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Research Article

Knowledge of the Prevention and Management of Tuberculosis among Residents of Bambuka Community Karim-Lamido Local Government Area of Taraba State

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Abstract

Objective: The study was designed to investigate the knowledge of the prevention and management of tuberculosis among residents of Bambuka Community Karim-Lamido Local Government Area of Taraba State.

Methods: The study employed a cross-sectional study design carried out among 200 residents of Bambuka community selected using a multi-stage sampling technique. A questionnaire was used to collect the data which was analysed using SPSS version 20.0 and presented in frequencies and charts. Inferential statistics was analysed using Chi-square at P<0.005 level of significance.

Results: The results show that two third of the respondents 134(67.0%) were males with more 50(25.0%) between the ages of 30-35 years. Majority 88.0% and 91.0% were knowledgeable of TB and TB prevention respectively. Furthermore, majority 69.0% demonstrated poor knowledge of TB management. Both gender and educational status were not significantly associated with knowledge of TB (P>0.05).

Conclusion: The study revealed knowledge gap in management of tuberculosis, including the etiology of TB. Furthermore, the study revealed there was no DOTs centre in the community. Therefore the study recommends more awareness campaign in the prevention and management of the disease especially in hard to reach rural areas in order to reduce the morbidity and mortality associated with the disease.

Introduction

Tuberculosis (TB) is a chronic mycobacterial infection that primarily attacks the lungs in more than 80% of the cases leading to pulmonary tuberculosis [1]. Globally, TB still constitutes a major public health problem. For instance, according to the Global Tuberculosis Report 2017, TB remains the ninth leading cause of death worldwide and the leading cause from a single infectious agent, ranking above HIV/AIDS [2]. Furthermore, according to the report, in 2016, there were an estimated 1.3 million TB deaths among HIV-negative people and an additional 374 000 deaths among HIV-positive people worldwide [2]. Africa is not left out of the TB scourge as out of the estimated 10.4 million people that fell ill with TB in 2016; 74% of people living with HIV in Africa were among while 56% were from other five countries [3].

Nigeria was ranked third in the world in terms of the numbers of people with TB disease, with a projected 590,000 incident cases of TB in 2013 [4,5]. This ranking positions Nigeria as the African country with the highest TB burden within the African continent [6,7,8]. Furthermore, based on the TB prevalence survey report, an estimated 4,097,114 cases of TB will occur in Nigeria between the beginning of 2015 and the end of 2020 [5]. Thus as at 2016 the estimated rate of TB burden in Nigeria shows that the mortality rate of TB (exclude HIV+TB) and mortality rate of TB (HIV+TB only) were 62 per 100000 and 21 per 100000 respectively [5]. In addition, the incidence rate of TB (includes HIV+TB) and incidence rate of TB (HIV+TB only) were 219 per 100000 and 34 per 100000 respectively [5].

The global targets and indicators for TB control have been developed to halt and reverse TB incidence by 2015 and to totally eliminate TB as a public health problem with one case per one million population by the year 2050 [9,10]. In order to achieve this goal the WHO launched the Directly Observed Treatment Strategy Short Course (DOTS) and Stop TB program of which Nigeria commenced the implementation in 1993 [10,11]. However despite the success of the DOTs program which is aimed at detecting 70% of all sputum-smear-positive TB cases and to cure 80% of them through passive detection and directly observed treatment [10,12]; several challenges such as poor

knowledge and stigma attached to the disease particularly in rural areas of the country still detract its effective implementation so much so that many TB cases are still undetected [9,13]. For instance the researcher has personally observed that some residents of Bambuka are still having negative attitude and thoughts toward prevention and management of tuberculosis by taking tuberculosis infected person to herbalist, stigmatizing infected person and lack of encouragement and support by the patient relative to access free TB drugs in the DOTS centres. Thus the researcher was motivated for this research to determine Knowledge of the prevention and management of tuberculosis among residents of Bambuka Community Karim-Lamido Local Government Area of Taraba State as good knowledge and positive attitude towards TB and its management is a prerequisite to early treatment seeking [10,14,15].

