

National Tuberculosis Program in Rural Health Units of Buhi Camarines Sur

Jhunna Maguljado-Talangan

Camarines Sur Polytechnic Colleges

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ABSTRACT:

This study focused on the extent of implementation of the National Tuberculosis Program in Rural Health Units of Buhi, Camarines Sur. The researcher used the descriptive-correlational method. The main respondents of the study were the 303 TB patients enrolled in TB-DOTS and the 37 health care providers which were composed of two doctors, three public health nurses, 14 rural health midwives, 12 NDP's and six RHMPP's. The total enumeration of the health care workers and TB-DOTS patients was utilized in the study. The study covered the dates November 2017 to March 2018. Questionnaire- checklist was used as the main data gathering instrument supplemented with documentary analysis. Percentage technique, Weighted mean, Kendall's coefficient of concordance, Spearman rank and Chi Square were used as statistical tools after the responses from the questionnaire had been tallied, tabulated and analyzed.

Majority of the respondents are male, married, with family monthly Income of below Php 10,000 and no other family members diagnosed with PTB. Mostly are 41 to 50 years old, elementary undergraduate, and being a farmer as their occupation. Further, the National Tuberculosis Program implemented various activities along case finding and case holding. Also, the National Tuberculosis Program along its case detection, treatment Success, cure and defaulter are fully implemented in Rural Health Unit of Buhi, Camarines Sur. and lastly, the implementation of the National Tuberculosis Program are always affected by social and economic factors and sometimes affected by environmental and political factors.

Keywords: National Tuberculosis Program; Case finding; Case holding; Treatment Success

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Introduction

As human beings, one's own health and the health of other individual is a matter of daily concern. Regardless of the age, sex, socio-economic or ethnic background, health is the most basic and essential asset. Ill health on the other hand, can keep an individual from going to

school or to work, attending to family responsibilities or participating fully in the activities of the community.

The right to health is a fundamental part of human rights and of understanding life in dignity. The right to enjoyment of the highest attainable standard of physical and mental health, to give its

full name is not new. Internationally, it was first articulated in the 1946 constitution of the World Health Organization (WHO), whose preamble defines health as a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity. The preamble further states that the enjoyment of highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic and social condition and unequal development in different countries in the promotion of health and control of diseases, especially communicable disease is a common danger (WHO, 2017).

The Sustainable Development Goals (SDGs) are a collection of 17 inter-related global goals set out by the United Nations. Each of these broad goals has several targets and covers a broad range of social development issues such as poverty, hunger, health, education, climate change, gender equality, water, sanitation, energy, environment and social justice. One of the primary goals of sustainable development is to ensure healthy lives and promote well-being for all ages through good health and well - being. Under the SDG goal number three, nine targets were set to achieve the goal by 2030. One of which is to end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases (SDG, 2016).

According to Global Tuberculosis Control (2017), Tuberculosis (TB) is the ninth leading cause of death worldwide and the leading cause from a single infectious agent, ranking above Human Immune Virus / Acquired Immune Deficiency Syndrome (HIV/AIDS). In 2016, an estimated 1.3 million people who were HIV negative died of TB. In addition, there were 374,000 deaths resulting from TB disease among people who were HIV positive. So, there were a total of 1,674,000 TB related deaths. An estimated 250,000 children died of TB including children with HIV associated TB. There were also an estimated 10.4 million new cases of active TB and 10% of these were people living with HIV. Ninety percent were adults and 65% of

which are male. 74% of these people lived in Africa. 64% of the totals were in seven countries such as India, Indonesia, China, Philippines, Pakistan, Nigeria, and South Africa. Also in 2016, only 6.3 million cases of TB were reported, but there were globally an estimated 10.4 million new cases of TB. So, where are the “missing” four million? How can they be found and provided with treatment (Global Tuberculosis Control, 2017).

