persons (TBCs), and key informants, said that symptomatics resorted to self-medication. Faith and/or traditional healing is pursued by symptomatics according to five percent of both the TBCs and contact/non-contacts (CNCs). A very small percentage (range of 0.62 to 1.5%) of TBCs and CNCs said that symptomatics did not seek any treatment at all. Sixteen percent of CNCs do not know what actions tuberculosis patients take to seek relief for their symptoms.

Sison-Castillo [16] reports that mothers mentioned only one treatment for tuberculosis and this is to "give a purgative, such as castor oil, to help expectorate the phlegm". Tiglao and Tempongko [14] cite that 89% of their respondents believed that x-rays are cure for tuberculosis. Similar misconceptions and other Filipino folk remedies or treatments for tuberculosis along with diagnostic procedures utilized by traditional healers and/or faith healers need to be investigated further.

Table 4 highlights the fact that there is a delay ranging from a few weeks to over a year from the onset of symptoms to utilization of health services at the RHU and/or BHS by tuberculosis patients or symptomatics.

In a review of tuberculosis control programs in the Far East Region of the International Union Against Tuberculosis, Shimao [15] points out that "delay is a common problem in the Region. Tuberculosis is still regarded as a social stigma

Table 4. Duration of Symptoms and Utilization of Health Service

Duration of Symptoms	Study 1		Study 2		Study 3		Study 4
	No.	%	No.	%	No.	%	%
< 1 mo.	33	13.5	65	52.0	73	40.0	24.7
1-3 mos.	60	24.6	17	13.6	64	35.0	21.3
4-12 mos.	42	17.2	23	18.4	32	17.5	26.1
> 12 mos.	97	39.8	4	3.2	14	7.5	-
No Delay	-	-	-	-	-	-	27.9
No symptoms	11	4.5	-	-	-	-	-
DK/Can't Recall	1	0.4	16	12.8	-	-	-
TOTAL	224	100.0	125	100.0	183	100.0	100.0

Study 1. TB Patients (Valeza 1990)

Study 2. TB Patients (Sarmiento 1990)

Study 3. TB Symptomatics (Sarmiento 1990)

Study 4. TB Patients (TBCS 1991a)

and motivation of patients for symptomatic visits to health facilities is very often poor." The social stigma attached to tuberculosis in addition to the "non-cooperation of PHC staff to tuberculosis programmes" are viewed by Shimao [15] as contributing to delayed case finding.

To improve chemotherapy for individual tuberculous patients and the epidemiological situation in communities, delays in seeking medical care need to be substantially reduced. From the symptomatic person's perspective, some of the factors affecting the time interval between the occurrence of symptoms and utilization of health services are [5, 12, 10]: (1) perceived severity of symptoms; (2) non-awareness of symptoms; (3) perceived adequacy, accessibility and convenience of health services or treatment facilities; (4) self-medication; (5) availability and affordability of the services of traditional healers and/or private practitioners; (6) costs involved in seeking health care (e.g., consultation fees; transportation expenses; time off from work, etc.); (7) fear of being known as a TB case; (8) distance to health facility; and (9) personal reasons (e.g., "having no time or being lazy to take action"). Motivation or encouragement to consult at the health center could also affect patient delay. Only 13.1% of patients who consulted the health center in Valeza's [18] study did so of their own volition. Thirty-nine percent were advised by the staff of the health center; 20.9% by the barangay health worker (BHW) or local officials; 20.5% by relatives and friends; and 6.1% by private practitioners.

It is possible that a previous history of being on tuberculosis chemotherapy could influence the decision to utilize health services. In Valeza's [18] research among patients with on-going treatment, 29.2% of them had been on chemotherapy before. Of those who were newly initiated into treatment, there was an even higher percentage (48.2%) with a history of chemotherapy.

A recent study [10] on the factors influencing delay (i.e., patient, doctors/health facilities and total delay) in the diagnosis and treatment of tuberculosis showed that there was more delay in the rural (78.7%) than in the urban (58.3%) areas. Patients who were younger, better educated, and had professional jobs appeared to seek help earlier, thus resulting in less delay in diagnosis and treatment. Half of the 559 respondents first consulted private physicians and only 2% experienced delay (vs. 5.6% delay in urban areas and 7.4% delay in rural areas for patients consulting government health facilities). The very minimal delay for patients consulting private physicians was offset by the failure of private physicians to diagnose 31.1% of the cases as tuberculosis.

Little is known about how private physicians diagnose, treat and cure tuberculosis patients. This area warrants serious investigation, particularly with regard to the impact of private physicians' prescription and treatment practices on the development of drug-resistant cases of tuberculosis. There is also a need to generate data on: (1) the proportion of sputum-positive patients who are classified as drug-resistant; and (2) the rate of change of drug-resistant tuberculosis over time. Such information is necessary in the review of tuberculosis control policies (i.e., prescribing and treatment practices).

