SYNDROMIC TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS: A WESTERN CAPE COMMUNITY PHARMACIST STUDY

By

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THESIS

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A thesis submitted in partial fulfilment of the requirements for the degree of MAGISTER PHARMACEUTICAE in the Department of Pharmacy Practice, School of Pharmacy, University of the Western Cape.

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ABSTRACT OF THESIS

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SYNDROMIC TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS: A WESTERN CAPE COMMUNITY PHARMACIST STUDY

This cross-sectional survey of 85 randomly selected community pharmacists in the Western Cape, South Africa, estimates that 200 000 sexually transmitted infections (STI) cases are seen in private community pharmacies throughout the Western Cape per annum, confirming anecdotal evidence that community pharmacies are a preferred source of STI care.

This study also describes the views of pharmacists regarding their utilisation as STI care providers, and the treatment practices of those who currently provide this service to the community. The majority (74.1%) of pharmacists view their current role in STI treatment as under-utilised and 98% expressed a slight to strong willingness to play a role in the syndromic treatment of STIs. Pharmacists' knowledge of the link between HIV and STIs is associated with an increased willingness to provide STI syndromic treatment (RR= 3.03, 95%CI 1.45- 6.31, p=0.0004). The quality of STI treatment among those pharmacists currently providing medication is poor, with only 13.6% (n=44) of pharmacists prescribing the correct treatment for penile discharge, 6.3% (n=32) for genital ulcers and 0% (n=32) prescribing the correct treatment for vaginal discharge.

The findings of this study underline the need for STI treatment services in community pharmacies, and the need for a pharmacist training intervention in the syndromic treatment of STIs.

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Author's Name

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Date

DECLARATION

I declare that Syndromic treatment of sexually transmitted infections: a Western Cape community pharmacist study is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

KIM LANA WARD November 2001

Signed .....

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

1.1 HIV-1 burden in South Africa

South Africa is notoriously known for having one of the fastest growing HIV-1 epidemics in the world. Within a period of 5 years, the HIV-1 prevalence has rapidly escalated from 10.4% in 1995 to 24.5% in 2000 (Department of Health, Annual National HIV Antenatal Survey, 2000). In March 2001, the health ministry reported 500 000 newly acquired HIV-1 infections bringing the total number of infected individuals to a staggering 4,7 million.

In response to this catastrophe, the Department of Health (DOH) promptly constructed an HIV/AIDS/STI Strategic plan for 2000-2005 to impede the rapid spread of HIV-1 across the country. The plan highlights the management and control of sexually transmitted infections (STIs) as one of the main strategies for reducing the transmission of HIV-1. One of the objectives is to ensure effective syndromic management of STIs in both the private and public sector.

South Africa carries a heavy burden of STIs with an estimated 11 million new cases treated each year (Department of Health, Feb 2000). National STI surveillance systems are seriously lacking in South Africa and trends of the most common STIs are gauged from limited facility-based data. Syphilis prevalence trends have been monitored in conjunction with HIV-1 in the annual antenatal clinic surveys conducted by the DOH, and the 2000 survey reflected a prevalence of 6%. A community-based survey conducted in Carletonville, South Africa in 1998, revealed STI infection rates ranging from 5% to 23% for syphilis, 3% to 16% for gonorrhoea and 4% to 9% for chlamydia (Van Dam *et al.*, 1998).

The limited evidence presented in these findings suggests a health problem that needs to be addressed urgently, primarily for two reasons. STIs in themselves pose a serious health problem due to the complications and sequelae that could result from late detection and inappropriate treatment. Moreover, an even greater cause for concern is warranted in light of the compelling evidence linking STIs as a major co-factor in the transmission of HIV (Cohen, 1998; Flemming *et al.*, 1999).

1.2 Public sector burden

According to the 1996 census, South Africa had a population of 43.5 million (Statistics South Africa, 1996). An evaluation of health services across the country conducted in 1998 reveals a poignant reality of the unequal distribution of human resources in the private and public health sector (Pick *et al.*, 1998).

According to this review, 80% of the population attend public health facilities, while only 40% of health personnel are employed in the public sector. Nurses constitute 42% of total health personnel in the public sector, while medical doctors and pharmacists constitute a mere 3.8% and 0.5% respectively (Pick *et al.*, 1998).

Only 18% of South Africans have access to a medical aid scheme, yet this minority has access to 60% of the health resources in the private sector (Baron *et al.*, 1998).

Certainly the current HIV crisis places additional strain on an already fragile public health system with scanty human resources. The situation is discouraging and although efforts are being made to correct the imbalance in service delivery, progress is slow while HIV transmission rages on.

1.3 Understanding the Public Health system of South Africa

South Africa comprises a single national health department with nine provincial health departments viz., Eastern Cape, Gauteng, KwaZulu-Natal, Mpumalanga, Northern Cape, Northern Province, North West, Free State and Western Cape.

The health-care system is based on a district model, which employs a primary health care approach. Health districts are established throughout the country and primary health care services are rendered by provincial administrations and local authorities. Free services are provided to all without the benefits of a medical aid scheme through public primary health care centres (PHCCs) such as clinics and community health-care centres. Referrals are made to higher levels of care, i.e. district then regional hospitals (DOH, 1996).

PHCCs provide a range of services, which include immunisation; communicable and endemic disease prevention; maternity care; screening of children; Integrated Management of Childhood Illnesses (IMCI) and child health care; health promotion; youth health services; counselling services; chronic diseases; diseases of older persons, rehabilitation; accident and emergency services; family planning, and oral health services (South African Year Book, 2000/01).

The bulk of services in PHCCs are provided by PHC nurses trained to practise in an almost independent capacity. Ideally, a health care team encompasses the expertise of various health personnel, each playing an indispensable role. In reality the public health sector is faced with a financial and personnel crisis which does very little to attract health care workers into their employment. Since nurses constitute the vast majority of health personnel in the public primary health settings, the DOH has

granted them leverage to practise in areas previously outside their scope of practice. In the past nurses were trained primarily in tertiary institutions where they played a supportive role to doctors in providing curative services. The training of nurses has now evolved to meet a public health need at primary level, through the provision of promotive, preventative and curative services (Pick *et al.*, 1998).

1.4 Health regions and primary health care services in the Western Cape

1.4.1 Health regions

The Western Cape comprises 10% of the total South African population, which translates into 4.3 million people (DOH, Western Cape, 2001). More than any other province in South Africa, the Western Cape is experiencing an influx of people into the urban areas. The 1996 census verified that 87% of the population live in urban areas where public health services are not designed to cope with such numbers (Statistics South Africa, 1996).

An urban area, as defined by the Provincial Administration of the Western Cape (PAWC) includes towns, cities and metropolitan areas. The main urban area in the Western Cape is the Cape Metropolitan area, whereas non-urban (peri-urban and rural) areas include commercial farms, small settlements, rural villages and other areas further away from towns and cities (DOH, Western Cape, 2001).

The Western Cape is divided into four main health regions viz., Cape Metropole West Coast Winelands, South Cape/Karoo and Boland/Overberg regions, which are further, subdivided into 25 health districts.

1.4.2 Primary health care services

The Cape Metropole health region serves the largest proportion of PHC attendees in the Western Cape, having to cope with a staggering 6.5 million during 1999/00 (Table 1). This is to be expected, given that the majority of the Western Cape population resides in the Metropole. Presumably, the number of attendees will increase over the years, if trends over 1998/99 and 1999/00 persist, and the DOH should urgently move to institute mechanisms to accommodate the inevitable overflow of patients.

Although PHCCs are more or less proportionally distributed according to the number of attendees in each region, the PHCCs in the regions outside the Cape Metropole are less accessible to the largely rural population.

Table 1: Primary Health Care Centres per region in Western Cape (DOH, Western Cape, 2001).

Region	Health attendance		Community health centres and clinics
	98/99	99/00	
Cape Metropole	6 185139	6 451 613	159
Boland/Overberg	1 061551	1 125 849	64
West Coast/Winelands	1 245160	1 332 705	80
Southern Cape/Karoo	1 365759	1 436 116	62
Western Cape province (TOTAL)	**9 857609**	**10 346 283**	**365**

1.5 Syndromic treatment of STIs

Syndromic treatment is based on classifying the various causative agents which give rise to a particular clinical picture/syndrome, e.g. syndrome of genital ulcers. A combination therapy approach is then prescribed to eliminate the main pathogens known to cause such a syndrome. Any health care worker, irrespective of area of expertise, may be trained to use flow charts to reach a diagnosis and suitable treatment (Ballard *et al.*, 2000).

The World Health Organisation (WHO) strongly recommends the adoption of STI syndromic treatment services in developing countries where laboratory facilities are often unaffordable and inaccessible to the majority of the population. Integration of these services into existing health care facilities in the public and private sector makes STI treatment more accessible to communities. WHO supports the strengthening of all health care workers who are able to launch syndromic treatment services.

In 1995 the national DOH developed the first set of STI syndromic treatment guidelines for primary health care in South Africa. While significant strides were made in the public sector to train PHC staff and provide essential drugs, very few plans were devised for promoting the STI syndromic approach in the private sector. The DOH has since recognised the importance of involving private health personnel in this initiative to reinforce DOH strategies to reduce the HIV burden in South Africa (Dartnall *et al.*, 1997).

CHAPTER 2: LITERATURE REVIEW

The literature review provides a basis for developing the central research theme, which rests on the premise that STIs and HIV-1 are linked. The first step was therefore to skim through literature that has established the association between HIV-1 and STIs, and then to delve deeper into literature assessing the impact of STI management interventions on HIV-1 incidence.

National health reports and policy documents describe the quality of STI care in the public and private sector, an indicator for DOH progress towards achieving standardised STI care across South Africa. Lastly, a review of local/provincial health reports describes the HIV-1 and STI scenario at provincial level, with a primary focus on the Western Cape.

2.1 HIV-1 and STI linkage

There is sufficient evidence to support the hypothesis that the presence of STIs (non-ulcerative and ulcerative) increases HIV-1 shedding from the genital tract of HIV-positive individuals (Moss *et al.*, 1995; Cohen *et al.*, 1997; Ghys *et al.*, 1997). Furthermore, several cohort studies show an association between STIs (regardless of aetiology) and an increased risk of HIV-1 seroconversion (Craib *et al.*, 1995; Nelson *et al.*, 1998). The logical progression for researchers subsequent to these findings was to establish whether an STI management and control intervention could ultimately reduce the HIV-1 incidence in a population.

A number of intervention studies attempted to quantitate the effect of STI management and control on HIV-1 incidence. Three cohort studies conducted among female sex workers in Zaire, Kenya and Bolivia all showed that clinic-based STI

interventions in conjunction with condom promotion produced a decrease in HIV-1 incidence in these high-risk groups (Flemming *et al.*, 1999).

The first community level intervention trial was conducted in Mwanza, Tanzania and the second in Rakai, Uganda. The results of the Tanzania trial demonstrate that an improvement in STI clinic based treatment reduces the HIV-1 incidence in the study population (Grosskurth *et al.*, 1995). The results of the Rakai trial however demonstrate that intermittent mass STI home-based treatment does not reduce HIV-1 incidence in the study population (Wawer *et al.*, 1999).

2.1.1. Zaire study (Laga *et al.*, 1994)

A cohort study was conducted in an urban area in Zaire, among a group of female sex workers who were followed-up for a period of three years. A monthly clinic-based intervention consisted of STI screening, free treatment and condom promotion. The HIV-1 incidence declined from an initial 11.7/100women years (wy) to 4.4/100wy three years thereafter (p=0,003).

The HIV-1 incidence rates among women with different degrees of exposure to the clinics were calculated. The results demonstrate a decline in HIV-1 incidence with increased frequency of clinic attendance after controlling for reported condom use, confirming an independent impact of STI intervention on HIV-1 incidence.

2.1.2 Tanzania trial (Grosskurth *et al.*, 1995)

A randomised controlled intervention trial in Mwanza, Tanzania tested the hypothesis that improved STI case management reduces the incidence of HIV-1. The intervention groups received continuous improved STI case management, i.e. establishment of an STI reference clinic, staff training, regular supply of drugs,

regular supervisory visits to health facilities and health education about STIs. The control group had access to unimproved existing services.

Surveys were conducted at baseline and follow-up after 2 years, and the results reflect a lower HIV-1 incidence in the intervention (1,2%) than in the control (1,9%) group. The conclusion drawn is that improved management and control of STIs reduces HIV-1 incidence by about 40% (95%CI 15-55).

2.1.3 Uganda trial (Wawer *et al.*, 1999)

A randomised control intervention trial in Rakai, Uganda tested the hypothesis that community level control of STIs results in a lower incidence of HIV-1 infection in comparison with control communities.

The intervention group received home-based mass antibiotic treatment upon initial visit and every 10 months thereafter (2 follow-up rounds), while the control group received anthelminthics, vitamins and iron-folate supplements at the same intervals. Participants in the control group reporting current STI symptoms were referred to mobile clinics for ethical reasons. Both study groups received identical education on prevention of HIV-1 infection; free condoms and free general health care.

The results demonstrate no difference in reduced HIV-1 incidence between the control and intervention group.

2.1.4 Impact of Tanzania and Uganda trials (Grosskurth *et al.*, 2000)

Although the results obtained from these trials appear contradictory, several reasons could be furnished for these findings. The Uganda trial does not necessarily nullify the findings of the Tanzania trial, since the different designs, intervention strategies as well as evaluation methods employed may well have contributed to the different outcomes. Another major contributing factor cited, was the difference in the stages of

the HIV-1 epidemic in the two countries. In Mwanza, Tanzania the HIV-1 prevalence was low at 4%, but steadily rising, whereas the prevalence in Uganda at 16% was stable. The author suggests that STI to HIV-1 transmission decreases as the HIV-1 epidemic in a population matures.

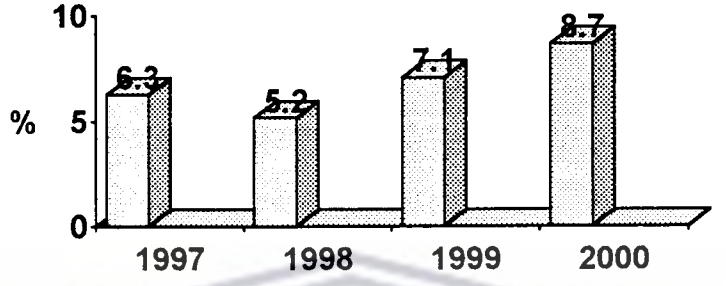
In essence, the trials highlight several factors that could guide policy-makers in planning STI management and control programs to reduce the HIV-1 incidence. For example, continuous access to improved STI services, as opposed to mass STI treatment, is an intervention strategy which many countries have adopted in an attempt to reduce HIV-1 incidence.

2.2 Western Cape HIV-1 and STI statistics

The HIV-1 prevalence for the year 2000 in the Western Cape was 8.7, relatively low compared to the national prevalence of 24.5 (DOH, 2000).

Although HIV-1 trends in the Western Cape over the last four years suggest a steady rise in prevalence, prevention efforts are likely to slow down transmission as achieved in Tanzania (Grosskurth *et al.*, 1995). The HIV-1 trends in the Western Cape are similar to those in Mwanza, Tanzania between 1991 and 1994, when the STI intervention strategy was successfully employed, i.e. low prevalence but rising steadily. Strategies such as STI management and control should be rigorously employed in Western Cape while the HIV-1 prevalence is still low.

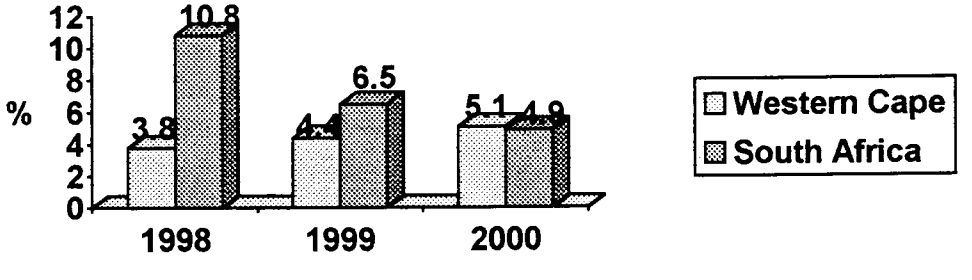
Figure 1: *HIV seroprevalence at public health antenatal clinics: Western Cape 1997-2000 (DOH, Western Cape, 2001)*



Between 1997 and 1998 the HIV-1 prevalence dropped slightly in the Western Cape as shown in Figure 1, interestingly coinciding with a sharp decline in the syphilis prevalence from 18% in 1997 (DOH, 1997) to 3.8% in 1998.

The syphilis trends after 1998 in Figure 2 shows a steady increase while the national trends shows a sharp decline. Improved application of all aspects of the syndromic approach, including syphilis testing, is required in public and private health settings offering STI treatment.

Figure 2: *Syphillis prevalence: Western Cape compared to National 1998-2000 (DOH, Western Cape, 2001)*



The data in Table 2 represents the STI burden in the Western Cape regions as reported by public PHCCs.

Table 2: Primary health care services rendered by PAWC and Local Authorities 1999/2000 (DOH, Western Cape, 2001).

Region	New cases treated as STIs	New cases –male urethral discharge
Cape Metropole	82 887	22 487
Boland/Overberg	7 372	1931
West Coast/Winelands	7179	2737
Southern Cape/Karoo	12 773	3973
Western Cape province (TOTAL)	**111 320**	**31 128**

2.3 STI care in the public and private sector

2.3.1 Treatment seeking behaviour

A high proportion of STI cases is treated by private general practitioners in both urban and rural South Africa. In the health district of rural Hlabisa, northern Kwazulu Natal, STI surveillance over a five month period indicated that 65% of STI

cases were treated by public health clinics, while 35% were treated by a sample of general practitioners. An extrapolation of the latter figure to one year and all general practitioners translated into an estimate of 50% seeking treatment in private doctor's surgeries annually (Wilkinson *et al.*, 1998).

