

Measurement of the effectiveness of an HIV/AIDS intervention programme on knowledge, attitudes, and behaviour of the South African Police Service employees

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This study investigated if there was any change in the HIV/AIDS knowledge, attitudes, and behaviour of the South African Police Service's (SAPS) employees of Limpopo province after attending the HIV/AIDS intervention programme. From a population of (N=108) employees, those who attended the HIV/AIDS awareness workshop participated as experimental group (n=51) while those who attended the suicide prevention and disability workshop as control group (n=57). Random sampling method was used to select the above sample. Both workshops were conducted at various places in Limpopo Province. Pre-tests were administered before the workshops while the post-tests were administered after the workshops. The results were analysed using 2 (Group: Experimental versus Control Group) x 2 (Time: Pre-test versus Post-test, a repeated measure) Analyses of Variances (ANOVA). The findings showed that there was a significant change in HIV/AIDS knowledge after employees have attended the HIV/AIDS awareness workshop. There was however no significant change in attitude and behavior after the HIV/AIDS awareness programme. The study recommends that a one day workshop is not enough to change attitude and behavior. It also recommends that a follow up in the form of delayed post-test is required to investigate if the behavior of the members who promised to change positively had actually changed as behavior changes cannot manifest in a one day workshop. This can also serve as a suggestion for further research.

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Introduction

Background

AIDS is a pandemic that is posing major challenges in the world today (Chinery-Hesse, 2000:1). The Department of Health is tasked with the responsibility of coordinating HIV/AIDS strategies to all departments, including non-government institutions (Worldbank, 2001:2). Business institutions also have the duty to implement HIV/AIDS policy in their workplace. According to Government Communication and Information System (GCIS), (2003:2), all sectors of government and other stake holders in civil society should be involved in combating HIV/AIDS through intervention programmes. The problem facing the stakeholders in the HIV/AIDS fraternity is whether the implementation of these intervention programmes serves their purpose (i.e., combating the spread of HIV/AIDS, providing knowledge necessary to fight the pandemic, changing employees' attitudes towards infected and affected employees, changing employees' risky behavior towards sexual behavior, etc). There are also limited studies which investigated the employees' knowledge, attitude, and behavior change all in one study with a proper control group after the introduction of HIV/AIDS intervention programmes.

Problem statement: Strategies for combating HIV/AIDS within SAPS seem to be taking place. While the objective of these intervention programmes is to combat the spread of HIV/AIDS in the workplace, this objective cannot be achieved if employees' mindset is not changed. A verbal communication with Beukes, the HIV/AIDS Programme Manager in the SAPS in the Limpopo Province, indicated that there was no exact statistics or feedback regarding the HIV/AIDS.

Research questions: Do the interventions add HIV/AIDS knowledge to the employees in South Africa Police Service? Do they change attitude of the South African employees towards HIV/AIDS related issues? Do these interventions change behaviour towards HIV/AIDS related issues? Would these changes be significantly higher than changes that might occur due to the passage of time?

Purpose of the investigation

Therefore, the purpose of this study is to find out whether HIV/AIDS interventions programmes change HIV/AIDS knowledge, attitudes, and behavior.

Objectives

To identify whether affective factors (knowledge, attitude, and behaviour) differ significantly among SAPS employees who have attended the HIV/AIDS intervention programme and those who have not?

Earlier studies on HIV/AIDS intervention programme, Knowledge, Attitudes, and Behaviour

HIV/AIDS intervention programmes
The purpose of an intervention programme is to change something in order to help. Both international and local studies reveal that HIV/AIDS intervention programmes are aimed at changing the spread and the consequences of HIV/AIDS. Results from Swanepoel (2005:151) indicated that individuals who have received HIV/AIDS prevention information are more likely to use protections (condoms) during sexual intercourse, ask their partners about their HIV status, be tested for HIV themselves, and know where to go for help regarding HIV issues. Swanepoel also concluded that HIV/AIDS prevention information therefore contributed positively to HIV/AIDS prevention behaviour.

The HIV/AIDS intervention programme can help in reducing the unprotected sex and HIV/AIDS risk related behaviour among people. Using a Prevention Marketing Initiative (PMI) in a HIV risk-reduction workshop as an intervention in controlling the spread of HIV/AIDS in five United States sites (Nashville, Tennessee; Newark, New Jersey; Northern Virginia; Phoenix, Arizona; and Sacramento, California), Kennedy, Mizuno, Hoffman, Baune, & Strand, (2000:236) found the reduced likelihood of unprotected sex among participants. In terms of risk related behaviour, Sikkema, Winett, & Lombard, (1995:155) discovered that there were encouraging results regarding the effectiveness of a behavioural skills training program in increasing knowledge, belief, and skill related to HIV risk behaviour reduction. Kuhn, Steinberg, & Mathews, (1994:163) used classroom based activi-

ties such as information session on HIV/AIDS, open discussion on HIV/AIDS, and integration of AIDS contents as HIV/AIDS awareness programme to 276 students whose age ranged from 12 to 30 years in their study of the effect of an HIV/AIDS programme. A questionnaire which was translated from English to Xhosa was used to investigate the effect of the program on knowledge, attitude, and behaviour. The results also confirmed the relationship between the HIV/AIDS intervention programme and the three affective factors. They showed that the program greatly improved students' knowledge of HIV transmission and prevention; increased level of acceptance of people with AIDS (attitude), and had a small impact on behavioural intention.