There are 22 countries that since 1998 have been considered to be the TB “high burden” countries (HBCs). These are the countries that have been given the highest priority at global level. Philippines is one of the 22 high burdened countries and also belonged to top 30 countries with high MDR-TB burden. In 2012, Tuberculosis ranked as 8th in 10 leading cause of mortality and 3rd in the ten leading causes of morbidity in the Philippines. Although determination of patient with tuberculosis is increasing and the number of cases is decreasing, still, it is a major concern that should be addressed by the health care providers because it still remains as one of the leading cause of morbidity and mortality (TB Facts.org, 2017).

With all these data presented, the WHO identified challenges that hinder to eliminate TB. These are the following; 1.4 billion dollar funding gap per year for implementation of existing TB interventions and an additional gap of 1.3 billion exist for research; 3.6 million people with TB are missed by health systems every year and therefore may not get adequate care they need; TB/HIV response needs acceleration, antiretroviral treatment, treatment of latent TB infection and other key interventions still need further scale up; Multi-Drug Resistant Tuberculosis (MDR-TB) remains a public health crisis with only one in four MDR-TB cases detected and one in two cases cured (WHO, 2015).

Global Burden of Multidrug Resistant-TB (MDR-TB) is also very alarming. Last 2015, there is an estimated 480,000 new MDR-TB cases worldwide; out of this cases, 190,000 died and only 123,000 (41%) were notified and with only 50% treatment success rate. In the Philippines,

the target for MDR-TB case detection is 19,500. By the end of 2015, only 14,105 cumulative cases have been enrolled, achieving 72% of the target (NTP-Joint TB Program Review, 2017).

The Republic Act No. 10767, otherwise known as the “Comprehensive Tuberculosis Elimination Plan Act” was signed into law by the President of the Philippines last April 26, 2016. It is an act mandating the Department of Health (DOH) to adopt an integrated and comprehensive plan to eliminate Tuberculosis in the country. The plan, known as the Comprehensive Philippine Plan of Action to Eliminate Tuberculosis shall support efforts of the state to eliminate tuberculosis as a public health problem by investing investments for its prevention, treatment and control, and adopting a multi-sectoral approach in responding to the disease (DOH, 2017).

Despite the advanced medicine, TB remains to be a major cause of death among Filipinos, according to Department of Health. In a recent report to the House Committee on Health, Former DOH Secretary Paulyn Jean Ubial said, the country is one of 30 nations with high TB incidence. That means TB is still a major cause of death and economic suffering among Filipinos. In 2015, 14,000 Filipinos died from tuberculosis, while 4.8 million mostly poor, contracted the disease, Ubial further said (Philippine Star, 2017).

In the Bicol Region, Tuberculosis ranked 7th in the 10 leading causes of morbidity and killed 1,888 Bicolanos last 2012. In Buhi, Tuberculosis ranked 5th last 2013, 7th in 2015, and 6th last 2016 in the top ten leading cause of death and cases of Multi Drug Resistant TB increases despite continuous efforts to eradicate the disease (Local Civil Registrar, 2016).

As a human resource for health assigned in the community as part of the Nurse Deployment Project, the researcher opted to conduct a study on the extent of Implementation of health programs particularly the National Tuberculosis Program in Rural Health Unit of Buhi, Camarines Sur. This aims to evaluate the program implementation with regards to its Case Finding and Case Holding activities thus formulate

possible solution in line to enhance the implementation of the said program.

According to Sekandi (2013), active Case Finding (ACF) is an alternative approach to TB case detection. Active case finding can take on several forms, depending on the nature of the TB problem and the available resources. A household contact investigation (HCI) is a targeted form of ACF where a health professional evaluates contacts of index TB cases. Community active case finding is a provider-initiated effort to identify TB cases in the community through door-to-door surveys using cough symptom or chest x-ray screening. If properly implemented, ACF holds promise for enhancing early detection of TB cases, timely initiation of effective treatment, reducing the duration of infectiousness, and thus interrupting the transmission chain at the community level.

