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Should We Screen for HIV in Saudi Arabia?

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Abstract. The aim of this study is to evaluate the necessity of mandatory pre operative HIV screening in Saudi Arabia. This can be achieved by comparison between the prevalence of HIV in two leading governmental hospitals in Saudi Arabia, where routine preoperative screening is done in one of them. The number of screened HIV positive patients was taken from the registration records of the laboratory department of both King Abdulaziz University Hospital and King Fahd Hospital, from the period of 1 January 2007 to 1 January 2008. The number of HIV positive cases in a period of one year at King Abdulaziz University Hospital was 15 (prevalence of 1.4%). The total number of positive HIV patients screened in the blood bank was 13 (prevalence of 0.14%). While in King Fahd Hospital, the total number of positive HIV cases found from preoperative screening was 76 (prevalence of 1.04%). The total number HIV positive patients from the blood bank were 6 (prevalence of 0.089%). The pickup rate of HIV cases is markedly higher in hospitals where routine preoperative HIV testing is conducted. These figures raise the question; if the time has come for HIV testing to be done as a routine preoperative procedure in our hospitals?

Keywords: HIV, Saudi Arabia, Screening, Pre-operative.

Introduction

Acquired Immune Deficiency Syndrome (AIDS), also known as Human Immunodeficiency Virus (HIV) disease has reached pandemic proportions worldwide.

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The acquired immunodeficiency syndrome (AIDS) was first recognized among homosexual men in the United States in 1981[1]. Since then, the infection with human immunodeficiency virus (HIV) has grown to pandemic proportions, resulting in an estimated 65 million infected persons worldwide and 25 million deaths[2,3].

The infection is concentrated in the socially and economically productive age groups, from 15 years of age till 40[2]. The exact number of infected people remains unknown due to various factors.

Available data points to increasing HIV infection rates in the Middle East and North Africa, with an estimated 83,000 people having acquired the virus, and 37,000 having died, in 2002. This brings the total to 550,000 estimated number of people living with HIV in this region[4].

During 2005 alone, an estimated 2.8 million persons died from AIDS, 4.1 million were newly infected with HIV, and 38.6 million were living with HIV. HIV continues to disproportionately affect certain geographic regions (*e.g.,* sub-Saharan Africa and the Caribbean)[5] and subpopulations (*e.g.,* women in sub-Saharan Africa, men who have sex with men [MSM], injection-drug users [IDUs], and sex workers).

As of December 2007, 33 million people were estimated to be living with HIV/AIDS, and more than 35 million had died since the beginning of the epidemic[6]. Of the 33 million, 22.5 million were living in sub-Saharan Africa alone, where the adult prevalence rate is 5.0 percent. The prevalence in sub-Saharan Africa appears to have stabilized, mainly due to the slowing in the incidence and the increasing number of infected people accessing treatment. More than half of those living with HIV/AIDS are women. It is estimated that 15 million children have been orphaned by the premature death of both parents due to AIDS, placing enormous responsibilities on communities, and 2.5 million children are living with HIV/AIDS. Children become infected daily as a result of mother-to-infant transmission[6], despite data that antiretroviral drugs given at the time of delivery, and to the infant after birth can largely prevent this. Unfortunately, antiretroviral prophylaxis, to prevent mother-to-child transmission, reaches only 10 percent or less of affected mothers[7,8].

Effective prevention and treatment of HIV infection with antiretroviral therapy (ART) are now available, even in countries with

limited resources. Nonetheless, comprehensive programs are needed to reach all persons who require treatment and to prevent transmission of new infections[5].

Living in a conservative society creates hesitancy discussing or disclosing such information for fear of being discriminated against or rejected. Fear also poses another problem where many people refuse to get tested, since they would rather not know. Ignorance plays a major role as well. Lack of education on the modes of transmission and methods of acquiring the disease makes many of those infected unaware of them being within the risk group. Mandatory screening is not part of the hospital policy in the majority of hospitals, which contributes to the lack of accurate numbers.

Finding out the actual number by voluntary and mandatory screening will not only help in getting a better understanding of the situation at hand, but will also show the need of creating educational programs on AIDS and its preventative measures. It will also help encourage those infected to seek medical attention.