Turner, Garrison, Korpita, Waller, Addy, Hill, & Mohn, (1994:270) maintained that the knowledge, attitude, and behaviour scores for all students in the university were significantly higher than those not enrolled in the seminar aimed at promoting responsible sexual behaviour. Between, pre- and post-intervention, there was a notable significant increase in knowledge and behaviour score for all students enrolled and not for students who did not enroll. Seven hundred and eighty-six students completed anonymous, self reported questionnaires that focused on sexual behaviour, as well as knowledge, and attitude regarding sexual behaviour.

The HIV/AIDS intervention can bolster the person's intention to change. This is evidenced in the work of MacNair-Semands, Cody & Simono (1997:734) when they investigated the effect of intervention on knowledge, attitude, and behaviour. They found that HIV course on college campus increased condom usage, the ability to discuss safer sex with partners, selection of sexual partners, and learning about HIV/AIDS. The majority of students reported making minor attempts at change prior to the course, and enrolled students made increased and more significant attempts to change in the duration of the HIV course.

HIV/AIDS intervention programmes can expose the individual to HIV/AIDS information and can encourage discussion on HIV/AIDS related issues. This

was revealed after a six month implementation of the Non-Government Organisation (NGO) HIV/AIDS educational program in primary school children in Tanzania, where pupils from the HIV/AIDS intervention school reported exposure to AIDS information and discussing HIV/AIDS related issues significantly more frequently than pupils from the comparison school (Klepp, Ndeki, Seha, Hanna, Lyimo, Msuya, Irema, & Schreiner, 1994:1160). Basen-Engquist (1994:412) also found that students in the Safer Sex Efficacy Workshop (SSE workshop) and those in the lecture on HIV (HIV lecture) improved more from pre-test to post-test in the intention to use condoms than participants in the unrelated topic - family violence lecture (FV lecture). After two months follow up, participants in the SSE workshop increased their frequency of condom use from pre-test to post-test more than those in the HIV lecture and FV lecture.

Conceptual framework for the study

HIV/AIDS awareness programme is one of the intervention programme that is widely used to change HIV/AIDS knowledge, attitude, and behaviour as explained in the following subsections.

Knowledge

Reber (2001:380) defines knowledge as the body of information possessed by a person, or by group of persons or culture. It is the mental components that result from processes, be they innately given or experientially acquired. Knowledge is the remembering of previously learned material, which involves the recall of wide range of material from specific fact to complete theories, and it represents one of the levels of the learning outcome in the cognitive domain (Grinhund & Linn, 1990:506).

HIV/AIDS awareness programmes and knowledge change

Researchers believe that HIV/AIDS intervention can improve one's knowledge related to HIV/AIDS. The components of HIV/AIDS awareness programmes include exhibitions and theatre productions on HIV/AIDS and STD themes, campaigns linked to World

AIDS Days, National Condom Week, or AIDS Memorial Day (Davies, Schneider, Rapholo, & Everett, 1998:55). Kuhn et al. (1994:164), in their investigation of HIV/AIDS program on knowledge, found that students' level of knowledge about HIV transmission, prevention, and the course of the disease improved following the AIDS awareness programme as compared to the neighbouring schools in which no specific HIV/AIDS intervention programme took place. Educational programs in the United States do a better job of increasing absolute level of knowledge (Wierson & Bright, 1996:261). This is also shared by Wierson and Bright (1996:262); and MacNair-Semands et al. (1997:735) when they averred that the goals of AIDS educational programs are to increase knowledge. It was also found that higher AIDS risk knowledge levels significantly predict more condom use in Zimbabwe, whereas this relationship was only marginally significant for the U.S. college students (Wierson & Bright, 1996:263).

