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Antenatal HIV Screening – Knowledge, Attitudes and Practices of Obstetricians in KKH

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ABSTRACT

Aim of Study: To determine the knowledge, attitudes and practices of obstetricians with regards to HIV screening in pregnant women.

Method: This is a cross-sectional study based on a questionnaire survey of all obstetricians in KKH from January to August 1997.

Main outcome measures: Obstetricians' knowledge and beliefs of HIV epidemiology and HIV perinatal transmission, and attitudes and practices with regards to antenatal HIV screening.

Results: Forty-one (77.4%) obstetricians responded to the survey. At the time of the survey, only 43.9% of the respondents had offered the HIV serology test to their patients with only 17.1% and 19.5% providing pre-test and post-test counselling respectively. Seventy-eight percent of them were aware of reports that zidovudine could reduce the vertical HIV transmission rate. All the respondents felt that HIV testing should be performed in pregnant women. The majority (70.7%) felt that antenatal HIV testing should be voluntary rather than mandatory and 56.1% felt that the patients' civil rights and confidentiality could be more assured if HIV testing is voluntary than if it was mandatory. Most respondents (56.1%) felt that antenatal HIV screening should be universally offered rather than targeted to those with risk factors. Most obstetricians did not feel comfortable (58.5%) or competent (80.5%) to manage HIV infection in pregnancy. Those who felt competent were more likely to feel comfortable, more likely to have provided HIV test in the clinic, and less likely to opt out of caring for an HIV-infected patient.

Conclusion: The majority of the surveyed obstetricians would support a program of voluntary antenatal HIV screening that is universally offered to all pregnant women. The feelings of discomfort and incompetence of the obstetricians towards caring for an HIV-infected pregnant woman need to be addressed further. There is a need for continuing medical education to help obstetricians keep abreast with the advances in HIV screening and its management.

Keywords: antenatal HIV screening, zidovudine, obstetricians, knowledge, attitude, practice

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INTRODUCTION

The human immunodeficiency virus (HIV) continues to spread rampantly in the world as the next millennium approaches. The World Health Organisation (WHO) estimated that there were 5.8 million newly infected people in 1997, or close to 16,000 new infections a day[1]. By the end of 1997, there was a total of over 30 million cumulative people with HIV infection in the world, and close to 6 million living HIV or AIDS cases in South and Southeast Asia. A high level of endemic sexually-transmitted diseases (STD) and intravenous drug use (IVDU) have facilitated the spread of HIV epidemic in South and Southeast Asia[2]. Prostitution flourishes in Asia where there are millions of impoverished women. Intravenous drug abuse is also highly prevalent in the neighbourhood of the Golden Triangle which includes northeast of India, Myanmar, Thailand, South China and Malaysia. As there is an active movement of people via trade and tourism between Singapore and her neighbouring countries, the increasing HIV infection rates in the region are of concern to Singapore.

Seven hundred and thirty-one cumulative cases of HIV and/or AIDS cases in Singapore were reported between 1985 and 1997[3]. Whilst the number remains low, more women in Singapore are infected with HIV. The proportion of women among all cumulative HIV carriers in Singapore was 3.3% between 1985 and 1990[4]. It had increased to 10.9% between 1991 and October 1997. The number of cases of perinatal HIV transmission in Singapore has also increased correspondingly. Of the total of five reported cases of HIV infection through perinatal transmission in Singapore from 1985 to 1997, four were reported in 1997[3].

In the past, the options available for the pregnant woman were limited to termination of pregnancy or avoidance of breastfeeding upon the diagnosis of HIV infection. In the present era, the outlook for the patient's survival and quality of life can be expected to improve with the availability of a combination anti-retroviral drug therapy and the practice of early intervention with these drugs. Many evidences accumulated show that perinatal HIV transmission can be reduced by the institution of interventions to

those with known HIV infection. In particular, the use of zidovudine has been shown to further reduce the perinatal HIV transmission rate[5,6]. Women who know about their HIV status are also increasingly taking up interventions to reduce perinatal HIV transmission[7].

