Survey of knowledge, attitudes, and practices regarding tuberculosis among general and private medical practitioners in Nigeria

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Abstract

The knowledge and practice regarding tuberculosis (TB) treatment was surveyed by analysing questionnaires distributed to 390 general and private medical practitioners in Nigeria. Of the 350 (89%) questionnaires returned, 305 (87.1%) practitioners had treated TB cases in their hospitals. The number of regimens recorded were 85 for newly diagnosed (ND) cases and for 45 re-treatment (RT) cases. The National Tuberculosis Control Programme (NTCP)-approved regimen were used in 61 (20%) ND cases and 60 (19.7%) RT cases. The number of inadequate regimens prescribed were 60 (70.6%) for ND cases and 36 (80%) for RT cases; 34 (40%) practitioners wrongly stated that streptomycin should be used for ND cases. In ND cases, regimens lasting less than 6 months were prescribed in 8 (9.4%) cases, and regiments lasting more than 12 months were prescribed in 10 cases (11.7%). Other aspects of poor knowledge were exhibited by a significant number of respondents who estimated seeing an average of 1525 TB patients each month. It was concluded that a significant number of physicians in private practice did not adhere to the standard norms for prescribing anti-TB treatment, did not know about the regimen recommended by the NTCP, and often prescribed wrong regimens. Intervention strategies in the form of continuing medical education in TB should be urgently organised for general and private medical practitioners if the disease is to be controlled in Nigeria.

Introduction

Tuberculosis (TB) is an endemic disease in Nigeria.[1] The World Health Organization (WHO) declared TB as a global emergency in 1993.[2] Since then, although there has been an intensification of global efforts to control this disease its incidence has been increasing. The incidence of TB increased from 8.8 million cases annually in 1995 to 11.9 million in 2005.[3] The problem is largest in sub-Saharan Africa and South-East Asia.[4] Current annual estimates suggest that 9 million TB deaths occur globally;[5]

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over 250 000 cases are in Nigeria.[6]

The National Tuberculosis Control Programme (NTCP) has published a booklet prescribing various regimens to be used for newly diagnoses (ND) and re-treatment (RT) cases of TB in Nigeria. Directly observed treatment, short course (DOTS) has also been advocated by the Federal Ministry of Health in Nigeria for the treatment of TB. Both the private and public sectors have been sensitised by the government to participate in the DOTS strategy. Anti-TB drugs are only made available free-of-charge by the government to the public sector. Thus, TB patients attending private hospitals have to pay for drugs and other investigations. However, the services of private medical practitioners are better in Nigeria than in the public hospitals and, therefore, about 70% of patients are seen in the private sector. Private physicians may be treating a large, yet undefined, number of TB patients. The treatment of TB is complex and there exist many recommended regimens.[7,8] However, it requires adherence to these regimens with the correct combination of drugs and dosages, at regular intervals over an extended period, if the two aims of successful treatment and reduced level of anti-TB drug resistance are to be achieved.[9]

The aim of this study was to assess the knowledge and practices regarding TB among private and general medical practitioners in Nigeria to find out if they follow the recommended regimens of the NTCP. To date, no study of this nature had been carried out.

Subjects and methods

The Association of Private and General Medical Practitioners of Nigeria (AGPMPN) includes general practitioners and consultants working exclusively in the private medical sector all over the country. At their annual meeting in March 2005 a questionnaire prepared by the author was distributed to assess the knowledge and practices regarding TB.

Doctors were requested to answer questions about several aspects of TB management (anonymously). Correct responses (see Table 1) were as stated by WHO and other authors.[6–9] The presence of acid-fast bacilli (AFB) in the sputum at least two times (in accordance with WHO guidelines) was used as the diagnostic criteria for pulmonary TB. Drug dosage was for a patient weighing 50 kg and above. Data were analysed using minitab 12.21 (USA) statistical software.