Jemmott, Jemmott, and Fong (1989:1535) reported that the HIV prevention group scored significantly higher in HIV reduction knowledge than those in the control group. HIV/AIDS reduction knowledge can also help in reducing risk related to HIV/AIDS issues. Using 157 inner city African American male adolescents from Philadelphia, Jemmott (1996:138) found that adolescents who received the HIV risk-reduction intervention subsequently had greater AIDS knowledge as compared with the adolescents in the control condition. Instruments used in this research included questionnaires which were completed before, immediately afterwards and three months after the intervention. Interventions included videotapes, games, and exercises designed to influence AIDS related knowledge, supportive of safer sex practices. Shapiro, Radeckie, Charchian, and Josephson (1999:24) observed that an HIV/AIDS high-risk individual has a greater knowledge about HIV/AIDS disease and is more likely to have been tested for HIV, and is more self confident. Using 319 college students in Orange County, California, the researchers found that participants who were concerned about the disease and who had taken an

AIDS education class had more knowledge of HIV/AIDS related issues than those who did not.

Attitude

According to McClintock (1972:108), Social Science is equated with the study of attitude, and that is the core concept of the study of psychology. Attitude is a tendency to respond in a particular way, in a particular situation to a particular object (Cattel, 1965:444). It is a mental predisposition to act that is expressed by evaluating a particular entity with some degree of favour or disfavour. An individual's attitude usually focuses on objects, people, or institutions. According to Saal & Knight (1995:61) attitude is a relatively stable affective or evaluative disposition towards a specific person, situation, or other activities.

HIV/AIDS awareness programme and attitude change

HIV/AIDS awareness programmes that take the form of educational programmes and HIV/AIDS workshops and courses can have an effect on the attitude of individual regarding HIV/AIDS related issues. Klepp, et al. (1994:1161) found that following the educational program, pupils attending intervention schools reported much more restrictive attitudes towards engaging in sexual intercourse than at baseline. Kuhn, et al. (1994:164) also, found that attitude of acceptance of people who are HIV positive improved due to HIV awareness programmes. The above findings are also supported by Wilry, Edwards, and Dilworth (1991:411) who found that attitude of the experimental group improved after attending an HIV/AIDS issues course while the control group's attitude about AIDS became more negative.

As indicated by Kuhn, et al. (1994:164), whether students can accept someone with AIDS into their class is an item of attitude towards HIV/AIDS. In their study, they maintained that although negative attitudes persisted following the programme, some students recognised that HIV could not be spread by being in a classroom with someone with HIV/AIDS, showing how positively HIV/AIDS intervention programme can affect attitude towards infected and affected people. The neighbouring

Table1: Sample distribution

		HIV/AIDS awareness workshop	Suicide prevention & disability workshop	Total
		Count	Count	
Gender	Male	25	38	63
	Female	26	19	45
Rank	Admin	30	11	41
	Constable	3	13	16
	Sergeant	2	-	2
	Inspector	7	30	37
	Captain	6	2	8
	Superintendent	3	1	4
Rank	Admin	30	11	41
	Junior	5	13	18
	Senior	16	33	49
Section	Support	29	23	52
	Detective	9	7	16
	Operation	13	26	39
Area	Provincial	13	1	14
	Capricorn	8	6	14
	Mopani	18	28	46
	Vhembe	-	22	22
	Waterberg	12	-	12
Age	20-33	18	17	35
	34-43	22	22	44
	44 and above	11	18	29
TOTAL NUMBER OF GROUP		51	57	108

school of which the HIV/AIDS education programmes were not available did not experience the improvement. On the other hand, the use of facilitators who are HIV positive in the workshop can increase the positive attitudes towards people with HIV/AIDS (Walters, 1997:17). Andeki, Klepp, Seha, & Leshbari (1994:190) claimed that people who had HIV/AIDS knowledge had positive attitude towards spending time with and taking care of people with AIDS than were less knowledgeable people. The above highlights the interdependence of the affective factors (e.g. knowledge and attitude) on HIV/AIDS related issues.

Behaviour

Behaviour derives from the word behave, which is to do things in a particular way (Wehmeier, 2000:92). Behaviour as such, is the way a person, ani-

mal or plants behave or function in a particular situation. Reber (2001:82) defined behaviour as a generic term covering acts, activities, responses, reaction, movements, processes, operation, or any measurable response of an organism. According to the World Book (1992:201), behaviour is the way human beings and other organisms act, and in Psychology and other behavioural sciences, behaviour is how a person's actions fit society's idea of right or wrong.

It results from a combination of many factors. Learning theories, as emphasized by McKenney, Lorion, and Zax (1976:161), provide many useful concepts with which to understand the etiology and maintenance of behaviour. Hjelle and Ziegler (1987:10) as such averred that learning becomes the central focus of interest for behaviourist.