Hence, antenatal HIV screening for all pregnant women has been advocated in recent years[8]. However, it is well known that healthcare workers often do not practise evidence-based medicine. Their attitudes and values often affect health outcomes[9], probably by affecting how they present and discuss issues with their patients. In a randomised controlled trial done in Edinburgh, it was found that the uptake of HIV test after counselling by the individual midwives ranged from 15% to 48% despite similar training in offering the test by using clearly written protocols designed for the study[10].

It is hence important to know the knowledge, beliefs, attitudes and practices of our obstetricians in KKH as we embark on a program of antenatal HIV screening in the hospital.

METHODS

KKH is a major obstetrics hospital in Singapore with close to 16,000 deliveries per year (about one-third of births in Singapore) and 53 practising obstetricians (out of about 210 local obstetricians practising in the public and private sectors).

A cross-sectional study was performed amongst the obstetricians in KKH using a self-administered structured confidential questionnaire (a copy of which can be obtained from the authors) between January 1997 and August 1997. The inclusion criteria for the obstetricians were post-graduate qualifications – MRCOG, MRACOG, MMED (O&G) or any equivalent post-graduate degrees, and they had to be practising obstetrics actively in KKH. One gynaecologist was excluded from this survey as he had confined his practice to that of gynaecological oncology. Fifty-three obstetricians satisfied the inclusion criteria.

Table I – Characteristics of the surveyed obstetricians and the responders

	Total	Responders	Response rate
Senior consultants	8	4	50.0%
Males	8	4	50.0%
Females	0	0	NA*
Consultants	12	8	66.7%
Males	6	6	100%
Females	6	2	33.3%
Senior registrars	16	12	75.0%
Males	9	8	88.9%
Females	7	4	57.1%
Registrars	17	17	100%
Males	13	13	100%
Females	4	4	100%
Grand Total	53	41	77.4%

* NA : Not applicable as there was no female senior consultant in the surveyed population.

The questions with multiple choice answers were designed to assess the respondents' knowledge, beliefs, attitudes and practice with regards to HIV epidemiology, perinatal HIV transmission and antenatal HIV testing. The questionnaires were sent to all the 53 eligible obstetricians in January 1997. The questionnaires were repeatedly sent to the non-responders up to a maximum of 3 times till July 1997. Twelve remained non-respondent after these attempts.

RESULTS

Characteristics of the surveyed population and responders

The characteristics of the surveyed population and the responders in terms of staff grades and sexes are illustrated in Table I. Of the 53 eligible obstetricians, 15.1% were senior consultants, 22.6% were consultants, 30.2% were senior registrars and 32.1% were registrars. 67.9% of them were males whilst 32.1% were females.

A total of 41 (77.4%) obstetricians responded to the survey. Among those who responded, 9.8% were senior consultants, 19.5% were consultants, 29.3% were senior registrars and 41.5% were registrars. 75.6% of the responders were males; whilst 24.4% were females.

The response rate was higher among the male obstetricians (86.1%) than the female obstetricians (58.8%), and higher among the registrars (100%) than the more senior staff (66.7%). As with all survey studies, a potential bias remains that the responders could be those who were more familiar with the topic or had more experiences in managing patients with HIV infection.

Main outcome measures

Knowledge of HIV epidemiology and perinatal transmission

By the end of 1996, there was a total of 29.4 million children and adults in the world who had been infected with HIV[11]. By October 1996, there were 532 cumulative cases of HIV infection in Singapore[12]. Fifty of these patients were women. These figures (which were the latest official figures available at the time of the survey) were appreciated by about half of the respondents. More than 95% of the respondents perceived the HIV seroprevalence amongst women in Singapore and in their respective practices to be low.

The majority (78.0%) knew the oft-quoted perinatal HIV transmission rate of 20% to 30%. Most (97.6%) knew that HIV-infected babies are not symptomatic of the disease at birth and 73.2% of them also knew that HIV serology is not a reliable diagnostic test of perinatally acquired infection in the newborns.

Whilst most (92.7%) knew that zidovudine (AZT or ZDV) was available in Singapore, only a minority knew that didanosine (22.0%) and protease inhibitors (12.2%) were also available. Most obstetricians

(78.0%) were aware that AZT has been proven to reduce the vertical HIV transmission rate.

