

Pattern of Utilization of Health Services among Tuberculosis Patients in Nkanu West Local Government Area of Enugu State

Catherine U. Ene
Department of Science and Computer Education
Enugu State University of Science and Technology (ESUT), Enugu

Anthony C. Ugwuoke
Department of Health Physical Education
University of Nigeria, Nsukka

Abstract

The burden of the spread of tuberculosis (TB) in the world is high. In Nigeria, TB prevalence rate was as high as 546/100,000 population. As a result, TB control programme were mounted by governmental and non-governmental agencies in the country and Nkanu West Local Government Area (LGA) using Directly Observed Treatment Short course (DOTS). However, behaviour change communication was necessary for the success of the programme which necessitated this research. Retrospective design was used to investigate the pattern of utilization of health services among TB patients in the DOTS health facilities in the Local Government Area over eleven year-period (2004-2014). A sample of 407 patients was studied. Their records were reviewed using a validated researcher's self-developed TB Record Review Proforma (TbRReP). The data generated were analyzed descriptively. The resultant percentages, mode and means (\bar{x}) were used to answer the three research questions postulated to guide the study. Findings from the study showed that the mean (\bar{x}) increase in the prevalence rate of TB for the period was 6.17 per cent; the mean (\bar{x}) age of patients that utilized TB clinics was 36.67 years, and more male than female TB patients utilized the health services (male=56.27%; female=43.73). Based on the results, the researcher recommended among other things, mounting health education campaigns to sensitize TB patients in Nkanu West LGA on the need to utilize DOTS health services.

Keywords: Tuberculosis, prevalence, DOTS, demographic characteristics.

Introduction

Tuberculosis (TB) is one of the worst re-emerging communicable diseases afflicting humanity at the present. In the developing countries where Nigeria belongs and even in some urban slums of developed countries, TB is becoming very common. According to Chukwu (2010), World Health Organization (WHO) estimated that the incidence rate of TB in Nigeria where Enugu state is located was 311 per 100,000 population while the prevalence rate was 546 per 100,000. The report showed that Nigeria was the 4th on the list of TB 22 high burden countries in the world. According to Dim and Dim (2013), Enugu state's contribution to the national prevalence rate was low. The authors noted that the mean rate of increase in TB cases in Enugu state from 2004-2009 was 7.4 per cent per annum. It is likely that the situation is worse. Owing to shortages in Nigeria's health system, some TB cases were likely to have been missed. Moreover, the low statistical data on TB could be attributed to the fact that modern healthcare services were still not accessible, affordable or acceptable to millions of Nigerians (Adegbite, 2005; Eboh, 2006). The situation was worse in the rural areas which could make many sick persons, and TB patients in particular, resort to traditional medicine or spiritual centres (Jatau, Kajang, Davou, Dangbin & Jatau, 2005).

TB is an infection caused by microorganisms (*Mycobacteria tuberculosis*). It is a droplet infection transmitted when an infected person coughs or sneezes (Peter, 2009). However, it can also be contracted by eating an infected animal products or contaminated food. Tuberculosis is characterized by persistent cough which last for upwards of two weeks (Akinsola, 2006). The other signs and symptoms of TB include pyrexia, haemoptysis, night sweating, chest pain, dyspnoea and emaciation. The infection has predilection to different organs of the body such as bones, joints, kidneys, meninges and skin apart from the respiratory tracts (Okoeguale, 2015). The scourge of TB in the world was aggravated by socio cultural and economic factors like poor nutrition (Akinsola, 2006), poor housing (Ashiru, 2007), ignorance (Dim & Dim, 3013), superstitious belief and its comorbidity with other diseases like Human Immunodeficiency virus/ Human Immune Deficiency Syndrome (HIV/AIDS) (Chukwu, 2010).

TB is one of the childhood diseases covered by routine immunization in Nigeria using BCG (*bacillus Calmette-Guerin*) vaccine. The vaccine against the disease is given immediately after birth (Samuel & Odo, 2013). Adults are not covered by the National Programme on Immunization (NPI), hence the recrudescence of the

infection among them. However, the National Tuberculosis and Leprosy Control Programme (NTBLCP) in 1993 adopted Directly Observed Treatment Short course (DOTS) as an approach to arrest the spread of the disease.

