Sexual behaviour and HIV knowledge among Dermatology cum Genitourinary Clinic Attendees, Johor Bahru, Malaysia

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Summary
A study was conducted in the Dermatology cum Genitourinary Clinic, Hospital Sultanah Aminah Johor Bahru to determine a local population's knowledge of HIV and their sexual behaviour in relation to it. A total of 231 men and 217 women were interviewed. The sexual culture seen is one of relatively late age of first sexual intercourse, low level of partner change and low level of condom use. Men reported a higher involvement in risk behaviour. Nearly all the respondents (95.8%) have heard of HIV/AIDS but had incorrect perceptions of its mode of transmission and its associations with risk groups. This study enabled us to gain background information about our patients' sexual behaviour and HIV knowledge. There is a need to continue HIV education to improve our public's HIV knowledge and the results of this study provides a baseline against which future educational interventions can be gauged.

Key Words: Sexual behaviour, HIV, AIDS, Condom use

Introduction
Human immunodeficiency virus (HIV) infection is known to be sexually transmitted since 1980s. The presence of other sexually transmitted diseases (STDs) are now recognised to facilitate both the acquisition and transmission of HIV. Strategies developed by World Health Organization (WHO) Global Program on Acquired immunodeficiency syndrome (AIDS) to prevent sexual transmission focus on three linked components: condom promotion and distribution, change in sexual behaviour (delaying onset of intercourse by adolescents, avoidance of high risk sexual practices and partner number reduction) and control of STDs.

In Malaysia, 77% of the 12,905 HIV infections reported till June 1995 were associated with intravenous drug use (IVDU). This is because this high risk behaviour group is compulsorily screened for HIV. However, the number of sexually transmitted HIV infections, which accounted for 2% of reported cases in Malaysia, is expected to rise. Besides addressing the problem of IVDU, efforts to control the epidemic in Malaysia include upgrading of STD services and promoting sexual behaviour change by using government sponsored media campaigns aimed at educating the public about the cause of AIDS, the mode of transmission of HIV and possible methods of prevention. Emphasis is placed on adopting a healthy lifestyle which includes maintaining a happy healthy family with mutually monogamous relationship. Condom promotion and distribution is left to non-governmental organisations and personal health care providers in order to avoid the controversy that the very act of promoting and making condoms available encourages promiscuity.

The aim of this study was to investigate a local population's knowledge and behaviour regarding HIV.
and their attitude towards condom use and towards people with HIV infection two years after our national launch of healthy lifestyle campaign on AIDS in 1992.

**Methodology**

**Procedure**

Face to face interviews were conducted in the Dermatology cum Genitourinary clinic, Hospital Sultanah Aminah Johor Bahru with consecutive clinic attendees between July 1994 to September 1994. Patients aged 14 years and above were approached by one of our interviewers who explained the purpose of the study and the nature of the questions. Patients were assured of confidentiality and anonymity. Interviews were conducted in the privacy of clinic rooms.

**Setting**

The Dermatology cum Genitourinary Clinic, Hospital Sultanah Aminah Johor Bahru, Malaysia has over 12,000 attendances per year. About 4% of these are seen for STDs.

**Questionnaire**

The questionnaire contains a core of 37 items tapping demographics, sexual behaviour, condom use and attitude towards condom use, knowledge of HIV, perceived risk of contracting HIV and attitude towards patients living with HIV.

The questionnaire was pretested on patients attending a medical camp in Pasir Putih, Johor by the first three authors.

**Data analysis**

Descriptive statistical procedures were used to examine the characteristics of the subjects. Student-t test and chi square test for two independent samples were used.
to examine the differences between male and female respondents. We focused our analyses on questions pertaining to sexual behaviour.

Results

Demographic characteristics
A total of 231 men and 217 women were interviewed. The mean age for men was 36 years (range 14 - 82) and for women was 31 years (range 14 - 58). The age and ethnic distribution of the respondents are as shown in Table I. 2.5% had no formal education and 85.8% completed secondary school, that is 12 years or less of education. 67.1% of the men and 65.0% of the women were married. 87.4% of the men and 63.1% of the women were employed full-time. 8.7% of the men and 6.0% of the women were students.

Sexual orientation
Sexual orientation was based on questions exploring actual sexual behaviour. Hence, only sexually experienced respondents were captured. Sexual orientation could be assigned to 198 men (85.7%) and 170 women (78.3%). Of the men, 194 (98.0%) were heterosexual and 4 (2%) were bisexual. Of the women, 169 (99.4%) were heterosexual and 1 (0.6%) was bisexual.

