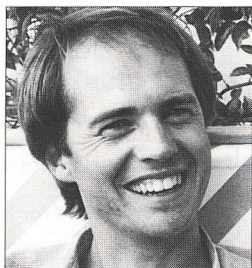# Management practices and diagnostic spectrum of sexually transmitted diseases

Curriculum Vitae

Nicol Coetzee graduated from UP in 1982 (MBChB). After his internship at Tygerberg, he worked as a medical officer in a number of hospital posts in Cape Town from 1984 until 1987. In 1991, he completed specialist training in community health at UCT, after which he worked in malaria control at the Tropical Diseases Institute in Tzaneen. He is currently a member of staff in the Department of Community Health at UCT, and his interests include the epidemiology and control of communicable diseases and vaccine preventable diseases. He is married to Tandi and they have two children.

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Summary

Objective: To determine the diagnostic profile of patients with sexually transmitted disease (STD) and the adherence of their prescribed drug treatment to the provincial protocols.
Design: A cross-sectional study.
Setting: A primary care clinic (Site B day hospital) in Khayelitsha, Cape Town.
Participants: 261 consecutive patients presenting with STD over 15 days.
Outcome measure: The proportion of patients with STD who received recommended treatment.
Results: STDs comprised 6% of the total patient load, with a female to male ratio of two. Only 62% of patients were tested for syphilis, and women were significantly less likely to be tested. 84% of patients received drug prescriptions that did not comply with treatment guidelines.
Conclusion: The large number of STD patients (mainly women) treated at this primary care clinic, receive non-recommended treatment and care. This study provides health services with a method of obtaining essential information for use in quality improving strategies for STD care.

Introduction

The HIV epidemic in South Africa has grown massively in the past five years, increasing from an adult prevalence of less than 1% to 7,5% in 1994.[1] Khayelitsha constitutes an area of high HIV prevalence within the Cape Town Metropolitan area with a prevalence of 2,6% as compared with 1,7% for the rest of the Western Cape as a whole.[2] Prevention of

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AIDS has proved difficult and it is clear that there is no single solution. A number of approaches, including AIDS education and condom distribution are important. In addition, improved control of 'traditional' STDs provides an immediate and practical means of stemming the progression of the HIV epidemic.

In other countries recent assessments of the quality of STD care have focussed on dedicated STD clinics in developing regions,[3] or primary care services with sophisticated information systems.[4] Very few evaluations of the quality of care in STD services have been undertaken in South Africa. This is particularly true for STD treatment and care provided at health care settings as opposed to dedicated (single purpose) STD clinics.[5] Health authorities in the Western Cape Province, perceiving a need to improve the management of STDs, introduced updated treatment protocols (proposed by the Western Cape Infectious Disease Coordinating Committee) during 1992. These protocols are widely available and are found in most STD clinics and community health centres. Health service provider compliance with these protocols was, however, never evaluated.

We report on an investigation that took place in a day hospital (DH) in Khayelitsha, a peri-urban township situated 22km from central Cape Town. The study took place at the Site B health centre, the largest of two primary care health complexes in Khayelitsha. Here three independent health services provide treatment for patients with STDs:

a) a midwife obstetric unit under the administration of Groote Schuur Hospital where antenatal patients are screened for syphilis;
b) a DH managed by the Provincial Health Services and providing curative fee-for-service primary care. Here STD cases are treated as part of a wide spectrum of presenting ailments; and
c) a local authority dedicated STD clinic which was open one morning a week providing free care.

An initial review of routinely available STD data sources at the Site B health care complex (consisting of the three health services mentioned above) revealed a monthly average of 270 patients given syphilis serological tests at the DH. In contrast to this finding a monthly average of only 56 patients were treated at the local authority dedicated STD clinic, and 30 latent syphilis patients at the antenatal clinic. These findings prompted us to further quantify the importance of the DH in STD care at Site B health complex. As no further routine STD case data was available at this busy service, a study was undertaken to serve as the basis for future intervention directed at the improvement of STD care and control at the Site B health complex. The aim of this study was to estimate the proportion of patients presenting for the treatment of STD at the Site B DH, and to describe their demographic and diagnostic profile; and to determine the adherence of prescribed drug treatment to the health authorities protocol.

