Concerns, attitudes, and practices of orthopaedic surgeons towards management of patients with HIV/AIDS in Nigeria

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Received: 14 March 2008 / Revised: 28 March 2008 / Accepted: 28 March 2008 / Published online: 21 May 2008
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Abstract The increasing number of people living with HIV/AIDS is causing concern among surgeons over risk of occupationally acquired HIV infection. This may influence their attitude to such patients. The purpose of this study was to develop a cross-sectional survey of orthopaedic surgeons to assess their concerns, attitudes, and practices towards management of HIV-positive patients in Nigeria. All respondents were males, 55 (73.3%) of them indicated concern over the risk of occupational acquisition of HIV infection and 37 (49.3%) had examined or operated on at least one HIV/AIDS patient. Sixty (79.9%) were willing to be tested for HIV and 51 (67.9%) were previously tested. Fifty-seven (75.9%) would order preoperative HIV screening of high risk patients, and 67 (89.3%) would operate on HIV-positive patients. Most orthopaedic surgeons in Nigeria would operate on HIV-positive patients.

Résumé L'augmentation du nombre de patients vivant avec le virus HIV peut influencer l'attitude des chirurgiens vis à vis de ces patients. L'objectif de cette étude est d'évaluer l'attitude des chirurgiens orthopédistes au contact

de patients présentant une séro contamination HIV positive au Nigéria. un questionnaire a été réalisé et distribué aux chirurgiens orthopédistes du Nigéria afin de mettre en évidence leur attitude et leurs pratiques envers ces patients. toutes les réponses ont concerné des hommes: 55 (73,3%) et 37 (67,9%) ont examiné ou opéré un patient porteur du virus du sida. 60 (79,9%) ont voulu ou avaient l'habitude d'être testés et 51 (67,9%) ont été testés de façon préventive. 57 (75,9%) ont demandé à ce que le dépistage du virus HIV soit fait en pré-opératoire chez les patients à haut risque et 67 (89,3%) ont opéré ce type de patients. la plupart des chirurgiens orthopédistes au Nigéria traitent des patients HIV positifs.

Introduction

The public health problem of caring for people living with HIV/AIDS is increasing the number of health workers exposed to risks of occupationally acquired HIV infection. In Nigeria, statistics reported by the Federal Ministry of Health in 2005 show that there are 2.9 million people living with HIV with a sero-prevalence of 4.4% [11]. These people present with diverse orthopaedic problems that may need surgery.

HIV can be transmitted by percutaneous inoculation of blood [10, 14]. Such injuries follow glove punctures during surgery. The growing concern and anxiety about occupational risk of acquiring HIV infection among health care workers has engendered reluctance to provide care to HIV-positive patients [4, 17]. Moreover, this risk is higher for surgeons than for most other health care workers. It has been estimated that at least one in 1,500 surgeons is likely to be infected by HIV in the next 35 years [4, 15] and that a surgeon's cumulative life time risk of HIV sero-conversion

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ranges from 1% to 10% [9]. This risk arises from the frequent and intimate exposure to patient's body fluids through glove punctures, needle stick injuries, ocular or body splashes and is related to the prevalence of HIV infection in the community [1].

Orthopaedic surgeons seem even more endangered owing to the nature of manual and power instruments as well as sharp bone fragments encountered during surgery. Therefore, for orthopaedic surgeons the decision about rendering treatment to HIV-positive patients is especially difficult. Their concerns, attitude, and practices towards occupational risk of HIV infection and HIV-positive patients appear particularly important because of the highly specialised services that orthopaedic surgeons provide. Previous studies on HIV in Nigeria had focussed on health workers or doctors in general. To our knowledge this is the first work in Nigeria to focus specifically on orthopaedic surgeons. The paucity of studies such as this relating to orthopaedic surgeons as well as the high risk of occupational HIV transmission in their practice necessitated this study.

Subjects and methods

This article presents a questionnaire survey of orthopaedic surgeons in Nigeria to assess their concerns, attitudes, and practices towards HIV-positive patients.

One hundred self-administered questionnaires were distributed randomly among certified orthopaedic surgeons at the annual scientific conference and general meeting of the Nigerian Orthopaedic Association (NOA) in November 2005. Seventy-five questionnaires were completed, returned, and included in the study. The specific areas covered by the questionnaire included concerns, attitudes, and practices towards management of people living with HIV/AIDS (PLWHA).