Methods

Study Design

The study employed a descriptive cross-sectional study design.

Study Area

The area that was used for this study is Bambuka Community which occupies an area of about 146 kilometres square in the Eastern side of Karim Lamido L.G.A Taraba State and has a total population of 72,652 based on 2006 census.

Study Population

The study population constitutes residents of Bambuka Community in Karim Lamido L.G.A Taraba State.

Inclusive Criteria

All residents of Bambuka community male and female from the age of 18 and above who reside in the study area and are willing to participate in the study were included in this study.

Sample size determination: Sample size was determined using single population proportion formula n= Z2 p (1-p) / d2, with the following assumptions: prevalence (p) of 86.8% from previous study [10], 95% confidence level, 5% margin of error. In addition, 10% was added to the sample size giving a minimum sample size of 200.

Sampling technique: A three stage sampling technique was used.

Stage 1: The first stage involved clustering the community into 12 quarters which include Lissa, Liddah, Liangum, Swakwe, Sabonlayi, Pisop, Bonjim, Krack, Kumbur, Boko, Angwanmaimatatara and Mararaba.

Stage 2: The second stage involve randomly picking 8 quarters from the 12 quarters through balloting, which include Liddah, Lissa, Liangum, Bonjim, Angwan Mai matatara, Krack, pisop and Sabonlayi.

Stage 3: Third stage involve randomly administering the questionnaire to the residents of Bambuka community until the required sample size is obtained.

Instrument for data collection: The instrument for data collection was a questionnaire. The questionnaire was structured into sections A-E. Section A assessed the socio-demographic characteristics of the respondents; Section B evaluated the knowledge of tuberculosis transmission; Section C assessed the level of knowledge of tuberculosis prevention; Section D evaluated the level of knowledge of tuberculosis management and Section E explored suggestion on how prevention and management of tuberculosis can be improved.

Data analysis: Responses from the questionnaires were entered into the computer and data generated were analysed using Statistical Product for Service Solutions (SPSS) version 20.0 manufactured by IBM incorporated. Descriptive statistics was used to analyse the data which was presented in tables and charts. Chi-square test was used to analyse inferential statistics at $P<0.05$.

Knowledge of tuberculosis was measured from a 9 point knowledge scale graded; ≤4 as poor knowledge of tuberculosis while ≥5 as good knowledge of tuberculosis. In addition, knowledge of TB prevention was measured in a 5 point knowledge scale graded; ≤2 as poor knowledge of TB prevention while ≥3 as good knowledge of TB prevention. Furthermore, ≤3 as poor knowledge of TB management while ≥4 as good knowledge of TB management.

Ethical Consideration

Ethical clearance was obtained from Novena University and Karim-Lamido L.G.A of Taraba State.

Results

Socio-demographic characteristics of the respondents

As shown in table 1 below, two third of the respondents 67.0% were males while 41.50% were >36 years and 40.50% attained educational level.

Table 1: Socio-Demographic Data.

Variable	Frequency	Percentage	Knowledge of TB
Gender			
Male	134	67	0.154
Female	66	33	
Age (Years)			
18-24	34	17	
25-29	35	17.5	
30-35	50	25	
36 and above	81	40.5	
Educational Level			
Primary	47	23.5	0.912
Secondary	70	35	
Tertiary	83	41.5	
Occupations			
Business	21	10.5	
Farming	108	54	
Civil Servant	49	24.5	
Student	22	11	
Marital Status			
Married	128	64	
Single	51	25.5	
Divorce	13	6.5	
Widow	8	4	

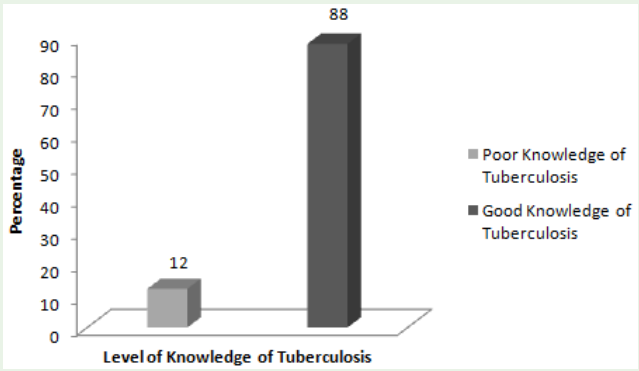

Figure 1: Level of knowledge of TB among the respondents.

