Views of general practitioners and pharmacists on the role of the pharmacist in HIV/Aids management

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Abstract

Background

Sub-Saharan Africa is home to 25.8 million people living with HIV/Aids. In November 2003, the South African government approved *The Operational Plan for Comprehensive Treatment and Care for HIV and Aids,* which aimed to provide antiretroviral treatment to 500 000 patients by the end of 2007. The successful implementation of this operational plan requires many healthcare providers trained in aspects of HIV. This study aimed to establish and compare the views of general practitioners and pharmacists on the role of the pharmacist in HIV/Aids management and to elucidate an appropriate role for pharmacists. Ethical approval was obtained from the MEDUNSA Research Ethics and Publications Committee.

Methods

The study population consisted of general practitioners in the province of Gauteng and community pharmacists in Gauteng and the Western Cape. Two hundred medical practitioners were selected at random from the 7 157 registered in Gauteng. Pharmacist respondents (293 from 879 community pharmacies in Gauteng and 200 from 493 in the Western Cape respectively) were selected randomly. The respondents were contacted individually by telephone and asked to complete a pilot-tested 10-statement questionnaire on their views of aspects relating to a role for pharmacists in HIV/Aids management.

Results

Mean values for positive responses were calculated and analysed (two-sided t test). The response rates for general practitioners and pharmacists were 44.5% and 38.1% respectively. The responses were grouped into two categories, dispensing and advice and testing and treatment. Both groups agreed about the dispensing and advice category. Of the general practitioners surveyed, 95.5% agreed that pharmacists should counsel patients on the correct use of medications and 100% agreed that the pharmacist should be aware of all related side effects and drug interactions of HIV medications, i.e. the general practitioners were comfortable with pharmacists providing a dispensing and advisory role. The groups differed significantly about the testing and treatment category.

Conclusion

GPs were generally not in favour of pharmacists being involved in the testing and treatment of HIV/Aids. The pharmacists surveyed, on the other hand, indicated their willingness to assume an expanded role in HIV/Aids management. A potential role for pharmacists was elucidated. It complements the role of the pharmacist in HIV/Aids management described in the South African Pharmacy Council Position Paper. The differences in views identified in the survey hold serious implications as South Africa struggles to contend with the HIV/Aids epidemic.

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Introduction

Sub-Saharan Africa is home to 25.8 million people living with HIV/Aids. The epidemic claimed the lives of approximately 2.4 million Africans in 2005. These figures reflect the world's continuing failure to counter the HIV pandemic.[1] The lack of an adequate sense of urgency and of political leadership and commitment are additional factors affecting the spread of the disease.[2]

In November 2003, the South African government approved and launched *The Operational Plan for Comprehensive Treatment and Care for HIV and Aids*, which promised to deliver comprehensive care to the 5.3 million HIV-positive people in the country, including providing antiretroviral treatment. By the end of 2007, the government planned to provide antiretroviral therapy to 500 000 patients. Achieving this goal will require many healthcare providers trained in aspects of HIV management.[3,4]

The aim of this study was to establish the views of general practitioners and pharmacists and to elucidate a role for pharmacists in HIV/Aids management.

Method

Study population and sampling

Ethical approval for this research study was obtained from the Research Ethics and Publications Committee of the MEDUNSA Faculty of Medicine.

The target population of general practitioners in Gauteng was identified in 2003, comprising general practitioners who were registered with the Health Professions Council of South Africa (7 157). Two hundred respondents were selected at random from this list to obtain 100 usable responses.

The target population of community pharmacists was taken from Gauteng and the Western Cape. The Western Cape group was subsequently used as the control group for another study. The two groups were combined in the study described in this paper. A list of all community pharmacies in Gauteng and the Western Cape was obtained from the South African Pharmacy Council. Statistical advice indicated that a total of 150 usable responses was necessary for Gauteng. To obtain this number, 293 pharmacies were randomly selected from 879 community pharmacies in the province. Statistical advice gave a total of 100 usable responses necessary for the Western Cape. To obtain this number, 200 pharmacies were randomly selected from 412 community pharmacies in the province. The combined sample consisted of 493 pharmacists.

