HIV Infection among Orthopedic In-patients at Dil Chora Referral Hospital, Ethiopia.

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Back ground: In Health care centers receiving HIV positive patients the risk of occupational exposure is of special concern to Health Care Workers (HCW's). Exposure to infected blood and body fluids due to needle stick injuries present greatest over all risk to medical personnel although in surgery 'Cuts' during operations are additional hazard. The objective of the study was to determine the Incidence of HIV infection among patients admitted to orthopedic ward in Dil chora referral Hospital.
Methods: Between may 2007 and May 2009, and After pre test counseling the incidence of HIV infection was determined For all patients admitted to our orthopedic ward using 'Rapid tests' as out-lined by Ethiopian Nutrition and Health Research Institute(ENHRI) guide lines. The patients were again counseled before being given their test results. All the data was recorded by the sole Author.
Results: A total of 731,525 male (72%), 206 Females (28%) were admitted during the two year study period. Out of these 28 patients (3.8%) were found to be infected by HIV; 17 (2.3%) were males, and 11 (1.5%) were females and the majority(96%) were between the age of 15-54 Years. The reason for admission among the HIV positive patients were Trauma in 20(71%), infections in 6 (21%) and other diagnosis of musculoskeletal disorders in 2(7%).Non-operative treatment was given for 16 (57%) and operative treatment for 12 (43%) of the HIV infected patients.
Conclusion: Implementation of universal Safety precautions (USP) for prevention of nosocomial infection is recommended.

Introduction

The overall incidence of HIV in Ethiopia was estimated in 2006 to be 3.5%; 3% in males and 4% in females[1]. In health care centers receiving HIV positive patients the risk of occupational exposure is of special concern to Health Care Workers(HCW's). Exposure to infected blood and body fluids due to needle stick injuries present the single greatest risk to medical personnel [2,3] although in Surgery 'Cuts' during operations are even an additional hazard [2]. The risk of HIV infection after a single percutaneous exposure was recorded as 0.42% by CDC study and by Ippolito et al. and in the CDC study [2,4,7] .The injuries in this study occurred in the patient's ward(46.8%), the ICU and dialysis unit(17.7%), the theaters(15.6%) and the Accident and emergency department(13.8%) [5].

Patients and Methods

Between may 2007 and May 2009, and After pre test counseling the incidence of HIV infection was determined For all patients admitted to our orthopedic ward using 'Rapid tests' as out-lined by Ethiopian Nutrition and Health Research Institute(ENHRI) guide lines. The patients were again counseled before being given their test results. All the data was recorded by the sole Author.

Results

A total of 731,525 male (72%), 206 Females (28%) were admitted during the two year period. Out of these 28 patients (3.8%) were found to be infected by HIV (17 males 2.3%,11 Females 1.5%)(Table 1) and the majority(96%) were between the age of 15-54 Years(Table2). The reason for admission among the HIV positive patients were Trauma in 20(71%), Infections in 6(21%) and other diagnosis of musculoskeletal disorders in 2(7%)(Table 3).Non Operative treatment was given for 16(57%) and Operative treatment for 12(43%) of the HIV infected patients(Table 4).

Table 1. Total Number of Admissions to Orthopedic Ward by Gender and HIV Test Results.

Gender	HIV Test results		
	Positive	Negative	Total
Male	17(2.3%)	508(69.5%)	525(71.8%)
Female	11(1.5%)	195(26.7%)	206(28.2%)
Total	**28(3.8%)**	**703(96.2%)**	**731(100%)**

Table 2. Total Number of Admission to Orthopedic Ward by Age and HIV Test Results

Age in years	HIV test Result		Total
Age	Positive	Negative	Total
0-4		13(1.8%)	13(1.8%)
5-14		91(12.5%)	91(12.5%)
15-24	2(0.3%)	149(20.4%)	151(20.7%)
25-34	6(0.7%)	206(28.2%)	212(28.9%)
35-44	15(2.0%)	123(16.8%)	138(18.8%)
45-54	4(0.6%)	61(8.3%)	65(8.9%)
55-64	1(0.2%)	32(4.4%)	33(4.6%)
65-74		12(1.6%)	12(1.6%)
75-84		11(1.5%)	11(1.5%)
> 84		5(0.7%)	5(0.7%)
Total	**28(3.8%)**	**703(96.2%)**	**731(100%)**

Table 3. Total Number of Admissions to Orthopedic Ward by Diagnosis and HIV Test Results

Diagnosis	HIV test Results		Total
	Positive	Negative	
All traumas	20(71.4%)	548(78.0%)	568(77.7%)
All infections	6(21.4%)	54(7.7%)	60(8.2%)
All other diagnoses	2(7.2%)	101(14.3%)	103(14.1%)
Total	**28(100%)**	**703(100%)**	**731(100%)**

Table 4. Total Number of Orthopedic Admission by Types of Treatment and HIV Test Results

Types of treatment	HIV test Results		Total
	Positive	Negative	
Non Operative	16(57.1%)	536(76.2%)	552(75.5%)
Operative	12(42.9%)	167(23.8%)	179(24.5%)
Total	28(100%)	703(100)	731(100%)

Discussion

This audit has shown that the incidence of HIV infection in our orthopedic ward was 3.8% and this finding is not significantly higher than the 2006 estimate of 3.5% for the whole of Ethiopia[1]. It is also evident that with 43% of our HIV patients requiring surgical intervention there must be a significant risk of occupational exposure in our day to day orthopedic surgical practice be it in patient's ward, ICU, theaters or the accident and emergency department. However Proper use of the recommended universal precautions(USP) for prevention of nosocomial Hospital acquired infections namely hand

washing, use of protective barriers (Gloves, gowns, mask etc.), proper disinfection and sterilization, proper disposal of sharps and other infectious materials and post exposure drug prophylaxis will reduce the risk of occupational exposure to HIV for all Health Care Workers(HCW's)[2,6].

Conclusion

Appreciation of the magnitude of HIV infection in orthopedic and other surgical practice alerts Heath care workers more about risk of occupational exposure and encourages the use universal precautions(USP) for prevention of nosocomial Hospital acquired infections including HIV.

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