Sexual behaviour
The mean age of first sexual intercourse was 22.8 years for men (range 15 - 38, SD 4.4) which is quite similar to that of women (22.3 years, range 14 - 41, SD 4.9, \( p < 0.4 \)). 26.3% of the 312 respondents reported sexual intercourse before the age of 20 (Table II). Men reported a significantly higher involvement in premarital sex. Mean number of sexual partners in past year was 1 for both men (range 1 - 20) and women (range 1 - 5). Men had a higher mean number of lifetime partners (4 for men vs. 1 for women) but this is attributed to the small percentage of men who had around 100 lifetime partners (1% of 198 men). The median number of life time partners for both men and women was 1. Of the 46 men who had visited prostitutes, only 27 (58.7%) used condoms. This study did not identify any sex workers. A significantly higher proportion of men reported past STDs.

Condom use
12.1% of men and 10.1% of women have not heard of condoms which were described to them. Knowledge and attitudes towards condom use are shown in Table 3. A similar proportion of men and women believed that condoms protect against STDs including HIV. A significantly higher number of women felt that condoms will encourage promiscuity \( (\chi^2=9.098, p<0.005) \).

HIV knowledge, attitudes towards HIV infection and perceived risk of infection
As table 4 indicates, the majority of respondents were aware of HIV/AIDS although only 79.7% knew that it is sexually transmitted. About half of the respondents thought that only intravenous drug users and homosexuals could contract HIV. A substantial minority of respondents still believed that HIV could be transmitted through casual contact like touching, sharing cutleries and from use of public toilets.

Up to 50% of the respondents felt that people living with HIV deserved the infection and only slightly more than half of them will not hesitate visiting friends with HIV infection. About 70% of our respondents worried about contracting HIV but only 10% felt that they were at risk of infection. Reasons cited for being at risk were contacts with sex workers, multiple partners, caring for people living with HIV and HIV being more common can affect anyone. 4.3% of men and 2.0% of women had been tested for HIV but the majority were willing to be tested (73.9% of men, 94.5% of women).

Discussion
This paper describes the sexual behaviour and HIV knowledge of 448 clinic attendees. The sexual culture seen is one of relatively late age of first sexual intercourse and low level of partner change when compared with American and European surveys. For instance, the median age of first intercourse in this study was 22 years for men and 21 years for women whereas in American and French surveys, the median
### Table II

**Sexual behaviour of respondents**

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Chi-square</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes/N*</td>
<td>%</td>
<td>Yes/N*</td>
<td>%</td>
</tr>
<tr>
<td>Premarital sex</td>
<td>74/231</td>
<td>32</td>
<td>11/217</td>
<td>5.1</td>
</tr>
<tr>
<td>Sex before age 20</td>
<td>39/173</td>
<td>22.5</td>
<td>43/139</td>
<td>30.9</td>
</tr>
<tr>
<td>Single partner past year</td>
<td>167/184</td>
<td>90.8</td>
<td>172/174</td>
<td>98.8</td>
</tr>
<tr>
<td>Single lifetime partner</td>
<td>132/206</td>
<td>64.1</td>
<td>171/181</td>
<td>94.8</td>
</tr>
<tr>
<td>5 or more partners past year</td>
<td>7/184</td>
<td>3.8</td>
<td>1/174</td>
<td>0.6</td>
</tr>
<tr>
<td>5 or more lifetime partners</td>
<td>46/206</td>
<td>22.3</td>
<td>3/181</td>
<td>1.6</td>
</tr>
<tr>
<td>At least one vaginal sex per week</td>
<td>113/178</td>
<td>63.5</td>
<td>102/140</td>
<td>72.8</td>
</tr>
<tr>
<td>Ever had oral/anal sex</td>
<td>22/209</td>
<td>10.5</td>
<td>8/209</td>
<td>3.8</td>
</tr>
<tr>
<td>Sex with prostitutes</td>
<td>46/231</td>
<td>19.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had previous STDs</td>
<td>31/231</td>
<td>13.4</td>
<td>8/217</td>
<td>3.7</td>
</tr>
</tbody>
</table>