In 1997, a nation-wide survey of private doctors estimated that 5 million STI cases are seen in the private sector annually, confirming the results of the Hlabisa survey. Reasons cited for this treatment seeking behaviour are among others the privacy offered in private doctors' surgeries, the relative anonymity, the convenient hours of operation and shorter waiting periods when compared to public health facilities (Dartnall *et al.*, 1997).

2.3.2 Quality of STI care in the private and public sector

The South African DOH, while having implemented a policy to improve STI care in the public sector, through training of PHC staff in the syndromic treatment of STIs have had little influence on the quality of STI care in the private sector (Dartnall *et al.*, 1997).

The policy is regarded as being reasonably effective after a national survey conducted in 1998, showed that 82% of nurses knew the correct drug treatment for urethral discharge and 72% for genital ulceration (Pick *et al.*, 1998).

In contrast, a nation-wide study of general practitioners in the private sector reflected a much poorer quality of STI care. When treatment regimens prescribed by private practitioners were assessed against DOH guidelines it showed that 29% knew the correct treatment for urethral discharge, 15% for genital ulcers, 6% for vaginal discharge and 4% for pelvic inflammatory disease. The reasons cited for this poor quality of STI care are a lack of awareness of the syndromic approach and the

incorrect application thereof. This study underscores the training needs of private health care workers in the syndromic treatment of STIs (Dartnall *et al.*, 1997).

2.4 Lessons learnt from the literature

The literature recognises the importance of STI management and control as an intervention for reducing HIV-1 transmission. Further emphasis is placed on the types of interventions that are successful as well as describing the ideal epidemiological settings to launch these interventions.

The private sector is an important role player in STI management, given the high proportion of patients who favour this source of care. There are however great disparities in the quality of STI care in the private and public sector, undermining DOH efforts to standardise STI treatment across South Africa.

The management and control of syphilis and other STIs are chief priorities of the DOH in the fight against HIV in the Western Cape and the rest of South Africa.

CHAPTER 3: RATIONALE FOR THE STUDY

3.1 Study Rationale

The current private sector providers of STI care include general practitioners, occupational nurses and traditional healers (Dartnall *et al.*, 1997). Anecdotal evidence suggests that pharmacists in privately owned community/retail pharmacies are among those frequently accessed for STI treatment. The private sector is rich in human resources, with nearly 50% of South Africa's pharmacists practising in community pharmacies.[1]

Although the diagnosis and treatment of STIs currently falls outside the pharmacist's scope of practice, it is suspected that some pharmacists do offer these services to the community. While the treatment practices of general practitioners and nurses are well documented, no literature is available to describe the utilisation of the pharmacist in STI care in South Africa.

The current legislation does not allow pharmacists to diagnose and treat STIs. The Medicine and Related Substances Control Amendment Act of 1997 excludes pharmacists under the definition of an "authorised prescriber" of S3, S4, S5, S6 and S7 medicines i.e. "'authorised prescriber' means a medical practitioner, dentist, veterinarian, nurse or other person registered under the Health Professions Act, 1974"

At present, community pharmacies are an under-utilised resource, which could potentially become an ideal setting for launching STI treatment programs. The professional statutory body for pharmacists, the South African Pharmacy Council, seems to be of the same opinion and has consequently developed an HIV/AIDS and STI strategic plan highlighting the potential role pharmacists could play in improving the management and control of STIs.

> Pharmacists should be trained in the syndromic management of STIs both in the undergraduate years and as part of continuing professional development. As a result of this, medicine used in the management of STIs should be made available to pharmacists for dispensing without a prescription, provided that the pharmacist concerned is competent to supply such medicines. Pharmacists should be utilised to educate the public on the prevention and therapy of STIs (HIV AIDS and STI Strategic Plan, 2001).

Feedback on this initiative from pharmacists themselves has not yet been ascertained, and this study hopes to elucidate community pharmacists' views regarding their current and future role as providers of STI care.

3.2 Research question and objectives

Many factors, which will be investigated in this study, could contribute to a pharmacist's willingness to provide STI treatment services in community pharmacies. Some community pharmacies employ a nurse who is certified to conduct limited physical examinations and to provide treatment for selected conditions. The presence of a nurse (also known as a nursing sister) may contribute to a pharmacist's willingness to provide syndromic treatment of STIs. One aspect of this study is to determine if the presence of a nursing sister influences the pharmacist's willingness to provide syndromic treatment for STIs.

The main factor, however to be considered in this study is the pharmacist's perception of need for STI treatment services in their pharmacies. The study therefore centres on the research question, "Does the pharmacist's perception of need for STI treatment services in the community pharmacy contribute to the willingness of pharmacists to provide these services?"

The general aim of this study is to fill a void in literature pertaining to the current and future utilisation of the pharmacist in STI care.

In line with this aim, the specific objectives are to:

- assess the pharmacists' perception of need for STI treatment in community pharmacies;
- assess the pharmacists willingness to provide STI **syndromic** treatment in community pharmacies;
- measure the proportion and characteristics (e.g. presence of a nurse) of community pharmacies providing STI treatment;
- determine the characteristics of clients seeking treatment in community pharmacies;
- identify the discrepancies between current practices and correct practices of STI syndromic treatment;
- identify the training needs of pharmacists.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

The study is a descriptive and analytic cross-sectional survey of pharmacists practising in community pharmacies in the Western Cape. The population to which the results of this study will be generalised are community pharmacists in South Africa, represented by an accessible subset of this population residing in the Western Cape. Participants were interviewed face-to-face and their responses were collected by way of questionnaire.

4.1 Hypothesis

The research question is articulated in terms of a predictor and outcome variables. The main predictor variable is the pharmacists' perception of need for the provision of STI services in community pharmacies, and the outcome variable is the willingness of pharmacists to provide STI syndromic treatment. The various possible associations between these variables are expressed in the null and alternative hypotheses.

4.1.1 Null hypothesis

The pharmacist's perception of need for the provision of STI services will have no influence on the willingness of pharmacists to provide syndromic STI treatment.

4.1.2 Alternative hypothesis (2 sided)

The pharmacist's perception of need for the provision of STI services in community pharmacies will increase his/her willingness to provide STI syndromic treatment.

The pharmacist's perception of need for the provision of STI services in the community will decrease his/her willingness to provide STI syndromic treatment.

4.1.3 Other Predictor variables

a) Pharmacists' knowledge about HIV-1 and STI linkage
b) Economic status of the community
c) Pharmacist gender
d) Volume of clients seen per day
e) Presence of a nursing sister in the pharmacy
f) Location of the pharmacy (Region)

4.1.4 Outcome variable: Willingness of pharmacist to provide syndromic STI treatment

The outcome variable was measured by generating and summing scores from a series of questions. (See 4.4.4.1)

4.2 Sample size calculation

The sample size calculation was based on predictor variable (e), i.e. the presence of a nursing sister, since outcome estimations based on this variable are easier to generate. The Z-test was used to calculate the sample size since both the predictor and outcome variables are dichotomous (Hulley *et al.*, 2001).

It was predicted that 40% of pharmacists have a nursing sister employed on their premises. Based on experience in the field, I suspect that about 60% of pharmacists with a nursing sister will be willing to provide STI treatment (P2) and that about 30% without nursing sisters will be willing to provide STI treatment. (P1)

With alpha and beta set within conventional ranges (Hulley *et al.*, 2001:57) at 0.05 (two-sided) and 0.2 respectively, the required sample size calculated is 42 participants from each group which will have 80% power to detect a difference in pharmacists willingness to provide STI treatment of 60% for pharmacists with a nursing sister and 30% for pharmacists without a nursing sister.

A total of 90 participants were selected since the slightly larger sample size will account for the following:

a) Participants failing to respond
b) Slightly smaller percentage of pharmacies employing a nursing sister than predicted from the outset, i.e. less than 40%

4.3 Sampling Strategy and selection criterion

4.3.1 Stratified random sampling

A list of community pharmacies in the Western Cape was obtained from the South African Pharmacy Council and stratified into 2 subgroups based on location, i.e. Cape Metropole region (subgroup 1) and all other regions outside the Cape Metropole (subgroup 2). A random sample was selected from each of these "strata", proportional to the number pharmacies in each region.[2]

4.3.2 Inclusion criterion

Only pharmacists in a decision-making capacity, such as the owner or manager of the community pharmacy were allowed to participate in the survey.

4.3.2 Exclusion criterion

Private hospital dispensaries and medi-clinics were excluded due to the prescription driven nature of their practices.

4.4 Instrument selection and content

A structured interview schedule/questionnaire was constructed to cover the following key areas:

4.4.1 Profile of pharmacies;
4.4.2 Client demographics;
4.4.3 Frequency of STI syndromes;
4.4.4 Pharmacists' views regarding:
  4.4.4.1 Their current and future role in STI syndromic treatment;
  4.4.4.2 Hindrances to providing STI syndromic treatment in community pharmacies;
  4.4.4.3 The current and future role of the nursing sister in the syndromic treatment of STIs;
4.4.5 The course of action taken by pharmacists when approached for STI treatment

4.4.1 Profile of pharmacies

Community pharmacies were divided into three categories depending on the economic status of their regular clientele. Pharmacies serve either affluent or sub-economic areas, however a proportion of pharmacies, particularly in urban areas, serves clients from diverse economic backgrounds. The demarcation into these economic classes was based on a general acquaintance with the location of areas in the Western Cape and the demographics of the population residing there.

4.4.2 Client demographics

4.4.2.1 Age

The age categories employed for provincial HIV-1 surveillance studies conducted by the DOH were adopted in this survey to describe the age distribution of clients seeking STI treatment (DOH, Western Cape, 2001). This reference allows comparisons to be drawn between HIV-1 and STI age demographics in the Western Cape.

4.4.2.2 Income

The income categories were based on the 1996 census, which reflected a monthly income in the Western Cape ranging from no income to R30 000, while the majority of the population fell within a narrower range between R500 and R3500 (Statistics South Africa, 1996).

4.4.3 Frequency of STI syndromes

Participants were asked to recall the number of clients presenting with specific STI syndromes (penile discharge, vaginal discharge and genital ulceration) over the previous four weeks, representing an average number of STI episodes per month. This time frame precluded participant recall bias, while seasonal bias related to trucking and the migratory labour system are not as relevant in the Western Cape.

4.4.4 Pharmacists' views regarding their role in STI treatment

4.4.4.1 Pharmacists' current and future role in the syndromic treatment of STIs

For the purpose of this study each step in the syndromic treatment of STIs was assigned a score of either "1" or "2", the former indicating areas which are more in line with the traditional role of the pharmacist, and the latter, areas currently outside the pharmacists scope of practice (See Figure 3).

Participants were asked whether they hoped to be role-players in each of these steps, and "yes" responses were summed to yield a score ranging from zero to 12 (Figure 3).

Given the traditional role of pharmacists, they should be involved in certain aspects of STI syndromic treatment such as history-taking, counselling, partner notification and ensuring optimum patient outcomes via follow-up. In addition to this pharmacists are allowed to dispense antibiotics provided that an authorised health care worker such as a doctor, prescribes them. Pharmacists who accept this as the only role they should play in STI treatment are considered to have a slight willingness to provide STI syndromic treatment.

The areas currently outside the pharmacist's scope of practice are conducting a physical examination; prescribing antibiotics; and drawing blood for syphilis tests. Pharmacists who envisage themselves as future role-players in at least one of these areas, in addition to the more traditional role are considered to have a strong willingness to provide STI syndromic treatment.

A behavioural intention proxy, i.e. the degree of willingness to provide STI treatment is represented by a continuum scale yielding scores ranging from zero to 12.

Degree of willingness	***Score***
No willingness	<4
Slight willingness	4-6 (Including at least three items scored "1")
Strong willingness	7-12 (Including at least three items scored "1")

Descriptive data was assessed at all levels of willingness, while analytic data were dichotomised to "strong willingness" and "slight to no willingness"

4.4.4.2 Hindrances to providing STI syndromic treatment

The pharmacists' views pertaining to the obstacles that may preclude them from engaging in any of the components of STI syndromic treatment were also addressed in the questionnaire. These obstacles are among others, a lack of skills, space, privacy, time and an unwillingness of patients to let pharmacists conduct certain aspects of treatment.

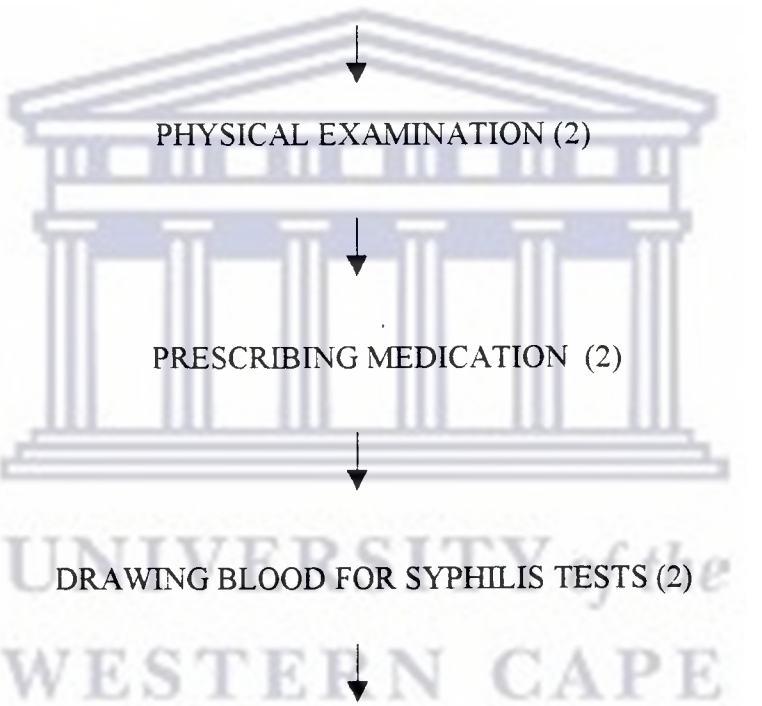
4.4.4.3 Role of nursing sisters

Pharmacists employing nursing sisters were asked an additional set of questions regarding their views on the current and future role of the nursing sister in the syndromic treatment of STIs.

4.4.5 Course of action when approached for STI treatment

Pharmacists' knowledge of STI treatment was gauged from their responses to three hypothetical case studies. The course of action taken by pharmacists for the case studies was set as a proxy for the current practices in community pharmacies. These "current practices" were assessed against a standard for the correct management of STIs, described in the manual "The Diagnosis and Management of Sexually Transmitted Infections in Southern Africa" (Ballard *et al.*, 2000).

***Figure 3**: Step-wise approach to the Syndromic Treatment of STIs (Ballard et al., 2000).*



4.5 Pretesting and validation of the instrument

The questionnaire was extensively peer reviewed by researchers at the Centre for AIDS Prevention Studies (CAPS) and the University of Western Cape.

4.5.1 Pretesting

The questionnaire was pretested among a group of six pharmacists representative of the target population. A convenience sample of pharmacists from the area under study were contacted and interviewed telephonically. Information was elicited from the participants regarding the following:

a) Clarity of questions
b) Length of the questionnaire
c) Method of administering the questionnaire.
d) Sensitive questions such as illegal practices
e) Addition or omission of certain questions
f) Comments or suggestions regarding pharmacist incentives

Open-ended questions provided useful information that was later categorised in the final draft of the questionnaire. One of the recommendations that emerged from the pretesting session was to conduct in-person rather than telephonic interviews. Telephonic interviews were more disruptive, requiring facsimiles of the 15-page long questionnaire and consent forms to be transmitted, which in addition to the length of the interview, blocked telephone lines for approximately 30 minutes.

4.5.2 Validation of questionnaire

The following strategies were implemented to reduce random errors:

a) Interviewers were trained to conduct standardised face-to-face interviews and to adhere to cues provided in the script in the event of an interruption or a request to clarify a question.

b) Each participant was given a copy of the questionnaire to follow during the interview.

The following strategies were implemented to reduce systematic errors:

a) To reduce non-response or incomplete response, the questionnaire was kept as short as possible and pharmacists were provided with incentives for their time.
b) Provided participants with the choice of being interviewed in English or Afrikaans.

4.6 Ethical consideration

Ethical approval for the project was obtained from the Institutional Review Boards of the University of Western Cape and the University of California, San Francisco.

Confidentiality was an important ethical consideration for the project since some pharmacists may be involved in areas currently outside their scope of practice. Participants were assured that their responses would be confidential and that questionnaires would not be linked with their names or other personally identifying information. All participants were issued with a written consent form that required their signature if they agreed to be interviewed (See appendix).

4.7 Data collection

Interviews were conducted over the months of January, February and October 2001. The manager or owner of the pharmacy was approached by an interviewer, provided with a brief outline of the project and invited to participate in the survey. Those expressing an interest signed a consent form before commencing with the interview.

4.8 Statistical analysis

Data was double entered into a database created on EpiInfo 6 (Dean *et al*, 1995). Data was also analysed by EpiInfo, comparing categorical variables with the Chi-square test.

The questionnaire was developed with categorical variables to measure frequencies and continuous data to measure averages. All continuous predictors and the single outcome variable were collapsed into binary categorical variables and bivariate analysis was conducted using Chi-square test. The Yates corrected Chi-square value was quoted when using two-by –two tables as well as contingency tables larger than two-by-two. Fischer's Exact test was used where the number of observed measurements was fewer than 5.

