

# The evaluation of immediate behavioural outcomes of the syndromic case management approach for the treatment of patients with sexually transmitted infections at PHC centres in South Africa: Knowledge, attitudes, beliefs and sexual behaviour

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## ABSTRACT

This study aimed to determine the immediate behavioural outcomes of the WHO syndromic case management model for STIs in the public health sector in South Africa, on the levels of knowledge, attitudes and beliefs, and behavioural practices (KABPs) concerning STIs. An outcomes evaluation was conducted using KABP methodology. Exit interviews were conducted with 126 STI and non-STI patients at 24 primary health care (PHC) centres in four provinces. Both groups were found to have equally high levels of knowledge about STIs and their attitudes towards and beliefs about STIs were mostly practical and slightly negative, with only promiscuity both stereotyped and stigmatised. However, both groups were found to engage in risky sexual behavioural practices although they also indicated very strong intentions to use condoms in future. Overall, no significant differences were found between the two groups on any of the variables investigated. The implications of these findings for the control and prevention of both classic STIs and HIV/AIDS in South Africa are discussed.

*Keywords: sexually transmitted infections, syndromic case management, KABP, South Africa, primary health care centres.*

## RÉSUMÉ

Le but de cette étude était d'établir les résultats comportementaux immédiats du modèle de l'OMS de la gestion syndromique de cas de maladies sexuellement transmises (STIs) dans le secteur public de santé en Afrique du Sud au niveau de la connaissance, des attitudes, de la croyance et des pratiques (KABP) vis-à-vis les STIs. Une évaluation des résultats a été faite par le biais de la méthodologie KABP. Des entrevues de sortie ont eu lieu auprès de 126 patients de STIs et des patients qui n'en souffrent pas dans 24 centres de santé situés dans quatre provinces. Les résultats ont montré que les deux groupes avaient le même niveau de connaissance des STIs, leur attitude envers les STIs et ce qu'ils croient des STIs étaient plutôt pratiques et un peu négatifs. La promiscuité était la seule à être stéréotypée et à être stigmatisée. Cependant, tous les deux groupes ont eu des rapports sexuels risqués, même s'ils ont montré une intention d'utiliser des préservatifs dans l'avenir. Dans l'ensemble, il n'y a pas eu de différences importantes entre les deux groupes sur les variables étudiées. Les conséquences de ces résultats pour le contrôle et la prévention des STIs et le VIH/SIDA en Afrique du Sud sont au centre de cette étude.

*Mots clés : les maladies/infections sexuellement transmises, la gestion syndromique de cas, les centres pour la santé primaire, l'Afrique du Sud.*

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### Introduction

In addition to having the fastest growing AIDS epidemic in the world, South Africa is also believed to have one of the highest infection rates of classic STIs in the world (Department of Health, 1997; Pham-Kanter, Steinberg & Ballard, 1996; UNAIDS, 2002). This situation has been attributed to poor control and inadequate care and management of STIs in spite of STIs being curable (Abdool Karim, Mathews, Gutmacher *et al.*, 1997; Connolly, Wilkinson & Harrison 1999; Green, 1994; National AIDS Research Programme of the MRC, 1993). STIs were largely neglected as a public health issue in South Africa until the emergence of the HIV/AIDS epidemic and the discovery of strong empirical evidence of a link between classic STIs and HIV/AIDS (Laga, Nzila & Gorman, 1991; Wasserheit, 1992, although cf. Harrison, Abdool Karim, Floyd, Lombard, Lurie, Ntuli *et al.*, 2000; Rottingen, Cameron & Garnett, 2001). The existence of this strong link between HIV and STIs in turn highlighted the urgency of the need for the prevention and control of STIs in South Africa, and led to the adoption of the WHO syndromic case management model in 1996 by the Department of Health (DoH) for the management of STIs in both the public and private health sectors in the country (Abdool Karim, 1994; Department of Health, 1996; Schneider, Blaauw, Dartnell, Coetzee & Ballard 2001; WHO, 1994; WHO/UNAIDS, 1997).

The syndromic case management model for STIs embodies an integrated and community-based primary health care approach, involving basic health education and counselling as well as medical treatment (Ballard, 1998). It has generally been shown to improve diagnostic accuracy and the sensitivity of detecting and treating serious STI infections and to reduce the incidence of HIV infections in developing countries like Tanzania and Zambia (Faxelid, Ndulo, Ahlberg, & Krantz, 1994; Gilson, Mkanje, Grosskurth, Mosha, Picard, Gavyole, *et al.*, 1997; Mathews, van Rensburg & Coetzee, 1998; Mayaud, Mosha, Todd, Balira, Mgara, West *et al.*, 1997). It is also very cost effective and therefore ideal for use in resource-poor settings such as those prevailing in most developing countries including South Africa (Grimwood, Karpakis & McNab, 1996; Harrison *et al.*, 2000; La Ruche, Lorougnon & Digbeu, 1995). However, contrary to expectations, the same studies that showed the positive impact of the syndromic approach failed to show that the approach necessarily also led to any

significant changes in knowledge, attitudes, beliefs and sexual behaviour among STI patients (Faxelid *et al.*, 1994; Mayaud *et al.*, 1997). This is indeed most surprising since changes in knowledge, attitudes and beliefs are often a pre-requisite for any significant behaviour change taking place, according to most theories of health behaviour change such as the health belief model and the theory of reasoned action (Simbayi, 1999). It is therefore very important to determine directly the impact of interventions such as the syndromic approach on these behavioural measures, and hence the present study. Indeed, a literature search revealed that there was a dearth of such studies done locally in South Africa on the topic.

