Malaysian Journal of Medical Sciences, Vol. 15, No. 4, October 2008 (41-47)

# ORIGINAL ARTICLE

# EVALUATION OF THE MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS BY PRIVATE PRACTITIONERS IN PULAU PINANG, MALAYSIA

**Mudassir Anwar & Syed Azhar Syed Sulaiman***

**Department of Pharmacy, International Medical University, Plaza Komanwel, Bukit Jalil,57000 Kuala Lumpur, Malaysia.**

***School of Pharmaceutical Sciences, Universiti Sains Malaysia, Minden 11800 Pulau Pinang, Malaysia.**

**To determine the current practices of private practitioners for the management of STIs in Pulau Pinang, Malaysia, evaluation of pharmacotherapy for STIs in private clinics and to ascertain the management of STIs compared to standard guidelines. Methods: Data was collected by self-administered questionnaire for private practitioners, which gathered information on their socio-demographic as well as practice characteristics. Descriptive statistical analysis was performed by using SPSS for Windows version 13.0. Results: Data was collected from 78 practitioners. Most of the treatment choices mentioned for the treatment of gonorrhea were inconsistent with the guidelines. About 51.2% of practitioners did not screen their patients for HIV/AIDS. Majority of private practitioners counseled their patients about HIV/AIDS on an irregular basis. A high percentage of 59% did not inform health authorities about STI cases and 32.1% mentioned that they did not use any guidelines. Conclusions: Management of STIs by private practitioners with respect to selection of antibiotics, patient counseling and case notification leaves a lot to be desired. Current management practices can adversely impact on HIV/AIDS transmission in the country. Interventions are needed to improve the management practices of private practitioners.**

***Key words*** *: Sexually Transmitted Infections (STIs), Management.*

**Submitted: 9 August 2007, Accepted: 20 September 2008**

## Introduction

A short excursion into history reveals that concerns about sexual health and STIs (**S**exually **T**ransmitted **I**nfections) are not new. Venereal diseases, to use an older term, have long been with us, waxing and waning as a public health issue over the centuries. Although STIs have caused significant morbidity and mortality for years, it is only with the advent of HIV that STIs control has received higher priority in both developed and developing countries. With its link to HIV/AIDS, STIs will continue to remain an urgent public health problem (1).

The World Health Organization (WHO) estimates that the global incidence 1999 of new cases of selected curable STIs – Gonorrhea, Syphilis, Chlamydia and Trichomoniasis were 340 millions. The largest number of new infections occurred in South and Southeast Asia (2).

In Malaysia, the exact size of problem is unknown which is partly due to underreporting, underdiagnosis and asymptomatic manifestation of the diseases. In view of these limitations, the epidemiological data on STIs in Malaysia need to be interpreted with caution. The statistics provided by the Ministry of Health Malaysia in its report published in April, 2001, shows that prevalence of STIs in Malaysia is decreasing with a considerable rate but at the same time the number of HIV infections is increasing (3). Evidence strongly

*Table 1 : Sociodemographic and Practice Characteristics of the Participants*

| Characteristics | | Number | % |
|---|---|---|---|
| **Participants** | | 78 | 67.8 |
| **Gender** | Male | 67 | 85.9 |
| | Female | 11 | 14.1 |
| **Age (years)** | 30-40 | 12 | 15.4 |
| | 41-50 | 36 | 46.2 |
| | 51-60 | 30 | 38.4 |
| **Race** | Malay | 17 | 21.8 |
| | Chinese | 29 | 37.2 |
| | Indian | 12 | 15.4 |
| | Others | 20 | 25.6 |
| | Single practitioner | 54 | 69.2 |
| **Type of clinic** | Group practice | 24 | 30.8 |
| | Dermatologist | 10 | 12.8 |
| **Specialty** | General practitioner | 68 | 87.2 |

suggests that the presence of one STI facilitates transmission of HIV by a factor of 10-300 times (4,5).

