RESEARCH ARTICLE

PRIVATE PHARMACISTS AND TUBERCULOSIS CONTROL: A SURVEY OF CASE DETECTION SKILLS IN OSOGBO, SOUTH WESTERN, NIGERIA

Sunday Olarewaju[1], T Awele Idaboh[2], Olarewaju A[3], Adebimpe O[1], Olu-lawal M[3], Odu O[1], Bamidele J[1]
[1] Department of community Medicine, Ladoke Akintola University Teaching Hospital, Ogbomoso, Nigeria
[2] Department of community Health, Lagos University Teaching Hospital, Idi-Araba, Nigeria
[3] Catholic Action Committee on AIDS, Nigeria

Correspondence to: Sunday Olarewaju (oolarewaju7@gmail.com)

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ABSTRACT

Background: National Tuberculosis and Leprosy Control Program (NTBLCP) adopted Stop TB strategy in 2006 as a result of high TB burden which outlined engagement of all care providers including Private Pharmacists (PP) in TB control. However, there were no previous baseline studies done on knowledge and practices on TB control among private pharmacists needed to appraise their potential role and contribution to TB control which forms the basis of this study.

Aims & Objective: To provide relevant information about tuberculosis case detection skills among private pharmacists in Osogbo, South Western Nigeria for the purpose of policy initiation, planning and decision making.

Material and Methods: A cross sectional descriptive study using pre-tested structured questionnaire was conducted in November, 2007 among 47 Private Pharmacists (PP) randomly selected in Osogbo, South West, Nigeria. Verbal consent was taken before given the questionnaire. Sampling technique was a convenient sampling. Data were analyzed using SPSS v 16.

Results: Almost all Private pharmacists interviewed (80.9%) were seeing TB suspects and had a good knowledge on TB etiology (100%) and air borne route of transmission (70%). Majority (90%) did not know TB treatment duration and standardized drug regimen for adult (93%) and children (97.9%). Less than half (40.4%) regarded sputum microscopy as the best test to confirm diagnosis of pulmonary tuberculosis. In addition, majority (99%) had no previous training on standard guidelines on TB control by the National Program.

Conclusion: Private pharmacists were seen TB suspects with inadequate knowledge on Nigerian Guidelines on TB control. National tuberculosis and Leprosy control program (NTBLCP) must take appropriate measure to educate and train Private Pharmacists in TB management.

KEY-WORDS: Case Detection Skills; Private Pharmacists; Survey; Tuberculosis

Introduction

Tuberculosis is a major cause of illness and death worldwide, and Nigeria is one of the most affected countries. The World Health Organization (WHO) classifies Nigeria as one of 22 "high-burden countries" —nations that together account for 80 percent of TB cases worldwide. The country's 2009 incidence rate for all forms of TB was 295/100,000 people, with prevalence rate of 497/100,000. Furthermore, prevalence of MDR TB among new TB cases is 1.8% and 7.7% among previously treated TB.[1] The disease has been the target of a national control program since 1990, and the DOTS strategy was adopted in 1994. TB care and treatment are free in Nigeria. Patients with symptoms suggestive of TB identified when they visit a first-level health service are supposed to be referred to a directly observed treatment short course center, where a diagnosis of TB can be confirmed. The main diagnostic tools used are the sputum smear test and or chest radiography for those who are smear negative. When the diagnosis is confirmed, standard treatment regimens are prescribed in accordance with World Health Organization (WHO) recommendations.

Efforts to stop the spread of the disease are consistently hindered by a case detection rate that hovers around 40 percent, which means that people with active TB are not being found by the national health system and referred to DOTS (directly observed therapy, short-course) centers

for treatment. In 2006, WHO launched its global Stop TB Strategy, a significant expansion of the original DOTS strategy adopted by Nigeria Government which articulates importance of public private mix approaches to help in improving TB case detection and reduce diagnostic delays by involving all health care providers in timely referral and diagnosis as well as ensuring proper notification of all diagnosed cases and enrolment on appropriate treatment.