The present study, which formed part of a larger national research project on STIs in the public sector in South Africa commissioned by the DoH, was an outcomes evaluation of the implementation of the syndromic approach in the control and prevention of STIs in South Africa. In order to accomplish this, the study compared the levels of knowledge, attitudes and beliefs, and sexual practices (known collectively as KABPs) concerning STIs that were held by STI patients who had just been treated in the public health sector in South Africa, with those of non-STI patients attending the same PHC centres with regard to other ailments. It was hypothesised that KABPs concerning STIs would be more improved among STI patients who had just undergone treatment using the syndromic approach than among non-STI patients who were not exposed to such intervention during treatment of their other ailments at the PHC centres.

### Methods

#### Setting

The study was conducted at 24 PHC centres in four provinces of South Africa, namely the North West, Mpumalanga, Western Cape and Eastern Cape. The first two provinces were chosen because they were estimated to have among the highest prevalence of reported STI infection in South Africa while the last two were thought to be among those with the lowest prevalence. These rates were extrapolated from the HIV statistics from antenatal clinics (DoH, 1999), in the absence of reliable surveillance data for STIs in South Africa. In each province, six PHC centres were chosen using convenience sampling at research sites in consultation with provincial, regional and district health structures. Half of the PHC centres were located in urban areas and the other half in rural areas.

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The 24 centres varied considerably in size, both physically as well as regarding the number and types of health providers and patients.

### *Sampling*

Two groups of subjects, selected using convenience sampling, were given exit interviews at each of the research sites. The first group of subjects consisted of 126 STI patients who had just undergone treatment, while the second group consisted of 72 non-STI patients who presented with any ailment other than an STI. The two groups' results were then compared with each other.

### *Research design*

An outcomes evaluation was conducted using the KABP survey methodology. An outcomes evaluation is conducted to check whether an intervention is effective in terms of short-term or immediate effects on specific indicators as opposed to an impact evaluation that looks at more long-term effects of an intervention on the same set of or different indicators (Worthen, Sanders & Fitzpatrick, 1997). Although often strongly criticised by some researchers for their limited usefulness, KABP surveys offer a well-structured and replicable methodology that yields useful information needed for developing effective intervention programmes and their evaluation, in order to reduce the toll of the disease concerned (Katzenellenbogen, Joubert & Abdool Karim, 1997; Wilson & Mehryar, 1991). In particular, a posttest-only quasi-experimental design with a non-equivalent comparison group was employed in the present study (McGuigan, 1997).

### *Research instruments*

Two semi-structured interview schedules (one for STI patients and the other for non-STI patients) were constructed from relevant literature, and in consultation with health providers working with STI patients and experienced researchers working in the field of STIs. The two instruments consisted largely of closed-ended questions but also had a few open-ended ones. They were both initially translated into Xhosa and back-translated into English, and then piloted in an urban PHC centre in the greater Cape Town area. Subsequently, they were also translated into Zulu, Tswana and Afrikaans and independently validated through back-to-back translation.

### *Procedure*

A team of 12 interviewers consisting of postgraduate psychology students registered at the University of the Western Cape at the time of the study conducted the interviews. As many STI patients as possible and three non-STI patients, who were chosen non-randomly by the health providers following consultation with them, were interviewed at each PHC centre within the space of a week in each province.

### *Data analysis*

Data analysis was done using SPSS Version 8.0. Frequencies of occurrences and percentages were used to analyse the responses of the participants to individual questions for all the three main KABP behavioural measures studied, namely, STI knowledge, attitudes and beliefs towards STIs, and sexual practices. Furthermore, a composite score for 'STI knowledge' was constructed using eight items for STI patients and seven for non-STI patients, each of which measured an aspect of knowledge of STIs such as recognition and labelling of illness, causes, treatment and prevention, health risks and characteristics of STIs. Each STI patient received a score out of 8 and each non-STI patient a score out of 7. For the STI patients, scores from 0 - 2 indicated 'poor' knowledge, 3 - 5 'average' knowledge, and 6 - 8 'good' knowledge. For non-STI patients, the first two cut-off points were identical with those for STI patients but only scores of 6 - 7 were interpreted as 'good' knowledge. The Pearson Chi-square was employed to test for associations between levels of knowledge of STIs or aspects of sexual behaviour, on the one hand, and gender, province (high v. low risk) and home background (urban v. rural), on the other. The significance level was set at 0.05 throughout the study.