CHAPTER 5: RESULTS

The sample interviewed represents 22% of the 406 community pharmacies in the Western Cape. There was a 95% response rate. Results reflect the scenario at provincial level, i.e. the Western Cape, except where regions are specified.

5.1 Descriptive data

5.1.1 Profile of pharmacies

Table 3: Daily pharmacy operating hours (n=85)

	Mean	Median	Standard deviation	Range
Number of hours per day the pharmacy is open (Monday to Friday)	10.3	10	1.5	7.5-11

Table 4: Weekend availability of community pharmacists (n=85)

	% Pharmacists
Open on Saturday	100
Open on Sunday	51.8

On average, community pharmacies are open for 10,3 hours per day from Monday to Friday. All pharmacies (100%) surveyed are conveniently open on Saturdays while 52% are open on Sundays as well.

Table 5: Economic status of population served by community pharmacies (n=85)

	% Pharmacies
Affluent	21.2
Sub-economic	40
Diverse (Combination of affluent and sub-economic)	38.8

Table 6: Clients seeking pharmacist advised therapy for general ailments and for STIs (n=85)

	Mean	Median	Standard deviation	Range
Number of clients seeking pharmacist advised therapy per day (incl. STI clients)	43.6	30	35.4	4-200
Number of clients seeking STI treatment per day [3]	1.6	1	1.7	<1-8.4

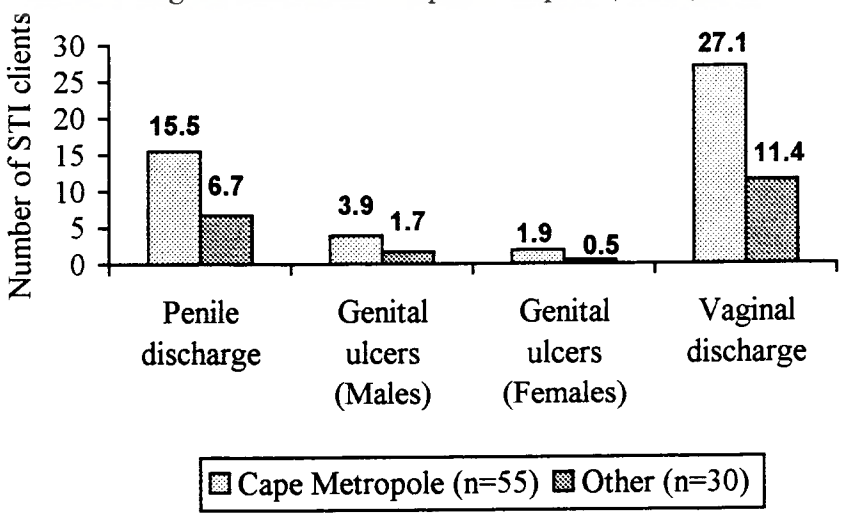
Community pharmacies situated in the Cape Metropole (n=55) see an average of 1.9 STI cases per day, compared to other regions in the Western Cape (n=30) seeing an average of 0.8 STI cases per day.

The average number of STI clients seeking treatment per day ranges from less than one to 8.4, constituting an average of nearly 4% of the total clientele seeking treatment for general ailments in community pharmacies. Of 85 pharmacists interviewed only 2 had not seen any STI clients over the past 4 weeks.

Table 7: Frequency of STI syndromes per month (n=85)

	Mean	Median	Standard deviation	Range
Vaginal discharge	21.5	12	24.7	<1-98
Penile discharge	12.4	<1	19.9	<1-96
Genital ulcers (Males)	3.1	1	5.8	<1-30
Genital ulcers (Females)	1.4	<1	3.7	0-20

Figure 4 : Average STI caseload in the Cape Metropole and regions outside the Cape Metropole (Other)



The most common STI syndrome for which treatment is sought in community pharmacies is vaginal discharge, with an average caseload of 21.5 per month. This is followed by penile discharge, with an average of 12.4 cases per month. Treatment requests for genital ulceration in males and females is uncommon in community pharmacies, where an average of 1.4 and 3.1 cases were reported over a four-week period respectively. This brings the average STI caseload to 38.4 per month. The average STI caseload in Cape Metropole pharmacies exceeds that of other regions.

5.1.2 Client demographics

Figure 5 : Age distribution of males and females seeking STI treatment in pharmacies

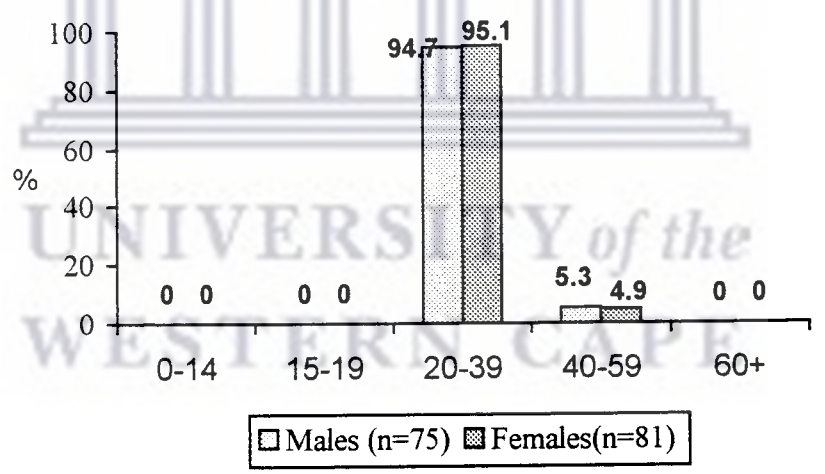
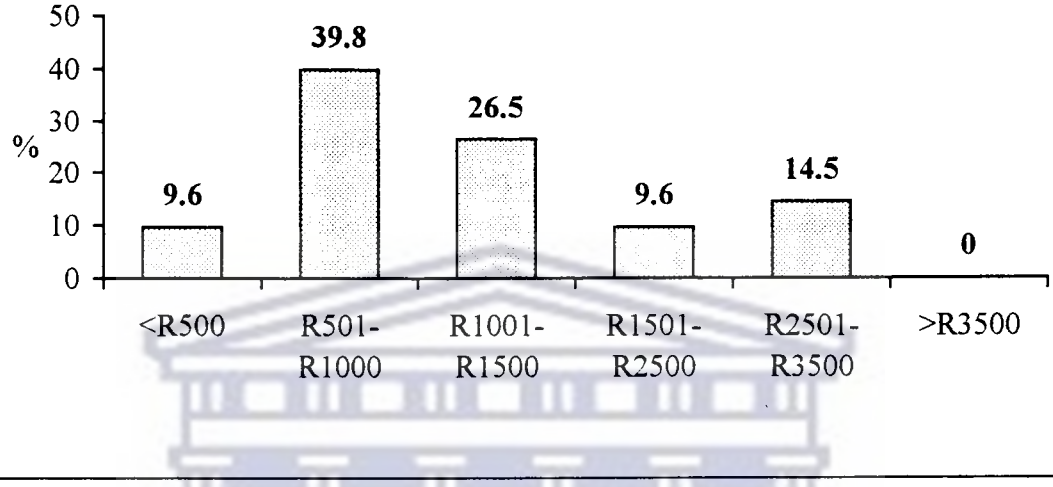


Figure 6: *Monthly income distribution of STI clients (n=83)*



The majority (95%) of males and females seeking STI treatment are between the ages of 20 and 39, while a very small percentage (5%) are between 40 and 59. The monthly income distribution of these clients shows a high proportion in the lower income brackets, with 76% earning below R1500 per month.

5.1.3 Pharmacists' perception and views regarding STI treatment

Table 8: Pharmacists' perception of need for the provision of STI treatment in community pharmacies (n=85)

	% Pharmacists
Need	83.5
No need	16.5

Table 9: Pharmacists' views regarding their current role in STI treatment (n=85)

	% Pharmacists
Satisfactory	23.5
Under-utilised	74.1
Over-utilised	0
Not sure	2.4

A high proportion of pharmacists perceived a need for community pharmacies to provide STI treatment services. 74% Of community pharmacists regard their current role in STI treatment as under-utilised. 24% Were of the opinion that their role was satisfactory, while 2.4% were undecided about their views.

Table 10: Willingness of pharmacists to play a future role in aspects of STI management (n=85)

	% Pharmacists
History-taking	97.6
Observation without manipulation of genital areas	48.2
Observation with manipulation of genital areas to better visualise areas concerned (Physical examination)	9.4
Prescribing STI medication	95.3
Counselling patients regarding risk reduction(i.e. how to prevent transmission of STIs)	95.3
Drawing blood for syphilis tests	29.4
Explaining the importance of patient to bring partner/s in for diagnosis and treatment	97.6
Monitoring patient outcomes via patient follow-up	97.6

More than 90% of pharmacists see themselves as future role-players in the areas of history taking, prescribing, counselling, and monitoring the outcomes of STI clients. Forty-eight percent are comfortable in areas requiring clinical skills such as inspecting the infected area, 29.4% in drawing blood for syphilis tests, while a physical examination is clearly the least desired role pharmacists are willing to adopt, with only 9.4% expressing an interest.

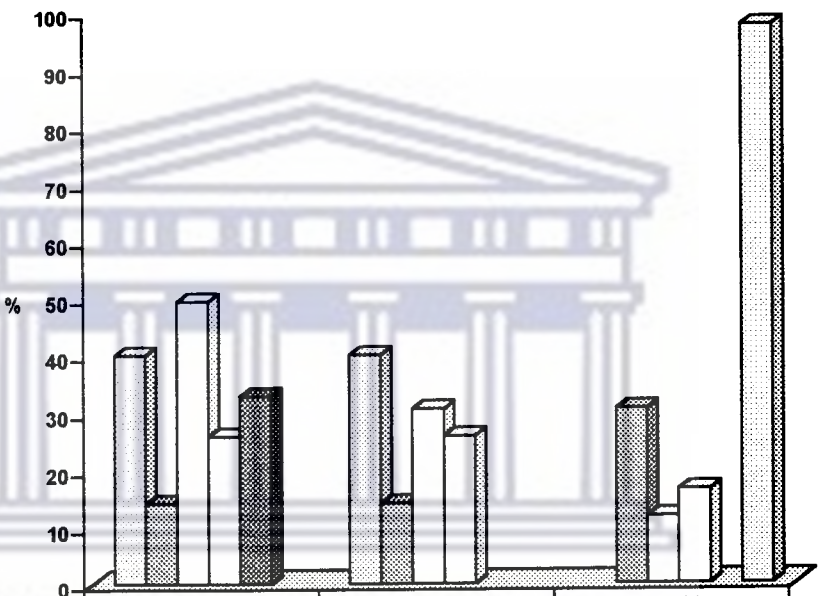
Table 11: Pharmacists' degree of willingness to provide STI syndromic treatment (n=85)

	% Pharmacists
Strong willingness	50.6
Slight willingness	47.1
No willingness	2.4

When asked about their desired future role as STI providers, 50.6% expressed a strong willingness to provide STI treatment, while 47.1% were slightly willing to do so. A minority of 2.4% preferred to play no role in STI treatment at all.

5.1.4 Obstacles to providing STI syndromic treatment

Figure 7: *Obstacles to history taking, couselling and prescribing aspects of STI treatment (n=85)*



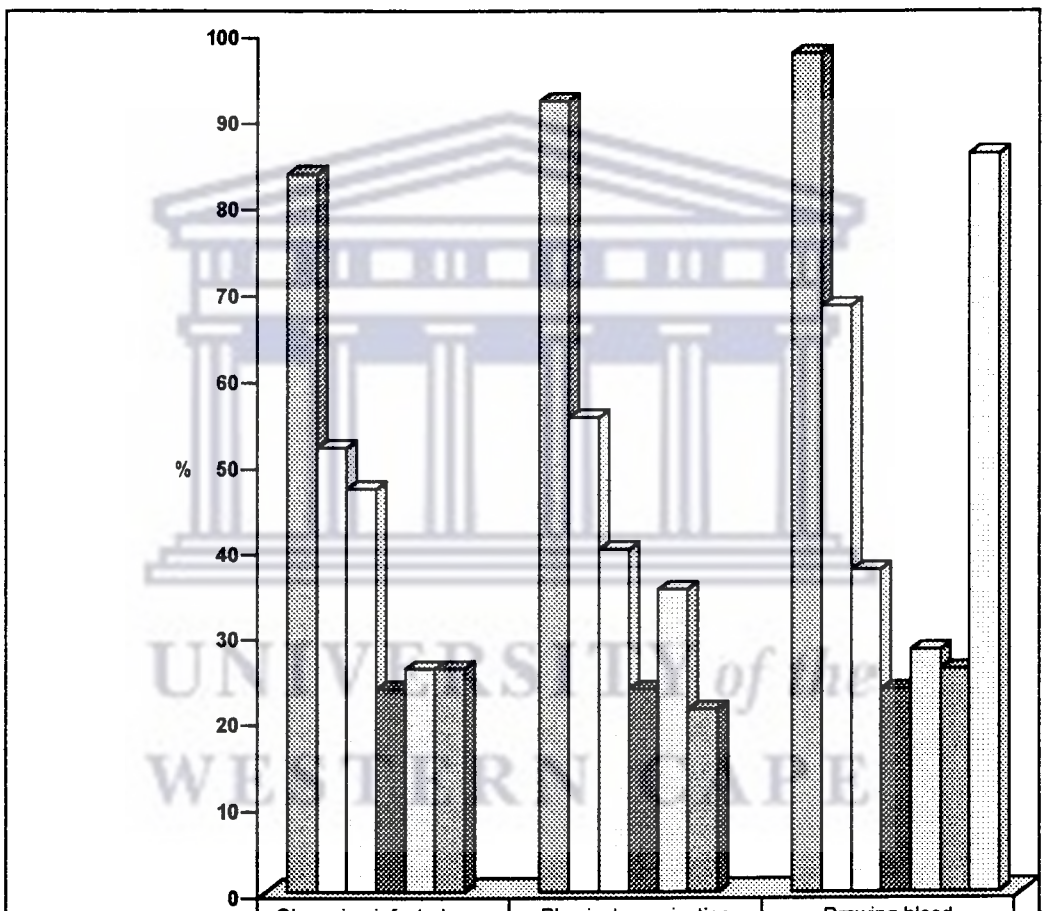
	History	Counselling	Prescribing
Lack skills	40	40	NA*
Lack interest	14.1	14.1	30.6
Lack time	49.4	30.6	11.8
Lack privacy	25.9	25.9	16.5
Unwillingness of patients	32.9	NA	NA
Legal restrictions	NA	NA	97.6

* Not applicable

Obstacles are defined as "minor" when less than 50% of pharmacists are in agreement. A lack of time, privacy, space and an unwillingness of patients present minor obstacles to providing STI treatment, which should nonetheless be taken into consideration before launching STI programs in pharmacies.

Legal restriction is the overriding obstacle preventing pharmacists from prescribing antibiotics for STIs.

Figure 8: *Obstacles to practical aspects of STI treatment (n=85)*



	Observing infected area	Physical examination	Drawing blood
Lack skills	83.5	92	97.6
Lack interest	51.8	55.3	68.2
Lack time	47.1	40	37.6
Lack privacy	23.5	23.5	23.5
Unwillingness of patient	25.9	35.3	28.2
Lack space	25.9	21.2	25.9
Lack equipment	NA	NA	85.9

More than 80% of all pharmacists believed they lacked the skills to conduct the practical aspects of STI treatment, i.e. inspection of the infected area, physical examination and drawing blood for syphilis tests.

5.1.5 Profile of nursing sister

Table 12: Proportion of pharmacists employing a nursing sister (n=85)

	% Pharmacies
Nurse present	36.5
No nurse present	63.5

Nurses are employed by 30.9% of community pharmacies in the Cape Metropole (n=55), while a higher proportion 46.7% is reflected in the other regions (n=30).

Table 13: Nurse practicing times in pharmacy (n=31)

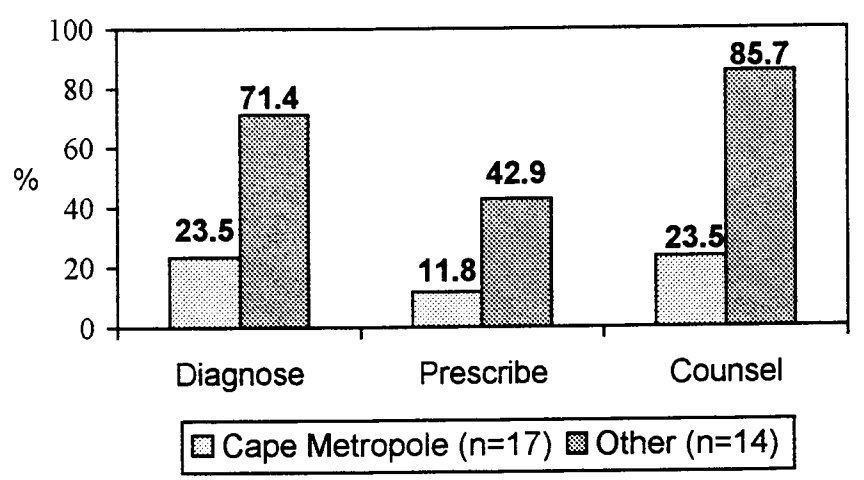
	Mean	Median	Standard deviation	Range
Number of hours per day	6.6	8	2.8	2-12
Number of days per week	4.9	5	1.3	3-7

This study reflects that approximately 36.5% of pharmacies have a nurse under their employment while 63.5% do not. Nearly 50% of pharmacies outside the Cape Metropole employ a nursing sister compared to 30.9% in the Cape Metropole. Nurses work an average of 5 days per week, and 6.6 hours per day.