In Sarmiento's [12] study, some of the interactive factors which might affect health facilities delay and total delay are: (1) the distance of the collection center from the microscopy center and the workload of the microscopist, resulting in a delay in the issuance of sputum examination results which in turn causes delays in the initiation of treatment; and (2) the drug distribution scheme which causes a delay in the initiation of treatment and treatment interruptions. The erratic and usually insufficient supply of drugs was deemed a crucial factor affecting health facilities delay and total delay.

As a result of the lack of drug supply, the initiation of patients to treatment was delayed for approximately 20 days in Area A. Only 12% of health workers in this area were able to initiate patients to treatment on the same day the results were made known. About 30% of them had to wait for a month or more for their patients to be treated [12].

Case finding may be efficient, but if no drugs are available, then patients will probably not only delay seeking health care for their ailments but may also refrain from utilizing government health services. When no drugs were available, the health workers in Sarmiento's study [12] "asked the patient to wait for the drug supply to arrive (27.3%); placed the patient under the standard regimen (63.6%); or borrowed drugs from other patients (9.1%)".

5. *Case Finding/Detection*

Ortega's [4] respondents, gave different replies as to the method of case finding or detection for tuberculosis. Twenty-six percent of the tuberculosis case/

symptomatic persons (TBCS) said that tuberculosis could be diagnosed through chest X-rays only, while 21% of the TBCs and contacts/non-contacts (CNCs) said that a physical exam was sufficient basis for diagnosis. Among the upper middle class (UMCs) and key informants (KIs), a physical examination in combination with chest X-ray and sputum microscopy were identified as case detection techniques. For service providers (SPs), chest X-rays and sputum exams were perceived to be the methods of case finding. Knowledge on case detection was inadequate considering that from eight to eighteen percent of the respondents did not know how case finding takes place.

Sputum collection is the standard diagnostic procedure for tuberculosis in primary health care (PHC) centers, and yet, tuberculosis control services rank low in the priorities of the health workers. Sputum collection and supervision of chemotherapy are the responsibilities of the PHC workers and these are duties which they are not enthusiastic about.

There were still a big number of health workers as well as patients who did not accept sputum collection. The stigma attached to the disease was strongly felt by the patients, as evidence by their refusal to give a sample of their sputum. About 70% of the 56 health workers interviewed felt nauseated whenever they did sputum collection and 21% of them even feared that they might get infected [12] (emphasis added).

The negative attitude toward sputum collection of both health workers and patients alike might be lessened if the rationale behind the sputum examination is better understood. As the results of Valeza's research [18] show, "more than half (55%) of those who were advised to do a sputum exam do not know the purpose of sputum examination. Also, almost the same number (55.6%) do not know when to come back for the results".

Once a sputum examination and/or chest X-ray has been performed, results of the exams are usually not immediately known and a diagnosis is not readily available. This results in a delay communicating the diagnosis to patients.

A diagnosis was made on 43% of the TB symptomatics and 33% of the TB patients on the first visit. For 56.8% and 67.2% of them respectively, a diagnosis was made, either after a visit of at least two times. For 10% of them, they had to make 4 visits or more before a diagnosis could be given [12].

What diagnosis is given by the health worker to the tuberculosis symptomatic? In most confirmed tuberculosis cases, the patient is not directly informed that he/she has tuberculosis. Due to the stigma or negative connotation associated with the term "tuberculosis", health workers may euphemistically refer to a diag-

nosis of tuberculosis in the following manner [16, 17, 18]: (1) *mahina ang baga* (weak lungs); (2) *sakit sa baga* (disease of the lungs); (3) *may diperensiyang baga* (has defects in the lungs); (4) "positive" (i.e., referring to results of the examinations); and (5) *may spot sa baga* (i.e., the patient has spots in the lungs). In Valeza's study [17], "almost three-fourths (73%) labelled his illness as indirectly referable to TB...Only 13% said they have 'TB'. This corresponds with findings that 70% of health workers indirectly inform the patient that he/she has tuberculosis; 23.3% tell the patient that he/she has tuberculosis; and 6.7% of health workers inform close relatives [17].

In the related systems analysis and operations research conducted by Valeza and his associates [18] in the province of Quezon, the effects of using a cue card on the delivery of tuberculosis information to patients by nurses and midwives was illustrated. With the use of a cue card for patient education, the number of health workers directly informing the patient that he/she had tuberculosis increased from 23.3% to 64.7%. The knowledge of the patients in the pre-intervention group (system analysis) was inadequate compared to that of the post-intervention group (operations research). The level of knowledge in the post-intervention group as assessed by Valeza [18] improved with the use of the cue card by the health worker. The patient knew more about: (1) the communicable nature of tuberculosis; (2) duration of treatment; (3) importance of treatment completion; (4) dealing with adverse reactions; (5) the schedule of sputum follow-up; (6) the need for examination of household contacts; and (7) the need for BCG vaccinations for children.