One of the limited numbers of strategies to reduce the spread of HIV infections is the effective treatment of other curable STIs (6). Information from many developing countries suggests that private sector provides a substantial proportion of care for patients with STIs. The reason may be because private sector provides more convenient and confidential care than public health facilities, and benefits from easier physical access due to longer opening hours (7,8). A study was conducted by University Sains Malaysia with the following objectives: to determine the current practices of health providers for the management of STDs in private health facilities, to evaluate pharmacotherapy for STIs in private clinics, and to ascertain the management of STIs compared to standard guidelines.

## Materials and Methods

This cross-sectional, descriptive study was conducted in Pulau Pinang during January 2005 to April 2005. Pulau Pinang is one of the fourteen states located in the northwest of Malaysia with a population of 1.3 million (9). Different ethnic groups inhabiting

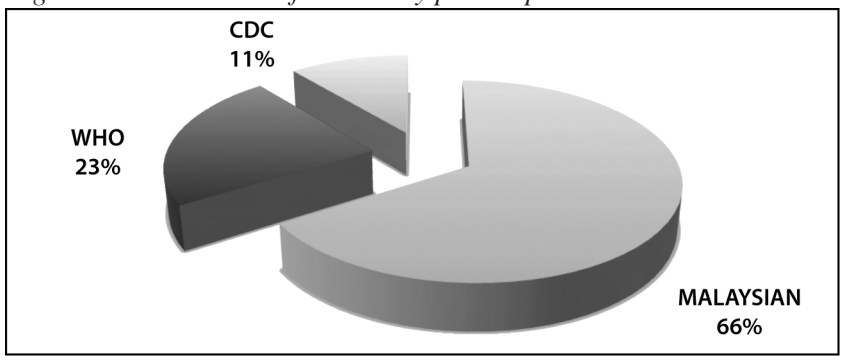
the state are Malays (42.5%), Chinese (46.5%), Indians (10.6%), and other minorities (0.4%) (9) Convenience sampling technique was employed to conduct the study.

For data collection, a 27 item questionnaire to be filled in by private practitioners was developed. The first six questions gathered information on sociodemographic as well as practice characteristics of the practitioners. The following 21 questions addressed the action taken by them for the diagnosis and treatment of gonorrhea and syphilis (the two most common non-HIV STIs in Malaysia) and the name of guidelines followed.

To evaluate the correspondence of treatment with evidence-based medicine principles, the therapeutic regimens prescribed were compared with the recommendations from reference guidelines for STI management. Centre of Disease Control and Prevention (CDC) guidelines 2002, WHO guidelines 2003, and Malaysian protocols for the management of STIs 1997, were used as reference (10, 11).

Therapeutic regimens prescribed were classified according to the following criteria: *'Consistent with the guidelines or adequate';* when the drug, dosage, and therapy conformed to the guidelines recommendations. '*Probably adequate*';

*Figure 1 : Guidelines followed by private practitioners*




when the drug and dosage were not mentioned or when the drug conformed to the guidelines recommendations but no dosage information was recorded. '*Inconsistent with the guidelines or inadequate*'; when the prescribed drug was not listed in the guidelines or when the drug was guideline-appropriate but the prescribed dosage was below or above the level mentioned in the guidelines. Descriptive statistical analysis was performed by using SPSS for windows version 13.0.

## Results

A total of 115 private practitioners were contacted to fill the survey forms. Out of 115, only 78 (67.8%) agreed to participate in the survey. Twelve (10.4%) claimed that they do not see STI patients; 25 (21.8%) practitioners refused to participate in the survey (Table 1).

Majority of practitioners (60.2%) claimed that most of the STIs patients seeking treatment belong to the 20-29 years age group, about 32% belong to the age group of 30-40 years and the remaining 7.8% were above 40 years old. All 78 (100%) practitioners claimed that they gathered information about current symptoms, its duration and recent sexual contacts from their patients. Eighteen (23.0%) of the practitioners claimed that they used syndromic approach for the diagnosis; the other 60 (77.0%) used all the three approaches i.e. syndromic, etiological as well as clinical approach. A total of 32 (41.0%) participants claimed that they informed health authorities after they came across an STI case; the other 46 (59%) claimed that they did not inform. Three (3.8%) mentioned that they do not have notification forms to inform health authorities.