### *Ethical considerations*

Ethical approval for the larger research project was sought and obtained from the University of the Western Cape's Research Committee. Informed consent was obtained from all participants before their participation. All the data were collected anonymously, and confidentiality of the participants was maintained. The identities of the 24 PHC centres chosen as research sites were also kept confidential.

## **Results**

### *Demographic data*

A summary of the demographic information about the participants used in the present study is shown in

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Table 1. DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

Demographic characteristic	Levels	STI patients		Non-STI patients	
		N	%	N	%
Gender	Male	45	36	21	29
	Female	81	64	51	71
Age	Under 15 yrs	1	1	2	3
	16 - 25 yrs	61	48	27	38
	26 - 40 yrs	58	46	28	40
	41 - 60 yrs	6	5	13	18
	Over 60 yrs	0	0	2	3
Race	African	117	93	64	89
	Coloured / Indian	9	7	8	11
Work	Employed	46	37	21	29
	Unemployed	80	64	52	71
Marital status	Married	26	21	25	34
	Cohabiting	25	20	9	12
	Separated	4	3	1	1
	Divorced	1	1	2	3
	Single	68	55	35	48

Table 1. The table shows that the majority of the participants were female, African, single, unemployed, and between the ages of 16 and 40 years of age.

Knowledge of STIs

Table 2 presents a summary of descriptions of own illnesses by STI patients. The table shows that most of the patients were able to label their illnesses appropriately. Table 3 shows that non-STI patients

Table 2. DESCRIPTION OF OWN ILLNESS BY STI PATIENTS (N = 126)

Description	N	%
Use of STI label (including lay label, e.g. drop)	50	27
Discharge	37	20
Burning urine / urine-related problems	27	15
Abdominal / womb / kidney pain	18	10
Sores	12	7
Burning / pain in genitals	2	7
Medical referrals (e.g. check-up at antenatal clinic)	10	5
Other somatic symptoms	9	5
Bleeding / menstruation problems	3	2
Rash	1	1
Other	3	2
Total	85	100

Note 1: The number of responses exceeds the total number of participants due to multiple responses. This is the case in several of the tables of results.  
 Note 2: Total percentages in the tables do not always add up to exactly 100, since all percentages have been rounded off to the nearest whole number. However, for the sake of simplicity the total percentage is written as 100.

Table 3. PARTICIPANTS' RESPONSES CONCERNING HOW THEIR OWN ILLNESS OR STI IS CAUSED

Cause of illness	STI patients		Non-STI patients	
	N	%	N	%
Sexual transmission mentioned or implied	89	67	60	86
Something other than sexual transmission mentioned or implied	12	9	8	11
Don't know	32	24	2	3
Total	133	100	70	100

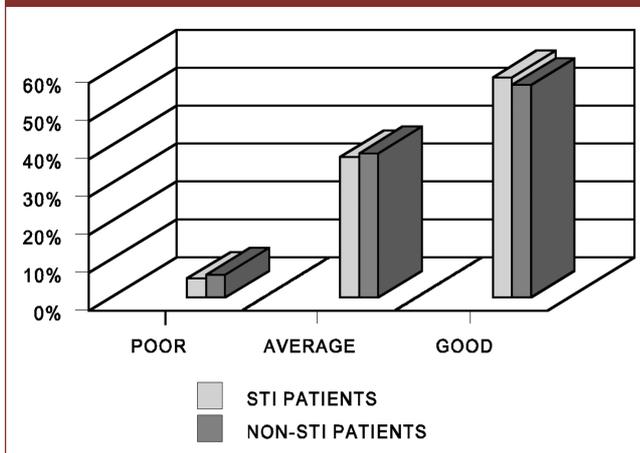
were more knowledgeable about sexual transmission of STIs than STI patients themselves. However, Table 4 shows that more STI patients knew that the use of condoms could help prevent the spread of STIs. However, the differences between the two groups for both questions were found to be not statistically significant. This conclusion was also supported by evidence using the composite knowledge scores. Fig. 1 shows that the knowledge scores for STI and non-STI patients had an almost identical breakdown with the modes for both groups falling within the 'good' category for knowledge. Furthermore, almost the same spread of knowledge scores occurred across gender, home background and province (i.e. the two with high HIV prevalence v. the two with low HIV prevalence) variables. Therefore, no notable

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**Table 4. PARTICIPANTS' PERCEPTIONS OF HOW TO PREVENT STIs**

Category label	STI patients		Non-STI patients	
	N	%	N	%
Use condoms	107	87	58	57
Limit partners	7	2	8	8
Get treatment	2	6	20	20
Partner to get treatment	1	1	0	0
Communicate with partner	2	2	1	1
Don't know	4	3	3	3
Other	1	1	12	12
Total	124	100	101	100

**Fig. 1. Composite knowledge scores for STI and non-STI patients**



improvement in the amount of knowledge about STIs was found among STI patients who had just undergone treatment using the syndromic approach when compared with their non-STI counterparts who were not exposed to such intervention during treatment of their other ailments at the PHC centres.