A more recent study by the same group of researchers [11] re-emphasized the importance of having good interaction between the patient and the health worker. An accommodating attitude on the part of the health worker; treatment of the tuberculosis patient by a government vs. a private physician; giving adequate explanations about the nature and course of treatment; and regular follow-up of tuberculosis patients by the health worker were seen by the researchers as some of the factors contributing to improved compliance with short course chemotherapy for tuberculosis.

The respondents in Ortega's study [4] were asked what they would do if they had tuberculosis. Would having tuberculosis change their daily practices such as routine activities, work, eating and sleeping habits, and social life? The majority of respondents, except for the service providers (SPs), said they would change their routine activities if they had tuberculosis. Tuberculosis cases/symptomatic persons (TBCs) and service providers (SPs) said they would change their work habits, while contacts/non-contacts (CNCs), upper middle class (UMCs), and key informants (KIs) said that work would remain the same for them. Except for SPs who said that a change in eating habits would depend on specific circumstances, most of the groups said that they would continue their usual eating habits. Sixty-eight percent of the TBCs and 43% of the SPs responded that they would alter their sleeping habits. Another 43% of the SPs along with CNCs and KIs said

that things would remain as is. The majority of respondents did not anticipate alterations in their social life if they contracted tuberculosis. As the results show, perceptions of lifestyle changes associated with tuberculosis, both as a disease and as an illness, vary among the different groups of respondents. Yet it appears that sleeping habits and routine activities would generally remain unaltered for most respondents, except for the SPs. Generalizations across the categories of interviewees are difficult to achieve.

6. *Prevention of Tuberculosis*

In general, the respondents in Tiglao and Tempongko's study [14] knew that "TB can be prevented and cured and had a positive attitude about the effectiveness of the drug". Despite such knowledge, the authors cite that some misconceptions still persist, among which are that there is "no cure for tuberculosis once the patient had hemoptysis" or that "one is born with tuberculosis and that it is a consequence of bad or evil acts". Given such beliefs regarding the etiology and treatment of tuberculosis, what do people perceive as possible means of preventing the disease?

When asked what they thought could be done to prevent tuberculosis, participants in Ortega's survey [4] had different perceptions. Among tuberculosis cases/symptomatic persons (TBCs) and key informants (KIs), 22% and 18% respectively, thought that regular medical check-up or consultation would be a preventive measure. Twenty-six percent of the contacts/non-contacts (CNCs) said that avoiding contact with tuberculosis patients would be a good way to avoid contracting the disease. For upper middle class (UMCs) respondents, a variety of preventive measures could be undertaken (i.e., doing exercises; having plenty of rest; avoiding heavy work; avoiding contact with tuberculosis patients; and having regular medical check-ups). Ironically, more than half of the SPs (57%) thought that tuberculosis cannot be prevented. Other preventive measures which could be undertaken as perceived by different groups of respondents include: (1) eating proper/nutritious food; (2) proper hygiene/cleanliness; (3) no excessive smoking/drinking; (4) not taking a bath when tired; and (5) plenty of rest. As the researchers point out [4], none of the respondents mentioned BCG vaccination as a preventive measure. This is in contrast with the results reported in the 1987 National Health Survey (NHS).

In a follow-up question, Ortega [4] asked the participants in the study how they would avoid getting infected with tuberculosis. All groups of respondents (range of 34% to 57%) except for key informants (KIs), reported that they would generally keep away or avoid contact with tuberculosis patients. Thirty-three percent of the KIs said that they would not use the personal belongings of tuberculosis patients. Other self-reported practices to avoid developing tuberculosis include: (1) no excessive smoking/drinking; (2) eating properly; (3) observing personal hygiene; (4) consulting the doctor when one is sick; (5) taking care of one's self; (6) keeping the environment clean; and (7) isolating the belongings of

a tuberculosis patient. Despite the fact that "separating the personal things of a tuberculosis patient is no longer promoted in a TB control program" [17], many people still remember and practice this health education message.

Knowledge of preventive measures for tuberculosis was also investigated in the 1987 NHS. The best known preventive measure was avoiding contact with persons sick with tuberculosis (76%). The other preventive measures and the percent of households which knew of these practices were: (1) undergoing medical check-ups (53.4%); (2) observing proper nutrition; (3) giving BCG immunization to infants and children; and (4) other measures (16.2%). The results of the NHS [5, 7] and Ortega's study [4] again highlight the fact that tuberculosis patients still suffer from social stigma. Individuals who personally know tuberculosis patients may deliberately avoid contact with them because they believe that non-contact is an effective preventive measure.