Methods

All patients presenting with an STD syndrome at the DH, during 15 working days (five consecutive days in November, 1993 and 10 consecutive days in February, 1994) were included in the study. Using a pre-tested and pre-coded reporting form, diagnosing staff members (doctors and two clinical nurse practitioners) were asked to record the diagnostic and demographic details of every patient with clinically diagnosed STD. STD syndromes were defined as the clinical presentation of genitourinary signs and symptoms compatible with one of the following: urethral discharge, vaginal discharge, pelvic inflammatory disease, inguinal bubo, genital ulceration and genital warts. At the onset of each day of the study period every clinician was reminded of the purpose of the investigation, and given a new data sheet on which all STD case details were recorded. These data sheets were collected and scrutinised by the study field

Only 23% of STD patients returned for follow-up within three months.

A growing problem of STDs in teenage girls.

coordinator at the end of each day.

Patient folder numbers and requests for syphilis serology (Venereal Diseases Research Laboratory (VDRL) testing) were also noted. Two months after the initial investigation period a sub-sample of 133 STD patient folders (identified from the folder numbers recorded above) was systematically selected (sampling interval 2) and all prescription details and VDRL results reviewed. Drug

Females comprised 66% (174) of the STD patients. The median ages of male (28 years: IQR 23-35) and female (26 years: IQR 22-32) strata differed significantly (Kruskal-Wallis test: p = 0,031). The prevalence of females was significantly higher in the age group 10-19 years (female:male prevalence ratio 11,0; p 0,003), with males comprising the highest proportion in the age group 40 years and over (female:male prevalence ratio 0,3; p 0,002). See Table 1.

Table 1: Age distribution of STD cases by gender

Age group (years)	Female n(%)	Male n(%)	Prevalence ratio (F:M)
10 to 19	21 (12,1)	1 (1,1)	11,0
20 to 29	93 (53,4)	48 (55,2)	1,0
30 to 39	53 (30,5)	26 (29,8)	1,0
40 to 49	6 (3,4)	7 (8,0)	0,4
50 to 59	1 (0,6)	5 (5,7)	0,1
Total	174 (100)	87 (100)	1,0

84% of the patients received drug prescriptions which were not in accordance with the recommended protocol.

prescriptions were defined as compliant if treatment protocols were adhered to for each of the clinical syndromes as recommended by the Western Cape Infectious Diseases Coordinating Committee (in 1992).

Data entry and analysis was carried out using Epi Info software and a personal computer. Analyses included the calculation of simple proportions, Chi-square tests for statistical significance, and odds ratios (OR) with 95% confidence limits (CL) as a measure of effect.

Results

During the 15-day period, 263 patients were recorded as having an STD syndrome, of which two were excluded due to incomplete data collection. The remaining 261 patients amounted to an average of 17 STD patients per working day at the DH (6% of the total daily patient population). Patients with STD syndromes had a median age of 26 years with an interquartile range (IQR) of 22-32 years.

The majority of patients were initial cases, with only 15 (6%) of patients attending a follow-up visit. The subsequent review of the sub-sample of patient folders revealed that only 30 (23%) of STD patients returned for follow-up appointments within 10 days.

Urethral discharge (78%) followed by genital ulceration (8%) was the leading presenting syndrome amongst males, with vaginal discharge (60%) and pelvic inflammatory disease (29%) the most frequent in women. See Table 2. In the total sample (males and females) 16 (6%) of the patients had genital ulcers and 13 (5%) were classified as having unspecified STDs.