Method

The aim of the study is to compare between incidences of HIV between two leading hospitals in Jeddah; where HIV testing is done routinely in King Fahd Hospital (KFH) *vs.* King Abdulaziz University Hospital (KAUH), where the testing is not routine between 1/1/07 till 1/1/08. The data was collected from the registry of the lab and blood bank. In both hospitals, HIV testing is normally done in screening of blood and organ donors, patients with other sexually transmitted diseases, patients with symptom suggestive of HIV, contacts of HIV-infected persons and expatriates pre-employment. Additionally, in KFH HIV testing is done as routine preoperative test. HIV testing is done using Enzyme Linked Immunosorbent Assay (ELIZA) and is confirmed by Western blot. This has been a standard screening in Saudi Arabia since 1986. The Ministry of Health is notified of all cases diagnosed as HIV, in both government and private health care facilities. The number of HIV positive cases that were obtained during preoperative screening or from the blood bank was documented throughout the year-period in both hospitals. HIV positive expatriates are symptomatically treated and sent back to their homeland. Whereas, Saudi patients are sent to a tertiary care

governmental HIV-specialized center where they are treated by highly active antiretroviral therapy (HAART), along with further tests such as HIV load and CD4/CD8 ratio are conducted. The data is collected from the patients by the attending physicians. Modes of transmission are determind through the case history. HIV positive results are not kept in the patients' file, instead the attending physician is notified verbally. Information collected is sent to the Department of Preventive Medicine in the Central MOH office in Riyadh. Annual reports issued are not made public, but are rather confined to the Ministry of Interior and Ministry of Health officials[9].

Results

From 1/1/07 to 1/1/08 in KAUH, the total numbers of patients seen were 289,154, and of the operative cases were 8,465 cases. Out of which, only 1,061 patients were screened, 15 were found to be positive with a prevalence of 1.4%. The total number of patients screened in the blood bank was 9,054 patients, out of which 13 were HIV positive with a prevalence of 0.14%. While in King Fahd hospital the total number of patients seen in the same period were 21,726 all were screened for HIV, out of which 216 patients were found positive with a prevalence of 0.99%. The total number of patients screened in blood bank was 6,724, out of which 6 were HIV positive with a prevalence of 0.089% (Table 1).

Table 1. Shows the number of cases screened in KFH for HIV (in and out patients), the number of HIV positive patients and their percentage throughout the year.

Month	Total No. Of Screened Cases	No. of Pre-Op Cases	Positive Cases	Percentage
Moharam/Jan.	1,810	640	18	0.9%
Safar/Feb.	2,206	646	16	0.72%
Rabe'i I/Mar.	1,916	621	25	1.3%
Rabe'I II/Apr.	2,003	690	12	0.59%
Jamadi I/May	1,938	626	22	1.1%
Jamadi II/June	1,937	607	19	0.98%
Rajab/July	1,963	660	18	0.9%
Sha'aban/Aug.	1,823	652	22	1.2%
Ramadan/Sept.	1,163	410	12	1.03%
Shawwal/Oct.	1,593	486	13	0.8%
Thul Qedah/Nov.	1,982	573	22	1.1%
Thul Hijjah/Dec.	1,392	459	17	1.2%
Total	**21,726**	**7,070**	**216**	**0.99%**

In KAUH out of 15 cases, 8 were male patients, 7 were female patients. Saudi patients constituted 7 of the patients while Non-Saudis averaged to a sum of 8 patients. 3 out of 15 were single. 5 out of 15 were very critical and died soon after admission to the hospital (Table 2).

Table 2. Shows the gender, age, marital state, nationality and current state of the positive cases in KAUH.

Positive Cases	Gender	Age	Marital Status	Nationality	Current Status
1	Male	53	Single	Yemeni	
2	Male	48	Married	Saudi	Died
3	Male	46	Married	Yemeni	
4	Female	48	Married	Chadian	Died
5	Female	48	Married	Nigerian	
6	Female	27	Single	Saudi	
7	Male	29	Single	Saudi	
8	Male	47	Married	Saudi	
9	Female	47	Married	Saudi	
10	Male	56	Married	Saudi	
11	Male	40	Married	Chadian	
12	Female	48	Married	Chadian	Died
13	Male	42	Married	Saudi	Died
14	Female	41	Married	Nigerian	
15	Female	55	Married	Chadian	Died

In KFH out of 216 cases, 115 were male patients, 101 were female patients. Saudi patients constituted 72 of the patients while non-Saudis averaged to a sum of 144 patients. None of the screened cases died upon admission.

Discussion

The incidence of HIV/AIDS has now increased to unprecedented values. The AIDS epidemic now ranks alongside the influenza pandemic of the early 1900s, and the Bubonic plague of the fourteenth century in term of fatalities[10]. The impact of this disease on human suffering, cultures, demographics, economics, and even politics has been felt in nearly every society across the globe.