Table 14: Nurses' current role in STI treatment in community pharmacies (n=31)

	% Nurses in pharmacies
Diagnose STI syndromes	45.2
Prescribe medication	25.4
Counsel STI clients	51.6

Figure 9 : Comparison of nurses' current role in STI treatment in the Cape Metropole and regions outside the Cape Metropole(Other)



From a sample of 85 pharmacists, 31 were interviewed regarding the nurse's current and future role in STI treatment. Data indicates that some nurses currently diagnose (45.2%) STIs, prescribe medication (25.4%) and counsel (51.6%) clients regarding risk reduction. The proportion of nurses treating STIs is lower in the Cape Metropole than the surrounding regions. Pharmacists preferred nurses to take care of the practical aspects of STI treatment, such as examining the patient and drawing blood.

Table 15: Willingness of pharmacists to allow nurses to conduct aspects of STI treatment in community pharmacies (n=31)

	% Pharmacists
History-taking	38.7
Observation without manipulation of genital areas	58.1
Observation with manipulation of genital areas to better visualise areas concerned (Physical examination)	80.6
Prescribing STI medication	6.5
Counselling patients regarding risk reduction(i.e. how to prevent transmission of STIs)	38.7
Drawing blood for syphilis tests	71
Explaining the importance of patient to bring partner/s in for diagnosis and treatment	38.7
Monitoring patient outcomes via patient follow-up	25.8

Pharmacists preferred nurses to take care of the practical aspects of STI treatment, such as examining the patient and drawing blood.

Table 16: Pharmacists views on preferred provider/s of STI management in pharmacies (n=31)

	% Pharmacists
Nurses and pharmacists partnership	100
Pharmacists only	0
Nurses only	0
Neither nurse nor pharmacist	0

All pharmacists who already have a nurse under their employment, are amenable to the idea of launching STI services in partnership with their nurse.

5.1.6 Syndromic treatment of STIs

Table 17: Familiarity with syndromic treatment (n=85)

	% Pharmacists
Never heard of before	71.8
Heard of before but do not use	25.9
Heard of and use	2.3

Table 18: Familiarity with DOH guidelines (n=85)

	% Pharmacists
Never heard of before	69.4
Heard before but do not use	23.5
Heard of and use	7.1

The majority (60% and more) of pharmacists lack awareness of the syndromic approach and do not follow DOH syndromic treatment guidelines to reach a decision on diagnosis and treatment

Table 19: Penile discharge-Course of action taken by pharmacists (n=85)

	Definitely (% Pharmacists)	Maybe (% Pharmacists)	Not necessary (% Pharmacists)
Refer to doctor	50.6	18.8	30.6
Gather more information from patient	64.7	7.1	28.2
Inspect the infected area	2.4	9.4	88.2
Prescribe medication	44.7	7.1	48.2
Advise condom use	81.2	2.3	16.5
Partner notification	61.2	7.1	31.7
Inform about AIDS risks	64.7	11.8	23.5
Monitor outcomes via follow-up	42.4	9.4	48.2

Table 20: Genital ulceration in males-Course of action taken by pharmacists (n=85)

	Definitely (% Pharmacists)	Maybe (% Pharmacists)	Not necessary (% Pharmacists)
Refer to doctor	64.7	11.8	23.5
Gather more information from patient	62.4	7.1	30.6
Inspect the infected area	7.1	2.4	90.6
Prescribe medication	28.2	9.4	62.4
Advise condom use	83.5	0	16.5
Partner notification	63.5	4.7	31.8
Inform about AIDS risks	64.7	11.8	23.5
Monitor outcomes via follow-up	49.5	9.4	41.2

Table 21: Vaginal discharge-Course of action taken by pharmacists (n=85)

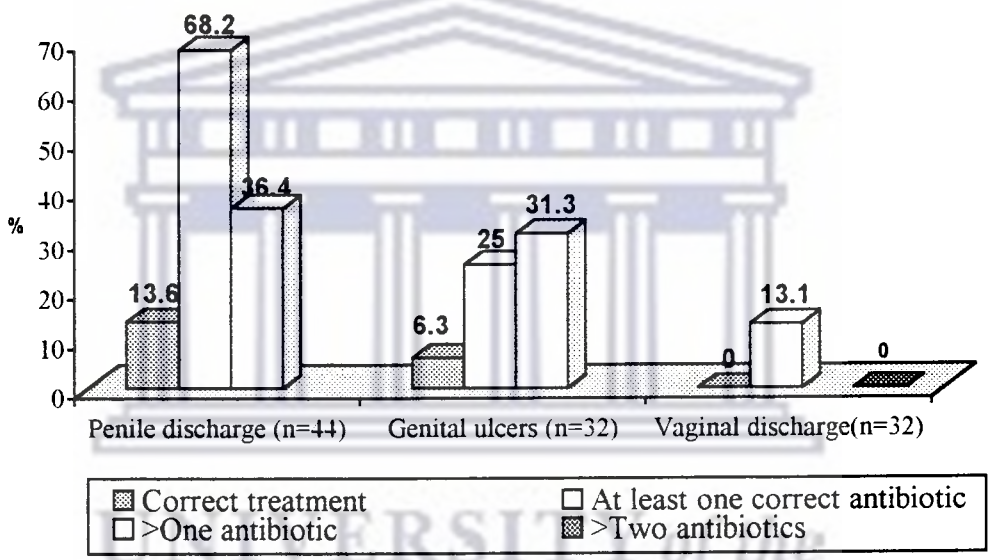
	Definitely (% Pharmacists)	Maybe (% Pharmacists)	Not necessary (% Pharmacists)
Refer to doctor	47.1	7.1	45.9
Gather more information from patient	74.1	4.7	21.2
Inspect the infected area	7.1	2.4	90.6
Prescribe medication	60	11.8	28.2
Advise condom use	78.8	7.1	14.1
Partner notification	71.8	4.7	23.5
Inform about AIDS risks	74.1	9.4	16.5
Monitor outcomes via follow-up	64.7	9.4	25.9

The most important findings from the pharmacists' responses to three hypothetical scenarios are summarised in point form below. The majority (60% and more) of pharmacists:

- Fail to recognise more than one implicating organism for penile discharge, genital ulceration or vaginal discharge
- Refrain from examining STI clients
- Are hesitant to treat genital ulcers, indicated by the high referral rate
- Provide medication for vaginal discharge

- Advise use of condoms to clients presenting with penile discharge, genital ulcers or vaginal discharge
- Inform STI clients about AIDS risks
- Inform STI clients to bring/send partner for treatment

Figure 10: *Treatment for three STI syndromes by pharmacists*



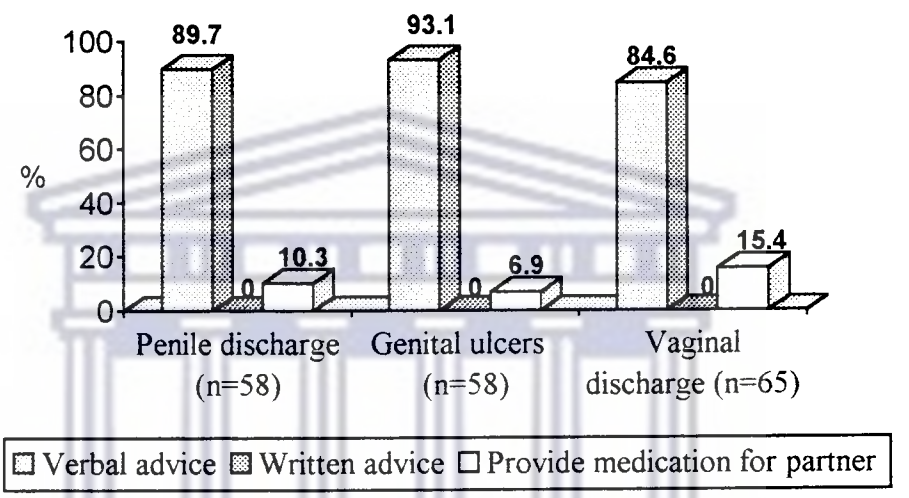
Effective treatment was provided by only 13.6% of pharmacists for penile discharge, 6.3% for genital ulcers and no pharmacists could prescribe the correct treatment for vaginal discharge.

Partially effective treatment (at least one correct antibiotic) was provided by 68.2% of pharmacists for penile discharge, while a much smaller proportion provided at least one correct antibiotic for genital ulcers (25%) and vaginal discharge (13.1%).

A high proportion of pharmacists (63% and more) prescribed only one antibiotic for the syndrome of penile discharge; genital ulceration and vaginal discharge and no

pharmacists prescribed more than two antibiotics for the treatment of vaginal discharge.

Figure 11: *Partner notification method employed by pharmacists*



Most pharmacists provide verbal advice to the client, informing them of the importance of the partner/s also receiving treatment. A few pharmacists actually provide medication for the partner through the index person,

5.2 Analytic data

5.2.1 Predictor variable: Pharmacist's perception of need for STI services to be provided in community pharmacies

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**Need**	37	34	71
	No need	6	8	14
		43	42	

Chi^2 (Yates corrected) = 0.12

Degrees of freedom = 1

p=0.7

Results are not statistically significant since p>0.05. The null hypothesis therefore stands; i.e. pharmacists' perception of need is not associated with their willingness to provide STI treatment.

Relative Risk (RR) ratio:

RR= 1.22

95% confidence interval for this value is (0.64 to 2.32)

While the observed RR ratio (1.22) is greater than one, it is not unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore not reasonable to state that pharmacists' perception of need is associated with their willingness to provide STI treatment.

5.2.2 Pharmacists' knowledge about STI and HIV-1 linkage.

Knowledge of STI and HIV-1 linkage was assumed if reference to HIV risks was made in all 3 STI case studies. 3/3=yes, <3/3 = no

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**Yes**	37	20	57
	No	6	22	28
		43	42	

Chi^2 (Yates corrected) = 12.52

Degrees of freedom = 1

p=0.0004

Results are statistically significant since p<<0.05. The null hypothesis is therefore rejected; i.e. Pharmacists' knowledge about HIV-1 and STI linkage is associated with willingness to provide STI treatment.

RR=3.03

95% confidence interval for this value is (1.45 to 6.31)

Pharmacists who are knowledgeable about HIV-1 and STI linkage are 3.03 times more likely to have a strong willingness to provide STI treatment than pharmacists lacking this knowledge are.

The observed RR ratio (3.03) is greater than one and it is unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore reasonable to state that pharmacists' knowledge is associated with their willingness to provide STI treatment.

5.2.3 Predictor variable: Economic status of population served by community pharmacy

1= Affluent

2=Sub-economic

3=Diverse (Affluent and sub-economic)

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**1**	8	10	18
	2	18	16	34
	3	17	16	33
		43	42	

Chi^2 (Yates corrected) = 0.36

Degrees of freedom = 2

p=0.8

Results are not statistically significant since p>0.05. The null hypothesis therefore stands; i.e. economic status of community is not associated with their willingness to provide STI treatment.

5.2.4 Predictor variable: Pharmacist gender

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**Male**	41	22	63
	Female	2	20	22
		43	42	

Fisher's Exact test:

One-tailed p-value: p=0.000004

Two-tailed p-value: p=0.000004

Results are statistically significant since p<<0.05. The null hypothesis is therefore rejected; i.e. Pharmacist gender is associated with an increased willingness to provide STI treatment.

RR=7.16

95% confidence interval for this value is (1.89 to27.17)

Male pharmacists are 7.16 times more likely to have a strong willingness to provide STI treatment than females are.

The observed RR ratio (7.16) is greater than one and is unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore reasonable to state that pharmacist gender is associated with their willingness to provide STI treatment.

5.2.5 Predictor variable: Volume of customers seen per day

This variable was dichotomised to produce two groups of participants, those with a client load of less than 50 per day (arbitrarily derived) and those with a client load of more than or equal to 50 per day.

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**< 50**	28	22	50
	≥ 50	15	20	35
		43	42	

Chi^2 (Yates corrected) = 0.95

Degrees of freedom = 1

p=0.33

Results are not statistically significant since p>0.05. The null hypothesis therefore stands; i.e. Volume of customers seen per day is not associated with pharmacists' willingness to provide STI treatment.

RR=1.24

95% confidence interval for this value is (0.87 to1.79)

While the observed RR ratio (1.24) is greater than one, it is not unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore not reasonable to state that the volume of clients seen per day in a pharmacy is associated with pharmacists'willingness to provide STI treatment.

5.2.6 Predictor variable: Presence of a nursing sister

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**Nurse**	13	18	31
	No nurse	30	24	54
		43	42	

Chi^2 (Yates corrected) = 0.97

Degrees of freedom = 1

p=0.3

Results are not statistically significant since p>0.05. The null hypothesis therefore stands; i.e. Presence of a nursing sister is not associated with pharmacists' willingness to provide STI treatment.

RR=0.75

95% confidence interval for this value is (0.47 to 1.22)

While the observed RR ratio (0.75) is less than one, it is not unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore not reasonable to state that the presence of a nursing sister is associated with pharmacists' willingness to provide STI treatment.

5.2.7 Predictor variable: Location of the pharmacy

1= Cape Metropole

2=Outside Cape Metropole

		OUTCOME VARIABLE: Willingness to provide STI treatment		
		Yes	**No**	
PREDICTOR VARIABLE	**1**	31	24	55
	2	12	18	30
		43	42	

Chi^2 (Yates corrected) = 1.48

Degrees of freedom = 1

p=0.22

Results are not statistically significant since p>0.05. The null hypothesis therefore stands; i.e. Location of pharmacy is not associated with pharmacists' willingness to provide STI treatment.

RR=1.41

95% confidence interval for this value is (0.86 to2.31)

While the observed RR ratio (1.41) is greater than one, it is not unlikely, from the 95% confidence interval, that the true relative risk is equal to one. It is therefore not reasonable to state that the location of the pharmacy is associated with pharmacists' willingness to provide STI treatment.

CHAPTER 6: DISCUSSION

6.1 Descriptive data

6.1.1 Pharmacy profile and client demographics

Earlier speculation that pharmacists are among the health care providers frequently sought for STI treatment is confirmed in this survey where the average number of STI clients seeking treatment per day ranges from less than one to 8.4, constituting an average of nearly 4% of the total clientele seeking treatment for general ailments in community pharmacies. While the treatment seeking behaviour of this group of individuals is an important area to be investigated in the future, this study focuses only on the views and perceptions of pharmacists and not their clients.

The operating hours of community pharmacies (10.3hrs) suggest that they are fairly accessible to the population, still more and more pharmacies are extending their hours and days of operation to meet the after hour needs of their clients, with some operating until 10pm and many providing a service over weekends.

On an average day approximately 43 clients seek pharmacist-advised therapy in community pharmacies, 4% of who seek STI care. This translates into an average of 1.6 STI cases per day, which in comparison to the 2.5 STI cases seen by private general practitioners per day (Dartnall *et al.*, 1997), confirms that pharmacists too are among the preferred STI care-givers in the private sector.

The majority (95%) of males and females seeking STI treatment are between the ages of 20 and 39, while a very small percentage (5%) are between 40 and 59. The age variable measurement is probably an inaccurate representation of the STI client

population seeking treatment in community pharmacies. In retrospect, the age categories selected for the questionnaire were too narrow, hence failing to accommodate broader ranges reported by participants. There is however an indication from pharmacists that clients in the 15 to 19 age group also seek STI treatment in community pharmacies. In fact, pharmacies target similar age groups who are at risk of contracting HIV (DOH, Western Cape, 2001), the very population that health care workers are trying to reach with HIV prevention messages.

The majority of STI clients (76%) fall into the lower income bracket, with earnings below R1500 per month. This data is comparable with the findings in rural South Africa (Wilkinson *et al.*, 1998), where a preference for private doctor services was reported by 50% of the low-income study population. Cost appeared not to be a disincentive for the use of private sector services. While the cost of treatment in pharmacies is higher than the subsidised services provided in public health facilities, it remains considerably lower than the standard fees charged by private doctors.

The availability and affordability of pharmacists' services could partially explain why this group of individuals seek treatment in community pharmacies, however this remains mere speculation until such time that clients themselves are interviewed.

6.1.2 Frequency of STI syndromes

The most commonly reported STI syndromes in community pharmacies are vaginal and penile discharge respectively, which provides a clear indication of the direction that services should be geared towards. It should however be noted that the reported average vaginal discharge caseload of 21.5 is probably an overestimation, given that every vaginal discharge, regardless of aetiology was considered to be an STI.

The results indicate a much lower number of reported genital ulcer cases. This could possibly be attributed to the patients' treatment seeking behaviour, rather than a low

prevalence of this syndrome, which would contradict the high prevalence of syphilis in the Western Cape (DOH, Western Cape, 2001). Most of the protocols used in the public and private sector for the treatment of genital ulceration requires the administration of a penicillin injection, a practical skill, which from the patient's perspective is synonymous with a doctor or nurse, rather than a pharmacist at this point in time.

The STI caseload in the Cape Metropole exceeds that of the regions outside the Cape Metropole for both private pharmacies as well as public primary health care settings, which is not suprising when 87% of the population in the Western Cape reside in the Cape Metropole. This findings coupled with STI figures in provincial reports for 1999 and 2000 (DOH, Western Cape, 2001) confirms that STI figures in the Cape Metropole are much higher than the collective figures of other regions. Other factors contributing to the lower observed STI caseload outside the Cape Metropole may only be determined through further investigation into the sexual practices and lifestyles of this population.