### Attitudes and beliefs

The responses obtained from the participants to the question of whom they thought got STIs are given in Table 5. The table shows that only promiscuous people were stereotyped and stigmatised by both groups of participants.

When asked what their reaction to their own illness was, as well as how they would react to someone else who had the disease, many participants gave responses that were mostly practical, such as seeking or giving advice to obtain some treatment. On an emotional level, a number of STI patients reacted negatively to their own illness, but were more sympathetic to others who had an STI (see Table 6).

**Table 5. PARTICIPANTS' PERCEPTIONS OF WHO CONTRACTS STIs**

Response	STI patients		Non-STI patients	
	N	%	N	%
People who sleep around	35	25	26	31
Anybody	26	19	15	18
Don't know	26	19	10	12
People who are sexually active and do not use condoms	13	9	13	15
Women	11	8	5	6
Men	8	6	2	2
Youth	5	4	6	7
Commercial sex workers	3	4	1	1
Other	14	10	5	6
Total responses	119	100	85	100

**Table 6. STI PATIENTS' RESPONSES TO OWN ILLNESS AND TO SOMEONE ELSE WITH AN STI**

Responses	To own illness		To someone else with an STI	
	N	%	N	%
Experience negative emotions	55	41	28	21
Seek treatment/advise to seek treatment	50	37	80	60
No reaction	17	13	5	4
Use self-medication	6	4	-	-
Be supportive	-	-	15	11
Advise to change behaviours	-	-	6	5
Other	7	5	-	-
Total	135	100	134	100

For non-STI patients, reactions to the diseases also varied with respect to whether they had had an STI previously, and whether they were responding to their own disease or another person's (see Table 7). Once again, a higher percentage of those who had had an STI responded negatively to their own illness than they did to someone else's illness.

### Sexual behaviour

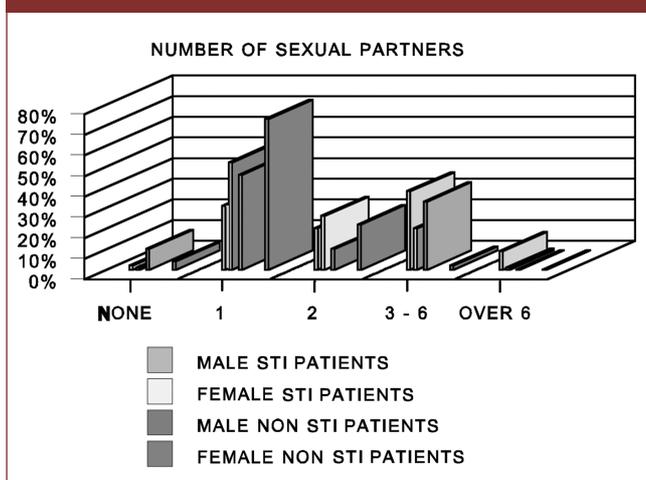
**Sexual practices.** Fig. 2 shows a summary of the responses that both STI and non-STI patients gave when they were asked how many sexual partners they had had in the previous 12 months. There was an association between gender and the number of sexual partners found for both groups, with males reporting to have had a significantly higher number of sexual partners during the previous year than females [for STI patients, Chi-square (4) = 11.264,  $p < 0.05$  and

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**Table 7. NON-STI PATIENTS' RESPONSES TO OWN AND SOMEONE ELSE'S STI**

Responses	Non-STI patients who have had a STI:		Non-STI patients who have not had an STI:		All non-STI patients	
	What was your reaction to this illness?		What would your reaction be if you had an STI?		What would your reaction be if you heard someone had an STI?	
	N	%	N	%	N	%
Seek treatment at clinic	2	15	9	17	31	45
Seek treatment elsewhere	1	8	1	2	1	1
Negative emotions	8	62	17	32	26	38
Be supportive	-	-	10	19	-	-
No reaction	-	-	2	4	2	3
Other	2	15	14	26	9	13
Total	13	100	54	100	69	100

**Fig. 2. Number of sexual partners during previous 12 months**



**Fig. 3. Reported condom use among STI patients**



for non-STI patients, Chi-square (3) = 16.628,  $p < 0.001$ ]. For non-STI patients, an association was also found between the total number of sexual partners during the past 12 months and whether or not they had contracted an STI in the past [Chi-square (6) = 17.975,  $p < 0.006$ ]. Thus, higher numbers of sexual partners were associated with increased risk for contracting an STI. However, there was no association found between knowledge about STIs and the number of sexual partners participants in both groups had had in the past 12 months.