**Significant difference, p<0.05**  
*N = total respondents to individual questions*

### Table III

**Knowledge and attitudes regarding condoms**

<table>
<thead>
<tr>
<th></th>
<th>Males (231) No.</th>
<th>%</th>
<th>Females (217) No.</th>
<th>%</th>
<th>Total (448) No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never heard of condoms</td>
<td>28</td>
<td>12.1</td>
<td>22</td>
<td>10.1</td>
<td>50</td>
<td>11.5</td>
</tr>
<tr>
<td>Easy to use</td>
<td>144</td>
<td>62.3</td>
<td>120</td>
<td>55.3</td>
<td>264</td>
<td>58.9</td>
</tr>
<tr>
<td>Tears easily</td>
<td>74</td>
<td>32.0</td>
<td>62</td>
<td>28.6</td>
<td>136</td>
<td>30.4</td>
</tr>
<tr>
<td>Expensive</td>
<td>35</td>
<td>15.2</td>
<td>21</td>
<td>9.7</td>
<td>56</td>
<td>12.5</td>
</tr>
<tr>
<td>Effective contraception</td>
<td>186</td>
<td>80.5</td>
<td>165</td>
<td>76.0</td>
<td>351</td>
<td>78.3</td>
</tr>
<tr>
<td>Protect against STDs</td>
<td>156</td>
<td>67.5</td>
<td>135</td>
<td>62.2</td>
<td>291</td>
<td>65.0</td>
</tr>
<tr>
<td>Protect against HIV</td>
<td>156</td>
<td>67.5</td>
<td>127</td>
<td>58.5</td>
<td>283</td>
<td>63.2</td>
</tr>
<tr>
<td>Usage is against my religion</td>
<td>66</td>
<td>28.6</td>
<td>53</td>
<td>24.4</td>
<td>119</td>
<td>26.6</td>
</tr>
<tr>
<td>Encourages promiscuity</td>
<td>122</td>
<td>52.8</td>
<td>145</td>
<td>66.8</td>
<td>267</td>
<td>59.6</td>
</tr>
<tr>
<td>Ever used condoms</td>
<td>69</td>
<td>30.0</td>
<td>55</td>
<td>25.3</td>
<td>124</td>
<td>27.7</td>
</tr>
</tbody>
</table>

**age of first intercourse was 16 years for men and 17 years for women**. One third of males and one fifth of females reported having intercourse before age 15 in United States whereas only 3 out of our 312 (1%) respondents had intercourse at or before age 15. 22.5% of males and 30.9% of females had intercourse before age 20. The authors are aware that the population sampled may not be representative of our general population. However, a household survey carried out in 1986 on 1200 Malaysian adolescents aged 15-21.
Table IV
Knowledge and attitudes towards HIV

<table>
<thead>
<tr>
<th>Males (231)</th>
<th>Females (217)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Heard of HIV/AIDS</td>
<td>222</td>
<td>96.1</td>
</tr>
<tr>
<td>Sexual Transmission</td>
<td>165</td>
<td>71.4</td>
</tr>
<tr>
<td>Transmission via needle sharing</td>
<td>212</td>
<td>91.8</td>
</tr>
<tr>
<td>Transplacental transmission</td>
<td>213</td>
<td>92.2</td>
</tr>
<tr>
<td>Transmission via kissing on cheeks</td>
<td>51</td>
<td>22.1</td>
</tr>
<tr>
<td>Transmission via mosquito bites</td>
<td>73</td>
<td>31.6</td>
</tr>
<tr>
<td>Transmission via sharing food/cutleries</td>
<td>55</td>
<td>23.8</td>
</tr>
<tr>
<td>Transmission via use of public toilets</td>
<td>43</td>
<td>18.6</td>
</tr>
<tr>
<td>Transmission by touching</td>
<td>43</td>
<td>18.6</td>
</tr>
<tr>
<td>Only IVDU/homosexual can get HIV/AIDS</td>
<td>101</td>
<td>43.7</td>
</tr>
<tr>
<td>HIV infection can be without symptoms</td>
<td>90</td>
<td>39.0</td>
</tr>
<tr>
<td>Asymptomatic patients are infectious</td>
<td>152</td>
<td>65.9</td>
</tr>
<tr>
<td>Know someone with HIV/AIDS</td>
<td>17</td>
<td>7.4</td>
</tr>
<tr>
<td>Do not worry about visiting HIV patients</td>
<td>139</td>
<td>60.2</td>
</tr>
<tr>
<td>HIV patients deserved the infection</td>
<td>122</td>
<td>52.8</td>
</tr>
<tr>
<td>Worried about contracting HIV/AIDS</td>
<td>145</td>
<td>62.8</td>
</tr>
<tr>
<td>Felt at risk of contracting HIV/AIDS</td>
<td>27</td>
<td>11.7</td>
</tr>
<tr>
<td>Tested for HIV/AIDS</td>
<td>26</td>
<td>11.2</td>
</tr>
</tbody>
</table>

years in Kuala Lumpur also showed a lower reported rate of sexual activities compared to similar studies in other countries¹⁰.