Palpa is one of the rural districts of Nepal with high incidence of tuberculosis said Nepal, Shiyalap, Sermsri, and KeiwKarnka where Community Based Directly Observe Treatment Short Course (DOTS) strategy was being trailed to make TB services accessible at community level. In spite of this, it has high defaulter rate; every year more than 5% patients had defaulted from the treatment and death due to TB was around 6%. The study therefore, aimed to assess the patients' compliance to the treatment and its associated factors. Patient's compliance with the TB treatment was found to be associated with their knowledge and perception on TB and its treatment. Health education and proper counselling was deemed necessary for the patients. Service accessibility along with communication skills training to the providers including community health volunteers can increase compliance rate.

According to Oida (2026), Development of relevant, responsive and sustainable livelihood opportunities for the stakeholders in the partner community through conducting capability building may be conducted to supplement their income to sustain their essential needs.

There are different factors linked to people giving up tuberculosis treatment and deaths from the

disease. The results of these studies show that abandoning tuberculosis treatment is usually related to having undergone previous treatment for the disease, being an injecting drug user (IDU), living with a large number of people, and also the doctor's perception that the patient does not have a good understanding of the treatment. Cayla, Gallardo, and Requena (2009) authors of the study and researchers at the Barcelona Public Health Agency stressed that deaths are associated with failure to understand the treatment, being an IDU, being in directly observed treatment (DOT), and also being over the age of 50 or being infected with HIV.

Cohen, O' Boyle, Power, and Ibrahim (2010) determined the prevalence and drug sensitivity of tuberculosis among patients dying in a public hospital in KwaZulu-Natal, South Africa. Their study has revealed that 94% of deceased patients were HIV infected and 50% had culture-positive tuberculosis at the time of death. The authors found that the majority of the deceased, who at the time of death were receiving tuberculosis treatment, were infected with *M. tuberculosis* strains that were fully susceptible to antibiotics. This suggests that the diagnosis of tuberculosis was made too late to alter the fatal course of the infection. Their findings suggest that improving the early diagnosis of tuberculosis, for example, routine screening for tuberculosis among HIV-positive patients, and speedier initiation of treatment for both tuberculosis and HIV could reduce the global death toll from tuberculosis.

Taking a lengthy course of medication is not straightforward and frequently involves difficult decisions, sometimes at substantial personal and social cost to the patient. Munro, Golub, Mohan, Corbett, and Uplekar (2007) reviewed on patient adherence to tuberculosis treatment. Their synthesis indicates that patients often take their TB medication under difficult circumstances and experience significant challenges, many of which are outside of their direct control. Adherence is a complex, dynamic phenomenon; a wide range of interacting factors impact on treatment-taking behavior, and patient behavior may change

during the course of treatment. More patient-centered interventions, and far greater attention to structural barriers, are needed to improve treatment adherence and reduce the global disease burden attributable to TB. They believe that further research is needed both to understand people's experience of TB and its treatment and to develop more patient-centered approaches to improving treatment adherence among people with TB.

Methodology

This study used the descriptive-correlational method of research. According to Medel as cited by Calderon and Gonzales (2007), descriptive method is defined as the description, recording, analysis, and interpretation of present nature, composition of procedures of phenomena. Further, it is a fact finding with adequate interpretation which is something beyond just data gathering. It follows logically and after careful tendency, deviation, or of correlation. With this, Agapito (2008) noted that the most meaningful research is that which seeks to find out and to verify relationships between and among variables. In correlational studies, researchers determine if a relationship exists between two or more quantitative variables. In addition, such relationships are oftentimes used in prediction, to imply causation and to further substantiate the information gathered in any research endeavor. Descriptive correlational study will be utilized in this study to describe the extent of Implementation of National Tuberculosis Program in Rural Health Unit of Buhi, Camarines Sur and the correlation between the profile of the respondents, status of implementation and the factors affecting the implementation of NTP in Rural Health Unit of Buhi, Camarines Sur. The respondents of this study will be the 303 TB patients enrolled in TB-DOTS from January to December 2017 and 37 health care providers which comprises of two Doctors, three Nurse Supervisor, six NDP nurses, 14 Rural Health Midwives, and six Rural Health Midwife Placement Program (RHMP's). A total enumeration was used.