### Use of condoms

Overall, a slight majority of the STI patients (51%) said that they never used condoms. However, when questioned about their intentions to use condoms in the future most patients (84%) replied that they

intended to do so. Of the 23 follow-up patients, who ought to have been most aware of the importance of using condoms, only four (17%) reported to have always used condoms since their last visit (see Fig. 3). Finally, as was found for sexual practices, there was also no association between patients' knowledge about STIs and their use of condoms.

A wide range of reasons for either using or not using condoms given by STI patients are presented in Table 8. The most common response given particularly by women was that partners did not like to use them. Another common response was that patients reported to be in a monogamous relationship or trusted their partner. There was also a strong sense, especially among males, that it was only necessary to use condoms with some people, usually those who could

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Table 8. REASONS FOR CONDOM USE AND NON-USE AMONG STI PATIENTS

Explanations regarding the use and non-use of condoms	Male		Female		Total	
	N	%	N	%	N	%
<b>Reasons for using condoms (sometimes/always)</b>						
Use condoms to prevent spread of disease	5	11	2	2	7	5
Use condoms to prevent pregnancy	1	2	4	4	5	4
Have started using condoms since STI	1	2	5	6	6	4
Use condoms with some people only	10	22	6	7	16	12
Use condoms only if accessible	4	9	3	3	7	5
<b>Reasons for not using condoms</b>						
Have never considered using condoms	2	4	7	8	9	7
Don't know how to use them	0	0	1	1	1	1
Trust partner	5	11	5	7	11	8
Have monogamous relationship	4	9	6	7	10	7
Don't like condoms	5	11	3	3	8	6
Partner doesn't like condoms	2	4	28	31	30	22
Using condoms causes suspicion	0	0	6	7	6	4
Other	7	15	12	13	19	14
Total	46	100	89	100	135	100

not be trusted. Similar reasons were also given by follow-up STI patients for using condoms since their previous visit.

### Discussion

#### Demographic data

The profiles of STI patients, particularly with regards to age, race and marital status, are consistent with those reported in previous studies (Mathews *et al.*, 1998). Identical profiles were also observed among non-STI patients. One aspect of the results deserving some comment is the preponderance of unemployed, young and single African females in both groups of participants. This suggests that their male counterparts do not use the STI services and also indeed the PHC centres themselves as frequently as they do. This has serious implications, not only for the control and prevention of STIs and HIV/AIDS, but also the efficacy of PHCs in general.

#### Knowledge of STIs

The main finding from this study was that both STI and non-STI patients had relatively high knowledge of the 'facts' about STIs. This is consistent with previous findings elsewhere in Africa (Faxelid *et al.*, 1994). However, a more interesting aspect of this finding was that overall STI and non-STI patients were found to have equal amounts of knowledge regarding STIs. This was in spite of the fact that STI

patients had just emerged from a consultation with a health provider, which ought to have involved some form of health education and counselling. It would seem therefore that the health education and counselling that was provided by health providers as a part of general STI management according to the syndromic approach did not impact much overall on the amount of knowledge of STIs held by STI patients when compared with non-STI patients in this study.

#### Attitudes and beliefs

With respect to attitudes towards and beliefs about STIs, most participants' reactions were practical rather than emotional. However, some participants also expressed negative emotions, particularly towards their own STI rather than someone else's. Furthermore, it was also apparent that promiscuity was still a pervasive stereotype associated with STIs, even among those who were themselves infected. This process of stereotyping and stigmatising people with STIs has been explored by other researchers (Faxelid *et al.*, 1994; Gilmore & Somerville, 1994). Nevertheless, it was also interesting to note that a significant number of participants regarded everyone as being susceptible to STIs, while there was limited stigma directed against commercial sex workers. Whereas the former is clearly a positive belief about STIs, the latter is problematic as it might lead to the spread of STIs,

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particularly if it results in unprotected sex with commercial sex workers.

### Sexual behaviour

**Sexual practices.** The two main findings here were that male STI patients in particular had significantly more sexual partners than women during the past year, and that those non-STI patients who had contracted an STI in the past had a significantly higher number of sexual partners than those who had never contracted an STI. These findings are consistent with previous findings (Buve, Laga & Piot, 1993; Gilmore & Somerville, 1994; SAIMR, 1993) and suggest that both men and former STI patients are at greater risk for STIs due to their sexual practices. The general lack of sexual behaviour change, especially among follow-up STI patients, is not surprising. These findings confirmed what has been found previously in the HIV/AIDS sector, namely that there is a weak link between knowledge and behaviour change (Furnham, 1988; McManus & Morton, 1986). More importantly, the findings also concur with recent findings from the only community-based randomised trial in rural south western Ugandan evaluating the impact of the syndromic approach conducted to date, which found no significant change in behaviour such as the number of partners and age of sexual debut among youth (Kamali, Quigley, Nakiyaki, Kinsman, Kengeya-Kayonde, Gopal *et al.*, 2003).