When asked whether they follow specific guidelines for treatment of STIs, 53 (67.9%) of them claimed "yes" while 25 (32.1%) claimed that they did not follow any guideline. Figure 1 illustrates the distribution the guidelines followed by the practitioners.

The average number of gonorrhoeal cases seen by the practitioners per month was 3 with majority of practitioners (20) claiming to see 3 cases per month. Majority of practitioners (56) claimed that they see 1 case of syphilis per month with an over all average of 1.3 cases per month. Most of the respondents (92.3%) claimed that they performed physical examination on male patients with STIs while 47.4% claimed to perform physical examination on female patients. More than 60% of the respondents claimed that they always follow all the steps involved in examining the male patients. However they were not consistent in following the steps involved in examining the female patients physically. A high majority of practitioners (51.2%) did not ask the patients with either gonorrhoea or syphilis to be screened for HIV/AIDS. When asked about the types of advice given to the patients a high percentage of respondents (97.4%) always advised the patients to take all the medications. A slightly lower percentage (90%) always encouraged the use of condoms. About 84.6% claimed to ask the patients for partner notification and a low percentage (62.8%) claimed to always ask the patients for follow up. A comparatively low percentage of practitioners (42.3%) claimed that they always educated the patients about HIV and AIDS.

Table 2 represents the practitioners' choice for the treatment of gonorrhoea and syphilis. A total of 11.5% practitioners mentioned about the limited stock and delayed supply of antibiotics used for the treatment of STIs.

## Discussion

***Methodological issues***

Traditionally several methods for assessing the management of STIs are available, such as: direct observation of provider-patient encounter,

*Table 2 : Practitioners' Choices for the Treatment of Gonorrhea and Syphilis*

| Treatment Choice | % Response | Classification |
|---|---|---|
| **First Choice For Gonorrhea** | | |
| Ceftriaxone, 1g, single dose | 11.5 | Inconsistent |
| Ceftriaxone, 500mg, single dose | 14.1 | Inconsistent |
| Ceftriaxone, 250mg, single dose | 30.8 | Consistent |
| Kanamycin, 200mg, single dose | 7.7 | Inconsistent |
| Kanamycin, 600mg, once daily, for 2 weeks | 12.8 | Inconsistent |
| Kanamycin, 2g, once daily, for 3 weeks | 3.8 | Inconsistent |
| Norfloxacin, 400mg, single dose | 6.4 | Inconsistent |
| Amoxycillin, 500mg, tid, for 1 week | 5.1 | Inconsistent |
| Ofloxacin, 200mg, bid, for 2 weeks | 7.8 | Consistent |
| **Second Choice For Gonorrhea** | | |
| Azithromycin, 1g, single dose | 19.2 | Inconsistent |
| Ciprofloxacin, 500mg, single dose | 11.5 | Inconsistent |
| Doxycycline, 100mg, bid, for 2 week | 25.6 | Inconsistent |
| Doxycycline, 100mg, bid, for 1 week | 19.4 | Inconsistent |
| Norfloxacin, 800mg, single dose | 17.9 | Inconsistent |
| Norfloxacin, 400mg, bid, for 1 week | 6.4 | Inconsistent |
| **First Choice For Syphilis** | | |
| Benzyl penicillin, 2.4 million IU, once weekly, for 3 weeks | 29.7 | Consistent |
| Benzyl penicillin, 2.4 million IU, once weekly, for 2 weeks | 16.3 | Consistent |
| Penicillin G, 0.6 million IU, once daily, for 10 days | 16.2 | Consistent |
| Doxycycline, 100mg, bid, for 2 weeks | 29.7 | Consistent |
| Kanamycin, 2g, once daily, 2 weeks | 8.1 | Consistent |
| **Second Choice For Syphilis** | | |
| Doxycycline, 100mg, bid, for 3 weeks | 40.5 | Consistent |
| Doxycycline, 100mg, bid, for 2 weeks | 32.4 | Consistent |
| Erythromycin, 500mg, qid, for 2 weeks | 27.1 | Consistent |

interviews of providers, questionnaires to providers, review of patients' records and exit interview of patients.