Results And Discussion

1. Profile of the Respondents

Table 1. Distribution of Respondents according to Age

Indicator	N	%
10 years old below	19	6.29
11 -20 years old	31	10.23
21- 30 years old	30	9.90
31- 40 years old	40	13.20
41- 50 years old	71	23.43
51- 60 years old	56	18.48
60 years old above	56	18.48
Total	303	100.00

Table 2. Distribution of Respondents by Highest Educational Attainment

Indicator	N	%
Elementary undergraduate	91	30.03
Elementary graduate	51	16.83
High school undergraduate	51	16.83
High school graduate	82	27.06
College undergraduate	3	0.99
College graduate	5	1.65
No formal education	20	6.60
Total	303	100

Table 3. Distribution of the Respondents According to Occupation

Indicator	N	%
Farmer	105	34.65
Unemployed	83	27.39
Laborer	51	16.83
Carpenter	21	6.93
Fisherman	20	6.60
Tricycle driver	16	5.28
Baker	2	0.66
Office worker	1	0.33
Photographer	1	0.33
Barangay Health Worker	1	0.33
Barangay Official	1	0.33
Habal habal driver	1	0.33
Total	303	100

Table 4. Number of Family Members diagnosed with PTB

Indicator	N	%
None	154	50.83
1	110	36.30
2	32	10.56
3	5	1.65
4	1	0.33
5	1	0.33
Total	303	100

2. Implemented Activities of National Tuberculosis Program along Case Finding and Case Holding

Table 5. Implemented Activities Along Case Finding

Indicators	Yes	%	No	%
1. Pts presumptive of TB who came at the RHU for consultation are screened for the signs and symptoms indicative of TB.	303	100	0	0
2. Health workers conduct health education in the brgy regarding TB and purposively find TB cases in the community.	282	93.07	21	6.93
3. Advised and encouraged the immediate family member of TB patient to submit themselves for screening regardless whether they are symptomatic or asymptomatic.	271	84.44	32	10.56
4. Advised patients with DM, auto-immune diseases, underwent gastrectomy and organ transplant for chest xray.	221	72.94	82	27.06

Table 6. Implemented Activities Along Case Holding

Indicators	Yes	%	No	%
1. TB cases are assigned a registration group based on history of previous treatment and classified based on anatomical site and bacteriologic confirmation	303	100	0	0
2. TB patients are being watched and supervised by a treatment partner while taking the anti TB drugs every day during the whole course of treatment.	127	42	176	58

3. Anti-TB medications given is based on patients body weight and adjustments is being done when the patient loose or gain weight.	300	100	0	0
4. With proper tracking mechanism for patients lost to follow up, transferred in, and transferred out.	286	94.39	17	5.61

3. Extent of implementation of the National Tuberculosis Program

Table 7. Extent of implementation in terms of Case Detection

Indicators	CLIENTS			HEALTH WORKERS		
	WM	INT	RANK	WM	INT	RANK
1. Health workers identify and refer presumptive TB patients to facility for sputum collection.	3.85	FI	1.0	3.92	FI	4.0
2. Identify presumptive TB patients, counsels them, and ensure proper collection and transport of sputum specimen.	3.84	FI	2.0	3.84	FI	5.0
3. Do DSSM regularly for diagnosis and follow up of TB patients.	3.77	FI	3.0	4.0	FI	2.0
4. Refer all diagnosed TB patients to physician for clinical evaluation and initiation of treatment.	3.78	FI	4.0	4.0	FI	2.0
5. Conducts household screening and counselling to family members with active TB disease.	3.75	FI	5.0	4.0	FI	2.0
Average WM	3.79	FI		3.95	FI	

Table 8. Extent of Implementation in terms of Treatment Success

INDICATORS	CLIENTS			HEALTH WORKERS		
	WM	INT	RANK	WM	INT	RANK
1. Health workers evaluate presumptive TB patients based on clinical and laboratory evidence and prescribe appropriate treatment.	3.85	FI	1.0	4.0	FI	3.0
2. Conduct health education and counselling to TB patient and family members before the initiation of treatment.	3.70	FI	5.0	4.0	FI	3.0