Measurements

All the respondents were contacted telephonically to establish their willingness to participate. After pilot testing with four general practitioners and five pharmacists, the questionnaire, accompanied by a covering letter, was mailed, e-mailed or faxed to the participants. The respondents were asked to return the completed questionnaires by fax. The questionnaire, which was adapted from Katz et al.,[5] covered demographic details and included 10 questions (requiring a "yes" or "no" response) on the respondent's views of the role of pharmacists in HIV/Aids management. The 10 questions are listed in Tables II and III. General practitioners and pharmacists who did not respond to the first request were contacted again after three weeks and asked to complete the questionnaires. The purpose of the follow-up contact was to increase the response rate.

Statistical analysis

All "yes" responses were allocated a score of one and negative responses were allocated a score of zero. A maximum score of 10 positive responses was possible (100%). Individual scores were expressed as a mean percentage per question. A mean score was calculated for the respondents for all 10 questions. These mean values were used to determine whether the views of general practitioners and pharmacists were statistically significantly different (two-sided t test) on the role of pharmacists in HIV/Aids management. The responses were grouped into two categories (Dispensing/Advice and Testing/Treatment) and also compared for statistical significance by means of a two-sided Fischer exact test. Individual questions were similarly compared.

Results

The total number of responses received from general practitioners was 89/200 (44.5% response rate). The total number of responses received from pharmacists was 188/493 (38.1% response rate). Conclusions regarding the views of general practitioners and pharmacists are based on the responses obtained during this research study.

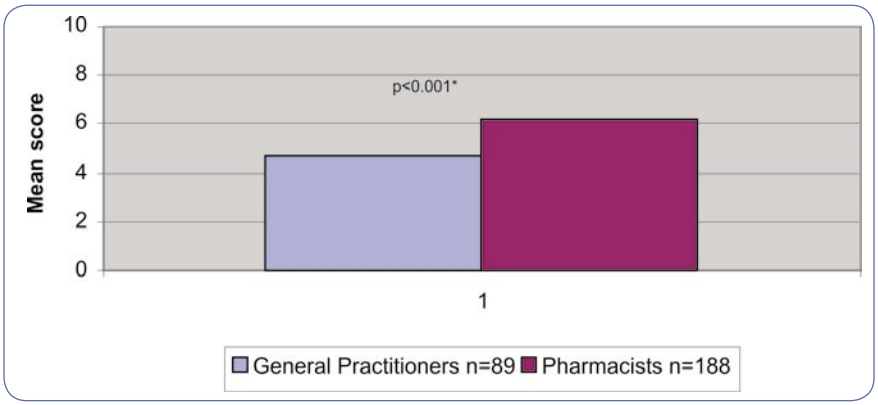
Table I and Figure 1 illustrate that there was a significant difference ($p<0.001$) in the total mean scores between the general practitioners and the pharmacists. The trend of the difference indicated that the general practitioners surveyed had a less positive view than pharmacists about the role of pharmacists in the management of HIV/Aids.

Table I: Comparison of total mean opinion scores for general practitioners and pharmacists

Group	Mean score	Standard deviation	Probability
General practitioners (n=89)	4.75	1.85	
Pharmacists (n=188)	6.21	2.15	
			p<0.001*

*Statistically highly significant

Figure 1: Comparison of total mean opinion scores for general practitioners and pharmacists