Because of the small sample, differences in disease frequency between age groups could only be examined for the major diagnostic categories. Four (19%) cases of genital ulcers were detected in women aged 10-19 years compared to five (3%) in those 20 years and older (p 0,002). In contrast to this finding 97 (63%) cases of

Women had a smaller chance of being tested for syphillis than men.

vaginal discharge were treated in women over 19 years of age compared to eight (38%) amongst teenagers (p 0,026). Pelvic inflammatory disease was not reported in women over 40 years of age, but was evenly distributed amongst those in the younger age groups.

There was an even distribution of urethritis cases between all age categories (10-19; 20-29; 30-39; 40-49; and 50-59) with the 10-19 year group not having significantly

Table 2: Syndromic diagnosis of STD cases by gender			
Diagnosis	Female % (n = 174)	Male % (n = 87)	Total % (n = 261)
Urethritis	0	79	26
PID	29	0	20
Inguinal bubo	0	3	1
Vaginal discharge	60	0	40
Genital ulcer	5	8	6
Genital warts	1	2	1
Non-specified	5	8	6
Total	100	100	100
PID: Pelvic inflammatory disease			

more cases than the combined older categories. Amongst men there were no genital ulcers in the 10-19 year age group. The probability of genital ulcers was not significantly different between females (5%) and males (8%) (p 0,387). See Table 2.

Syphilis serology was requested in 162 (62%) of STD patients, with males having significantly higher odds of being tested (OR 3,0; 95% CL 1,6-5,6). This association was independent of age and whether patients were initial or follow-up cases. The review of the subset of 133 STD patient folders revealed that only 31 (41%) of patients who were tested returned for VDRL results within a three-month period.

The proportion of patients receiving the recommended drug combinations for the main STD syndromes is summarised in Table 3. Because no laboratory investigations or diagnostic algorithm was in use for vaginal discharge at the DH, the prescriptions for this condition could not be assessed in the 59 women concerned.

Ongoing quality management systems are important.

Table 3: The proportion of STD patients in the sub-sample of 133 receiving the recommended drug prescriptions by syndromic diagnoses+ (59 women with vaginal discharge excluded)		
Diagnosis	Drug(s)	Cases n(%)
Male:		
Urethritis	Doxycycline only*	1 (3)
	Doxycycline & other	26 (76)
	Other	7 (21)
Ing bubo	Doxycycline or erythro*	0 (0)
	Doxycycline & other	1 (100)
	Other	0 (0)
Genital ulcer	Benz Penicillin & erythro*	0 (0)
	Benz Penicillin	1 (34)
	Other	2 (66)
Total males	Recommended drugs	1 (3)
	Other drugs	37 (97)
Female**		
PID	Doxy & Oflox & Metronid*	11 (38)
	Other	18 (62)
Genital ulcer	Benz Penicillin & erythro*	0 (0)
	Benz Penicillin	4 (57)
	Benz Penicillin & other	2 (29)
	Other	1 (14)
Total females	Recomended drugs	11 (31)
	Other drugs	25 (69)
All patients:	Recommended drugs	12 (16)
	Other drugs	62 (84)

+	This table is not saying anything about the clinical efficacy of the treatments.
*	Recommended drug(s) – Western Cape Infectious Diseases Coordinating Committee
**	Excluding vaginal discharge
Ing. bubo:	Inguinal bubo
PID:	Pelvic inflammatory disease
Benz penicil:	Benzathine penicillin
Erythro:	Erythromycin
Oflox:	Ofloxacin
Doxy:	Doxycycline

Discussion

This investigation provides a profile of the distribution of STD syndromes treated at a primary curative care health service in Khayelitsha. This information is not available from routine data sources. It highlights the importance of this health service in the treatment of STDs in women, the growing problem of STDs in teenage girls, and the non-use of health authority treatment protocols in a high proportion of cases.

The DH at Site B is responsible for treating the largest proportion of STD cases at this health complex, and the majority of these patients are young women, many of whom were teenagers. This patient profile is in contrast to that of most dedicated (single purpose) STD clinics where males constitute more than 70% of the case load.[6] The stigma attached to women being treated at dedicated STD clinics may be significant, and illustrates the importance of STD in women. (Personal communication: H Schneider.) The low proportion of males (particularly in the younger age groups) is most likely the result of economically active men preferring to attend a dedicated STD clinic near the Cape Town city centre where waiting times are short and consultation and treatment is gratis (personal communication: Dr Msengana). Influences on patients' choice of service is currently under investigation in another qualitative study by the authors, and will be reported elsewhere.