3. Agrees with TB patient the mode of Directly Observed Treatment including the treatment partner.	3.77	FI	2.0	4.0	FI	3.0
4. Treatment partner ensures that patient takes his/her TB meds regularly during the course of treatment.	3.74	FI	4.0	4.0	FI	3.0
5. Anti-TB meds are properly allocated to patients and re-assessment/re-weighing is being done regularly to properly adjust the dosage of anti-TB meds.	3.75	FI	3.0	4.0	FI	3.0
AVERAGE WM	3.78	FI		4.0	FI	

Table 9. Extent of Implementation in terms of Cure

Indicators	CLIENTS			HEALTH WORKERS		
	WM	INT	Rank	WM	INT	Rank
1. A treatment response of sputum positive TB patients is being monitored through follow up sputum exam.	3.81	FI	2.0	4.0	FI	3.0
2. Smear positive patients were immediately given anti-TB meds after the result of sputum exam.	3.85	FI	1.0	4.0	FI	3.0
3. Agrees with TB patient the mode of DOT including treatment partner.	3.74	FI	3.0	4.0	FI	3.0
4. Treatment partner ensures that TB patient take his/her TB meds regularly during the course of treatment.	3.69	FI	4.0	4.0	FI	3.0
5. Anti-TB meds are properly allocated to patients and re-assessment/re-weighing is being done regularly to properly adjust the dosage of anti-TB meds.	3.67	FI	5.0	4.0	FI	3.0
AVERAGE WM	3.75	FI		4.0	FI	

Table 10. Extent of Implementation in terms of Defaulter

Indicator	WM	INT	Rank	WM	INT	Rank
1. Health workers report and retrieve defaulters within two days.	3.73	FI	3.0	4.0	FI	3.0
2. Explain to patients all the possible expected side effects of anti-TB meds and provide re-assurance.	3.75	FI	1.0	4.0	FI	3.0
3. All adverse drug reactions whether major or minor are carefully observed by health workers and appropriate	3.74	FI	2.0	4.0	FI	3.0

interventions are given to prevent patients from defaulting.

4. With adequate supply of anti-TB meds to all patients enrolled in TB-DOTS.

3.62 FI 4.0 4.0 FI 3.0

5. With proper tracking mechanism for patients lost to follow up and ensures that patients who fail to follow up as scheduled are immediately traced.

3.62 FI 4.0 4.0 FI 3.0

AVERAGE WM 3.49 FI 4.0 FI

4. Factors that affect the Implementation of National Tuberculosis Program.

Table 11. Social Factors that affect the implementation of NTP in RHU

Indicators	WM	Interpretation	Rank
a. Information about the disease, treatment services, treatment duration, and side effects.	2.81	Always	4
b. Beliefs or malicious rumors about tuberculosis.	3.00	Always	2
c. Health seeking behavior of the community.	3.00	Always	2
d. Involvement of Health Workers in assigned barangay.	3.00	Always	2
Average Weighted Mean	2.96	Always	

Table 12. Economic factors that affect the Implementation of NTP in RHU

Indicators	WM	Interpretation	Rank
a. Time constraints due to workload at home or work.	2.29	Sometimes	4
b. Monetary source for transportation to and from the Barangay Health Centers.	2.81	Always	1
c. Schedule of Health Workers in the Barangay.	2.51	Always	3
d. Availability of medicines.	2.53	Always	2
Average Weighted Mean		Always	

Table 13. Environmental factors that affect the Implementation of NTP in RHU

Indicators	WM	Interpretation	Rank
a. Distance of Barangay Health Centers from home.	2.48	Sometimes	1
b. Physical barriers (mountains,rivers)	1.92	Sometimes	3
c. Transferring to other places thus, unable to follow up the patient.	1.0	Not at all	4
d. Transportation.	2.27	Sometimes	2
Average Weighted Mean		Sometimes	