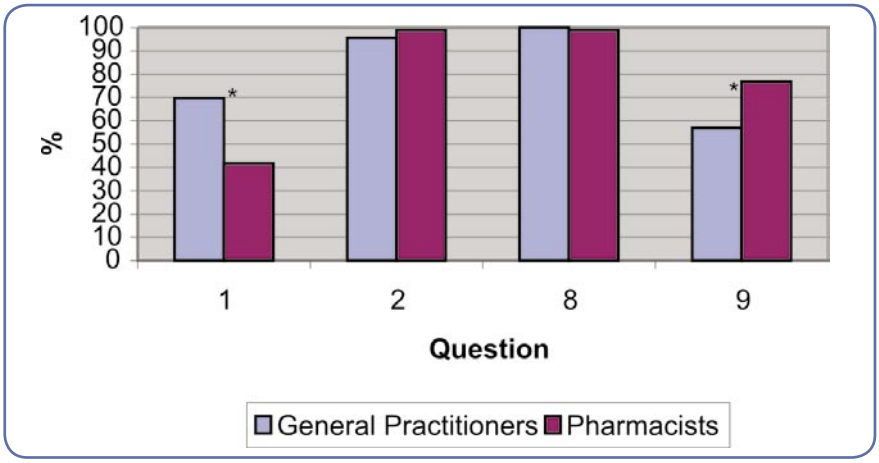
*Statistically highly significant

Table II: Percentage positive responses per question for general practitioners (n=89) and pharmacists (n=188) on Dispensing and Advice

Question	General Practitioners n=89 % positive responses	Pharmacists n=188 % positive responses	% difference	p value
1. Before dispensing HIV medication, should the pharmacist contact the prescriber to discuss the treatment?	69.7	41.8	27.9	<0.001*
2. Should the pharmacist counsel patients on the correct use of medication?	95.5	98.9	3.4	0.086
8. Should the pharmacist be aware of all related side effects and drug interactions with HIV medications?	100	98.9	1.1	1.000
9. Should pharmacies be equipped as HIV information sites with separate consultation areas?	56.8	76.8	20	0.001*
Mean	80.6	79.7	0.9	0.747

* Statistically highly significant

Figure 2: Percentage positive responses per question for general practitioners (n=89) and pharmacists (n=188) on Dispensing and Advice



* Statistically highly significant

The 10 questions were then grouped into two categories. Questions 1, 2, 8 and 9 referred to dispensing and advice. Questions 3, 4, 5, 6, 7 and 10 comprised the testing and treatment category. Table II and Figure 2 indicate the total number of "yes" responses per question on dispensing and advice, expressed as a percentage of the replies.

Dispensing and advice

Overall, there was very little difference between the mean percentage of positive responses for the two groups. Table II illustrates that the difference between the general practitioners and pharmacists was not significant (p=0.747). This result confirms that both the general practitioners and the pharmacists are comfortable with pharmacists performing a dispensing and advisory role in the management of HIV/Aids patients.

As far as individual questions are concerned, the vast majority of the general practitioners (95.5%) and pharmacists (98.9%) agreed that pharmacists should counsel patients on the correct use of medications (question 2). Both groups also agreed that the pharmacist should be aware of the side effects of and drug interactions with HIV medications (question 8).

Most of the pharmacists surveyed (76.8%) endorsed the concept of pharmacies as HIV information centres (question 9), whereas general practitioners (56.8%) were not in favour. This difference was significant (p=0.001). A second major difference between the two groups of respondents occurred in response to question 1. In this case, the majority of doctors surveyed (almost 70%) wanted pharmacists to discuss treatment regimens with them before dispensing medication. Only 41.8% of pharmacists supported this step. The difference between the responses was significant.

Table III and Figure 3 indicate the total number of "yes" responses per question in the testing and treatment category, expressed as a percentage of replies.

Testing and treatment

The difference between the mean percentage of positive responses for this group of questions was significant (p<0.001). This result indicates that the pharmacists surveyed were willing to perform an expanded role in the testing and treatment of HIV/Aids patients. However, the general practitioners were not in favour of pharmacists being involved in such a role. A detailed examination of the individual responses to the questions shows clearly that pharmacists are positive about the extended role. For five of the six questions asked, the difference between the responses was significant.

Discussion

An opinion or view can be defined as what one thinks or believes about a particular topic or question.[6] It generally reflects one's background, knowledge (or lack thereof), self-interest and prejudices. The survey described in this paper established the views of some general practitioners and pharmacists about what they believed the role of pharmacists in HIV/Aids management should be. These views differ considerably. They reflect a tension that is possibly associated, on the one hand, with entrenched positions (the medical practitioners) and, on the other, with frustration at the potentially diminishing role of the pharmacist in dispensing, hence the need for participation in other activities. Both of these positions are linked to economic outcomes.