HIV/AIDS awareness programme and behaviour change

MacNair-Semands, Cody & Simono, (1997:736) maintained that an important aim of HIV course or intervention is not only to help students reduce risk behaviour, but also to help them to maintain safer sex behaviour they may already have initiated and making these part of a daily pattern. The goals of the health education intervention are to (a) to provide factual information regarding STD and AIDS as well as prevention strategies including abstinence and safer sexual techniques; (b) to desensitize students regarding condoms, (c) to present practice communication skill and assertiveness techniques relative to potential sexual situations and relationships (Turner, et al. 1994:267). Davies et al. (1998:61) reiterated that an increase in the number of condoms distributed, occurring together with the

Table 2: Pre-test and post-test change in knowledge

	Pre-test			Post-test		
	N	Mean	SD	N	Mean	SD
Experimental Group	51	7.51	2.26	51	8.78	1.79
Control Group	56	6.67	2.02	56	7.09	1.92
	Pre-test			Post-test		
	N	Mean	SD	N	Mean	SD
Experimental Group	51	7.51	2.26	51	8.78	1.79
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decrease in the incidence of STD, could indicate that employees were changing their sexual behaviour as a result of education programmes.

Compared with the control women, the treatment women significantly increased self-efficacy, protective sexual behaviour, and prevention sexual behaviour after attending a HIV Prevention Intervention for low income African American women (Dancy, Marcantonio, & Norr, 2000:113). HIV/AIDS reduction programmes can also have an effect on the HIV/AIDS related behaviour. The results of a study by Jemmott (1996:138) revealed that adolescents who received the HIV risk-reduction intervention subsequently had reduced intention for HIV risk-associated behaviour as compared with the adolescents in the control condition.

However, Davies, *et al.* (1998) mentioned that information alone will not result in any behaviour changes required for reducing the risk of HIV transmission. People's skills and confidence need to develop, so that they can behaviourally protect themselves.

They should be educated to take charge of their own life and destiny.

Research design and procedure

Research design

This study used a quantitative research where one emphasises the quantification of constructs, and believes that the duly way of measuring the properties of phenomena is through quantitative measurement (Babbie & Mouton, 2001:49). The study was a causal-comparative cross-sectional survey where all data were collected at the same time. It was casual comparative because participants were not randomly assigned to the experimental and control conditions. Instead existing groups were compared. This design is ideally suited for a descriptive and predictive research associated with correlative studies (Steyn & Maphoso, 2005:245). McMillan and Schumacher (1997:281) maintained that descriptive results can be used to investigate relationships.

Population and Sample size

To investigate whether the HIV/AIDS

awareness programme in the SAPS can change the employees' knowledge, attitude, and behavior. In 2006, a minimum number of 125 employees were expected to attend the workshop. Workshops were conducted in Capricorn, Waterburg, Mopani and Vhemba area. The HIV/AIDS awareness workshop in this case, was the treatment condition. The study used the SAPS employees in the Limpopo Province as the study's population (N=108). The sample size of approximately fifty one (51) employees (25 males and 26 females) whose ages ranged between 20 to 55 and attended the HIV/AIDS awareness workshops comprised the experimental group. Those who attended suicide prevention and disability workshops comprised the control group. This group consisted of fifty seven (57) members (38 males and 19 females). The control group is the group of participants that served as a standard of comparison for determining if the treatment condition produced any effect (see Table1).

Ethical measures

In view of ethical issues, the following received particular attention by the

Table 3: Percentage response on HIV/AIDS knowledge, before and after HIV/AIDS awareness workshop

No	Statement	True	False	D/know
K1	Coughing and sneezing do not spread HIV	62.7 80.4	25.5 15.7	11.8 3.9
K2	A person can contract HIV virus by sharing a glass of water with someone who is HIV positive	9.8 8.0	84.3 90.0	5.9 2.0
K3	Withdrawing the penis before a climax (ejaculates) prevents a woman from contracting HIV during sex	15.7 9.8	72.5 82.4	11.8 7.8
K4	A man can contract HIV if he has anal sex with a man	70.6 80.4	17.6 15.7	11.8 3.9
K5	Condoms are less than fifty percent safe for the prevention of HIV/AIDS infection	31.4 31.4	58.8 62.7	9.8 5.9
K6	All pregnant women infected with HIV will have babies born HIV positive	33.3 31.3	58.8 66.7	7.9 2.0
K7	Showering and washing your genitals after sex can reduce the chances of being infected with HIV	15.7 3.9	70.6 90.2	13.7 5.9
K8	Fruits, vegetable, and Mopani worms can help a patient living with HIV/ADS	80.4 86.3	11.8 9.8	7.8 3.9
K9	I know of where and how I can do HIV testing and counseling, and the consequences of my testing	84.3 94.1	3.9	11.8 5.9
K10	I know about peer educators in my educators	76.5 90.2	5.9	17.6 21.4
K11	People are likely to contract HIV by deep kissing (putting their tongue in their partners' mouth) if their partners are HIV positive.	32.0 56.8	62.0 41.2	6.0 2.0
	Total (pre) Total (post)	Correct 68.3 80	Wrong 21.1 15.1	D/know 10.5 5.8

NB: Bolded answers are considered the “correct” answers for each question

researchers: informed consent, no violation of privacy, statement of cooperation with collaboration, release of publication of findings, and restoration of subjects or respondents wherever possible and necessary. Permission from Limpopo SAPS provincial authority and the Ethics Committee of the University of Limpopo was also obtained.