Nichter [3] again provides interesting insights into the social stigma attached to tuberculosis as it relates to: (1) measures undertaken to prevent tuberculosis; and (2) social relationships of tuberculosis patients with their family and friends.

While the public is aware that TB is spread in the air and not just through contact with eating utensils, almost all their attention is given to isolating eating utensils and pouring boiling water on them with respect to home based prevention. Filipino culture precludes the social isolation of those with weak lungs or TB. . . . Regarding social stigma, TB is stigmatized in general, but interactions with relations and close friends does not seem to alter much. The issue of stigma appears to be sensitive with respect to public knowledge of one's health status and preference in how sputum is collected and medicine distributed [3].

Knowledge about prevention of tuberculosis, as with other aspects of the disease (i.e., etiology, symptomatology, transmission patterns, case finding) appears to be limited across the different study populations included in this review. Health education has a crucial role in narrowing the gaps between knowledge, attitudes and practices regarding tuberculosis among patients and health workers alike. The challenge of promoting behavioral change is made more difficult by the strong social stigma attached to tuberculosis. Unless such stigma is lessened, case finding and treatment of tuberculosis will perhaps always be delayed, thus resulting in more cases of relapse, drop-outs and failures.

D. *Action Agenda for Tuberculosis Control in the Philippines*

This paper concludes with some recommendations for action in the fight against tuberculosis in the Philippines.

It is often recommended that in order to lessen the gaps between knowledge, attitudes and practices with regard to particular diseases, it is necessary to

intensify health education efforts. The results of the studies reviewed in this paper support such a "prescription" (i.e., intensification of health education). But we have to go beyond mere "prescriptions" for more health education and should now identify specific targets for our efforts – health education for WHOM?, For WHAT?, HOW?, and BY WHOM? Health education should not only aim at promoting a better understanding of tuberculosis as a disease but also tuberculosis as an illness. An appreciation of the dual nature of tuberculosis is expected to contribute to efforts at controlling the spread of the disease.

Health education messages regarding tuberculosis should perhaps be directed towards the young and middle-aged groups along with the elderly. These age groups are particularly at risk for developing tuberculosis. Males are seldom, if ever, the focus of health education programs. But in the case of tuberculosis control, males constitute a more appropriate target for health education as the statistics show a higher proportion of male tuberculosis patients than female patients.

The public should be informed about the *importance of completing a course of tuberculosis drugs*; and about the *dangers of self-medication* particularly with regard to the potential development of drug-resistant tuberculosis. Compliance with long-term therapy, as is the case in tuberculosis, has always been difficult and health personnel need to be more persistent in their efforts at following up and monitoring the progress of patients undergoing tuberculosis chemotherapy. *Drug resistance should also be carefully monitored* at all levels of the primary health care system. Monitoring of drug-resistant cases of tuberculosis would enable program managers and field implementors involved in tuberculosis control to respond with the appropriate policies and treatment regimens.

Health education is not for patients and their families and communities alone. It is also for health workers (i.e., physicians, midwives, pharmacists, etc.) both in the public and private sectors. Hence, staff training is an important part of tuberculosis control efforts.

There is also a need to actively inform private practitioners and pharmacists (and their shop assistants) about the recommended protocol for tuberculosis control. Patients suffering from various signs and symptoms associated with tuberculosis often consult private practitioners and pharmacists (and their shop assistants). Hence, the strict adherence or compliance of private practitioners and pharmacists with the recommended treatment protocol for tuberculosis is imperative for the success of the tuberculosis control program.

How can health education on tuberculosis be best carried out? The data from the studies reviewed in this paper suggest that aside from personal contact with health workers, promoting health messages through various mass media (i.e., radio, television, etc.) appears to be an effective means of communication.

The responsibility for health education on tuberculosis ultimately rests on all of us. The reduction of the burden of illness caused by tuberculosis can only be brought about through the concerted efforts of each and every one of us. But

all efforts would be useless without a regular and adequate supply of drugs and reagents necessary for the diagnosis, treatment and cure of tuberculosis.

Appropriate legislation in support of a vigorous tuberculosis control program needs to be enacted. Such legislation would be aimed at regulating the sales of anti-tuberculosis drugs, such as isoniazid which is often prescribed as a tonic or vitamin for children.

In conclusion, it can be said that the nature of tuberculosis is such that it is both a disease (i.e., from a biomedical perspective) and an illness (i.e., from the patient's and society's perspective). Crucial to any attempts at controlling the spread of tuberculosis is an understanding of the biomedical context within which tuberculosis – the disease – is diagnosed, cured and treated along with the socio-cultural-psychological context in which tuberculosis -- the illness--is understood and lived with by patients, their households and communities. This paper hopefully provided some insights into the socio-cultural context and psychological nature of tuberculosis in the Philippines.

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