6.1.3 Utilisation of pharmacists in STI care

The diagnosis and treatment of STIs is currently a role outside the pharmacist's scope of practice. Within these confines, a pharmacist may only provide referral options to the client, while treatment opportunities are lost. While the vast majority of pharmacists (84%) acknowledge the need for STI services in community pharmacies, fewer pharmacists (74%) are keen on becoming proactive in the treatment of STIs. Given these statistics it is clear that pharmacists' perception of need does not always drive them to a sense of urgency to treat STIs.

Pharmacists are comfortable performing the aspects of STI treatment for which they are traditionally trained, however there is a general resistance to tackle the areas

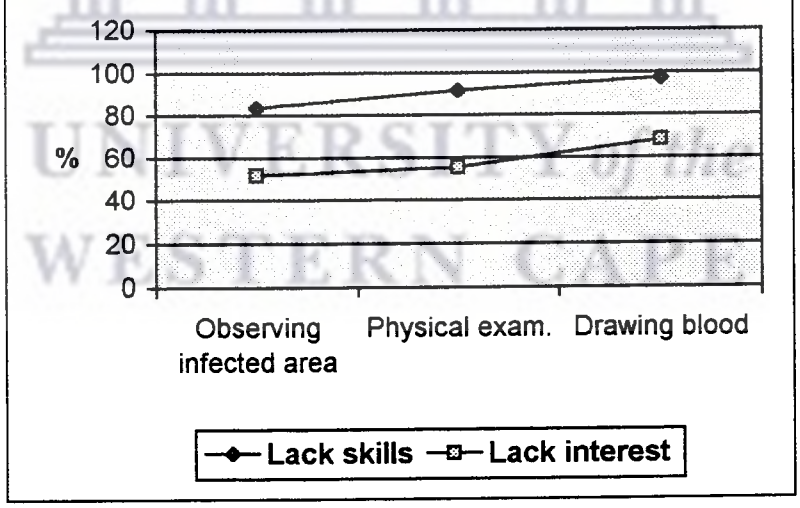
currently outside their scope of practice.

6.1.4 Obstacles to providing STI treatment

To establish the motivation guiding their behavioural intentions, pharmacists were questioned on potential hindrances to providing STI treatment.

More than 80% of all pharmacists believed they lacked the skills to conduct the practical aspects of STI treatment, i.e. inspection of the infected area, physical examination and drawing blood for syphilis tests. An association is noted between the skills and interest levels as indicated in Figure 12.

Figure 12: *Relationship between pharmacists' skill and interest levels with regards to practical aspects of STI treatment*



The interest appears to dwindle with increasing lack of skills, indicating that a training intervention could possibly boost the pharmacist's enthusiasm to adopt these

additional responsibilities. The high disinterest for drawing blood could, in addition to the poor skill level, be due to a lack of equipment, reported by 85.9% of pharmacists.

6.1.5 Profile of nurses and their utilisation in STI treatment in community pharmacies

The assumptions regarding the proportion of pharmacies employing a nursing sister are validated in this study which reflects that nearly 40% of pharmacies employ a nurse and 60% do not. Nurses, unlike pharmacists are certified to conduct a physical examination and draw blood from patients, whereas prescribing duties do not traditionally fall within their scope of practice. Nurses employed in pharmacies consequently play a greater role in diagnosing and counseling, rather than prescribing medication (Table 14). The majority of pharmacists interviewed, who currently employ nurses, envisage a pharmacist-nurse partnership in the future treatment of STIs in community pharmacies, whereby nurses would handle the practical aspects of treatment such as observing the infected area, physical examination and drawing blood.

A higher proportion of nurses outside the Cape Metropole (with predominantly rural areas) play a role in STI treatment (Figure 9). This is largely due to a DOH initiative to improve the accessibility of health care services in rural areas, by allowing nurses practising in pharmacies to adopt an expanded role which includes the dispensing of government subsidised medication for selected conditions.

6.1.6 Syndromic treatment of STIs

A high proportion of community pharmacists are unfamiliar with the syndromic approach and do not follow DOH syndromic treatment guidelines, which is a problem requiring urgent attention. This perhaps sums up the slow infiltration of the visions and strategies of the DOH into the private sector.

Pharmacists' responses to three hypothetical STI scenarios indicate keen involvement in the areas traditional to pharmacists, i.e. patient history-taking, advising condom use, partner notification and patient follow-ups. Inspection of the infected area is a practical skill still novel to pharmacists, reflected in these scenarios by the small proportion of participants who acknowledged a definite need to conduct an examination (Table 19-21)

The highest referral rate is for genital ulcers, which could possibly be attributed to pharmacists' unwillingness to administer the required penicillin injection. On the other hand, pharmacists may have a misconception that genital ulcers are a more serious health risk than urethral discharge requiring a referral to a higher level of care.

The follow-up rate for females (64.7%) surpasses that of males (42.4% to 49.5%), possibly indicating that females rather than males are regular clientele at the pharmacies where they seek treatment. While males possibly appreciate the anonymity that comes with seeking treatment in pharmacies, females on the other hand may feel more comfortable expressing their STI related problems to a known and trusted health care provider. Further follow-up studies are needed to establish the reasons for these treatment-seeking behaviours.

6.1.7 Quality of STI treatment

According to the syndromic treatment guidelines, a syndrome of penile discharge may be indicative of Gonorrhoea and/or Nongonococcal Urethritis; hence a combination of two suitable antibiotics is the preferred treatment option. (See appendix for treatment options.) Similarly, a syndrome of genital ulcers necessitates treatment with a combination of two antibiotics covering Syphilis and Chancroid. A syndrome of vaginal discharge may be indicative of Gonorrhoea, Chlamydia or Trichomoniasis, hence a combination of three suitable antibiotics is preferred.

The quality of treatment for each syndrome was therefore assessed at 3 levels:

a) Proportion of pharmacists providing an effective combination of antibiotics
b) Proportion of pharmacists providing partially effective treatment , i.e. at least one effective antibiotic
c) Proportion of pharmacists providing more than one antibiotic (regardless of effectiveness), for penile discharge and genital ulcers, and more than 2 antibiotics for vaginal discharge

The results reflect an overall poor quality of STI treatment in community pharmacies with only 13.6% providing effective for penile discharge, 6.3% for genital ulcers and no pharmacists prescribing the correct treatment for vaginal discharge. The majority of pharmacists (75%) erroneously diagnosed Vaginal Candidiasis, while excluding an STI diagnosis. Consequently, the most common treatment prescribed for vaginal discharge was an antifungal cream. It should however be noted that while penile discharge and genital ulcers are more specific diagnosis for an STI, vaginal discharge is less specific.

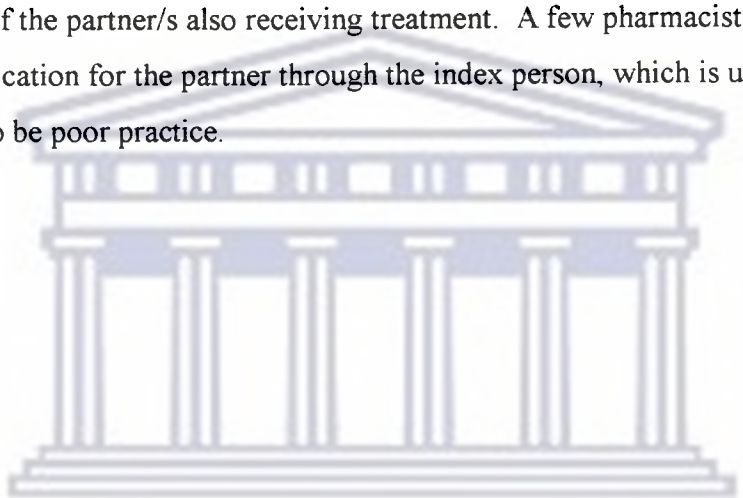
The syndromic treatment of STIs has only recently been introduced as a subject into the pharmacy undergraduate curriculum, while the majority of qualified pharmacists did not receive training in this area. The consequential lack of knowledge may be related to the poor quality of STI treatment. The treatment practices of pharmacists may also be linked to a client's financial means i.e. prescribing patterns may be tailored to what the client is able to afford, given the low income categories of the majority of STI clients seeking care in community pharmacies.

6.1.8 Partner notification

Partner notification is an integral part of STI syndromic management and while pharmacists acknowledge the importance thereof, they lack an efficient system

whereby this can be achieved. In public primary health care settings the partner is provided with a letter or slip, coded with the diagnosis of the index person. This allows the partner to access any clinic and receive treatment based on the coded diagnosis, in addition to any other presenting symptoms. The value of this method is that partners, who are asymptomatic, yet harbouring an infection, do not go untreated.

Most pharmacists provide verbal advice to the client, informing them of the importance of the partner/s also receiving treatment. A few pharmacists actually provide medication for the partner through the index person, which is usually considered to be poor practice.



6.2 Analytic discussion

Contrary to popular belief, the pharmacist's perception of need was not found to be associated with their willingness to treat STIs. While the health needs and treatment seeking behaviour of clientele are undoubtedly dependent on the economic status (affluent, sub-economic or both) as well as the location (urban or rural) of a population, pharmacists appear not to be driven by the needs of their clientele. These findings could be attributed to any of the following:

a) Pharmacists are either insensitive or oblivious to the needs of the communities they serve;
b) Pharmacists fail to understand the implications of untreated STIs;
c) While pharmacists understand the implications of untreated STIs, they remain indifferent to this reality.

Given the association found between pharmacist's knowledge of HIV-1 and STI linkage and their willingness to provide STI syndromic treatment, point "b" probably rings true. It is difficult to contextualise, that within an HIV-1-burdened country like South Africa a division of pharmacists are still ignorant to the STI/HIV/AIDS connection. This underscores the urgent need of a training intervention for community pharmacists, commencing with a basic HIV-1/AIDS course.

Pharmacists currently play a limited role, if any, in the prevention of HIV-1 transmission in South Africa. Those who desire to be role-players in reducing HIV-1 transmission in the country may therefore more willingly accept the introduction of an STI management and control program in pharmacies.

The presence of a nurse in the pharmacy does not influence pharmacists' willingness to treat STIs. Although pharmacists lack the practical skills possessed by nurses, the

evidence suggests that they are willing to acquire these skills and provide STI treatment services independently.

The volume of customers does not appear to deter or encourage pharmacists to provide STI services, implying that the amount of time involved in treating STI cases is not a major drawback as initially speculated.

Pharmacist gender was also found to be associated with a pharmacist's willingness to provide STI syndromic treatment. It should however be noted that a disproportionate number of males and females were interviewed. The majority of the participants were males, due to the inclusion of only managers or owners. This could be regarded as one of the flaws in the study design, which could have been resolved through further interviews with a sample of female pharmacists. Whether or not the gender variable is a significant barrier to the provision of STI treatment services in pharmacies can only be determined through further investigation.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

There is an urgent need for community pharmacists in South Africa to provide STI care, given that an estimated 200 000 STI cases are seen in private community pharmacies per annum in the Western Cape alone.[4] This estimate is taken from the average monthly STI caseload in community pharmacies extrapolated to one year and to a total of 406 community pharmacies registered with the Pharmacy Council in the Western Cape in the year 2000. The evidence presented in this survey support the HIV/AIDS/STI strategic plan proposed by the South African Pharmacy Council, which promotes an increased utilisation of pharmacists in the prevention of HIV-1 transmission, through expanding their scope of practice with regards to STI treatment. (HIV/AIDS and STI Strategic Plan, 2001)

STI treatment opportunities in community pharmacies are being missed, due to current legal restrictions imposed on pharmacists. Since the majority of pharmacists have not been trained in the syndromic treatment of STIs, many who currently treat STIs are ill equipped to provide this service to the community. The main barrier to providing effective STI treatment is therefore a lack of skills and while a training intervention is likely to raise the current level of STI care to one that is comparable with DOH standards, legal constraints preclude this from currently taking place.

Although some pharmacists are less willing to carry out the practical aspects of STI treatment they nevertheless believe there is a role to play, albeit within the confines of their current capabilities, in areas such as history taking, prescribing and counselling. This study demonstrates a need for pharmacists to hone these existing skills whether they are inclined to provide comprehensive STI syndromic treatment or partial treatment. Furthermore, community pharmacies inclined to offer more comprehensive STI syndromic treatment services should be assisted in the following areas:

a) Pharmacist training

Pharmacists should be trained in the clinical aspects of STI syndromic treatment and in the use of protocols to reach a decision on the diagnosis and treatment.

b) Pharmacy renovations

Pharmacies currently lacking the privacy and space to launch syndromic STI treatment should consider renovating their existing premises to meet these requirements.

c) Provision of affordable medication

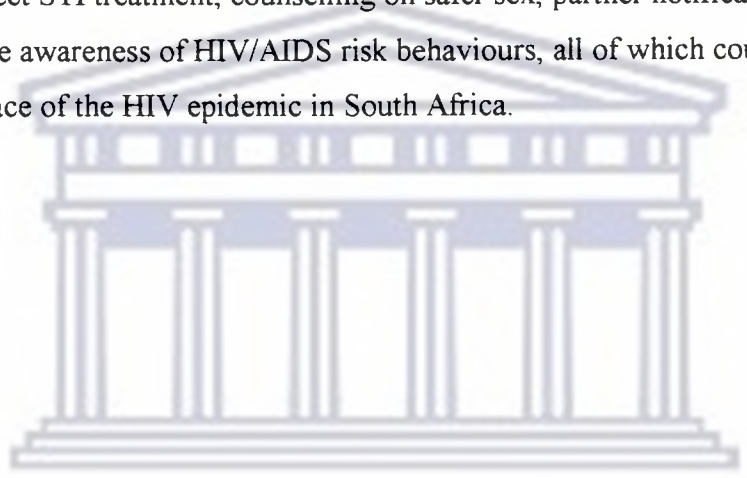
The cost of STI treatment in community pharmacies should be affordable to the largely lower income target market. The availability of antibiotics at a reduced cost to private community pharmacies could be a useful incentive for pharmacists to prescribe effective drugs in accordance with the essential drug list. The use of these antibiotics for conditions other than STIs is a potential concern, which could be circumvented through strict regulation and control by an appointed supervisory body.

d) Public-private partnership

A partnership between the public and private sector is an important proviso for successfully launching STI syndromic treatment in community pharmacies. The public sector remains an important referral option, particularly for the partner and the more serious index cases requiring specialist care. The public sector could also lend other services such as syphilis serology testing to community pharmacies, thereby facilitating the implementation process.

Further cohort studies quantitating the effect of interventions consisting of the aforementioned criteria is now required to determine whether a more acceptable level of STI care is attainable.

The benefits which could emerge from this endeavour, other than improved treatment of STIs, are that pharmacies will have access to a population who are at high risk of contracting HIV. Opportunities for HIV prevention interventions are numerous through correct STI treatment, counselling on safer sex, partner notification, and increasing the awareness of HIV/AIDS risk behaviours, all of which could ultimately change the face of the HIV epidemic in South Africa.



NOTES

1. Number of pharmacists registered with the South African Pharmacy Council, for the year 2001,(excluding those registered as "non-pharmacists", "retired" and "outside South Africa") = 8861

   Number of pharmacists registered as community pharmacists = 4360

   Therefore, the proportion of pharmacists practising in community pharmacies =(4360/8861) = 0.5

2. There are 438 registered private pharmacies in the Western Cape, 32 of which are private hospital dispensaries, medi-clinics or depots and the balance (406) are community pharmacies. Approximately 70% are located inside the Metropole and 30% outside the Metropole.