**Condoms.** The main finding here was that the participants reported low and inconsistent use of condoms. This indeed is a common finding in both international and local research on STIs (Blecher, Steinberg, Pick, Hennink & Duncan, 1995; Strebel & Perkel, 1991; Wawer, Sewankombo, Serwadda, Quinn, Paxton, Kiwanuka, *et al.*, 1999) although it contradicts the recent findings from the Uganda study reported above, which found impressive evidence of consistent condom use in the group that received the syndromic approach intervention compared with the control groups (Kamali *et al.*, 2003). More specifically, the widespread resistance to condoms by men, and the difficulties faced by women in challenging this resistance, were similar to findings by several previous local studies (Abdool Karim, Abdool Karim & Preston-Whyte, 1992; DoH, 1998; Wood & Foster, 1995). Reasons for this are seldom related to poor awareness of condoms, however, and much more to the complexities of sexual and gender relations (Shefer, 1999; Strebel, 1996; Varga & Makubalo, 1996;

Walby, Kippax & Crawford, 1993; Wood & Jewkes, 1998).

### Methodological limitations

Constraints of time and funding limited some aspects of the study. The selection of two high-risk and two low-risk provinces according to provincial HIV statistics was not altogether adequate, as these statistics were not necessarily a reflection of other STI numbers. Furthermore, the research sites themselves were not randomly selected and the researchers' dependence on the provincial and regional DoH offices for selecting clinic sites affected the nature of the sample, as well as opened up the possibility of selection bias. The researchers also relied on an unpredictable sample size, which depended on the numbers of STI patients visiting the PHC centres during the fieldwork period in each of the four provinces. Another limitation was the fact that the design did not allow for follow-up testing on KABPs, which is typically carried out either 1 month or 3 months later in intervention studies of this kind (McGuigan, 1997). However, this was somewhat taken care of by the fact that some of the STI patients were follow-up patients who were seeking STI treatment for a second time. Finally, this particular study was carried out only among STI and non-STI patients who were visiting PHC centres. Therefore, its findings cannot be generalised to the entire South African population.

### Suggestions for future research

In view of the various limitations mentioned above, it is proposed that future research attempt to replicate the present study using a more representative sample and better evaluation strategies. More importantly, a summative (or impact) evaluation of the syndromic approach is needed. Furthermore, such research should also be conducted both inside and outside of the biomedical context of PHC centres in order to obtain a more objective picture applicable to the wider population of South Africa.

### Recommendations

The recommendations from this study pertain to ways and means of improving the quality of educational and counselling interventions, both in the community at large and within PHC centres. At the community level, it is essential that communication between various help-giving services, including private doctors, traditional healers and pharmacists, is developed.

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Services outside the public sector PHC centres need to assist with the general education and counselling around STIs, sexuality and relationship issues. For men particularly, who report to use the PHC centres less than women, and who require more intervention around safer sex, these other services are crucial, as they might be given more credibility by men. Thus, this study indicates an urgent need for public health authorities and practitioners, private doctors, traditional healers, schools, employees and other community centres to make the community more aware of STI symptoms and treatment.

At the level of managing individual STI patients, the interventions advocated by the syndromic case management approach (i.e. condom promotion, counselling about safer sex and partner notification) need to be improved. Particular emphasis needs to be placed on *counselling*, not as merely communicating information, but as an activity that involves a dialogue with patients. Wherever possible, space needs to be made for patients to speak about some of the difficult relationship issues that such an illness might raise. Myths about promiscuity, and all the stigmas associated with it, need to be tackled directly and consistently. Furthermore, a dialogue about sexuality and relationship issues needs to occur together with the promotion and demonstration of condoms. This can be accomplished through ongoing training and support for health providers. This would hopefully motivate them to spend some extra time with STI patients for the purpose of health education and counselling.

### Conclusion

The present study has shown that the syndromic case management approach as applied in the 24 PHC centres used in the present study did not influence the STI knowledge, attitudes and practices of STI patients significantly, when compared with those of non-STI patients, who had not been exposed to such interventions during visits to the PHC clinics where this study was conducted. This suggests that the mechanisms through which the syndromic approach works are perhaps more overall mechanisms such as improved health care-seeking behaviour and partner notification rather than KABPs investigated in the present study *per se*. The findings generally confirmed what has been previously found in the HIV/AIDS sector, namely superficially high levels of knowledge about STIs by the public at large but very little

appropriate behavioural change accompanying it. There is therefore a great need for synergy in the efforts of the health services in general and health providers in particular in tackling the two issues of STIs and HIV/AIDS simultaneously. Thus, the present study has clearly pinpointed some of the problems hindering the control and prevention of STIs in South Africa using the syndromic case management approach as well as provided some recommendations for addressing them.