Research instrument

Questionnaire

The instrument used in this study was a questionnaire called HIV/AIDS Knowledge, Attitude, and Behaviour Questionnaire (see *Appendix A*). The

HIV/AIDS Knowledge, Attitude, and Behaviour Questionnaire (HAKABQ) were adopted, and it consisted of items related to HIV/AIDS knowledge, attitude, and behaviour. The knowledge and attitude items were adopted from Carey and Schroder's (2002:172-182), HIV Knowledge Questionnaire (HIV-KQ-18). The questionnaire was suitable for low income men and women and was internally consistent, stable, sensitive to the change resulting from intervention, and also suitable for low literary group. The knowledge and attitude questionnaire was also adopted by the University of Limpopo, Health

Behaviour Research Unit during the Development and Evaluation of an HIV-Risk Programme for the First Entering Students in the university in 2001. The behaviour items on the other hand, were adopted from Wayers (2002:9) HIV/AIDS Behaviour Questionnaire. The questionnaire was used to assess SAPS members who attended the HIV/AIDS awareness workshops (before and after the workshop sessions).

Validity and reliability of the HABAKQ

For content validity, the questionnaire was sent to peer educators, HIV/AIDS

Table 4: Pre- test and post-test of HIV/AIDS attitudes scores for experimental and control groups

	Pre-test			Post-test		
	N	Mean	SD	N	Mean	SD
Experimental Group	51	37.90	5.01	51	38.67	5.17
Control Group	57	36.47	5.63	56	37.07	6.45

coordinators, the section head of the Social Work Services and the commander in the EAS of the SAPS who confirm that the questionnaire contained items of HIV/AIDS knowledge, attitude, and behaviour related issues. Face validity is the degree to which it appears, on the basis of subjective evaluation, whether the test serves its purpose (Huysamen, 1995:42). It is ultimately a matter of judgement (Cherian, 1996:138). Specialists in the HIV/AIDS issues, researchers, and peer educators confirm that the HAKABQ seemed to be relevant in collecting data related to HIV/AIDS knowledge, attitude, and behaviour.

According to Rosnow and Rosenthal (1996:122) reliability is the consistency or stability where something can be repeated and be confirmed by further competent measurements. The HIV-KQ-18 provided strong levels of internal consistency and test-retest reliability. The internal consistencies across samples ranged from .75 to .89, easily exceeding the .70 standard recommended (Rosnow & Rosenthal, 1996:122). It has the $\alpha = .91$ and is stable over one ($r = .83$, two-3 = .91, and twelve-week ($r = .90$) intervals. The test-retest correlation was .83, which provided evidence of stability.

Pilot study

The pilot study was done on all five HIV/AIDS coordinators in the SAPS during their annual meeting. From the pilot study, it was found that items that read '*Traditional medicines are a waste of time in the HIV/AIDS intervention*' was categorised under HIV/AIDS behaviour. It was then put in the HIV/AIDS attitude section, as it seeks the judgement of the participant, and not his/her behaviour. There was an item in the HIV/AIDS knowledge section that read '*a man can contract HIV if he has sex with a man*'. This ques-

tion was found to be wide and as such anal was added before sex and the items read as follow: '*a man can contract HIV if he has anal sex with a man.*'

Variables

This research used two kinds of variables, namely independent variables and dependent variables.

Independent variables

Independent variables are variables that the experimenter changes within a defined range. They are the variables that can be manipulated by the experimenter, which the experimenter or investigator is interested in its possible effect. In this study the HIV/AIDS awareness workshop is the independent variable.

Dependent variables

Dependent variables are variables that measure the influence of the independent variable. Behaviour, attitude and behaviour are dependent variables. It was hypothesised that their change depended on the HIV/AIDS intervention programme, in this case the SAPS' HIV/AIDS awareness workshop.

Data collection

Permission was asked and granted from the provincial SAPS authority to conduct the research in the SAPS. On the date of the workshops (HIV/AIDS awareness, suicide prevention, and disability), the coordinators of the workshop gave the researcher/s opportunity to administer the questionnaire. The researcher/s explained to the participants the purpose of the questionnaire and all that was required of them. Participants were informed that participation was voluntary, and that the results would only be used for the study purpose and nothing else. They were also requested to sign consent form before participation. The participants were told about the confidentiality of

the process, and that anyone could withdraw from participating at any time if he/she desired. They were told that they would be given the pre-test before the workshop, and the post-test after the workshop. The same procedure was followed at the end of the workshop, when the post-tests were administered.