The most easily applicable method to gather information about management practices of practitioners for STIs in private clinics is "questionnaires to providers". Despite of this fact many physicians refused to participate in this survey. Some of the other methods have some advantages over this method, like "observation of provider-patient encounters" gives a more complete picture of what is actually done during case management. This supplemented with interview of providers, provides enough information on the process and content of consultations. However, during observations the providers could alter the normal practice and it is also difficult to follow the provider's diagnostic thought process (12). Another method "exit interview of patients" has a disadvantage that patients are unable to distinguish or understand certain aspects of a physical examination or they may not remember all the tasks the provider carried out.

***History taking***

Effective clinical treatment requires adequate history taking, examination and treatment. Typically history taking begins with what is wrong, when did it begin and how long has it been going on. Information about recent sexual contact is also important. All private practitioners who were surveyed claimed that they always ask these basic questions from the patients. This finding shows that history taking during STI management in private clinics is quite satisfactory.

***Examination***

Physical examination of clients is a crucial step in the management of STIs especially when syndromic approach is employed for diagnosis. The results of this study show that physical examination was performed more commonly on male patients (92.3%) compared to the female patients (47.4%). Speculum and bimanual examination of female clients is not a common practice in private clinics. However, for the examination of male patients almost all the steps are performed most of the times.

***Diagnosis***

A high percentage of practitioners (51.2%) did not mention the names of tests used to perform the diagnosis of HIV/AIDS which may badly affect the prevalence of HIV/AIDS in Malaysia. Mainly physicians themselves are involved in collection of specimen, which is a good practice.

***Treatment***

There are number of weaknesses for the choices of therapeutic regimen to treat gonorrhea in private clinics. Although ceftriaxone is the drug of choice in private clinics but the dose given by many practitioners was inadequate. Considerable number (24.3%) of practitioners also claimed to use kanamycin as a first line therapy for the treatment of gonorrhea, although its use has been suggested only in the treatment of gonococcal ophthalmia and neonatal gonococcal conjunctivitis (10, 11). A small percentage of practitioners claimed to use amoxicillin in gonorrheal cases in spite of the fact that there is high resistance for penicillin in gonorrheal infections and it is no more used to treat these cases. The doses of most of the drugs used as a second line therapy for treatment of gonorrhea were also inadequate.

The drugs and their doses mentioned by private practitioners for the treatment of syphilis were adequate and consistent with the guidelines. It shows that private practitioners are more aware of the therapeutic regimens for syphilis as compared to those for gonorrhea. However, most of the cases of syphilis are referred to the hospital.

***Education and counseling***
***HIV/AIDS prevention***

STIs are known to facilitate the acquisition and transmission of HIV/AIDS, thus practitioners need to counsel and educate their clients on HIV/AIDS prevention as prevention is the most essential and effective means of reducing or controlling the spread of STIs and HIV/AIDS. Findings from this study indicate that a high percentage of practitioners either do not counsel their patients or counsel on irregular basis. This may badly affect the transmission of STIs especially HIV/AIDS.

***Condoms promotion***

Condoms promotion, which is an integral part of STI patient counseling, is known to be an effective means of reducing high risk behaviors and incidence of STIs in both individuals and couples (1). From the findings it is clear that this portion of education and counseling is quite satisfactory in Pulau Pinang.

***Partner notification***

Partner notification and treatment is known to be an important component of STI case

management, but partner notification cannot be executed fully because of the shame associated with STIs. Although the majority (84.6%) of private practitioners claimed that they asked the patient to bring sexual partner/s, it is not clear whether they depend upon the patients to bring his/her sexual partner or practitioners themselves try to contact the partners because our findings from the hospital show that patients give fake contact numbers to the hospital staff.