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### References

- Abdool Karim, S.S. (1994). Editorial: Challenges to the control of sexually transmitted diseases in Africa. *American Journal of Public Health*, 84, 1981.
- Abdool Karim, S.S., Abdool Karim, Q., Preston-Whyte, E. (1992). Reasons for lack of condom use among high school students. *South African Medical Journal*, 82, 107-110.
- Abdool Karim, Q., Mathews, C., Guttmacher, S, et al. (1997). *HIV/AIDS and STIs in South Africa: The National HIV/AIDS and STI Review*. Pretoria: Department of Health.
- Ballard, R.C. (1998). Syndromic case management of STIs in Africa. *African Health*, 20(3), 13-15.
- Blecher, M.S., Steinberg, M., Pick, W., Hennink, M. & Duncan, N. (1995). AIDS — knowledge, attitudes and practices among STI clinic attenders in the Cape Peninsula. *South African Medical Journal*, 85, 1281-1286.
- Buve, A., Laga, M. & Piot, P. (1993). Where are we now? Sexually transmitted diseases. *Health Policy Planning*, 8, 277-281.
- Connolly, A.M., Wilkinson, D., Harrison, A. (1999). Inadequate treatment of sexually transmitted diseases in the South Africa private sector. *International Journal of STI & AIDS*, 10(5), 324-7.
- Department of Health (1999). 1998 HIV seroprevalence survey in South African antenatal clinics. *AIDS Scan*, 11(2), 5-9.
- Department of Health (1998). Demographic health survey: South Africa 1998. [www.health.gov.za](http://www.health.gov.za)
- Department of Health (1997). *First report: National STI/HIV/AIDS review*. Pretoria: Department of Health.
- Department of Health (1996). Consensus seminar on the syndromic management of sexually transmitted diseases in South Africa, held at Holiday Inn, Johannesburg International Airport.
- Faxelid, E., Ndulo, J., Ahlberg, B.M. & Krantz, I. (1994). Behaviour, knowledge and reactions concerning sexually transmitted diseases: Implications for partner notification in Lusaka. *East African Medical Journal*, 71, 118-121.
- Furnham, A. (1988). *The relationship between knowledge of and attitudes to AIDS*. Unpublished manuscript, Department of Psychology, University College University of London.
- Gilmore, N. & Somerville, M.A. (1994). Stigmatization, scapegoating and discrimination in sexually transmitted diseases: Overcoming 'them' and 'us'. *Social Science & Medicine*, 39, 1339-1358.
- Gilson, L., Mkanje, R., Grosskurth, H., Moshia, F., Picard, J., Gavyole, A., Todd, J., Mayaud, P., Swai, R., Fransen, L., Mabey, D., Mills, A. & Hayes, R. (1997). Cost-effectiveness of improved treatment services for sexually transmitted diseases in

## The evaluation of immediate behavioural outcomes of the syndromic case management approach for the treatment of patients with sexually transmitted infections at PHC centres in South Africa: Knowledge, attitudes, beliefs and sexual behaviour

preventing HIV-1 infection in Mwanza region, Tanzania. *Lancet*, 350 (9094), 1805-1809.

Green, E.C. (1994). *AIDS and STIs in Africa: Bridging the gap between traditional healing and modern medicine*. Pietermaritzburg: University of Natal Press.

Grimwood, A., Karpakis, B. & McNab, M. (Eds) (1996). *Syndromic approach to the treatment of sexually transmitted diseases. A manual for the Western Cape*. Cape Town: Provincial Administration of the Western Cape.

Harrison, A., Abdool Karim, S., Floyd, K., Lombard, C., Lurie, M., Ntuli, N., & Wilkinson, D. (2000). Syndrome packets and health worker training improve sexually transmitted disease case management in rural South Africa: Randomized control trial. *AIDS*, 14, 2769-2779.

Kamali, A., Quigley, M., Nakiyaki, J., Kinsman, J., Kengeya-Kayondo, J., Gopal, R., Ojwiya, A., Hughes, P., Carpenter, L.M. & Whitworth, J. (2003). Syndromic management of sexually transmitted infections and behaviour change interventions on transmission of HIV-1 in rural Uganda: A community randomized trial. *Lancet*, 361, 645-652.

Katzenellenbogen, J.M., Joubert, G. & Abdool Karim, S.S. (Eds). (1997). *Epidemiology: A Manual for South Africa*. Cape Town: Oxford University Press.

Laga, M., Nzila, N. & Gorman, J. (1991). *The interrelationship of sexually transmitted diseases and HIV infection: Implications for the control of both epidemics in Africa*. Antwerp, Belgium: WHO Collaborating Centre on AIDS.

La Ruche, G., Lorougnon, F. & Digbeu, N. (1995). Therapeutic algorithms for the management of sexually transmitted diseases at the peripheral level in Cote d'Ivoire: Assessment of efficacy and cost. *Bulletin of the WHO*, 73(3), 305-313.

Mathews, C., Magwaza, S., Coetzee, N., Karpakis, B., & Grimwood, A. (1998). STI patient compliance with the syndromic management therapeutic regimen. *South African Medical Journal*, 88, 160-161.

Mathews, C., van Rensburg, A. & Coetzee, N. (1998). The sensitivity of a syndromic management approach in detecting sexually transmitted diseases in patients at a public health clinic in Cape Town. *South African Medical Journal*, 88(1), 1337-1340.