The STD disease profile in this sample is comparable to that of similar primary care settings, with the exception of genital ulcers which made up only 6% of cases.[5]

As any STD consultation provides an opportunity for early diagnosis and treatment of asymptomatic syphilis, the low proportion (62%) of STD cases screened for syphilis should form part of the basic clinical management of STD cases in a community where maternal syphilis prevalence in excess of 12% is reported from the antenatal clinic.[7] Women are at a particular disadvantage in this regard, illustrating the priority which should be given to improving their access to STD case detection and treatment. The low proportion of patients returning for their VDRL results (41%) or for a follow-up appointment (23%), may reflect the inaccessibility of this service. At the time user fees were charged for initial and follow-up visits, and may have acted as a further barrier to care.[8] The determinants of syphilis testing and patient compliance with follow-up visits is currently under investigation.

A high proportion (84%) of patients (excluding those with vaginal discharge) received drug prescriptions that were not in accordance with the recommended treatment protocol. Syndrome-based treatment is designed to facilitate the more rational management of cases, provided appropriate treatment for the most prevalent aetiological agents associated with each specific syndrome. The limited adherence to the current treatment protocols illustrates the importance of providing quality management systems for clinicians and health centres before and after the introduction of new innovations such as syndrome-based treatment protocols. The mere distribution of innovations such as the new treatment protocols is bound to have limited impact on changing the existing clinical practice of health personnel.[9]

Because STD patients could not be identified prior to consultations the reliability and completeness with which STD patients were reported by clinical staff was not quantified. Although similar health services in other parts of Africa also experience an STD case load of 5-10%, the proportion of cases detected at the DH may represent an underestimate. (12) The degree of misclassification could also not be assessed as the diagnostic accuracy of STD syndromes was not validated against microbiological identification. Other components of com-

The mere distribution of new treatment protocls has little impact.

An easy method of assessing clinical management is available.

Sexually transmitted diseases

prehensive STD case management such as counselling on disease prevention, partner notification, and condom promotion were not evaluated in this study but are currently under investigation.

Accurate information is an essential component of the quality improvement cycle. This study illustrates an easy method of rapidly assessing basic clinical management practices for STDs and is applicable to other developing countries where STD patients are hidden in the mass of busy services with minimal routine data. It provides a more representative sample than a simple review of the laboratory specimen register, and is less costly and obtrusive than direct observation of consultations as employed in other studies.[3]

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ABSTRACTS

How well do family physicians manage sexually transmitted diseases?

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Objective: To identify gaps in knowledge about sexually transmitted diseases (STDs) and evaluate practice.

Design: We compared how 49 family physicians managed 249 episodes of STDs with the recommendations of the 1988-89 Canadian STD management guidelines. (The study took place before revised guidelines were distributed in late 1992).

Setting: Family physicians' practices throughout Canada.

Participants: Physicians recruited by the National Research System from among the members of the College of Family Physicians of Canada. These physicians had been in practice for a mean of 9 years; 43 were Certificants of the College.

Main Outcome Measures: Family physicians' self-reported episodes of sexually transmitted disease evaluated in light of current Canadian guidelines.

Results: Of the 249 episodes studied, 215 (86.3%) were treated effectively, and 34 (13.7%) were judged to have been treated ineffectively. Of the 215 effective treatments, 67 (31.2%) were not completely in agreement with current guidelines.

Conclusion: Experienced family physicians with postgraduate training usually manage STDs well. The number of ineffective treatments and effective treatments not following the 1988-1989 guidelines, especially for pelvic inflammatory disease, indicates that information on managing certain STDs and syndromes should be made available to all family physicians in a format that is easy to read and use.