***Follow-up***

The finding that a high percentage of practitioners either do not ask their patients to come for follow up or ask on irregular basis, is very important because most of the therapeutic regimens prescribed by private practitioners are inadequate and without follow-up it is difficult to assess the efficacy of prescribed therapy.

***Case notification***

Case notification to health authorities is very important so as to know the exact size of the problem. But this part of management is unsatisfactory in private clinics as 59% of practitioners claimed that they do not inform health authorities about the STI cases. One of the reasons of this poor situation is unavailability of notification forms in private clinics as 3.8% of practitioners complained about this.

***Treatment guidelines***

A total of 32.1% of practitioners claimed that they do not follow any guidelines which may be the main reason why most of the therapies prescribed by private practitioners for the treatment of gonorrhoea are inappropriate.

## Conclusion

In the light of the findings of this study it is concluded that the management of STIs by private practitioners in aspect of the selection of antibiotics, patient counseling and case notification leaves a lot to be desired. Current management practices can adversely impact on HIV/AIDS transmission in the country. The recommendation to improve STI case management are a such: There is a strong need to develop national guidelines for the management of STIs and to circulate these guidelines to all healthcare providers. The essential drug list for the management of STIs in the country needs to be reviewed periodically in the light of available antibiotic sensitivity profile. Also drug supply and supply of notification forms need to be improved. The stigma associated with the management of STIs needs to be addressed as a matter of priority, probably through some formative research. There is a need to use other methods for assessing the management of STIs such as, 'direct observation of provider-patient encounter' and 'exit interview of patients'. These methods can only be used by health authorities so that practitioners do not have any choice to refuse from participating in the study. These researches will further evaluate practitioners' beliefs, attitudes and practices.

## Acknowledgements

We thank all the physicians who participated in this study.

## Corresponding Author :

Mr. Mudassir Anwar B.Pharm (Pak), M.Sc. (M.sia), R.Ph
Department of Pharmacy, International Medical University, Plaza Komanwel, Bukit Jalil,
57000 Kuala Lumpur, Malaysia.
H/P : +6017-341 7811
Fax : +603-8656 7229
Email : mudassiranwar@yahoo.com

## References

1. Assessment of STDs management in Ghana. A report by Health Research Unit, Ministry of Health, Ghana, 2000.
2. Global Prevalence and Incidence of Selected Curable Sexually Transmitted Infections: Overview and Estimates. WHO, 2001.
3. Consensus report on STI, HIV and AIDS epidemiology Malaysia by MOH Malaysia, April 2001.
4. UNAIDS Progress Report 1996-1997. UNAIDS/98.31 E. UNAIDS, 1998.
5. Feldblum PJ, Morrison CS, Roddy RE, Cates W Jr. The Effectiveness of Barrier Methods in Preventing the Spread of HIV. *AIDS* 1995 **9 (suppl. A)**: 585-93.
6. Walker D, Muyinda H, Foster S, Kengeya- Kayondo J, Whitworth J. The quality of care by private practitioners for STDs in Uganda,*Health Policy Plann* 2001 **16(1):**35-40
7. Khamboonruang C, Beyrer C, Natpratan C. HIV infection and self treatment for STDs among Northern Thai men *Sex Transm Dis* 1996 **23:** 264-69.

8. Benjarattanaporn P, Linden CP, Mills S. Men with STDs in Bangkok. Where do they go for treatment? *AIDS* 1997 **11 (suppl 1):** 587-95.

9. Population and Housing Census of Malaysia 2000, Department Of Statistics Malaysia. Economic Briefing to the Penang State Government 2001; **3(11):** 5-6.

10. CDC Guidelines for the Treatment of Sexually Transmitted Diseases, 2002.

11. Guidelines for the Management of Sexually Transmitted Infections. WHO, 2003.

12. Franco L, Daly CC, Chilongozi D, Dallabetta G. Quality of case management of sexually transmitted diseases: comparison of the methods for assessing the performance of providers. *Bulletin of WHO* 1997 **75:**523-32