DOTS simply means a measure that ensures that the patient takes the right drugs, in the right doses at the right times. Chukwu (2010) stated that it demanded that either the health worker or a treatment supporter watch the patient swallow his or her drugs. The measure was to avoid missing the medication which could act against speedy recovery or lead to drug resistant strains of the TB microorganisms. According to Chukwu, the targets of the DOTS approach by NTBLCP were: to reduce by 2015 TB prevalence and death by 50 per cent relative to 1990 baseline and by 2050 eliminate TB as a public health problem in Nigeria (< 1/1000,000 population). Nkanu West Local Government in partnership with donor agencies keyed into the DOTS initiative through early case detection and treatment of cases and some successes have been recorded. Dim and Dim (2013) asserted that the success rate in treatment of TB cases ranged from 78-85 per cent. However the author pointed out that adequate knowledge that motivates individuals to seek health services was lacking in the communities of Enugu state. According to Ene (2004), aside from physical examination, testing, observation and treatment, health education is very crucial in the control of tuberculosis.

German Leprosy Relief Association was the principal partner with Nkanu West in the treatment of persons found to be infected with tuberculosis. Enugu State Government and the Agency also carried out public enlightenment campaigns urging persons suspected to be infected with TB to report to the DOTS clinics within the 17 LGAs in the state for evaluation and treatment. However, the impact of this enlightenment programme has not been determined. Moreover, while some infected people have availed themselves of these services, the extent of the coverage was yet to be ascertained. While in the clinic the patients' demographic data of age and gender were recorded.

Data on the age and gender of the patients help in learning about the epidemiology of TB, planning intervention strategies and also in evaluation of the intervention. The data on age and gender of the TB patients presenting in the health facilities were investigated in the present study because of their relevance. In the health facilities age was either provided by the patient or assigned by the facility staff since age determination among adults in Nigeria was difficult due to absence of birth registration many years ago (Alakija, 2000).

Age was relevant in the study since tuberculosis is supposed to be rare among children who were immunized during their infancy. However, Okoeguale (2015) asserted that children were also treated if infected. Furthermore, the author posited that age and HIV among other factors influenced the progression from infection with the TB bacilli to disease manifestation. With the scourge of HIV/AIDS which was prevalent among the youth, as shown by Bassey (2000), TB has been on the increase amongst the age group (Chukwu, 2010). Ogwu (2005) showed that about 10 million young Africans were living with HIV. In Enugu state, HIV/AIDS situation was also gruesome (Ezeanu & Ezeanu, 2014). The HIV/AIDS situation showed that many youth were victims (Nwagu & Enebe, 2013). The synergy between HIV/AIDS and TB occurs because HIV destroys the immune system making the individual vulnerable to opportunistic infections (Iheanacho, 2015). Okoeguale (2015) revealed that roughly 23 per cent of TB patients were HIV positive. Regrettably, Santrock (2005) showed that although adolescents have higher health challenges than adults, they utilized health facilities less than the adults. This research was poised to find out how these scenarios played out among the TB cases in Nkanu West LGA.

On the other hand, the aged were likely to be at risk of TB due to their weakening general body activity as well as poverty amongst them. Poverty is more rampant among the aged since they were dependent on others for sustenance. Poverty was more pronounced among females than males in Nigeria (Federal Office of Statistics-FOS, 1999; Jatua, 2000).

Based on the sociocultural, economic and physical differences between men and women, gender was examined in this study. Gender as used in this study simply means the attribute of male or female of the individual. Gender was included in the study because experience has shown that females were more reporters of their health problem than males. This could be because of their natural roles of taking care of children in African setting. In doing so, they take the opportunity to seek health care services for themselves. Ironically, Samuel and Odo (2013) stated that one of the major reasons for the introduction of pentavalent vaccine into NPI was to reduce women's frequent visit to health centres. This measure could work against the unintended but vital advantage offered to the women by their regular visits to the health facilities.

Furthermore, women's health has also been in the focus globally because they were regarded as at risk group. They have prenatal, intra-natal and postnatal services available for them in addition to frequent visit to hospital on account of their child-health issues (Akinsola, 2006). At the centre of these health services was health education in the form of health talks. Additionally, posters conveying health messages abound at strategic corners of many health facilities in the area of this study. How these media of health information influenced female patients' attendance at TB clinic was one of the main thrusts of this work. This is because Davwar, Davou and Davwar (2005) reported that women were just catching up with men in terms of access to healthcare. This might be due to the preference for male child in the traditional African society. According to Aniodo and Offor (2014),

in these societies, males were encouraged to be adventurous in order to prepare them for ‘manly’ responsibility when they grow up. That kind of masculine stereotype might make men in Nkanu West reluctant to disclose their TB problems. It might even affect the way they accessed health facilities for TB treatment.