3. The number of STI clients per day was calculated as follows:
   Total STI clients per 4 weeks /(number of days per week the pharmacy opens (either 6 or 7) *x* 4 weeks)

4. The estimated number of STI clients seen in community pharmacists in the Western Cape annually assumed that pharmacists see an average of 1.6 clients per day and work either 6 or 7 days per week and for 52 weeks per annum:

   Average number of STI clients per day (1.6) *x* 6 days *x* 406 community pharmacies *x* 52 weeks = 202675.2 cases annually

   Average number of STI clients per day (1.6) x 7 days x 406 community pharmacies x 52 weeks = 236454.4 cases annually

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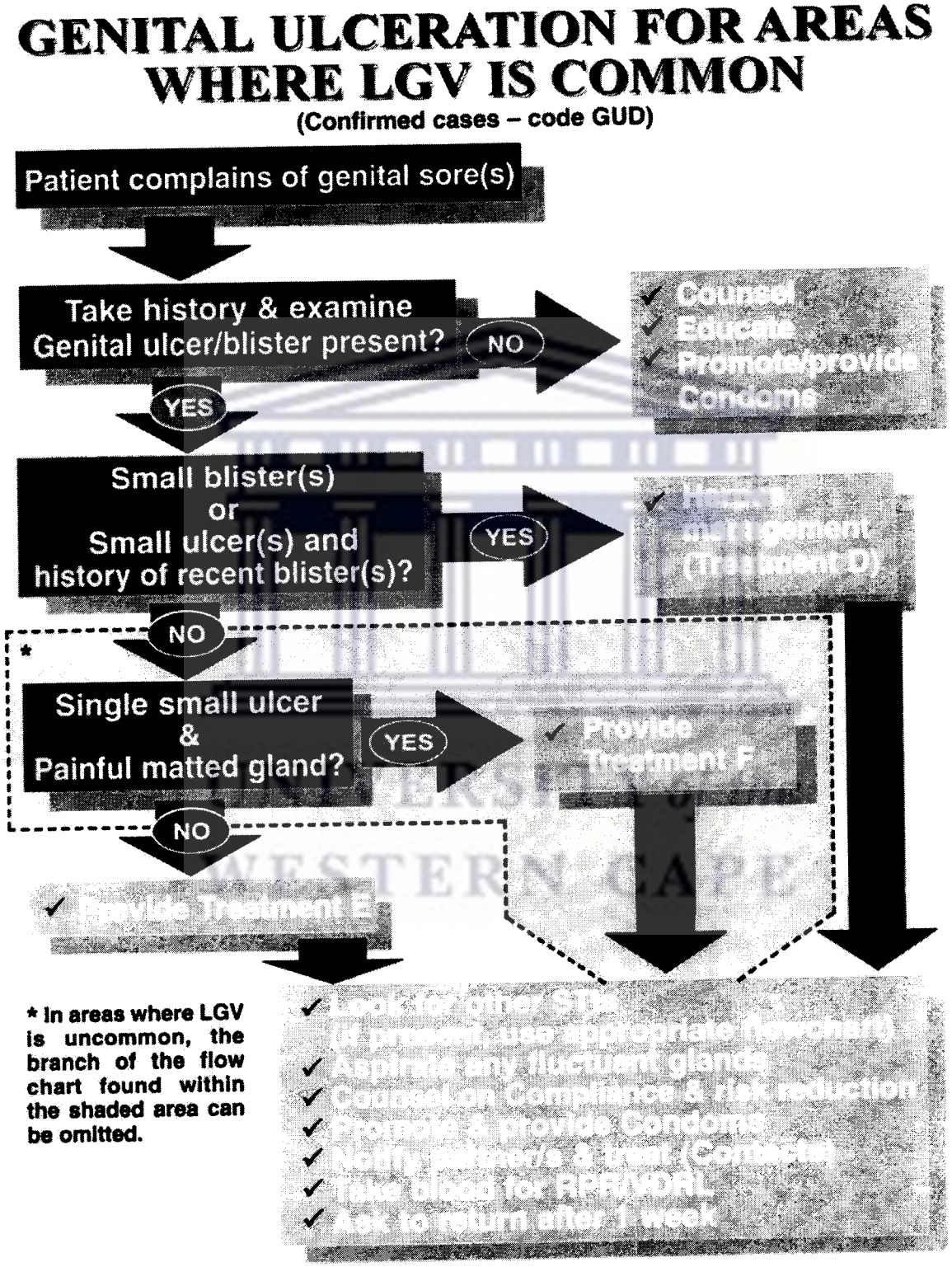
APPENDIX A



Source: Ballard et al., 2000

TREATMENT OF GENITAL ULCERS (GUD)

TREATMENT OPTIONS – D

Management of Genital Herpes

- Counselling on nature of disease with emphasis on possible recurrences.
- Lesions should be kept clean and dry, using talcum powder.
- Secondarily infected herpes lesions should be treated.
  Cotrimoxazole 1 double strength tablet (160/800 mg) p.o. bd for 7 days OR
  Erythromycin 500 mg p.o. qid for 7 days
- Pain relief if necessary
- If available, specific anti-herpes therapy may be provided
  The dosages indicated are those recommended for primary herpetic episodes:
  Acyclovir 200 mg 5 times daily p.o. for 7-10 days OR
  Famciclovir 250 mg p.o. tds for 7-10 days OR
  Valacyclovir 1 g p.o. bd for 7-10 days
  (Consult page for dosages recommended for recurrent episodes)

TREATMENT OPTIONS – E

Treatment for Early Syphilis

*Benzathine penicillin L.A. 2.4 Mu i.m. stat OR
*Procaine penicillin G 600 000 u.i.m. daily for 10 days OR
Tetracycline 500 mg p.o. qid for 15 days OR
Doxycycline 100 mg p.o. bd for 15 days OR
*Erythromycin 500 mg p.o. qid for 15 days

PLUS

Treatment for Chancroid

*Erythromycin 500 mg p.o. qid for 7 days OR
Ciprofloxacin 500 mg p.o. stat OR
Ofloxacin 400 mg p.o. stat OR
*Ceftriaxone 250 mg i.m. stat OR
*Azithromycin 1g p.o. stat

TREATMENT OPTIONS – F

Treatment for Early Syphilis

*Benzathine penicillin L.A. 2.4 Mu i.m. stat OR
*Procaine penicillin G 600 000 u.i.m. daily for 10 days

PLUS

Treatment for Lymphogranuloma venereum and Chancroid

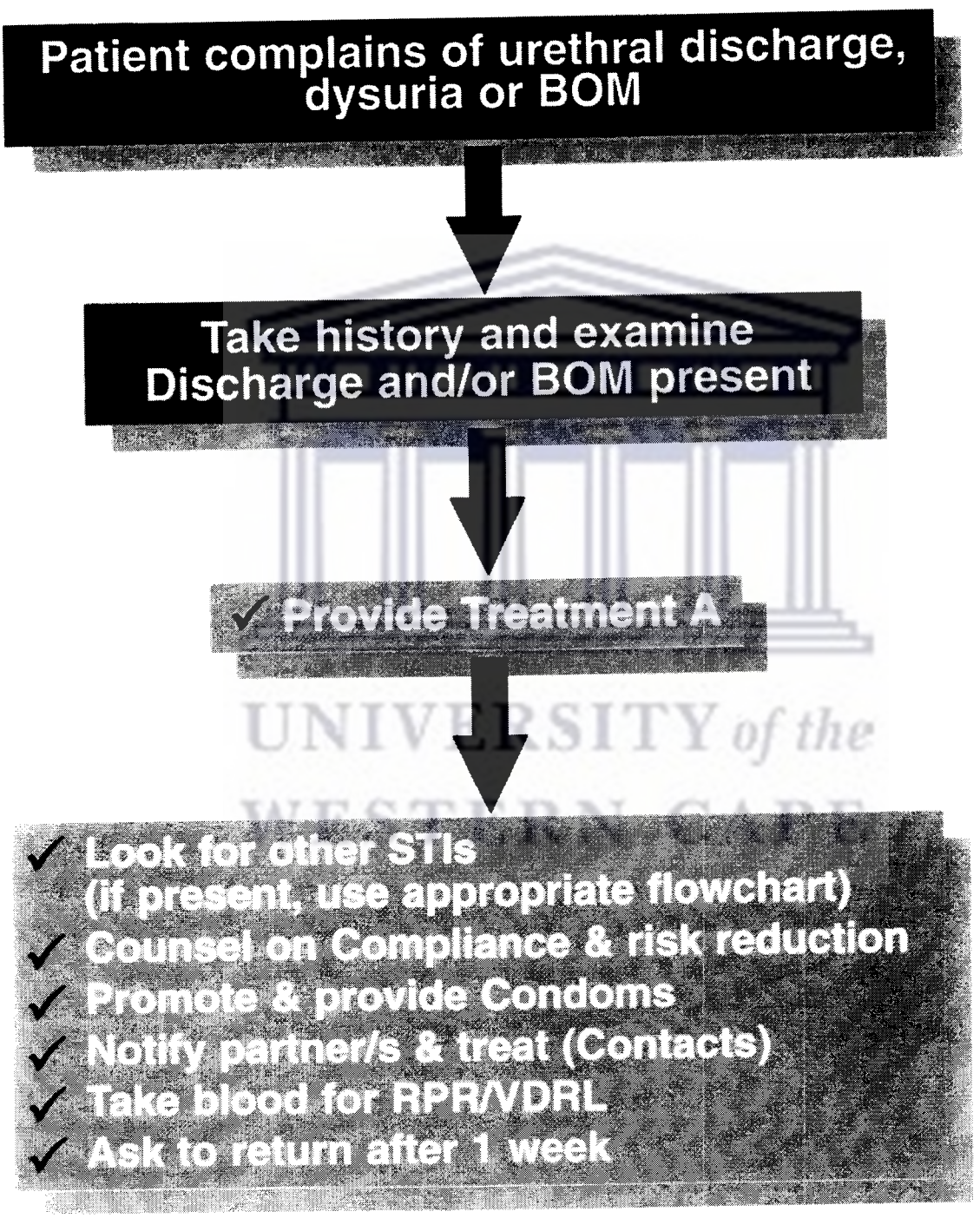
*Erythromycin 500 mg p.o. qid for 14 days

Treatments marked * are safe for use during pregnancy/breastfeeding

Source: Ballard et al., 2000

URETHRAL DISCHARGE/BURNING ON MICTURITION (BOM) IN MEN

(Confirmed cases – code URD)



Source: Ballard et al., 2000

TREATMENT OF URETHRAL DISCHARGE/DYSURIA (URD)

TREATMENT OPTIONS – A

Treatment for Gonorrhoea

Ciprofloxacin 500mg p.o. stat OR

Ofloxacin 400mg p.o. stat OR

Ceftriaxone 125mg i.m. stat OR

Spectinomycin 2g i.m. stat

PLUS

Treatment for Nongonococcal urethritis

Tetracycline or Erythromycin 500mg p.o. qid for 7 days OR

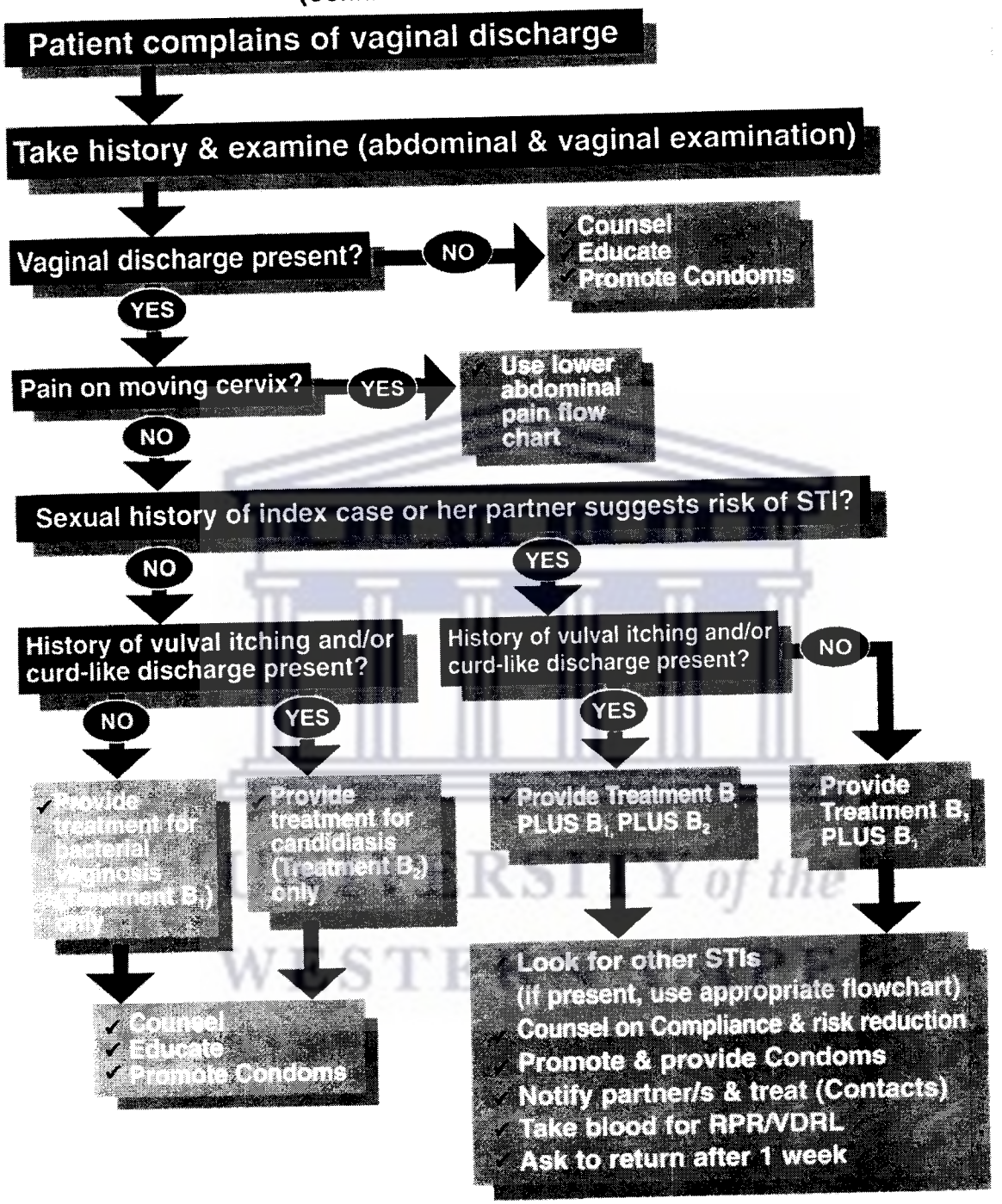
Doxycycline 100mg p.o. bd for 7 days OR

Azithromycin 1g p.o. stat

Source: Ballard et al., 2000

VAGINAL DISCHARGE

(Confirmed cases – code PVD)



Source: Ballard et al., 2000

TREATMENT OF VAGINAL DISCHARGE (PVD)

TREATMENT OPTIONS – B

Treatment for Gonorrhoea

Ciprofloxacin 500 mg p.o. stat OR
Ofloxacin 400 mg p.o. stat OR
*Ceftriaxone 125 mg i.m. stat OR
*Spectinomycin 2g i.m. stat

PLUS

Treatment for Chlamydia

Tetracycline or *Erythromycin 500 mg p.o. qid for 7 days OR
Doxycycline 100 mg p.o. bd for 7 days OR
*Azithromycin 1g p.o. stat

TREATMENT OPTIONS – B_1

Treatment for Trichomoniasis and Bacterial vaginosis

Metronidazole 400 mg p.o. bd for 7 days OR
Metronidazole 2 g p.o. stat OR
(less effective than multidose therapy for bacterial vaginosis)
Tinidazole 500 mg p.o. bd for 5 days OR
*Ampicillin 500 mg p.o. qid for 7 days OR
(active against bacterial vaginosis only)
Clindamycin 300 mg p.o. bd for 7 days

TREATMENT OPTIONS – B_2

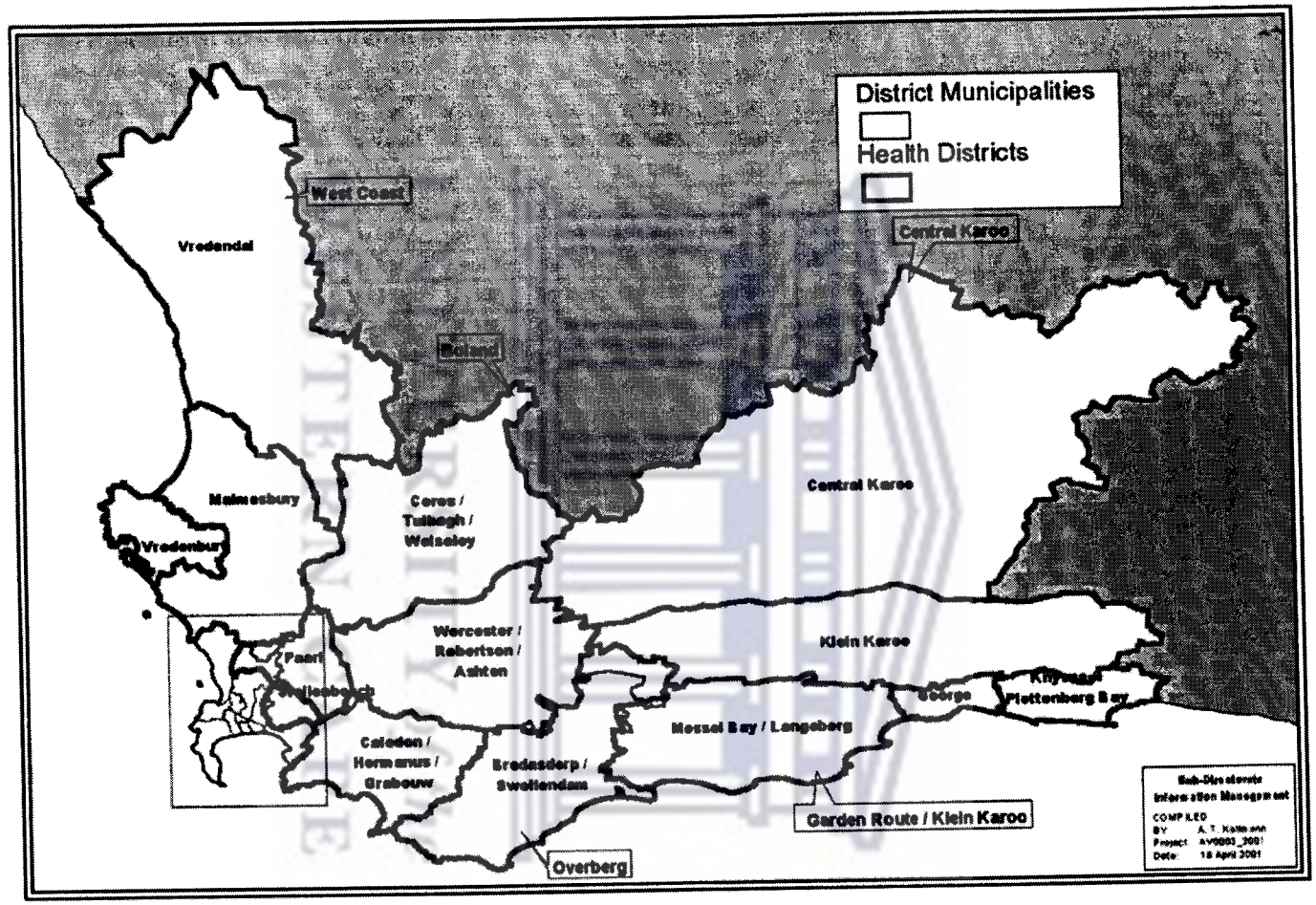
Topical Treatment for Candidiasis

*Clotrimazole 200 mg pessaries nightly for 3 nights OR
(also active against *T.vaginalis*)
*Clotrimazole 500 mg pessary stat on retiring OR
*Miconazole 200 mg pessaries nightly for 7 nights OR
*Nystatin pessaries twice daily for 14 days OR
*Econazole 150 mg depot ovule stat on retiring
Provide appropriate antifungal cream for cases of pruritis vulvae

Treatments marked * are safe for use during pregnancy/breastfeeding

Source: Ballard et al., 2000

MAP 1: HEALTH DISTRICTS: WESTERN CAPE PROVINCE



MAP 2: HEALTH DISTRICTS: CAPE METROPOLITAN AREA

APPENDIX D: CONSENT FORM

Purpose and background

Kim Ward (B.Pharm), Prof. Nadine Butler and Dr. Pierre Mugabo from the University of Western Cape, School of Pharmacy and Sandra Schwarcz, M.D., P.H.D. from the University of California, San Francisco are conducting a research study regarding the pharmacists' views of providing syndromic treatment of sexually transmitted infections (STIs).