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Results

Of the 390 questionaires distributed, 350 (81.7%) were completed. Thirty-five physicians (10%) stated that they did not treat TB patients, 10 (2.9%) said they normally referred TB cases to other specialist hospitals; 305 (87.1%) treat on average 1525 TB patients each month in their own practices. Sixty-one (20%) prescribed the NTCP-approved regimen (2HZER/4HR) for ND cases of TB and 60 (19.7%) prescribed the NTCP-approved regimen for RT cases of TB (2SHZER/1HZER/$SH_3R_3E_3$). Please see the end of this article for abbreviations.

Eighty-five different regimens, e.g. 6SHR, 3SRZ, 4SRH, 12SHR, etc. were prescribed for the treatment of ND pulmonary TB while 45 different regimens were prescribed for RT cases of TB. The majority of these regimens were not in line with standard or approved regimens. Sixty (70.6%) of the 85 different regimens were considered inadequate for ND cases while 36 (80%) of the 45 different regimens for the RT cases were considered inadequate. Overall, 30 regimens (35.3%) for ND and 20 (44.4%) for RT-recommended drugs were not included in the NTCP regimen, and only one drug was prescribed for the continuation phase in ND cases in 15 regimens (12.8%). Streptomycin was prescribed for ND cases of TB in 34 (40%) of the regimens and for more than 3 months for ND cases in 10 (11.7%) and for 12 or more months in 10 (11.7%). The duration of the course of treatment was less than 6 months for ND cases in 8 (9.4%) regimens and more than 12 months in another 10 (11.7%) for ND cases.

Of the respondents, 122 (40%) knew the correct meaning of DOTS, 30 (9.8%) knew the meaning of DOTS-plus, and 35 (11.5%) knew that intermittent therapy has been shown to be as good as daily therapy. Sixty-one (20%) knew that a chest X-ray is not mandatory for the diagnosis of TB, 122 (40%) could describe how to carry out the Ziehl–Neelson (ZN) stain, 31 (10.2%) knew how to manage TB and AIDS concurrently; only 30 (9.8%) of the respondents knew about drug interactions between antiretroviral drugs and anti-TB drugs, and 61 (20.0%) stated the major side-effects of first-line anti-TB drugs.

Discussion

This study revealed a sub-optimal knowledge base, poor attitude, and poor practices amongst the doctors surveyed.

In both the developing and developed world[10-15] reports abound that note inadequate diagnostic methods, delays in reporting and referral, and sub-optimal prescribing and treatment monitoring of TB. The consequences of poor TB patient management are grave.[16] Grzybowski described this as an unmitigated disaster in the waiting.[17] He noted specifically that 'drugs are not enough' to achieve cure, the absence of a TB treatment programme may be preferable to a programme that inadequately treats and follows up the patients, thus leading to the propagation of drug-resistant strains.[18]

To date, no study of this type has been conducted among general and private medical practitioners in Nigeria. In a region where TB is highly prevalent and where about 70% of patients within the general population (including TB cases) are being seen by general practitioners, it is of some concern that the knowledge of these physicians is far from adequate. It is to be noted that 35 (10%) of doctors surveyed recorded that they did not see TB patients. This may be due to the fact that these doctors' practices were highly specialised, e.g. orthopaedics, ophthalmology, urology, etc. and, therefore, normal pulmonary TB cases would be

Table 1 Results of the survey of knowledge, attitudes and practices regarding tuberculosis distributed to 390 general and private medical practitioners in Nigeria