Moreover, the high preference placed on sons could lead to discrimination against girls with adverse health consequences. In fact, according to Olumba (2005), marriage and childbearing before girls reach physiological and psychological maturity created many health risks for them. TB infection might be one of them. Nonetheless, it was not proper to reach that conclusion without subjecting it to empirical investigation. Nevertheless, Dim and Dim (2013) found out that TB was higher in male for all age groups except 0-14 years, while the modal age group for new cases was 25-34 years (29.8%) followed by 35-44 years (20%). The result also showed that 0-14 year-category contributed 1.4 per cent to the TB burden in Enugu state.

Data on the pattern and utilization of health services, particularly, as it pertains to age and gender were collected on routine basis in the health facilities in Nkanu West LGA. However, no research, to the best of the knowledge of the researcher, has been conducted to determine their influence on tuberculosis in the area. Therefore, the purpose of this study was to fill this gap.

Research Questions

1. What is the annual growth rate of prevalence of TB in Nkanu West LGA from 2004-2014?
2. What is the influence of age on TB patients seen in health facilities in Nkanu West LGA?
3. What is the influence of gender on TB patients seen in health facilities in Nkanu West LGA?

Methods

Retrospective research design was used for the study. According to Okwor (2001), it is suitable for establishing relationship between variables that had operated in the past which in this case were the utilization of health services among TB patients in Nkanu West LGA. Nkanu West LGA of Enugu state was a rural setting. Nonetheless, since the return to democratic rule in Nigeria in 1999, the area has witnessed appreciable level of development. It has an estimated population of 195,030. The figure was based on 2.83 per cent population growth rate for the rural areas in Nigeria using 1991 population as the baseline (National Population Commission, 1991). The population for the study was all the 410 patients that reported for treatment in the LGA from 2004-2014 (Nkanu West TBL Unit, 2014). Purposive sampling technique was utilized to select 407 patients and deliberately exclude three others (male=2: female=1) who were less than two years old from the study. They were excluded because it was apparent that childhood immunization had reduced TB occurrence among infants very well. The researcher’s self-developed TB Record Review Proforma (TbRReP) was used to generate data from the patient’s attendance register. The instrument was validated by three public health educators. The data on the sampled 407 patients were utilized for descriptive data analysis. This involved calculating the frequencies of the TB cases, percentages and means (\bar{x}) using the System Package for the Social Science (SPSS) batch system (version 21). The modes of each set of scores were also identified. The resultant information was utilized to answer the three research questions generated to guide the study.

Results

The results of the study were presented below.

Table 1
Growth in Prevalence of TB in Nkanu West LGA from 2004-2014 (n=407)

Year	Cases	Growth (%)
2004 base year	9	
2005	5	-44.44
2006	21	320
2007	24	14.29
2008	44	83.33
2009	54	22.73
2010	50	25.93
2011	54	20.00
2012	53	1.85
2013	58	6.00
2014	38	-35.59
Mean (\bar{x})	37.27	6.17

The Table shows that the mean (\bar{x}) percentage increase in the prevalence of TB among patients utilizing health services was 6.17. The Table further shows that the mean annual prevalence rate was 37.27/100,000. The mode of the prevalence rate was 58 cases which occurred in 2013 whereas TB prevalence was least (5 cases) in year 2005. The growth was highest (320%) from 5 cases in 2005 to 21 cases in 2006. There were decreases in the number of patients who utilized health services from 9 cases in 2004 to 5 cases in 2005 and from 58 to 38 cases between 2013 and 2014.

Table 2
TB patients in Nkanu West LGA from 2004-2014 According to Age (n=407)

Age (\bar{x})	Cases	
	F	%
11 - 20 years	43	10.57
21 – 30 years	100	24.57
31 – 40 years	100	24.57
41 – 50 years	74	18.18
51 and above	90	22.11
Mean (\bar{x}) age	36.67	

Table 2 indicates that the mean (\bar{x}) age of TB patients who presented in the clinic was 36.67 years. From the Table, TB was most common among those aged 21- 30 and 31-40 years old (100) apiece (bimodal) while the infection was least among those aged 11-20 years with 43 (10.57%) cases.

Table 3
TB Patients in Nkanu West LGA from 2004-2014 According to Gender (n=407)

Gender	Case	
	F	%
Male	229	56.27
Female	178	43.73

Table 3 shows that more male TB patients (56.27%) than female (43.73%) utilized health services in Nkanu West LGA.