The questionnaire addressed other specific areas such as:

- Age, gender, location, and years of orthopaedic practice of the surgeon
- Concerns about occupational risk of acquiring HIV

- Experience with HIV-positive patients in the past
- Willingness to operate on HIV-positive patients
- Preoperative testing of patients for HIV
- Willingness to undergo HIV testing
- Patients right to know if his or her surgeon is HIV positive
- Opinion on restriction of professional activities of HIV-positive surgeons
- Precautions against HIV transmission during operative procedures
- Actions they take after needle stick or glove injury or splashing of blood on the body or eyes

The questionnaires were completed anonymously and were not numbered nor coded. The completed questionnaires were collated and analysed using Epi Info software version 6.05 (Centers for Disease Control and Prevention, Atlanta, GA).

Results

The response rate in this study was 75%. All respondents were males. Sixty-seven respondents (89.3%) were married. Four (5.3%) were aged 31–40 years, 40 (53.3%) 51–60 years, and 12 (16.0%) were older than 60 years.

All respondents were currently practising orthopaedic surgeons. Forty (53.3%) had five years or less of orthopaedic practice and only six (8.0%) had practised for over 20 years. Thirty-two (42.7%) had their primary practice in national orthopaedic hospitals, 24 (32.0%) in university teaching hospitals, and only four (5.3%) in private hospitals (Table 1).

Fifty-five (73.3%) respondents indicated that the risk of acquiring HIV while operating on an HIV-positive patient was high and that they were concerned about this. Thirty-seven (49.3%) respondents had clinically encountered HIV-positive patients, while 18 (48.6%) had previously operated on such patients. This finding however differed by location of practice. Of those in university teaching hospitals, 58.3% had clinically encountered an HIV-positive patient, as compared to 50% of those in national orthopaedic hospitals,

Table 1 Duration of orthopaedic practice versus location of primary practice

Location of primary practice	Years of practice					Total
	<5	5–10	11–15	16–20	>20	
National orthopaedic hospitals	15	4	6	4	3	32
University teaching hospitals	13	3	4	2	2	24
Specialist hospitals/federal medical centres	6	3	0	0	0	9
General hospitals	4	2	0	0	0	6
Private hospitals	2	0	0	1	1	4
Total	40	12	10	7	8	75

44.4% in specialist hospitals and federal medical centres, 33.3% in general hospitals, and 25% of those in private hospitals (chi-square=2.43, $P<0.657$) (Table 2).

Sixty-seven (89.3%) indicated their willingness to operate on HIV-positive patients. However, only 55 (73.3%) would do so in both elective and emergency situations, and only 12 (16.0%) indicated they would operate on HIV-positive patients solely for life saving emergencies. Fifty-seven respondents (75.9%) stated that they would test high risk patients for HIV before surgery, and only 16% would do so for all patients going for surgery. Only 18.4% of those who had not clinically encountered HIV-positive patients would screen high risk patients compared to 21.1% of those who had encountered such patients without operating on them and 38.9% of those who had operated on such patients.

Forty (53.3%) respondents had performed a personal HIV screening test; 65 (74.6%) were willing to submit themselves for HIV screening test; eight (10.7%) were not sure if they would, while 11 (14.7%) declined such screening. Forty-two (56.0%) considered it appropriate to stop HIV-positive surgeons from operating. However, 68 (90.6%) did not think that HIV-positive surgeons should be barred from other forms of practice. Thirty-two (42.7%) respondents believed that a patient should know if his or her surgeon is HIV-positive, 23 (30.7%) disagreed, and 20 (26.7%) did not know (Table 3). This finding differed from the opinion of the respondents on restrictions of an HIV-positive surgeon. Twenty (62.5%) of those who agreed that patients should know the HIV status of the surgeon versus nine (39.1%) of those who disagreed indicated that HIV-positive surgeons should not operate (chi square=2.93, $P<0.086$).