	Number	%
Doctors completing questionnaire	350	(89.7)
Doctors/TB patients		
Doctors who do not see TB patients	35	(10)
Doctors who normally refer TB cases to other hospitals	10	(2.9)
Doctors who treat TB cases in their hospitals	305	(87.1)
Knowledge of TB regimens		
Doctors who know about NTP treatment regimens	150	(42.9)
Numbers of regimens for newly diagnosed (ND) patients	85	(21.79)
Numbers of regimens for re-treatment (RT) cases	45	(11.53)
NTCP regimen prescribed (ND)	61	(20)
NTCP regimen prescribed (RT)	60	(19.7)
Regimens inadequate for ND cases	60	(70.6)
Regimens inadequate for RT cases	36	(80)
Only one drug in the continuation phase for ND cases	15	(12.8)
Regimens with streptromycin in the ND cases	34	(40)
Regimens with streptomycin for >3 months	10	(11.7)
Regimens with streptomycin for >12 months	10	(11.7)
Regimens <6 months duration in ND cases	8	(9.4)
Regimens >12 months duration in ND cases	10	(11.7)
TB knowledge demonstrated by doctors		
Understanding the correct meaning of DOTS	122	(40)
Understanding the correct meaning of DOTS-plus	30	(9.8)
Considering intermittent therapy as good as daily therapy	35	(11.5)
Considering chest X-ray not mandatory for pulmonary TB	61	(20)
Knowing how to carry out Z–N stain	122	(40)
Knowing how to manage TB/AIDS concurrently	31	(10.2)
Knowing about interrractions between anti-TB and anti-retroviral drugs	30	(9.8)
Knowing the major side-effects of first-line anti-TB drugs	61	(20)

unlikely to be seen by them.

The prescribing habits documented in this study will contribute greatly to treatment failure, patient default, increased case fatality, prolonged infectivity, and the development of drug-resistant bacilli.[16] There is, therefore, a need to study the multidrug resistance and extensively resistant TB pattern in Nigeria as a matter of urgency.

Compliance or adherence to treatment in TB has been investigated in depth.[16–19] Mullen prefers to use the term 'concordance', suggesting that this term implies a spirit of co-operation, exchange, and negotiation between two parties.[20] However, successful treatment can only be achieved if the recommendations given by health workers, including the doctors (both general and private medical practitioners), are correct. This study has shown that the majority of recommendations, including the regimens prescribed by the majority of general and private medical pracitioners in Nigeria, are not correct. Similar observations have been noted among private physicians in a Bolivian city.[21,22] This led to the suggestion by researchers that due to a lack of knowledge and poor diagnostic and therapeutic procedures detected when these doctors cared for TB patients there should be 'directly observed doctors' (DOD) as part of directly observed treatment (DOT). They felt that if we deemed it necessary to exert control over the patients receiving treatment, we should not be reluctant to monitor those who make the decisions about such treatment.

A low response rate to a survey of this nature has been noted in some studies.[21-22] However, the response in this study is very satisfactory. I would, therefore, recommend that intervention strategies should be arranged, e.g. continuing medical education seminars for groups and associations during their annual conventions.

Despite the formation of a NTCP by the Federal Government of Nigeria in 1991,[6] DOTS has not been used in a well-organised manner, as drugs were not provided free TB treatment in the private hospitals in Nigeria. Many TB patients prefer to attend private hospitals where privacy can be maintained, in view of the stigma that is associated with TB in Nigeria. It is, therefore, not suprising that 1525 cases were noted by all the 305 doctors as the average total number of cases seen per month in their practices all over the country.

Fox[16,17] has described several educational activities to disseminate knowledge among physicians, and other authors also place a special emphasis on post-graduate medical education.[23] Chaulet points out that the issuance of precise norms and guidelines at the central level is necessary but not sufficient;[18] a system for supervising and evaluating both the private practitioners and the NTCP is essential.

I recommend that the theme of subsequent national conventions of the AGPMPN should be TB in all its ramifications. TB experts from the Nigerian Thoracic Society, could be invited to teach and discuss various aspects of the disease. The Nigerian Medical and Dental Council (NMDC) should, as a matter of urgency, make accredited continuing medical education (CME) compulsory and stipulate the number of units that must be attended by each doctor yearly before the annual renewal of practising licences can be achieved. This will bring all doctors in the country up to standard in their practice. I also recommend that the federal, state, and local governments of Nigeria should take DOTS seriously and make sure that this strategy be fully implemented.

Better communication between the private sector and the NTCP would facilitate the exchange of vital and correct information and knowledge about TB to doctors. A national campaign, seminars, and symposia to disseminate the norm and guidelines of the NTCP among private practitioners would emphasise the public health implications of adhering or not adhering to these guidelines

Abbreviations

H (isoniazid), Z (pyrazinamide), E (ethambutol),
R (rifampicin), S (streptomycin),
AIDS (acquired immune deficiency syndrome)

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