Knowledge of TB among the respondents

Majority of the respondents were aware of tuberculosis as a disease 99.0% out of which 42.1% sources information about tuberculosis were Hospital and 51.0% of the respondents were of the view that TB is cause by virus. Furthermore, 46.0% of the respondents affirmed that coughing for more than 3weeks, loss of weight, night sweating and loss of appetite were the symptoms of TB while 86.5% agreed that sitting closer or touching infected person can make uninfected person to contact TB and 71.5% respondents knew that TB is curable. Similarly, more than half of the respondents 112(56.0%) were not aware that TB could affect any part of the body. In addition, figure 1 below, 88.0% of the respondents demonstrated good knowledge of tuberculosis while 12.0% demonstrated poor knowledge of tuberculosis.

Knowledge of tuberculosis prevention

Less than half of the respondents 45.0 % agree that prompt identification and treatment is the best option of TB prevention while 69.5%; affirmed that good ventilation and boiling of milk can prevent one from being infected with TB and 58.0% agreed that BCG should be administered to a child at birth. Furthermore, 63.0% of the respondents affirmed not all their children were vaccinated with BCG and 91.0% of the respondents affirmed that knowledge of good nutrition and drug adherence can prevent the complication of TB. In addition, figure 2 show that 91.0% of the respondents demonstrated good knowledge of TB prevention while 9.0% demonstrated poor knowledge of TB prevention.

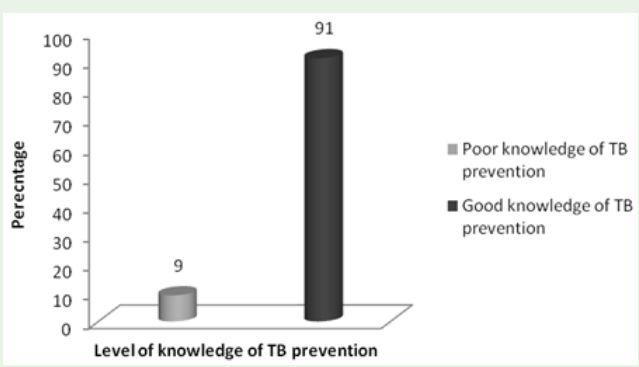

Figure 2: Level of knowledge of TB prevention among the respondents.

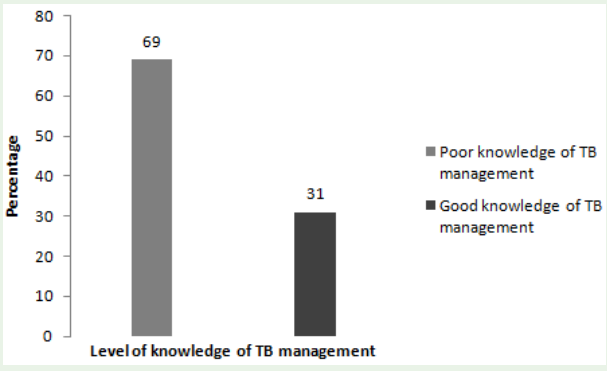

Figure 3: Level of knowledge of TB management among the respondents.