The need to improve private TB care is now widely acknowledged, and attempts to successfully integrate private health care providers into publicly run National TB Control Programmes (NTP) in Nigeria at Federal, State and Local Government levels have led to inauguration of Public private partnership (PPP) steering committee, development and dissemination of PPP standard operating procedures and guidelines, capacity building of various private providers to increase TB case detection. Private pharmacies constitute an important part of the private health care sector in many countries. They contribute positively to public health as well as improve performance in areas of dispensing antibiotics, diarrhoea treatment and management of sexually transmitted infections.[2-4] In addition, collaboration between this provider and National tuberculosis program in Bolivia has led to increase in the number of clients referred for Tuberculosis diagnosis and treatment in the public settings.[5]

In Nigeria, private pharmacists constitute first point of contact to people seeking health care and therefore can play a critically important role in the national public health system. A lot of patients with symptoms of tuberculosis including the very poor seek for care from variety of care providers outside NTBLCP including private pharmacists and are derived of benefits of directly observed treatment short course therapy. Little is known about their contribution to tuberculosis care particularly in Nigeria. This study seeks to provide relevant information about tuberculosis case detection skills among private pharmacists in Osogbo, South Western Nigeria for the purpose of policy initiation, planning and decision making.

Materials and Methods

Study Area: The study was carried out in Osogbo, Osun states, South Western Nigeria. Osogbo is divided into three local government areas namely Olorunda, Osogbo and Egbedore Local Government Areas. Osogbo is the state capital and commercial nerve center of Osun State. Osogbo is situated 55 km north-east of Ibadan, 100 km south of ilorin and 11 5 km north west of Akure in Nigeria. It is situated on lattitude 7.7° N and longitude 4.5° East of Greenwich Meridian. Based on the 1991 census, Osogbo has a population of 191, 494 which was calculated using 3% compound growth rate from 1991 census figure of 120,000. The State has a teaching hospital which serves as referral centers for the state, one general hospital and some primary health centers scattered around the town.

Study Design: Descriptive, cross sectional study on tuberculosis case detection skills among private pharmacists in Osogbo, South West, Nigeria

Study Population: The target population constitutes Private pharmacists who are practicing in Osogbo.

Sampling Method: Register of association of private pharmacists was used as sampling frame. Systematic random sampling was applied to select respondents from the sampling frame using a sampling interval. The selection was done on one of those days of their monthly meetings.

Research Instrument for Data Collection: Research instrument was semi structured self-administered pre tested questionnaires. Study variables include socio-demographic characteristics of respondents, knowledge and practices regarding control of TB according to National tuberculosis guidelines.

Ethical Consideration: Ethical clearance was obtained from LAUTECH Teaching Hospital ethical review committee.

Data Management: The SPSS Version 10.0 statistical package was used for data entry and analysis. Validity of data collected was ensured by

double entry and random checks for errors. Relevant frequency distributions and summary measures were done. The Chi-square test was used to demonstrate relationships between categorical variables, and two independent sample T test analysis was used to compare mean differences between quantitative variables. A binary logistics regression analysis for some selected variables was also done. Level of significance was set at P-values ≤0.05 for all inferential analysis.

Results

Forty seven pharmacists completed the questionnaire. Private pharmacists interviewed were mostly married (74.5%), Christian (72.3%) and Yoruba (95.4%) as a major ethic group. (Table 1)

Table-1: Socio Demographic Status (n = 47)

Characteristics		Frequency	%
Marital Status	Single	12	35.5
	Married	35	74.5
Religion	Christian	34	72.3
	Moslem	13	27.7
Ethnic Group	Yoruba	45	95.7
	Others	2	4.3

Table-2: Knowledge on Tuberculosis Diseases (n = 47)

Knowledge	N	%
Caused by Mycobacterium TB	47	100
Transmission via airborne route	33	70.2
Cough of 2-3 weeks duration as a symptom	42	89.4
Weight loss as a symptom	31	66.0
Night sweat	22	46.8
Unexplained fever	8	17.0
Poverty as a risk factor	16	34.0
HIV as a risk factor	20	42.6
Poor housing	24	51.1

Table-3: Knowledge on Tuberculosis Diagnosis and Management according to National Tuberculosis Program (n = 47)

Knowledge		N (%)
Are you aware of TB diagnosis according to National guidelines?	Yes	38 (80.9%)
	No	9 (19.1%)
If yes, how is tuberculosis diagnosed? (n =38)	Sputum AFB diagnosis only	19 (50%)
	Sputum AFB with chest x-ray	9 (19.1%)
	Other methods	28 (60%)
What is the total duration of TB treatment according to National guidelines?	Correct duration: 8 months	5 (10.6%)
	Wrong duration	42 (89.4%)
What is tuberculosis treatment regimen for adults according to National guidelines?	Right regimen: 2RHZE + 6HE	3 (6.4%)
	Wrong regimen	44 (93.6)
How is TB patients monitored according to standard guidelines?	Correct monitoring using sputum smear, weight and drug intake	2 (4.3%)
	Wrong Monitoring	46 (95.7%)