Anecdotal evidence suggests that patients often seek and receive STI treatment in community pharmacies without a prescription from a doctor. This demonstrates a need for pharmacists in community pharmacies to understand the role that pharmacists play.

You are being asked to participate in this study because you are a registered community pharmacist in the Western Cape.

This study will assess the following:

a) Number of patients seeking treatment in community pharmacies without a prescription.
b) Current practices of community pharmacists, i.e. how pharmacists currently deal with patients who seek treatment for STI-related symptoms.
c) Pharmacists' views of expanding their role to include aspects of STI treatment which are currently outside the pharmacists scope of practice.
d) Pharmacists' knowledge of STIs

Procedures

If you agree to be in the study the following will happen:

1. You will read and sign this consent form and give it back to the study investigator. This will take approximately 5 minutes.
2. You will be administered a questionnaire by the study investigator in your pharmacy at a prearranged time that is convenient for you. This will take between 20 and 25 minutes.

Risks/discomforts

Confidentiality: Participation in research may involve a loss of privacy; however, your records will be handled as confidentially as possible. Your name and location of your pharmacy will not appear on the questionnaire and will only be linkable by code. Only the interviewer and the principal investigator will have access to your interview responses, which will be locked away safely in a cabinet. No individual pharmacist

or pharmacy will be mentioned in the report or publication, however the responses of pharmacists will be linked to regions such as the Cape Metropole region versus the Cape Karoo region.

Benefits

There will be no direct benefit for pharmacists from this study, but it may have future benefit by providing valuable information for the content of a training course for pharmacists regarding syndromic treatment of sexually transmitted infections.

Costs

There will be no costs to you as a result of taking part in this study.

Payment

You will be reimbursed for your time offered to participate in the survey. You will receive a voucher to the value of R100.00 for your participation in the study immediately after the interview.

Questions

This study has been explained to you by Ms. Kim Ward who signed this consent below. Should you have any questions about this study, you can contact Kim Ward or Dr. Nadine Butler at the University of Western Cape, School of Pharmacy (Telephone: 021-9593665 or 021-7051253), or Dr. Sandra Schwarcz at the University of California San Francisco (091-415-5549000).

Consent

You will retain a copy of this consent form. PARTICIPATION IN RESEARCH IS VOLUNTARY. You have the right to decline to participate or to withdraw from this study at any point in the study without jeopardy to your employment status.

If you agree to participate in this study you should sign below and give the signed consent form to Kim Ward.

_____ _____

Date Signature of Study Participant

_____ _____

Date Signature of Person Obtaining Consent

BYLAE D: TOESTEMMINGSVORM

Doel en Agtergrond

Kim Ward (B. Pharm), Prof. Nadine Butler en Dr. Pierre Mugabo van die Universiteit van Wes-Kaapland se Skool van Aptekerswese en Sandra Schwarcz, M. D., PhD, van die Universiteit van Kalifornië, San Francisco, is besig met 'n navorsingstudie oor die apteker se siening van die verskaffing van sindromiese behandeling van seksueel oordraagbare siektes.

Annekdotiese bewyse suggereer dat pasiënte dikwels SOS behandeling sonder 'n doktersvoorskif by gemeenskapsapteke soek. Dit is 'n teken dat aptekers in gemeenskapsapteke die behoefte het om die rol wat die apteker vertolk, te verstaan.

U word gevra om aan hierdie studie deel te neem omdat u 'n registreerde apteker in die Wes-Kaap is.

Hierdie studie sal die volgende evalueer:

a) Die aantal pasiënte wat sonder 'n voorskrif behandeling in gemeenskapsapteke soek.
b) Huidige praktyke van gemeenskapsaptekers, d.i. hoe aptekers huidiglik pasiënte wat behandeling vir SOS verwante simptome soek, hanteer.
c) Aptekers se siening oor die verbreding van hul rol om aspekte van SOS-behandeling wat huidiglik buite hul praktyksomvang val, in te sluit.
d) Aptekers se kennis van SOS.

Prosedures

Indien jy tot dié studie instem, sal die volgende gebeur:

1) Onderteken, asseblief, hierdie toestemmingsvorm en besorg terug aan die studienavorser. Dit sal ongeveer vyf minute duur.
2) 'n Vraelys sal op 'n vooraf gereëlde tyd wat u pas met u deurgewerk word. Dit sal tussen 20 en 25 minute duur.

Risiko's/ Ongemaklikhede

Vertrouelikheid: Deelname aan navorsing mag die verlies van privaatheid tot gevolg hê; u rekords sal egter so vertrouelik moontlik hanteer word. U naam en die ligging van u apteek sal nie op die vraelys verskyn nie en sal slegs deur middel van 'n kode gekoppel kon word. Slegs die onderhoudsvoerder en die hoofnavorser sal toegang tot u onderhoudsresponse hê, wat veilig in 'n kabinet toegesluit sal word. Geen individuele apteker of apteek sal in die publikasie genoem word nie, alhoewel die

apteker se response gekoppel sal word aan streke soos die Kaapse Metropoolsteek teenoor die Kaapse Karoostreek.

Voordele

Daar is geen direkte voordele vir die aptekers uit hierdie studie nie, maar dit mag toekomstige voordele inhou deurdat dit waardevolle inligting vir die inhoud van 'n opleidingskursus oor sindromiese behandeling van seksueel oordraagbare siektes vir aptekers, verskaf.

Koste

U sal geen koste as gevolg van hierdie studie aangaan nie.

Betaling

U sal vir die tyd wat u bestee om deel te neem, vergoed word. Ter erkenning van u tyd bestee sal u een week na die onderhoud, 'n geskenbewys ter waarde van R100-00 per pos vir u deelname aan dié studie ontvang.

Vrae

Hierdie studie is deur Me. Kim Ward wie die toestemming hieronder geteken het, aan u verduidelik. Indien u enige vrae aangaande hierdie studie sou hê, kan u Kim Ward of dr. Nadine Butler by die Universiteit van Wes-Kaapland se Skool vir Aptekerswese (Telefoon: 021-9593665 of 021-7051253) of dr. Sandra Schwarcz by die Universiteit van Kalifornië, San Fransisco (091-415-554900), kontak.

Toestemming

U sal die oorspronklike kopie van hierdie vorm behou.

DEELNAME AAN NAVORSING IS VRYWILLIG. U het die reg om deelname van die hand te wys of om op enige stadium in die studie aan die studie te onttrek sonder dat u werkstatus in gevaar is.

Indien u instem om aan hierdie studie deel te neem, teken asseblief hieronder en gee die vorm aan Kim Ward.

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Datum Handtekening van studiedeelnemer

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Datum Handtekening van Persoon wat toestemming verkry

Appendix E: Questionnaire

Interview Appointment

Date of interview _____

Time of interview _____

If pharmacist requests postponement before answering a single question, regard as interruption and complete form on next page.

Interviewer: _____

Pharmacist's Name: _____

Gender: _____

Sample no: _____

Name of pharmacy: _____

Location: _____

Telephone No: _____

Actual interview:

Date interview started: _____

Time interview started: _____

Time (entire) interview completed: _____

If interview was not completed, time of interview interruption: _____

Form to be completed in the event of an interruption

Interview interruption

Yes	
No	

If yes,

Try to complete section you are busy with, if not possible set up another appointment to complete interview. Push for same day, if possible.

Follow-up Appointment

Date of interview _____

Time of interview _____

Resumption of interview.

Actual interview:

Time interview started: _____

Time interview completed: _____

If applicable, time interview interrupted: _____

In our last session we were discussing …(give section heading*) and read out questions and answers provided under that particular heading…now I would like to ask you about…

Should you have a second interruption, fill in another "interruption" form.

SECTION HEADINGS ARE UNDERLINED IN QUESTIONNAIRE!

I WILL START OFF BY ASKING YOU SOME GENERAL QUESTIONS ABOUT YOUR PHARMACY AND THE VOLUME OF CLIENTS YOU SEE

1. What are your pharmacy hours of operation?

	Time
Monday to Friday	From ...a.m. to .....p.m.
Saturday	From ...a.m. to .....p.m.
Sunday	From ...a.m. to .....p.m.

2. On an average day, how many clients seek treatment for ailments in your pharmacy without any prescription from a doctor? (This includes ailments requiring OTC products and prescription drugs)

_____

3) Over the previous 4 weeks:

a) How many females sought treatment without a prescription for a vaginal discharge?

_____

b) How many females sought treatment without a prescription for ulcers/sores/blisters in the genital area?

_____

c) How many males sought treatment without a prescription for ulcers/sores/blisters in the genital area?

_____

d) How many males sought treatment without a prescription for penile discharge and or burning on urination?

4) With reference to the clients mentioned in question 3, what is the average age of women seeking treatment?

0-14 yrs	
15-19 yrs	
20-39 yrs	
40-59 yrs	
60+ yrs	

5) With reference to the clients mentioned in question 3, what is the average age of males seeking treatment?

0-14 yrs	
15-19 yrs	
20-39 yrs	
40-59 yrs	
60+ yrs	

6) Into which income category do you think that the majority of the clients mentioned in question 3 would fall? Tick the appropriate box.

<R500	
R501-R1000	
R1001-R1500	
R1501-R2500	
R2501-R3500	
>R3500	

7) How familiar are you with the syndromic approach for the treatment of STIs?

Never heard of before	
Heard of before but do not use it	
Heard of and use	

PHARMACIST MAY ASK: "WHAT IS THE SYNDROMIC APPROACH?" REPLY: I WILL BE HAPPY TO EXPLAIN IT TO YOU AFTER THE NEXT QUESTION?

8) How familiar are you with the provincial Department of Health's 1999 guidelines and protocols for the management of STIs at primary health care level?

Heard of it before	
Heard of it and follow it	
Never heard of it before	

DEFINE SYNDROMIC APPROACH

SYNDROMIC TREATMENT OF STIS IS BASED ON CLASSIFYING A GROUP OF CAUSATIVE ORGANISMS WHICH GIVE RISE TO A PARTICULAR SYNDROME. EG SYNDROME OF URETHRAL DISCHARGE. TREATMENT COVERS ALL POSSIBLE ORGANSIMS WHICH GIVE RISE TO THAT SYNDROME. HEALTH CARE WORKERS MAKE USE OF PROTOCOLS OR FLOW CHARTS TO REACH A DECISION ON THE APPROPRIATE TREATMENT BASED ON SYMPTOMS PATIENT PRESENTS WITH

Department of Health would like to investigate the role pharmacists can play in the treatment of STIs. In theory, a pharmacist should refer a patient seeking STI treatment without a prescription to a medical doctor, however many pharmacists provide medication to patients.

I WOULD LIKE TO HEAR YOUR VIEWS ABOUT THE FUTURE ROLE PHARMACISTS COULD PLAY IN THE TREATMENT OF STIS.

9) How do you see the pharmacist's current role in the treatment of STIs without a prescription, i.e. referring a patient to a doctor without providing any medication. Tick the appropriate answer.

Satisfactory	
Under-utilised	
Over-utilised	
Not sure	

10) Do you think that there is a need for STI services to be provided in community pharmacies?

Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree

11) With additional training and the legal authority would you be willing to diagnose an STI syndrome following protocols?

Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree

12) With additional training and the legal authority to prescribe appropriate medication, would you be willing to prescribe antibiotics for STI syndromes?

Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree

13) Which of the following areas do you hope pharmacists will play a role in the treatment of STIs in the future? You may tick more than one.

	Yes	No
History-taking		
Observation without manipulation of genital areas		
Observation with manipulation of genital areas to better visualise areas concerned (Physical examination)		
Prescribing STI medication		
Counselling patients regarding risk reduction(i.e. how to prevent transmission of STIs)		
Drawing blood for syphilis tests		
Explaining the importance of patient to bring partner/s in for diagnosis and treatment		
Monitoring patient outcomes via patient follow-up		

The section below deals with potential factors that may hinder a pharmacist's decision to treat STIs.

14) Provide your level of agreement to **each** of the following potential obstacles in taking the history of a patient:

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Lack skills				
Lack interest				
Lack time				
Lack privacy				
Unwillingness of patients				
Other (Specify)				

15) Provide your level of agreement to each of the following potential obstacles in observing the infected area of a patient?

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Lack skills				
Lack space				
Lack interest				
Lack time				
Lack privacy				
Unwillingness of patients				
Other (Specify)				

16) Provide your level of agreement to each of the following potential obstacles in performing a physical examination:

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Lack skills				
Lack space				
Lack interest				
Lack time				
Lack privacy				
Unwillingness of patients				
Other (Specify)				

17) Provide your level of agreement to **each** of the following potential obstacles in prescribing antibiotics:

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Legal restrictions				
Lack skills				
Lack interest				
Lack time				
Other (Specify)				

18) Provide your level of agreement to **each** of the following potential obstacles in counselling on risk reduction:

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Lack skills				
Lack interest				
Lack time				
Lack privacy				
Other (Specify)				

19) Provide your level of agreement to **each** of the following potential obstacles in drawing blood for syphilis tests:

	Strongly agree	Agree Somewhat	Disagree Somewhat	Strongly disagree
Lack skills				
Lack space				
Lack interest				
Lack equipment				
Lack time				
Lack privacy				
Unwillingness of patients				
Other (Specify)				

MORE AND MORE COMMUNITY PHARMACIES ARE EMPLOYING NURSING SISTERS.

20) Do you have a nursing sister employed in your pharmacy?

Yes	
No	

If yes, continue answering questions below.
If no, please skip to Q27. then continue.

I WILL NOW ASK YOU A FEW QUESTIONS ABOUT THE NURSING SISTER.

21) What are her working hours in the pharmacy?

Entire time pharmacy is open

Yes	
No	

If no, record the following:

Number of hours/day	
Number of days/week	

22) Does the nurse currently diagnose STI syndromes?

Yes	
No	
Unsure	

23) Does the nurse currently prescribe medication for STIs?

Yes	
No	
Unsure	

24) Does the nurse currently counsel STI patients regarding risk reduction?

Yes	
No	
Unsure	

25) Are there any areas in STI treatment that you would prefer a nurse to take care of in your pharmacy in contrast to a pharmacist?

Yes	
No	

If yes, specify these areas by ticking the appropriate box below. You may tick more than one box.

	Yes	No
History-taking		
Observation without manipulation of genital areas		
Observation with manipulation of genital areas to better visualise areas concerned (Physical examination)		
Prescribing STI medication		
Counselling patients regarding risk reduction(i.e. how to prevent transmission of STIs)		
Drawing blood for syphilis tests		
Explaining the importance of patient to bring partner/s in for diagnosis and treatment		
Monitoring patient outcomes via patient follow-up		

26) How strongly do you feel that each of the following types of health care workers should take the responsibility of providing STI services in your pharmacy? Tick the only one appropriate answer.

	Yes	No
Pharmacist only		
Pharmacists should work in partnership with nurse		
Nurse only		
Neither the nurse nor the pharmacist		

27) ***BELOW I HAVE CRAFTED 3 HYPOTHETICAL SCENARIOS OF PATIENTS PRESENTING WITH STI SYNDROMES. I WILL DESCRIBE THE SCENARIO TO YOU AND THEN ASK YOU A FEW QUESTIONS PERTAINING TO DIAGNOSIS, TREATMENT AND COUNSELLING. IN THE FUTURE WE WOULD LIKE TO DEVELOP AN STI TRAINING COURSE FOR PHARMACISTS AND YOUR INPUT WILL BE USEFUL IN IDENTIFYING SOME OF THE KEY TRAINING AREAS.***

a) A 42-year-old male walks into the pharmacy complaining of yellowish discharge from his penis for 1 day. He admits it is painful when he urinates. He admits to extramarital sexual relations with a prostitute over the weekend.

i) What diagnosis could this be?

_____

ii) Describe the course of action you will take by ticking the appropriate boxes.

	Definitely	Maybe	Not necessary
A. Refer to doctor			
B. Gather more information From patient			
C. Inspect the infected area			
D. Provide medication			
E. Advise condom use			
F. Explain the importance of patient bringing partner/s in for diagnosis and treatment			
G. Inform about AIDS risks			
H. Monitoring patient outcomes via patient follow-up			

iii) If you answered "definitely" or "maybe" to "Provide medication" explain which medication will be provided.

_____

_____

iv) If you answered "definitely" or "maybe" to "Explain the importance of patient bringing partner/s in for diagnosis and treatment ", what method will be used to notify partner?