Statistical analysis

This research study used an Analysis of Variance (ANOVA) to analyse if there were statistically significant changes in knowledge, attitudes, and behaviour before and after members attended the HIV/AIDS awareness, suicide prevention, and disability workshops. It was also used to analyse if there were significant differences between members who attended HIV/AIDS workshop as a research group, and those who attended suicide prevention and disability workshops as a control group.

Results and discussion

In order to investigate possible differences in HIV/AIDS knowledge, attitudes, and behaviour on pre-test and post-test between experimental and control groups, ANOVAs were computed. Each ANOVA had group (2: experimental versus control group) as a between-subjects variable and time (2: pre-test versus post-test) as a within subjects-variable. Separate ANOVAs were computed

HIV/AIDS knowledge and HIV/AIDS intervention programme

The following null hypothesis was tested:

Ho1 There will not be a statistically significant change in HIV/AIDS knowledge after employees have attended HIV/ADS intervention programme.

The 2 (Group: Experimental versus Control) x 2 (Time: Pre-test versus post-

Table 5: Percentage on attitude before and after HIV/AIDS awareness workshop

ItemNo.	ATTITUDE	RATING			
		Y	y	n	N
A1	Using a condom takes the “wonder” of sex	19.6 22.0	15.2 10.0	19.6 20.0	45.8 48.0
A2	If I do HIV testing, people will discriminate me if they found that I am HIV positive	8.0 22.0	34.0 18.0	16.0 10.0	42.0 50.0
A3	A condom is not necessary when you and your partner agree to have sex with anyone else	36.0 45.1	18.0 17.6	14.0 7.8	32.0 29.5
A4	I do not want to do testing because the person who conduct the testing will make my results known to my colleagues	7.8 10.0	11.8 6.0	21.6 22.0	58.8 62.0
A5	I like attending HIV/AIDS meetings, workshops and seminars	76.4 80.4	19.6 15.6	2.0 2.0	2.0 2.0
A6	Using a condom show my partner that I care about him/her	76.0 78.4	16.0 11.8	4.0 5.9	4.0 3.9
A7	People who use condoms sleep around a lot	29.4 19.6	9.8 11.8	13.7 13.7	47.1 54.9
A8	I can use the same toilet facilities with the HIV positive people	74.0 84.3	12.0 11.7	2.0	14.0 2.0
A9	Traditional medicines are a waste of time in the HIV/AIDS intervention	31.4 35.3	13.7 19.6	19.6 7.8	35.3 37.3
A10	Do you think peer educators can improve HIV/AIDS awareness	80.4 80.4	17.6 13.7	3.9	2.0 2.0
A11	People who are HIV positive should mix with other people	86.0 88.2	10.0 7.8	2.0 2.0	2.0 2.0
A12	I can die earlier if I know that I am HIV positive, than if I do not know my HIV status	17.6 19.6	9.8 7.9	7.9 3.9	64.7 68.6
	Total (pre) Total (post)	Strongly positive 59.9 63.5		Strongly negative 14.5 15.5	

NB: Bolded answers are considered the “correct” answers for each question

test, a repeated measure) Analysis of Variance (ANOVA) was computed on knowledge scores. There was a significant main effect of time, $F(1,105) = 21.73, p = .000$. There also was a significant main effect of group, $F(1,105) = 14.07, p = .000$. The experimental group scored higher than the control group, and knowledge scores were significantly higher on the post-test than the pre-test (see Table 2). There also was a significant interaction between time

and group, $F(1,105) = 5.03, p = .027$. The null hypothesis was therefore, rejected.

HIV/AIDS attitudes and HIV/AIDS intervention programme

The following null hypothesis was tested:

Ho2 There will not be a statistically significant change in HIV/AIDS attitudes after employees have attended HIV/ADS intervention pro-

gramme.

The 2 (Group: Experimental versus Control) x 2 (Time: Pre-test versus post-test, a repeated measure) ANOVA was computed on attitude scores. There was not a significant main effect of time, $F(1,105) = 2.05, p = .156$. There also was not a significant main effect of group, $F(1,105) = 2.24, p = .137$. There was not a significant interaction between time and group. $F(1,105) =$

Table 6: Pre-test and post-test of HIV/AIDS behaviour scores for experimental and control groups

	Pre-test			Post-test		
	N	Mean	SD	N	Mean	SD
Experimental Group	51	23.59	3.88	51	26.25	2.74
Control Group	57	23.44	3.68	55	25.58	3.93

0.06, $p = .802$. Therefore, there was not sufficient evidence that the null hypothesis could be rejected. Table 4 gives the Pre-test and post-test HIV/AIDS attitude scores for experimental and control groups.