The authors realise that recall bias and a tendency for an individual to respond in a socially desirable way may have resulted in both under-reporting and over-reporting of certain behaviours. Premarital sex and multipartnership which are more tolerable to our society when practised by men than women may result in exaggeration by our males and under-declaration by female respondents. However, societal pressures may result in a real difference in the concerned behaviour. Of more importance here, is the finding that only 3.8% of men and 0.6% of women had 5 or more partners in the past year. In 1990, a study on patterns of risk behaviour for patients with STDs in Kuala Lumpur reported that 41.1% of 91 men with STDs had between 6 to 20 partners in the past year¹¹. In 1994, a similar study in Penang reported that 76% of 262 men with STDs had between 6 to 20 partners in the past year indicating a need to target this high risk behaviour group for both educational and behavioural interventions¹². 13.4% of male respondents had previous STDs. Forty-six men (19.9%) had visited commercial sex workers but only 58.7% of them used condoms.

About 10% of the respondents had not heard of condoms and less than a third had ever used them. Condom knowledge was generally poor and attitudes toward condom use were negative as indicated in Table III. Our results indicate that a significant portion of
respondents are unaware that condoms protect against
STDs and HIV. As such, it is unreasonable to expect
these people to systematically use condoms unless they
believe that condoms are highly effective against STDs
and HIV transmission. There is, therefore, a need to
educate and to inform them of the existence of
compelling evidence that condoms, if used consistently
and correctly for every act of sexual intercourse, are
highly effective13-15.

The majority of our respondents have heard of HIV/
AIDS and more than 90% of them were aware of
transplacental transmission and transmission via
needle-sharing. However, the much lower percentage of
our male respondents (70%) who believed that HIV is
sexually transmitted indicates a need to convince them
of the importance of sexual transmission. That 28.1%,
16.1%, 19.9% and 14.5% of respondents erroneously
thought that HIV/AIDS could be contracted from
mosquito bites, use of public toilets, sharing food/
utensils and through touching, respectively, indicated
a potential for significant interference with, and phobic
reactions to daily life that were not warranted by
existing evidence. Ignorance of the lack of risk such
as transmission through saliva, mosquitoes and use of
public toilets together with association of HIV/AIDS
with a particular risk behaviour group like IVDU or
homosexuals may result in the persecution and denial
of rights to people living with HIV and to individuals
with a particular risk behaviour regardless of their HIV
status. In this study, about 52.0% of respondents
believed that people living with HIV deserved the
infection and only 59.6% of them will not worry
about visiting friends living with HIV.

There is a need to continue aggressive educational
interventions to improve HIV knowledge, to increase
appreciation of condom efficacy and to change
attitudes and beliefs of our general population. It is
also necessary to target high risk behaviour groups for
studies to understand why they put themselves at risk
in order to devise interventions for behavioural change.
This study cannot directly assess the effects of media
campaigns on the sexual behaviour and HIV
knowledge of the general population but it does
provide a baseline against which future educational
interventions can be gauged. It also provides some
preliminary information that may be helpful in
designing future educational interventions which are
gender specific and culturally acceptable to our local
population.

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References

1. Peterman TA, Drotman P, Curran JW. Epidemiology of the
Acquired Immunodeficiency Syndrome (AIDS). Epid Rev 1985;

2. Pepin J, Plummer FA, Brunham RC et al. The interaction of
HIV infection and other sexually transmitted diseases: an

3. Wasserheit JN. Epidemiological synergy: interrelationships
between human immunodeficiency virus infection and other

4. Heng MCY, Heng SY, Allen SG. Coinfection and synergy of
human immunodeficiency virus-1 and herpes simplex virus-1.

AIDS situation in Malaysia, Epidemiology Unit. June 1995.

6. Breakwell GM, Fife-Shaw C. Sexual activities and preferences
in a United Kingdom sample of 16 to 20 years old. Arch Sex

7. Ehrhard A. Young people and sex education. Abstracts of the