Knowledge of TB management

Majority of the respondents 79.5% affirmed that Hospital is the right place to manage people suffering from TB while 79.5% of the respondents revealed that there is no DOT centre in Bambuka for TB victims to access free drug and 61.0% of the respondents had no knowledge that TB medication is free in the DOT Centre. Furthermore, 42.5% of the respondents agreed that TB drug must be taken for six months and 30.0% affirmed that TB can be cured when the patient completed the treatment regimen (all pills taken). In addition, 69.0% of the respondents demonstrated poor knowledge of TB management while 31.0% demonstrated good knowledge of TB management (Figure 3).

Respondents' suggestions on how TB prevention and management can be improved.

According to table 2 below, 32.3% respondents were of the view that TB management and prevention can be improved via Health education, and 32.3% suggested immunization with BCG vaccine as measures of prevention and management of TB.

Table 2: How TB management and prevention can be improved.

Variable	Frequency	Percentage
What do you think can be done to improve prevention and Management of tuberculosis?		
Health education	129	32.3
Govt. Should provide DOT Centre	69	17.3
Updating knowledge of Health workers	30	7.5
Immunization with BCG	129	32.3
Prompt treatment	2	0.5
Isolation	9	2.3
Early identification	4	1
Good ventilation	4	1
Environmental Sanitation	5	1.3
Avoidance of alcohol and smoking	4	1
Good nutrition	8	2
Personal hygiene	4	1
Proper pasteurization of milk	3	8

Discussion

The present study aims at gaining insight into the level of knowledge of the prevention and management of TB among residents of Bambuka Community.

Awareness and Knowledge of TB

The study showed that majority of people (99%) had heard of TB. This high level of awareness has similarly been documented in a Community study of awareness of pulmonary TB in rural Edo state [10]. The study also showed that Hospital (Health worker) were the main source of information on TB for the majority. This is different from what was found in a previous study conducted in Ibadan metropolis that identified the media as source of information [11].

The result shows that about 88.0% of the respondents demonstrated good knowledge of TB. This finding is similar to previous studies in Nigeria [10,16,17]. However, despite the high knowledge of TB only 38.50% of the respondents knew the cause of TB to be bacteria. This is similar to previous findings [10,11,18]. This show there is still gap in knowledge of the respondents of TB. Also the finding that smokers are more susceptible to TB infection as identified by the respondents is also similar to previous findings [9].

Knowledge of TB prevention

In the same vein the respondents also demonstrated good knowledge of TB prevention. This finding is contrary to the finding of previous study which found knowledge of TB prevention to be low [16], but the finding was however similar to the study in Edo State [10]. Specifically, 58% of the respondents acknowledged that BCG vaccine is a preventive measure against TB which is in contrast to the study in Edo State where only 47.30% knew BCG as preventive vaccine [10]. Similarly, 63.0% of the respondents affirmed that not all their children have been vaccinated against TB with BCG vaccine. This lack of vaccination with BCG vaccine can make their children more vulnerable to TB infection.

Knowledge of TB management

Furthermore, about 69.0% demonstrated poor knowledge of TB management. This finding is in contrast to the study in Bangladesh where the majority of the respondents demonstrated good knowledge of TB management [19]. Similarly, the findings of the study was however different from the findings of studies both in Nigeria and outside Nigeria [20-23]. In addition, about 61.0% of the respondents did not know that TB drug was free in any DOT centre. This particular finding is not surprising as there is currently no DOT centre in Bambuka community. This was also similar to previous findings in Nigeria [20].

In addition, both age and educational status was not significantly associated with knowledge of TB ($P>0.05$). This finding is similar to the study in Bangladesh [19], but different from studies in Nigeria [16,17].

Conclusion

Majority of the respondents had knowledge of tuberculosis and tuberculosis prevention. However, gap still exist in the respondents knowledge of etiology, parts of the body tuberculosis could affect and management of tuberculosis. Therefore, Health educators in the Local government should intensify campaigns to sensitize the general public on TB, disseminating information to correct misconception and improved community perception of the disease. Other routes of information dissemination such as the media should be encourage to play a more active role in enlightenment campaigns in order to enhance the success of control strategies and subsequent elimination of TB.

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