Attitudes and practices towards antenatal HIV screening
Less than half (43.9%) of the respondents have experience in caring for HIV-infected patients. The vast majority (80.5%) did not feel competent about caring for HIV-infected patients. More than half (58.5%) did not feel comfortable about caring for these patients. A significant proportion (53.7%) of the respondents would opt not to care for HIV-infected patients if they had a choice.

Most obstetricians (87.8%) believed that HIV seropositivity should be reported to the Ministry of Health but were equally divided in their opinions as to whether patient consent should be obtained before reporting. Though more respondents (58.5%) felt that the reduction of vertical transmission was best achieved by mandatory testing, the majority felt that antenatal HIV screening should be voluntary (70.7%). More respondents felt that the patients' civil rights and confidentiality could be more assured if HIV testing is voluntary than if it was mandatory. The respondents were, however, polarised as to whether HIV screening should be universally offered (56.1%) or only offered to those with risk factors (43.9%). Most (78.0%) believed that HIV screening for health care workers should be voluntary.

Practice with regards to HIV testing
Less than half (43.9%) of the obstetricians provided HIV serology test in their clinics. Even fewer obstetricians provided HIV pre-test (17.1%) or post-test counselling (19.5%). The majority would obtain a written consent (63.4%) from the patients before performing the HIV test.

Secondary outcome measures
A comparison between those who felt competent and those who did not was made (Fig 1). A higher proportion of those who felt competent were comfortable looking after HIV-infected patients (87.5% vs 30.3%, p = 0.006) and would opt to care for the patients (87.5% vs 36.3%, p = 0.013). More of those who felt competent also knew that AZT had been proven to reduce perinatal HIV transmission (87.5% vs 75.8%, p = 0.46) and were providing HIV test in their clinics at the time of the survey (100% vs 36.3%, p = 0.001).

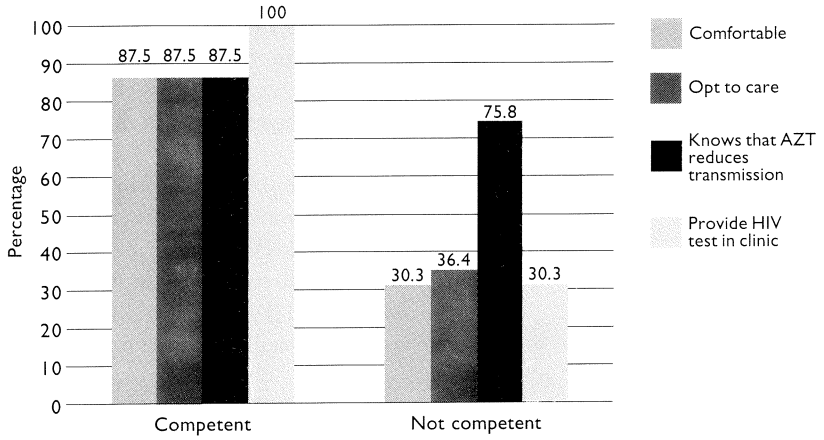

Fig 1 – Comparison of those who feel competent and those who do not.

DISCUSSION

Antenatal HIV testing has been fraught with many complex issues that have ignited ongoing debates in the medical world. Since January 1998, the Ministry of Health has urged all medical practitioners to encourage their obstetric patients to undergo screening test for HIV infection. Two factors have accounted for this recent announcement. Firstly, there has been a definite increase in paediatric HIV infection from perinatal transmission in 1997 when four such cases were detected[3]. Secondly, certain interventions have been shown to significantly reduce perinatal HIV transmission rates. Hence, antenatal HIV screening is necessary to identify these infected pregnant women for the appropriate interventions.

The notification of HIV infection to the Communicable Disease Centre (CDC) of Singapore is enforced by legislation. The number of reported new cases of HIV infection per year has increased from 86 in 1994 to 173 in 1997[3]. Many cases of HIV infection remain undiagnosed. It is likely that the true numbers are higher than that reported, and that the rates would continue its upward trend. Indeed, the WHO has recently estimated that there were 3,100 adults and children in Singapore with HIV infection alive at the end of 1997[13]. Of these, 610 were women and less than 100 were children. Whilst the adult prevalence rate of 0.15% used by WHO for the estimation is doubtful, these new estimations are timely and serve to prevent medical practitioners from slipping into complacency. As it is, more than 95% of the surveyed obstetricians thought that the prevalence of HIV infection locally is low.