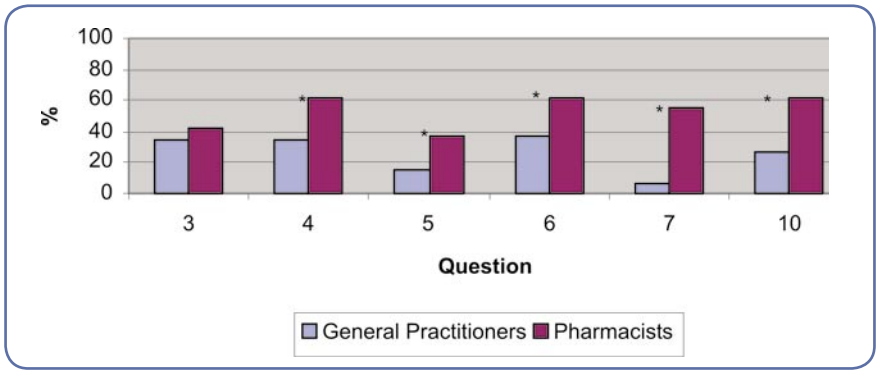
These views, and the associated tension, could impact negatively on progress as the country attempts to deal with the HIV/Aids crisis. Are the views of the general practitioners too

Table III: Percentage of positive responses per question for general practitioners (n=89) and pharmacists (n=188) on Testing and Treatment

Question	General Practitioners n=89 % positive responses	Pharmacists n=188 % positive responses	% difference	p value
3. Should the pharmacist have access to the patient's laboratory test results?	34.8	41.8	7	0.2935
4. Should the pharmacist do pre-test counselling?	34.1	61.1	27	<0.001*
5. Should the pharmacist do HIV rapid tests and interpretation thereof to diagnose HIV?	15.9	37.7	21.8	<0.001*
6. Should the pharmacist provide post-exposure prophylaxis (treatment after accidental exposure to HIV infected blood e.g. needle stick injuries, rape) to patients, without a doctor's prescription?	37.1	62.1	25	<0.001*
7. Should the pharmacist be allowed to treat sexually transmitted diseases without a doctor's prescription?	6.7	55.7	49	<0.001*
10. Should pharmacists be registered as preferred HIV treatment providers?	26.4	61.4	35	<0.001*
Mean	25.8	53.3	27.5	<0.001*

* Statistically highly significant

Figure 3: Percentage of positive responses per question for general practitioners (n=89) and pharmacists (n=188) on Testing and Treatment



* Statistically highly significant

conservative? Is there in fact a need to expand the roles of all healthcare providers in the crisis that faces South Africa? Will treatment reach the targeted numbers if all practitioners are not used to the optimum? Are pharmacists poorly prepared for what they obviously see as an expanded role?

Other work has explored possible answers to some of these questions. For example, a related study has shown that pharmacists may not have an adequate level of knowledge in some aspects of testing, counselling, treatment and compliance.[7] These knowledge gaps will have to be dealt with if pharmacists are to be able to perform a proper role. It is unfortunate that no similar work has been carried out on the HIV/Aids knowledge base of general practitioners in South Africa, considering the views of those who participated in the survey described in this paper.

The proposed antiretroviral treatment plan of the Department of Health requires 28 doctors to treat every 10 000 patients. Hence, by the end of 2007, the public health system will require 1 400 additional doctors to handle the target of 500 000 patients on antiretroviral treatment, never mind the numbers of other professionals. This system is already challenged by inadequate resources and the burden of the disease. Recruiting medical practitioners is difficult. It is therefore vital for pharmacists, and all other healthcare practitioners, to be involved and to make a substantive contribution to HIV/Aids management.[3,4]

The results of this survey have also been used to elucidate a potential role for pharmacists in HIV management. The responses from the pharmacists (see Tables II and III) were predominantly positive regarding the following aspects:

- Counselling patients on the correct use of medication
- Performing pre-test counselling
- Providing post-exposure prophylaxis
- Being aware of side effects and drug interactions
- Utilising pharmacies as HIV information centres
- Utilising pharmacies as registered preferred HIV treatment providers

This positive view indicates that pharmacists are willing to pursue an expanded role. What support is there for this view?