The orthopaedic surgeons surveyed were given a list of possible precautions that might be taken during surgery against occupational HIV transmission and were asked to indicate which they would use. Seventy-two (96.0%) indicated they would double glove, 53 (70.7%) would wear

Table 3 Restricting HIV-positive surgeons from operating versus informing patients of surgeon's HIV status

	Restrict	Don't restrict	Total
Inform patients	20	12	32
Don't inform patients	9	14	23
Total	29	26	55

goggles, 50 (66.7%) would wear boots, and 40 (53.3%) would wear aprons. Following a needle stick injury or glove puncture injury affecting the finger, or splashing of a patient's blood on the surgeon's skin or eyes, 50 (66.7%) respondents would wash the area with hypochlorite solution, 42 (56.0%) would officially report to the hospital authorities, 40 (53.3%) would commence postexposure HIV prophylaxis, and 32 (42.7%) would offer themselves for HIV screening test.

Discussion

The risk of occupational transmission of HIV infection has been of concern to health care workers. Worldwide, most reported occupational transmissions are by needle stick injuries, infective blood splashing into mucous membranes, or transiently contacting non-intact skin [3, 14]. In response to the concerns of health care workers to this occupational risk, the Centers for Disease Control (CDC) Atlanta, USA and other agencies formulated infection control guidelines [2, 4, 5, 7].

These HIV-infection control guidelines principally define universal precautions for routine wearing of gloves, masks, gowns, goggles, and boots for procedures where splashing of blood or contact with body fluids is expected. In addition, double gloving and wearing waterproof aprons are recommended for surgeons during surgery. These precautions are meant to reduce the contact of blood and body fluids of patients with skin and mucous membranes of the surgeon. Despite these measures, many orthopaedic surgeons in this study remain as concerned as physicians in other studies about occupational risks of acquiring HIV infection from patients [8, 16].

The high rate of willingness to operate found in this study underscores the recognition of ethical obligations by the orthopaedic surgeons studied. This obligation of physicians to treat patients with HIV/AIDS had been asserted in other studies [6, 12]. However, other surveys also showed that some doctors discriminate against HIV/AIDS patients [1, 8].

Double gloving, use of goggles, aprons, and antistatic boots are recommended for surgeons to decrease the chances of splattering blood and body fluids making

Table 2 Location of primary practice versus past experience with HIV/AIDS patients

Location of primary practice	Yes (%)	No (%)	Total (%)
National orthopaedic hospitals	16 (21.3)	16 (21.3)	32 (42.7)
University teaching hospitals	14 (18.7)	10 (13.3)	24 (32.0)
Specialist hospitals/federal medical centres	4 (5.3)	5 (6.7)	9 (12.0)
General hospitals	2 (2.7)	4 (5.3)	6 (8.0)
Private hospitals	1 (1.3)	3 (4.0)	4 (5.3)
Total	37 (49.3)	38 (50.7)	75 (100)

contact with the surgeon's body. In this study many of the surgeons surveyed did not comply with these precautions. Such findings had been highlighted in a survey of surgeons by Obi et al. in south-east Nigeria [12].

Proper management in the event of a sharp item or needle stick injury or splashing of a patient's blood on to a surgeon's body is very important [13]. This is to enable appropriate documentation, statistics, proper postoccupational exposure prophylaxis, and ultimately reduce the incidences of sero-conversion among surgeons so exposed. This study showed that only a minority of the survey population would offer themselves for postexposure HIV test, while many others would neither commence post-exposure HIV prophylaxis nor officially report to the hospital authorities. These do not only lead to increased risk of sero-conversion but also considerable underestimation of the incidence of occupationally acquired HIV in our environment.

The results of this study may not be applicable to all orthopaedic surgeons. This study only surveyed orthopaedic surgeons that attended the annual scientific conference and general meeting with a non-response rate of 25%; information concerning a sizeable minority is therefore still lacking. The method of study is also liable to recall bias and information bias. These represent limitations to this study. Despite these, we believe that the study showed the concerns, attitudes, and practices of orthopaedic surgeons in Nigeria towards HIV/AIDS patients and can serve as a basis for further studies.

Conclusion

Our data indicates that orthopaedic surgeons in Nigeria are generally positively disposed to treating HIV/AIDS patients, despite their concern about occupational risks of acquiring HIV from patients. Their application of the precautions against acquiring HIV from patients and postexposure measures is however not very impressive.

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