Discussion

Table 1 showed that the annual mean(\bar{x}) growth rate of tuberculosis in Nkanu West was 6.17 per cent and the mean prevalence rate was 37.27/100,000. The result has semblance with Dim and Dim's (2013) report which showed that the annual mean growth rate of TB for Enugu state where the LGA is located was 7.4 per cent. The lower annual mean rate of increase in TB in Nkanu West than the state mean rate could be attributed to relative availability of DOTS services in virtually all the wards in the LGA. According to Dim and Dim distance to health facility militated against access to TB treatment in Enugu state.

From the same Table the mean prevalence rate was lower than the national figure of 546/100,000 shown by Chukwu (2010). This implies that TB has lower burden in Nkanu West than Enugu state and Nigeria as a whole. This could be ascribed to poor nutrition, poor housing and high HIV/AIDS burden in other parts of Nigeria. According to Akinsola (2006); Ashiru (2007) and Okoeguale (2015) these variables predispose people to TB. It is on record that since the return to civil rule in Nigeria, there was a remarkable improvement in the standard of living of the people of Nkanu West LGA.

Table 2 indicated that the mean (\bar{x}) age of TB patients who presented in the clinic was 36.67 years. The finding was predictable since Dim and Dim's (2013) report showed that the modal age group for new incidence of TB in Enugu state was 25-34 years. The marginal difference in age is likely to be a function of how the ages of patients were assigned in the clinics. Age of patients was likely to have been based on estimation since Alakija (2000) pointed out that there was no birth registration many years ago. Accurate estimation of age was most likely to be difficult as the health worker operated under pressure. This was due to wide ratio between patients and health workers in Nigeria generally (Adegbite, 2005). The 11-20 years old group reported least (10.57%) to the health facilities. The finding was in consonance with Santrock (2005) who indicated that adolescents utilized health facilities less than the adults irrespective of the fact that they have higher health challenges.

More male TB patients (56.27%) than females (43.73%) utilized health services in Nkanu West LGA during the period under review (Table 3). This finding was striking. This is because Aniodo and Offor (2014) reported that males in this part of the world were brought up with a macho mentality. That kind of mindset was

anticipated to make them unwilling to disclose their problems including TB infection. Contrarily, it was expected that women's frequent contact with health facilities as reported by Akinsola (2006) would place them ahead of their male counterparts in accessing treatment against TB. It is, therefore, surprising that male TB patients utilized health services more than the feminine folk. The higher number of males TB patients who accessed health facilities in the LGA might be associated with other variables like level of general education which has been observed to be higher among them than the women. The result in the present study was, however, in agreement with Davwar, Davou and Davwar's (2005) finding, which showed that women were just trying to catch up with men in terms of equity and justice in the use of health facilities across the world. The finding also agreed with Dim and Dim (2013) who established that TB was higher in male for all age groups except 0-14 years in Enugu state.

Conclusions and Recommendations

1. The prevalence rate of TB was low in Nkanu West LGA.
2. Age influenced utilization of health services by TB patients in Nkanu West LGA.
3. Gender influenced utilization of health services by TB patients in Nkanu West LGA.

On the basis of the above conclusions the following recommendations have been proposed.

In order to sustain and further reduce the prevalent rate of TB in the LGA, there is need to intensify public health campaign to dispel misconception on the programme. Such education campaign would focus on the mode of transmission, predisposing factors and the need to report at DOTS clinic at the earliest suspicion of TB infection. Since the report indicated that middle aged persons offered themselves for treatment more than other groups, it is necessary to inquire into why those patients at either ends of the age brackets did not avail themselves of the life-saving opportunity. A community based survey by public health educators into the factors that hinder them from accessing the clinics could unveil the cause of the setback and provide a solution. A qualitative approach would dig into the facts better than quantification methods. In other words one-to-one interview of patients would yield more desirable results.

As women lag behind men in access to TB services in health facilities, they should be sensitized to utilize the opportunity of their regular visit to health facilities to seek testing services and treatment against TB whenever the need arises. Health education and counseling could be stepped up in women groups such as 'August returns meetings', market unions and even in families. The salient messages would be preventing TB through personal, environmental and food hygiene, reporting for treatment if infected, completing the treatment and vaccinating children against TB at birth.

Limitations to the study

The utilization of secondary source of data in the present study gave an insight into the utilization of health facilities by TB patients in Nkanu West LGA. However, the findings might not be representative of the true position of the situation in the area. This is because official data are often incomplete and lack validity and reliability.

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