HIV/AIDS behaviour and HIV/AIDS intervention programme

The following null hypothesis was tested:

Ho3 There will not be a statistically significant change in HIV/AIDS behaviour after employees have attended HIV/ADS intervention programme.

The 2 (Group: Experimental versus Control) x 2 (Time: Pre-test versus post-test, a repeated measure) ANOVA was computed on behaviour scores. There was a significant main effect of time, $F(1,104) = 62.86, p = .000$. Participants got higher behaviour scores on the post-test than the pre-test. There was no significant main effect of group, $F(1,104) = 0.51, p = .478$, and no significant interaction between time and group, $F(1,104) = 0.53, p = .468$. Therefore, there was not sufficient evidence that the null hypothesis could be rejected. Table 6 shows Pre-test and post-test of HIV/AIDS behaviour scores for experimental and control groups.

Conclusions, recommendations, limitations and future research

Conclusions

Table 8 summarises the findings of the present study with regard to changes in knowledge, attitude, and behaviour. Each of these is discussed in the sections that follow.

Knowledge change

It was found that knowledge changed in relation to the actual intervention as

indicated by post-test being greater than pre-test. It appeared that the one day HIV/AIDS awareness workshop was effective in changing knowledge and that the experimental groups also had higher scores than the control group.

Attitude change

In the present study, attitude did not change after the HIV/AIDS awareness workshop. Whatever differences there were in attitude initially were the differences later, and the workshop appeared to have little to no effect in changing people's attitudes.

Behaviour change

Both the experimental and the control groups said their behaviour had changed after the HIV/AIDS intervention. This was indicated by the post-test being greater than the pre-test. Therefore concluding that the HIV/AIDS awareness workshop changed the HIV/AIDS behaviour would be improper.

Recommendations

Government institutions should employ HIV/AIDS intervention programmes in the form of HIV/AIDS awareness workshops, where they educate fellow employees on other strategies that were created to change their knowledge towards the pandemic's related issues. Perhaps it takes much more than a one day workshop to impact people's attitudes and behaviour.

Prior counseling to senior and administrative employees is recommended.

Special skills possessed by the social workers, psychologists, and chaplains, who were presenters of the HIV/AIDS awareness workshops, can be used to change the attitude of employees in order to motivate them and to make the workshop fruitful for them.

Limitations for the study

The researcher did not manage to get responses from some of the targeted workshops. The HIV/AIDS awareness workshop in the Vhembe District did not take place and as such they were not included in this study. The Vhembe District is predominantly Venda speaking employees. The Venda population is one of the official ethnic groups in the Limpopo Province. The exclusion of this ethnic group may mean that the results of this study's findings may not generalise to all ethnic groups in the South African Police Service of the Limpopo Province.

Attitude is not something that develops in one day. It is made up of events, views, and judgments that develop over time and as such it is not easy to change it in a one day workshop like the HIV/AIDS awareness workshop. Attitude can be changed by intervention that last for weeks or months, and the impact of such intervention would need to be evaluated continuously. The time frame between the pre-test and post-test of this study was quite short.

Behaviour change in this study was represented by what the employees did previously and the intention of the participants to change what they had been doing, and not the employees' actual behaviour. The actual behaviour could manifest after weeks, months, or years. It would have been better to give people the very same questionnaire as in the pre-test. Due to time constraints and financial limitations, these follow ups could not materialise.

Suggestions for further research

Intention to do something probably overestimates people's actual behaviour. The research could investigate whether the members were behaving the way they had claimed they intended to behave by conducting delayed post-tests (i.e., one month after

Table 7: Percentage response on HIV/AIDS behaviour before and after attending HIV/AIDS awareness workshop

ITEMNO.	BEHAVIOUR	RATING		
		Not at all	Sometimes	Always
B1	I use condom during sex	8.0 3.9	32.0 15.7	60.0 80.4
B2	I have done HIV test in the past year	37.3 12.0	37.3 30.0	25.5 58.0
B3	I have many sexual partners	85.4 94.0	10.4 -	4.2 6.0
B4	I usually attend HIV/AIDS meetings, workshops and seminars	19.6 2.0	41.2 12.2	39.2 85.7
B5	I avoid risky sexual partners	14.0 6.1	14.0 2.0	72.0 91.8
B6	I only have sex with an HIV negative partner who only has sex with me	29.8 18.0	17.0 16.0	53.2 66.0
B7	I talk with my sexual partner about HIV/IDS before having sex with him/her	10.0 5.7	24.0 13.7	66.0 80.4
B8	I always withdraw and wash my genitals (private parts) after climaxing (ejaculation)	36.0 33.3	26.0 11.8	38.0 54.9
B9	I want to be involved with HIV/AIDS activities	15.7 6.0	25.5 8.0	58.8 86.0
B10	I only have sex with people who had an HIV test	40.0 20.0	34.0 16.0	26.0 64.0
B11	I eat fruits and vegetables regularly	2.0 2.0	22.4 11.8	75.5 86.3
	Total (pre) Total (post)	Positivebehaviour 54.5 77.1	Sometimes p/n 25.8 12.5	Negativebehaviour 19.7 9.9

NB: Bolded answers are considered the "correct" answers for each question

the workshop). This would make the pre-test and post-test more similar and might be the indicator of the actual behaviour change. A follow up on the members of the SAPS who attended these HIV/AIDS workshops and who were sampled for this study could be conducted to investigate whether these members actually did those things they intended to do. The follow up also could investigate whether participants still held the increased knowledge they had displayed at the end of the work-

shop.