All our surveyed obstetricians agreed that some form of antenatal HIV screening (voluntary or mandatory) is necessary. Whilst 58.5% of the respondents thought that the reduction of HIV vertical transmission was best achieved by mandatory HIV testing, only 29.3% felt that HIV testing in pregnant women should be mandatory. This could perhaps be explained by their concerns that the patients' privacy or confidentiality, and civil rights could be compromised with mandatory testing (Table II).

It has been assumed that mandatory testing would assure treatment for every fetus and neonate who might benefit from therapy, and hence be the most effective program for reducing perinatal HIV transmission. However, a program of mandatory antenatal testing poses significant ethical problems. It contradicts the patients' rights to privacy, confidentiality and civil rights. There is no evidence to show that it would work or that it would be cost-effective. It also risks deterring women, especially those with risk factors and who need proper HIV-test counselling, from seeking antenatal care. This is especially so as curative interventions are still not

Table II – Obstetricians' views on mandatory and voluntary HIV screening

	Voluntary	Mandatory
HIV screening for healthcare workers should be:	78.0%	13.2%
HIV screening for pregnant women should be:	70.7%	29.3%
Reduction of vertical transmission is best achieved by HIV testing that is:	17.1%	58.5%
Privacy/confidentiality can be assured if HIV testing is:	56.1%	46.3%
Patients' civil rights can be assured if HIV testing is:	51.2%	24.4%

NB : The percentages may not add up to 100% as they may be extracted from separate questions.

available for the HIV-infected women. Hence, most medical practitioners and medical associations would support voluntary testing for HIV infection[14-17].

The responders were however polarised as to whether antenatal HIV testing should be universal or targeted. Antenatal HIV screening could be universal (ie. on every pregnant woman) or targeted (ie. only on those at high risk for HIV infection). Targeted screening would be cost-effective if most of the HIV infected women could be identified with this method. Unfortunately, studies have shown that many cases (up to 75%) could still be missed because of patients' dishonesty or ignorance[18]. Patients could also feel discriminated against when offered such a test in such a program.

A program of counselling and offering antenatal HIV test to all pregnant women (the universal voluntary approach) is consistent with current medical, legal, ethical and pragmatic principles. Pre- and post-test counselling are pre-requisites to such a program. The principles underlying pre-test counselling are those of education and informed consent. The patient should understand the potential discrimination and the implications of a positive HIV test before the test is performed. The advantages of such a policy include education of all prenatal patients about the major modes of viral transmission and encouragement of all to practise risk reduction behaviour. Such an approach has been shown to increase the uptake of the test and the detection of previously unrecognised infections[15].

It has recently been argued that consideration be given to adopting an "opt out" (or informed right of refusal) approach to HIV testing[19]. Giving patients the right to refuse without requiring written consent would result in a de-emphasis on both the HIV test and the unique stigma attached to a positive result, with an expected increase in uptake of the test.

Medical practitioners in Singapore who care for obstetric patients could be faced with the complex issues of antenatal HIV testing in their clinics as more pregnant women would be screened for HIV infection. Our study has shown that those who felt competent were more likely to feel comfortable, less likely to opt out of caring for the HIV-infected patient and more likely to provide HIV tests in their clinics.

In the implementation of an antenatal HIV testing program, it is important that the competency of the medical practitioners be fully addressed as their competency would undoubtedly affect their attitudes and practices. This may, in turn, affect the success of such programs. In KKH, we have embarked on a program of voluntary offering of the HIV test to all antenatal patients at booking since August 1998. We have also addressed the concerns of the medical practitioners through various medical lectures and clinico-pathological conferences. It is hoped that with continuing medical education and accumulated clinical experiences, the competency of the medical practitioners could be further improved.

CONCLUSION

Many KKH obstetricians supported a voluntary programme that offered HIV screening to pregnant women. They were, however, divided in their opinions as to whether it should be offered to all pregnant women or only to those with risk factors. The feelings of discomfort and incompetence of the majority of the respondents towards caring for an HIV infected pregnant woman need to be further addressed. There is a need for continuing medical education to help obstetricians keep abreast with the advances in HIV management and care.

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