Knowledge of respondents was explored as an obstacle to TB case detection. All (47- 100%) the respondents are aware of mycobacterium tuberculosis as the cause of tuberculosis. Airborne route of transmission was stated as the main mode of transmission of by 33 (70.2%) of the respondents interviewed. Respondents were asked to state which symptom was the most important feature of tuberculosis. Prolonged cough of 2-3 weeks duration was correctly stated by 89.4%, weight loss by 66.0%, night sweat by 46.8%, unexplained fever by 17.0% of respondents. In terms of risk factors, poverty, poor housing and HIV/AIDS were mentioned by 34%, 42.6% and 51.5% of respondents respectively. (Table 2)

When asked on awareness of Tuberculosis diagnosis according to National guidelines, 38 (80.9%) are aware, 19 (50%) mentioned sputum smear microscopy while 23.7% identified sputum microscopy with chest x-ray. Only 5 (10.6%) knew that the total duration of treatment was for 8 months out of which 3 (6.3%) could list all four category of drugs recommended for standard treatment of tuberculosis among adults while as low as 4.3% knew correct mode of monitoring patients on treatment using weight, sputum microscopy and drug intake. (Table 3)

Discussion

The private health sector is a valuable resource, located close to, and trusted by, many TB patients and suspects. By involving Private pharmacists, NTBLCPs can increase case detection. Since many patients first approach PPs, there is an opportunity to reduce diagnostic delay with a concurrent reduction in transmission. By enlisting PPs, NTPs can enhance patient access and acceptance, thereby improving treatment outcomes. There is also the potential to share service delivery with the private pharmacists and thus moderate the workload on frontline health workers.

Knowledge about symptoms of tuberculosis was quite good among the private pharmacists interviewed in this study as more than half mentioned prolonged cough of 2-3 weeks duration, weight loss and night sweats. This result was similar to findings on tuberculosis case detection skills among private pharmacies in Ho

Chi Minh City, Vietman where 74.1%, 63.9% and 54.4% of private pharmacies interviewed mentioned cough, fever and weight loss respectively as symptoms of tuberculosis.[6] From a TB control perspective, it would be desirable if all private health care providers including pharmacists, kept in mind that a case of cough for 3 weeks or more could be TB, particularly as previous studies done among people with symptoms of tuberculosis in Vietnam found that pharmacies are the most popular first option for people with TB.[7]

However, when asked to make a recommendation for a person with suspected pulmonary Tuberculosis, just above one quarter of respondents mentioned sputum smear as the best diagnostic test for pulmonary TB, twenty two per cent mentioned X-ray only, twenty one percent mentioned both sputum smear and Chest X-ray. These findings confirmed delay in TB diagnosis and commencement of treatment by majority thereby leading to an increase in disease transmission thus presenting a strong case for addressing private pharmacists' involvement in TB care. In addition, majority of the participants did not know 8 months standard duration of treatment, the names of drugs used for category one clients, correct mode of monitoring patients on treatment, such management practices if unchecked could contribute to the evolution and spread of MDR TB as well as diluting epidemiological impact of the DOTS programmes. To top it all, this shows clearly a major communication void between TB programmes and Private Pharmacists.

This sector poses both threats and opportunities to effective TB control. There is yet an unutilised potential for the NTBLCP to bring the pharmacies into the passive case detection strategy. Tuberculosis case detection rate could be increased and diagnostic delay decreased if information on standard guidelines on diagnosing and treating tuberculosis from NTBLCP targeted private pharmacies.

Education and information can be used to improve tuberculosis case management practices among private pharmacists. Continuous medical education (CME) sessions and dissemination of NTBLCP guidelines in user-friendly formats could conceivably boost the specificity and sensitivity of the overall diagnostic process. It could reduce the portion of diagnostic delay attributable to provider misjudgement as well as reduce non-specific treatment and avert unnecessary laboratory examinations. Further, it could induce wider use of recommended prescriptions and could promote record keeping.

Conclusion

Private pharmacies are often the first port of call for patients seeking healthcare. They need to be aware of the common symptoms of tuberculosis and be able to refer patients to appropriate facilities for diagnosis and management. Furthermore, private pharmacies need to be aware of the current treatment regimens and be in a position to advise the patients accordingly.

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