Table 14. Political factors affecting the implementation of NTP in RHU

Indicators	WM	Interpretation	Rank
a. Budget allocation on health.	2.56	Always	1
b. Support o logistics from LGU.	1.66	Sometimes	2
c. Satisfaction with services received.	1.51	Sometimes	3
d. Presence of armed conflicts or situational crisis.	1.0	Not at all	4
Average Weighted Mean		Sometimes	

Conclusions

1. Majority of the respondents are male, married, with family monthly Income of below Php 10,000 and no other family members diagnosed with PTB. Mostly are 41 to 50 years old, elementary undergraduate, and being a farmer as their occupation.
2. The National Tuberculosis Program implemented various activities along case finding and case holding.
3. The National Tuberculosis Program along its case detection, treatment Success, cure and defaulter are fully implemented in Rural Health Unit of Buhi, Camarines Sur.
4. The implementation of the National Tuberculosis Program are always affected by social and economic factors and sometimes affected by environmental and political factors.
5. There is a significant relationship that exist between the age, civil status, educational attainment, occupation, and family monthly

income on the extent of implementation of the National Tuberculosis Program.

6. There is a significant difference between the extent of implementation of the National Tuberculosis Program along its Treatment Success, Cure and Defaulter as perceived by the clients and health workers.

Recommendations

For the Clients

1. They may have close coordination with the assigned Health Care Providers in the Barangay and barangay health workers may improve their information dissemination and establish trust worthy relationship between clients and health care providers.
2. Strict attendance to health education and counselling prior to the initiation of treatment ensures proper understanding of the disease as well as the minor and major side effects to be observed and may serve as an opportunity for clients to clarify issues and concerns regarding treatment regimen.

a. For Health Care Providers

1. Should ensure proper and adequate stocks of anti-TB meds and other logistics must be available all throughout the year in every barangay.
2. See to it that they regularly update themselves through trainings And seminars regarding treatment regimen and protocols to ensure up-to-date Knowledge on the implementation of the National Tuberculosis Program and safe administration of anti-TB meds to TB patients.
3. Health promotion is vital in the success of the implementation of the National Tuberculosis Program and this is a prime responsibility of every health care provider. It is a must that health workers should strengthen the information dissemination on the importance and benefits of early detection and treatment of active TB disease. Thus, encourages clients to submit their family members for early screening. Empowerment of people is the key to a healthy community.
4. Should see to it that active and intensified case finding is properly and fully implemented. Screening of household contacts of index case ensures full coverage of National Tuberculosis Program in the community.

b. For the Community

1. The community may collaborate with the Barangay Council and Health workers in formulating activities that would enhance the health of the community.
2. Should attend and participate in the health activities of the Barangay.

c. For the Local Government Unit Personnel

1. Should ensure the availability of logistics such as cotton, alcohol and syringes all throughout the year as they are deemed important for the optimum implementation of the National Tuberculosis Program in Rural Health Unit of Buhi, Camarines Sur.
2. The proposed plan of this study can be adopted in order to Enhance the implementation of the National Tuberculosis Program in Rural Health Unit of Buhi, Camarines Sur.

d. For the Department of Health

1. May provide trainings and seminars to all health workers so that all of them are properly equipped with the necessary knowledge, skills and attitudes in the implementation of the National Tuberculosis Program in the community and to ensure safety to clientele that they are serving.
2. Should see to it that there is proper stock management of anti-TB Meds and other logistics necessary to achieve wide coverage.

e. For Future Researchers

Further study on the extent of Implementation of the National Tuberculosis Program in the provision of health care for all can be conducted in order to have an in-depth analysis on how crucial tuberculosis is in the community health. Moreover, future researches relative to this study could also be pursued such as:

- a. The compliance to anti-TB regimen of Indigenous People of Buhi.
- b. The Status of Implementation of the National Tuberculosis Program in

Geographically Isolated and Disadvantaged Areas of Buhi.

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