Mayaud, P., Mosh, F., Todd, J., Balira, R., Mgara, J., West, B., Rusizoka, M., Mwijarubi, E., Gabone, R., Gavyole, A., Grosskurth, H., Hayes, R., & Mabey, D. (1997). Improved treatment services significantly reduce the prevalence of sexually transmitted diseases in rural Tanzania: Results of a randomized control trial. *AIDS*, 11(15), 1873-1880.

McGuigan, F.J. (1997). *Experimental psychology: Methods of research* (7th ed.). Englewood Cliffs, New Jersey: Prentice-Hall.

McManus, I.C. & Morton, A.D. (1986). Attitudes to and knowledge about the acquired immune deficiency syndrome: Lack of a correlation. *British Medical Journal*, 293, 212.

National AIDS Research Programme of the Medical Research Council (1993). *AIDS Bulletin*, 2, 21-24.

Pham-Kanter, G.B.T., Steinberg, M.H. & Ballard, R.C. (1996). Sexually transmitted diseases in South Africa. *Genitourinary Medicine*, 72, 160-171.

Rottingen, J.A., Cameron, D.W. & Garnett, G.P. (2001). A systematic review of the

epidemiologic interactions between classic sexually transmitted diseases and HIV: How much really is known. *Sexually Transmitted Diseases*, 28(10), 579-597.

Schneider, H., Blaauw, D., Dartnell, E., Coetzee, D.J. & Ballard, R.C. (2001). STI care in the South African private health sector. *South African Medical Journal*, 91(2), 51-56.

Shefer, T. (1999). *Discourses of heterosexual subjectivity and negotiation*. Unpublished doctoral thesis, University of the Western Cape, Cape Town.

Simbayi, L.C. (1999). AIDS awareness and sexual behaviour change in South Africa. In K.R. Hope Snr, (Ed.), *AIDS and development in Africa: A social science perspective* (pp. 153-164.). New York: Haworth Press.

South African Institute for Medical Research (SAIMR) (1993). Sexually transmitted diseases (STIs) a global problem: Risky sexual behaviour needs to be changed. *SALUS*, 16, 22-23.

Strebel, A. (1996). Prevention implications of AIDS discourses among South African women. *AIDS Education and Prevention*, 8(4), 352-374.

Strebel, A. & Perkel, A. (1991). *AIDS knowledge, attitudes, practices and psychological processes among black South African university students*. Poster presented at the Seventh International Conference on AIDS held in Florence, Italy, 1991.

UNAIDS (2002). *Report on the global HIV/AIDS epidemic*. Geneva: UNAIDS.

Varga, C. & Makubalo, L. (1996). Sexual non-negotiation. *Agenda*, 28, 31-38.

Waldby, C., Kippax, S. & Crawford, J. (1993). Cordon Sanitaire: 'clean' and 'unclean' women in the AIDS discourse of heterosexual men. In P. Aggleton, P. Davies & G. Hart (eds). *AIDS: Facing the second decade* (pp. 29-39). London: Falmer Press.

Wasserheit, J.N. (1992). Interrelationships between human immunodeficiency virus infection and other sexually transmitted diseases. *Sexually Transmitted Diseases*, 19, 61-77.

Wawer, M.J., Sewankambo, N.K., Serwadda, D., Quinn, T.C., Paxton, L.A., Kiwanuka, N., Wabwire-Mangen, F., Li, C., Lutalo, T., Nalugoda, F., Gaydos, C.A., Moulton, L.H., Meehan, M.E., Ahmed, S., the Rakai Project Study Group\*, & Gray, R. H. (1999). Control of sexually transmitted diseases for AIDS prevention in Uganda: a randomised community trial. *Lancet*, 353(9152), 525-535.

Wilson, D. & Mehryar, A. (1991). The role of AIDS knowledge, attitudes, beliefs and practices research in sub-Saharan Africa. *AIDS*, 5, 177-180.

Wood, K. & Foster, D. (1995). 'Being the type of lover...': gender-differentiated reasons for non-use of condoms by sexually active heterosexual students. *Psychology in Society*, 20, 13-35.

Wood, K. & Jewkes, R. (1998). *'Love is a dangerous thing': Micro-dynamics of violence in sexual relationships of young people in Umtata*. Tygerberg: Medical Research Council.

World Health Organisation (WHO). (1994). *Management of sexually transmitted diseases* (WHO/GPA/TEM/94.1) Geneva: Global Programme on AIDS, WHO.

World Health Organisation/Joint United Nations Programme on HIV/AIDS (WHO/UNAIDS). (1997). *Sexually transmitted diseases: Policies and principles for prevention and care*. Geneva: WHO.

Worthen, B.R., Sanders, J.R. & Fitzpatrick, J.L. (1997). *Programme evaluation: Alternative approaches and practical guidelines*. New York: Longman.