The South African Pharmacy Council has released a Position Paper on the role of the pharmacist in the management of HIV/Aids, TB and STIs. This paper covers four main areas:

- Prevention
- Treatment, care and support
- Human and legal rights
- Monitoring, surveillance and research[8]

Similar views have been expressed in other countries. In the USA in 1999, Zappa conceptualised a new model for pharmacists in HIV management that concentrates on drug-related activities, information provision and patient confidentiality.[9] This model uses the pharmacy as the focal point for care and calls it a community-based care centre. The aim is to identify patients at risk before they become severely ill. The pharmacist must then provide services that complement those offered by the primary HIV/Aids

doctor. The pharmacist will be an expert in the management of patients with HIV/Aids and take responsibility for all drug-related issues. These include: reviewing prescriptions, recommending changes when appropriate, monitoring adherence, managing adverse events, educating other team members on new drug information and ensuring the availability of medication. This specialised pharmacist would also educate non-infected people about identifying and minimising the risks of HIV transmission. The primary HIV/Aids doctor would work with the pharmacist in this model to emphasise the importance of adherence to treatment. Zappa's rationale for the role of the pharmacist as a primary caregiver in HIV/Aids management includes the following factors:

1. The pharmacist is often the most accessible healthcare provider in the community for offering both treatment and education.
2. Pharmacists are trusted experts in drug therapy.[10]

The postulated SA Pharmacy Council model is similar to the model conceptualised by Zappa in all core areas. Both models concentrate on drug-related activities, information provision and patient confidentiality.

The opinions of the pharmacists in this survey match the proposed roles recommended by Zappa[9] and the SA Pharmacy Council,[6] as illustrated in Table IV.

To perform this pivotal role in HIV management, pharmacists must have the necessary knowledge at their disposal. A positive attitude towards HIV patients and preparedness to advise these patients are essential elements for the pharmacist to perform a successful role in the management of HIV/Aids.

The main limitation of the study was the size and geographical focus of the sample, which was due to practical considerations, time constraints and a limited budget. Nevertheless, the results demonstrate considerable positive outcomes. The opinions of other healthcare workers, e.g. nurses and social workers, should also be investigated. Similarly, HIV/Aids disease management organisations can provide important information on real-life experiences and areas where they have identified the need for an expanded role for pharmacists in HIV management.

The results of this survey can be used as a point of departure to further define the role of pharmacists in HIV management. For maximum benefit, this expanded role should then be introduced to all members of the healthcare team. It is also imperative that pharmacists themselves expand and optimise their services to actively pursue their full role in HIV and Aids care.

Conclusion

At a time when the efforts of all health professionals must be harnessed to counteract the Aids epidemic in South Africa, pharmacists have not been shown to contribute significantly. Part of the problem may be as a consequence of the poor perception by general practitioners about an expanded role for pharmacists in the management of HIV/Aids. Another factor may be that pharmacists lack specific knowledge. Once an extended role is defined, the next step is to ensure that pharmacists are equipped with the necessary knowledge, attitudes and preparedness to advise and manage HIV patients. Some of these issues have already been explored by the authors.[7]

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Table IV: Comparisons of defined roles for pharmacists in HIV management

Zappa (1999)	SA Pharmacy Council criteria (2003)	Responses of this survey
Responsible for all drug-related activities	Supply antiretrovirals, manage tuberculosis and treatment of opportunistic infections	Dispense medication Be aware of side effects and drug interactions Counsel patients on correct use of medication
Supply products, services and information in one place	Provide prevention, treatment, care and support services	Provide post-exposure prophylaxis
Focus on education, prevention and screening programmes	Provide voluntary testing and counselling	Do pre-test counselling
Include services of a nutritionist and a nurse, and complement services provided by the medical doctor	Monitor complications and referrals for medical intervention	Pharmacies as HIV information centres Pharmacies as registered preferred HIV treatment providers
Ensure patient confidentiality	Ensure patient confidentiality and privacy	