The number of operative cases in both hospitals was similar; 7,070 patients in KFH hospital *vs.* 8465 patients in KAUH. This proved a better detection rate in KFH, where they detected 76 cases *vs.* 15 cases in KAUH. 50% of the diagnosed cases in KAUH died soon after diagnosis,

reflecting their clear advanced stage. Limitation of diagnosed cases could be partially due to the lack of awareness about HIV and anticipating its presence. On the other hand, most people don't recognize the fact that they are within the risk group of acquiring the disease. Lack of awareness, preventative measures and screening programs has further served to aggravate the situation.

The prevalence of HIV among the blood bank donors is similar in KAUH and KFH, 0.01% *vs.* 0.089%. This is found to be much lower than the incidence in pre-operative cases. The fact that those groups of people knew ahead they were being tested accounted for these low figures in comparison to unsuspecting individuals.

Some may argue that routine HIV screening should not be conducted because it is viewed as an invasion of the patient's privacy. However, adopting this policy deprives patients from the otherwise available medical treatment, and the medical staff from the necessary prevention and precaution methods. Simple cautionary methods can be very helpful in cases of accidental infections, such as cleansing small wounds and punctures with antiseptics, alcohol based hand hygiene agent, since alcohol is virucidal to HIV, HBV and HCV.

Since an estimate of the prevalence in our society is not well established, routine voluntary screening for HIV once every three to five years, would be justified on both clinical and cost effectiveness ground. One time screening in the general population would also be cost effective[11].

Enforcing mandatory screening would help in detecting the disease early on; helping in extending the life expectancy of infected patients, improving their quality of life, and can help in preventing the transmission of the disease to contacts of HIV infected persons.

Antenatal screening is very essential as well since it improves the outcome for both mother and fetus. Early diagnosis may provide a dramatic improvement allowing the use of antiretroviral treatment[12,13].

Recently, an order has been issued by the Ministry of Interior making HIV testing a requirement for premarital screening. It is about time to advocate screening patients for all preoperative cases as well as routine antenatal screening.

Conclusion

The pickup rate of HIV cases is markedly higher in hospitals where routine preoperative HIV testing is conducted. Adopting the policy of routine screening will not only help in treating the infected cases, give a chance to the health care provider to take the necessary precaution upon handling these cases, but also, to aid in knowing the real prevalence in our society. These figures raise the question; if the time has come for HIV testing to be done as a routine preoperative procedure in our hospitals.

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هــل يتوجب علينا أن نجري مسحاً طبياً لمرض الإيدز في المملكة العربية السعودية؟

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المستخلص. يستهدف البحث دراسة ضرورة إجراء فحص مرض الإيدز قبل العمليات، وهل من الضروري جعله إلزاميًا قبل العمليات في المملكة العربية السعودية؟ وذلك عن طريق المقارنة بين نتائج مستشفيين حكوميين في جدة أحدهما يفرض إجراءه قبل العمليات لجميع المرضى، وبالآخر لا يجرى بشكل روتيني قبل العمليات. تمت دراسة سجلات المرضى المفحوصين في مستشفى جامعة الملك عبدالعزيز، ومستشفى الملك فهد العام، وهو المستشفى الرئيسي لوزارة الصحة في منطقة جدة، وذلك من الفترة الزمنية من ٢٠٠٧/٠١/٠١ حتى ٢٠٠٨/٠١/٠١م. عدد المرضى الذين خضعوا للعمليات في مستشفى جامعة الملك عبدالعزيز في تلك الفترة هو ٨,٤٦٥، تم فحص ١,٠٦١ حالة وجد منها ١٥ مريض فحص الإيدز لديه إيجابي، بنسبة شيوع ١,٤٪. عدد المرضى الذين فحصوا لمرض الإيدز في بنك الدم هو ٩,٠٥٤ وجد منهم عدد ١٣ إيجابي للفحص. بنسبة شيوع ٠,١٤٪. وعدد المرضى بمستشفى الملك فهد بتلك الفترة هو ٧,٠٧٠ تم فحصهم جميعًا، ووجد منها ٧٦ مريضًا فحص الإيدز لديه إيجابي، بنسبة شيوع ١,٠٤٪، وعدد المرضى الذين فحصوا لمرض الإيدز في بنك الدم هو ٦,٧٢٤ وجد منهم عدد ٦ إيجابي للفحص. بنسبة شيوع ٠,٠٨٩٪.

الخلاصة. تم الكشف عن عدد أكبر من حالات الإيدز في المستشفى التي تجري فحص الإيدز بشكل دوري قبل العمليات، مما يدعونا للتساؤول عما إذا كان قد حان الوقت لتعميم الفحص كضرورة لجميع مرضى العمليات في مستشفياتنا.