Verbal advice only	
Written advice in the form of partner letter	
Other(specify)	

Lets move on to the 2nd scenario. The same questions apply.

b) A 29-year-old man comes into the pharmacy asking for medication for sores on his penis.

i) What diagnosis could this be?

_____

ii) Describe the course of action you will take by ticking the appropriate boxes.

	Definitely	Maybe	Not necessary
A. Refer to doctor			
B. Gather more information From patient			
C. Inspect the infected area			
D. Provide medication			
E. Advise condom use			
F. Explain the importance of patient bringing partner/s in for diagnosis and treatment			
G. Inform about AIDS risks			
H. Monitoring patient outcomes via patient follow-up			

iii) If you answered "definitely" or "maybe" to "Provide medication" explain which medication will be provided.

_____

_____

iv) If you answered "definitely" or "maybe" to "Explain the importance of patient bringing partner/s in for diagnosis and treatment ", what method will be used to notify partner?

Verbal advice only	
Written advice in the form of partner letter	
Other(specify)	

c) An 18-year old woman walks into the pharmacy and wants medication for a recent yellowish vaginal discharge occurring over the past 3 days. She had a new sexual partner about 1-week ago and a condom was not used. She denies any lower abdominal pain or pain with urination.

i) What diagnosis could this be?

_____

ii) Describe the course of action you will take by ticking the appropriate boxes.

	Definitely	Maybe	Not necessary
A. Refer to doctor			
B. Gather more information From patient			
C. Inspect the infected area			
D. Provide medication			
E. Advise condom use			
F. Explain the importance of patient bringing partner/s in for diagnosis and treatment			
G. Inform about AIDS risks			
H. Monitoring patient outcomes via patient follow-up			

iii) If you answered "definitely" or "maybe" to "Provide medication" explain which medication will be provided.

_____

_____

iv) If you answered "definitely" or "maybe" to "Explain the importance of patient bringing partner/s in for diagnosis and treatment ", what method will be used to notify partner?

Verbal advice only	
Written advice in the form of partner letter	
Other(specify)	

That brings us to the end of the interview.

BYLAE E: VRAELYS

Onderhoudsafpsraak Onderhoudsdatum _____ Tyd van onderhoud _____

Indien die apteker uitstelling vra voordat 'n enkele vraag beantwoord is, beskou dit as 'n onderbreking en voltooi die vorm op die volgende bladsy.

Onderhoudvoerder: _____

Kontakpersoon: _____

Geslag: _____

Monsternommer: _____

Naam van apteek: _____

Ligging: _____

Telefoonnommer: _____

Faksnommer: _____

Wesenlike onderhou: Datum wanneer onderhou begin het: _____ Tyd wanneer onderhoud begin het: _____ Tydsverloop vir die verloop van die (hele) onderhoud: _____ Indien onderhoud nie voltooi is nie, die tyd van onderbreking: _____

Vorm om te voltooi in die geval van 'n onderbreking

Onderhoudsonderbreking

Ja	
Nee	

Indien ja, probeer om die deel waarmee jy besig is te voltooi, maak 'n ander afspraak om die onderhoud te voltooi. Probeer vir dieselfde dag indien moontlik.

Opvolgafspraak

Onderhoudsdatum _____

Tyd van onderhoud _____

Hervatting van onderhoud

Wesenlike onderhoud:

Tyd wanneer onderhoud begin het: _____

Tyd wanneer onderhoud voltooi is: _____

Indien van toepassing, tyd van onderbreking: _____

In ons laaste sessie het ons … (gee afdeling se opskrif) bespreek en vrae en antwoorde wat onder daardie spesifieke opskrif verskaf word, gelees … nou sal ek u graag wil vra omtrent …

Sou jy hê, vul nog 'n "onderbrekingsvorm" in.

**** DIE OPSKRIFTE VIR AFDELINGS IN DIE VRAELYS IS ONDERSTREEP!***

EK WIL BEGIN DEUR U 'N PAAR ALGEMENE VRAE OOR U APTEEK EN DIE VOLUME KLIëNTE WAT U SIEN, TE VRA.

1. Wat is die bedryfsure vir u apteek?

	Tyd
Maandag tot Vrydag	Van ..... v.m. tot .....n.m.
Saterdag	Van ..... v.m. tot .....n.m.
Sondag	Van ..... v.m. tot .....n.m.

2. Hoeveel kliënte soek, op 'n gemiddelde dag, behandeling vir kwale sonder enige doktersvoorskrif in u apteek? (Dit sluit ook kwale wat OTC produkte en voorskrfimedisyne verg, in)

_____

3. Oor die vorige 4 weke:

a) Hoeveel vroue het sonder 'n voorskrif behandeling vir 'n vaginale afskeiding kom soek?

_____

b) Hoeveel vroue het sonder 'n voorskrif behandeling vir ulkusse/ sere/ blasé in die geslagsdele area gesoek?

_____

c) Hoeveel mans het sonder voorskrif behandeling vir ulkusse/ sere/ blasé in die geslagsdele area gesoek?

_____

d) Hoeveel mans het sonder 'n voorskrif behandeling vir afskeiding deur die penis en of brandsensasie tydens urinering gesoek?

_____

4. Met verwysing na die kliënte soos genoem in vraag drie, wat is die gemiddelde ouderdom van die vroue wat behandeling soek?

0-14	
15-19	
20-39	
40-59	
60+	

5. Met verwysing na die kliënte soos genoem in vraag drie, wat is die gemiddelde ouderdom van die mans wat behandeling soek?

0-14	
15-19	
20-39	
40-59	
60+	

6. In watter inkomste kategorie, dink u, sal die meeste kliënte soos in vraag drie genoem, pas? Merk die geskikte blokkie.

<R500	
R501-R1000	
R1001-R1500	
R1501-R2500	
R2501-R3500	
>R3500	

7. Hoe bekend is u met die sindromiese benadering vir die behandeling van SOS?

Nog nooit voorheen van gehoor	
Al voorheen van gehoor maar gebruik dit nie	
Al van gehoor en gebruik dit	

APTEKERS MAG VRA: "WAT IS DIE SINDROMIESE BENADERING?" ANTWOORD: EK SAL DIT GRAAG AAN U VERDUIDELIK NA AFLOOP VAN DIE VOLGENDE AFDELING

8. Hoe bekend is u met die provinsiale Departement van Gesondheid se 1999 riglyne en protokols vir die beheer van SOS op primêre gesondheidsorg?

Al voorheen van gehoor	
Al van gehoor en gebruik dit	
Nog nie voorheen van gehoor nie	

Die Departement van Gesondheid wil die rol wat aptekers vertolk in die behandeling van SOS ondersoek. In teorie behoort 'n apteker 'n pasiënt wat behandeling vir SOS sonder voorskrif soek, na 'n mediese dokter verwys, maar baie aptekers verskaf egter medikasie aan pasiënte.

EK SOU GRAAG U SIENING OOR DIE TOEKOMSTIGE ROL WAT DIE APTEKER IN DIE BEHANDELING VAN SOS KAN VERTOLK, WOU HOOR.

9. Hoe sien u die apteker se huidige rol in die behandeling van SOS sonder 'n voorskrif, d.i. verwysing van 'n pasiënt na 'n dokter sonder die verskaffing van enige medikasie? Merk die geskikte blokkie.

Bevredigend	
Onderbenut	
Oorbenut	
Nie seker nie	

10. Dink u dat die diagnosering van 'n SOS sindroom volgens die riglyne soos voorsien in die protocols, moet binne in die praktyksomvang van die apteker val?

Stem sterk ooreen	Stem ietwat ooreen	Verskil ietwat	Verskil sterk

11. Met addisionele opleiding en wettige outoriteit, sal u gewillig wees om 'n SOS sindroom te diagnoseer volgens protokols?

Stem sterk ooreen	Stem ietwat ooreen	Verskil ietwat	Verskil sterk

12. Met addisionele opleiding en wettige outoriteit om geskikte medikasie voor te skryf, sal u gewillig wees om antibiotika vir SOS sindrome voor te skryf?

Stem sterk ooreen	Stem ietwat ooreen	Verskil ietwat	Verskil sterk

13) In watter van die volgende areas hoop u sal aptekers in die toekoms 'n rol vertolk in die behandeling van STD's? U mag meer as een merk.

	Ja	Nee
Optekening van geskiedenis		
Waarneming sonder manipulasie van geslagsdele area		
Waarneming met manipulasie van geslagsdele area om betrokke areas beter te visualiseer (Fisiese ondersoek)		
Voorskryf van STD medikasie		
Raadgewing aan ouers oor die vermindering van risiko (d.i. hoe om die oordrag van STDs te voorkom)		
Trek van bloed vir sifilistoetse		
Verduideliking van die belang vir pasiënte om maat/s in te bring vir diagnosering en behandeling		
Monitering van pasiënt uitkomste volgens pasiënt-opvolg		

Die onderstaande seksie hanteer potensiële faktore wat die apteker se besluit om STD te behandel, verhinder.

14) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in optekening van die pasiënt se geskiedenis:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Gebrek aan vaardighede				
Gebrek aan belangstelling				
Gebrek aan tyd				
Gebrek aan privaatheid				
Onwilligheid van pasiënte				
Ander (Spesifiseer)				

15) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in die waarneming van die pasiënt se aangetasde area:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Gebrek aan vaardighede				
Gebrek aan ruimte				
Gebrek aan belangstelling				
Gebrek aan tyd				
Gebrek aan privaatheid				
Onwilligheid van pasiënte				
Ander (Spesifiseer)				

16) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in die uitvoer van 'n fisiese ondersoek:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Gebrek aan vaardighede				
Gebrek aan ruimte				
Gebrek aan belangstelling				
Gebrek aan tyd				
Gebrek aan privaatheid				
Onwilligheid van pasiënte				
Ander (Spesifiseer)				

17) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in die voorskryf van antibiotika:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Wettige beperkings				
Gebrek aan vaardighede				
Gebrek aan belangstelling				
Gebrek aan tyd				
Ander (Spesifiseer)				

18) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in raadgewing oor risikovermindering:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Gebrek aan vaardighede				
Gebrek aan belangstelling				
Gebrek aan tyd				
Gebrek aan privaatheid				
Ander (Spesifiseer)				

19) Verskaf u vlak van ooreenkoms aan elk van die volgende potensiële hindernisse in die trekking van bloed vir sifilistoetse:

	Stem sterk ooreen	Stem iewat ooreen	Verskil iewat	Verskil sterk
Gebrek aan vaardighede				
Gebrek aan ruimte				
Gebrek aan belangstelling				
Gebrek aan toerusting				
Gebrek aan tyd				
Gebrek aan privaatheid				
Onwilligheid van pasiënte				
Ander (Spesifiseer)				

MEER EN MEER GEMEENSKAPSAPTEKE NEEM VERPLEEGSUSTERS IN DIENS.

20) Het u 'n verpleegsuster in diens by u apteek?

Ja	
Nee	

Indien ja, gaan voort met die beantwoording van die onderstaande vrae.
Indien nee, gaan na V23 en gaan dan voort.

EK SAL U NOU 'N PAAR VRAE OOR DIE VERPLEEGSUSTER VRA.

21) Wat is haar werksure in die apteek?

Die hele apteek is oop

Ja	
Nee	

Indien nee, teken die volgende op:

Aantal ure/ dag	
Aantal dae/ week	

22) Diagnoseer die verpleegsuster huidiglik STD sindrome?

Ja	
Nee	
Onseker	

23) Skryf die verpleegsuster huidiglik medikasie voor vir STD sindrome?

Ja	
Nee	
Onseker	

24) Verskaf die verpleegsuster huidiglik raad aan STD pasiënte oor risikovermindering?

Ja	
Nee	
Onseker	

25) Is daar enige areas binne STD behandeling wat u graag sou verkies 'n verpleegsuster teenoor 'n apteker in u apteek moet hanteer?

Ja	
Nee	

Indien ja, spesifiseer hierdie areas deur die geskikte blokkie hieronder te merk. U mag meer as een blokkie merk.

	Ja	Nee
Optekening van geskiedenis		
Waarneming sonder manipulasie van geslagsdele area		
Waarneming met manipulasie van geslagsdele area om betrokke areas beter te visualiseer (Fisiese ondersoek)		
Voorskryf van STD medikasie		
Raadgewing aan ouers oor die vermindering van risiko (d.i. hoe om die oordrag van STDs te voorkom)		
Trek van bloed vir sifilistoetse		
Verduideliking van die belang vir pasiënte om maat/s in te bring vir diagnosering en behandeling		
Monitering van pasiënt uitkomste volgens pasiënt-opvolg		

26) Hoe sterk voel u dat elk van die volgende tipe gesondheisorgwerkers verantwoordelikheid moet neem vir die verskaffing van STD dienste in u apteek?
Merk die geskikte antwoord.

	Ja	Nee
Slegs aptekers		
Aptekers moet met verpleegsusters saamwerk		
Slegs verpleegsusters		
Nie die verpleegsuster of die apteker nie		

27) **ONDERSTAANDE HET EK DRIE HIPOTETIESE SCENARIOS GESKEP VAN PASIËNTE MET SOS SINDROME. EK SAL DIE SCENARIOS AAN U BESKRYF EN U DAN 'N PAAR VRAE VRA OOR DIE DIAGNOSE, BEHANDELING EN RAADGEWING. ONS SOU IN DIE TOEKOMS GRAAG 'N SOS OPLEIDINGSKURSUS VIR APTEKERS WOU ONTWIKKEL EN U BYDRAE SAL VAN NUT WEES IN DIE IDENTIFISERING VAN SOMMIGE VAN DIE SLEUTEL OPLEIDINGSAREAS.**

a) 'n 42-Jarige man kom die apteek binne met klagtes oor 'n gelerige afskeiding deur sy penis vir een dag. Hy erken dat hy pyn verduur tydens urinering. Hy erken dat hy buite sy huwelik seksueel met 'n prostituut oor die naweek verkeer het.

i) Wat kan die diagnose wees?

_____

ii) Beskryf die aksie wat u sal neem deur die geskikte blokkie te merk.

	Defnitief	Miskien	Nie nodig nie
A. Verwys na 'n dokter			
B. Kry meer inligting van pasiënt			
C. Ondersoek die aangetaste area			
D. Medikasie Verskaf			
E. Beveel die gebruik van kondome aan			
F. Verduidelik die belangrikheid dat die pasiënt die maat/s inbring vir diagnose en behandeling			
G. Lig die pasiënt in oor VIGS risiko's			
H. Monitering van pasiënt uitkomste via pasiënt opvolg			

Indien antwoord "definitief" of "miskien" was op "medikasie verskaf", sê watter medikasie verskaf sal word.

Indien u antwoord "definitief" of "miskien" was op "Verduidelik die belangrikheid van jou maat/s inbring vir diagnosering en behandeling", sê watter medikasie verskaf sal word en ook watter dosis.

Slegs verbale advies	
Geskrewe advies in die vorm van 'n brief aan die maat	
Ander (spesifiseer)	

Kom ons skuif aan na die 2de scenario. Dieselfde vrae is van toepassing.

b) 'n 29-Jarige man kom die apteek binne vir medikasie vir sere op sy penis.

i) Wat kan die diagnose wees?

_____

Beskryf die aksie wat u sal neem deur die geskikte blokkie te merk.

	Defnitief	Miskien	Nie nodig nie
A. Verwys na 'n dokter			
B. Kry meer inligting van pasiënt			
C. Ondersoek die aangetaste area			
D. Medikasie Verskaf			
E. Beveel die gebruik van kondome aan			
F. Verduidelik die belangrikheid dat die pasiënt die maat/s inbring vir diagnose en behandeling			
G. Lig die pasiënt in oor VIGS risiko's			
H. Monitering van pasiënt uitkomste via pasiënt opvolg			

Indien antwoord "definitief" of "miskien" was op "medikasie verskaf", sê watter medikasie verskaf sal word.

_____

_____

iv) Indien u antwoord "definitief" of "miskien" was op "Verduidelik die belangrikheid van jou maat/s inbring vir diagnosering en behandeling", sê watter medikasie verskaf sal word en ook watter dosis.

Slegs verbale advies	
Geskrewe advies in die vorm van 'n brief aan die maat	
Ander (spesifiseer)	

c) 'n 18-Jarige vrou kom in die apteek binne en wil medikasie hê vir 'n onlangse vaginale afskeiding wat die afgelope drie dae voorkom. Sy het 'n week gelede 'n nuwe seksuele maat gehad en nie 'n kondoom gebruik nie. Sy ontken enige pyn in die laer abdominale area en brandsensasie tydens urinering.

i) Wat kan die diagnose wees?

_____

ii) Beskryf die aksie wat u sal neem deur die geskikte blokkie te merk.

	Defnitief	Miskien	Nie nodig nie
A. Verwys na 'n dokter			
B. Kry meer inligting van pasiënt			
C. Ondersoek die aangetaste area			
D. Medikasie Verskaf			
E. Beveel die gebruik van kondome aan			
F. Verduidelik die belangrikheid dat die pasiënt die maat/s inbring vir diagnose en behandeling			
G. Lig die pasiënt in oor VIGS risiko's			
H. Monitering van pasiënt uitkomste via pasiënt opvolg			

iii) Indien antwoord "definitief" of "miskien" was op "medikasie verskaf", sê watter medikasie verskaf sal word en ook watter dosis.

_____

_____

iv) Indien u antwoord "definitief" of "miskien" was op "Verduidelik die belangrikheid van jou maat/s inbring vir diagnosering en behandeling", sê watter medikasie verskaf sal word.

Slegs verbale advies	
Geskrewe advies in die vorm van 'n brief aan die maat	
Ander (spesifiseer)	

Dit bring ons na die einde van die onderhoudsvrae.