Future research also should look at other problems that can be derived from the implementation of the HIV/AIDS intervention programmes. These intervention programmes may not only affect the individuals' knowledge, attitude, and behaviour, but they can also affect the employees' family, economic, and social situations. Further research into the influence of HIV/AIDS awareness workshops or other intervention

programmes into the family life is therefore suggested.

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Table 8: Summary of findings

Depended Variable	Independent variables	Results
Knowledge	Time (Pre & Post) tests	Post-test > Pre-test (significantly more change for the experimental group than the control group)
	Groups (Experimental & Control)	Experimental > control
Attitude	Time (Pre & Post) tests	No significant difference
	Groups (Experimental & Control)	No significant difference
Behaviour	Time (Pre & Post) tests	Post-test > Pre-test
	Groups (Experimental & Control)	No significant difference (Both groups improved)

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Appendix A

HIV/AIDS KNOWLEDGE, ATTITUDE, AND BEHAVIOUR QUESTIONNAIRE (HAKABQ) PRE TEST

NB:

- 1 This questionnaire is confidential
- 2 The questionnaire is for research purposes only
- 3 Answer as honest as you can
- 4 Mark the answer with X

(Confidential)

SECTION 1 BIOGRAPHICAL INFORMATION

ATTENDANT NO: _____ AGE: _____

RANK: _____ GENDER: _____

PSA Act

Police Act

Support Services

Detective Services

Operational Services

SECTION 2 HIV/AIDS KNOWLEDGE

ItemNO.	STATEMENT	RESPONSE		
1	Coughing and sneezing do not spread HIV.	True	False	Don't know
2	A person can contract HIV by sharing a glass of water with someone who is HIV positive.	True	False	Don't know
3	Withdrawing the penis before a climax (ejaculates) prevents a woman from contracting HIV during sex.	True	False	Don't know
4	A man can contract HIV if he has anal sex with a man.	True	False	Don't know
5	Condoms are less than fifty percent safe for the prevention of HIV/AIDS infection.	True	False	Don't know
6	All pregnant women infected with HIV will have babies infected with HIV.	True	False	Don't know
7	Showering and washing your genitals after sex can reduce the chances of being infected with HIV.	True	False	Don't know
8	Fruits, vegetable, and Mopani worms can help people living with HIV/AIDS.	True	False	Don't know
9	I know where and how I can do HIV testing and counseling, and the consequences of my testing.	True	False	Don't know

ItemNO.	STATEMENT	RESPONSE		
10	I know about peer educators in my component.	True	False	Don't know
11	People are likely to contract HIV by deep kissing (putting their tongues in their partners' mouth) if their partners are HIV positive.	True	False	Don't know

SECTION 3

HIV/AIDS ATTITUDE

Answer on a 4 point scale with:

Y = Definitely Yes

N = Definitely No

y = Probably Yes

n = Probably No

ItemNo.	ATTITUDE	RATING			
1	Using a condom takes the "wonder" of sex.	Y	y	n	N
2	If I do HIV testing, people will discriminate against me if they find that I am HIV positive.	Y	y	n	N
3	A condom is not necessary when you and your partner agree not to have sex with anyone else.	Y	y	n	N
4	I do not want to do testing because the person who conducts the testing will make my results known to my colleagues.	Y	y	n	N
5	I like attending HIV/AIDS meetings, workshops and seminars.	Y	y	n	N
6	Using a condom shows my partner that I care about him/her.	Y	y	n	N
7	People who use condoms sleep around a lot.	Y	y	n	N
8	I can use the same toilet facilities with HIV positive people.	Y	y	n	N
9	Traditional medicines are a waste of time in the HIV/AIDS intervention.	Y	y	n	N
10	Do you think peer educators can improve HIV/AIDS awareness?	Y	y	n	N
11	People who are HIV positive should mix with other people.	Y	y	n	N
12	I can die earlier if I know that I am HIV positive, than if I do not know my HIV status.	Y	y	n	N

SECTION 4

HIV/AIDS BEHAVIOUR

Tick how you will rate yourself

ItemNO.	STATEMENT	RESPONSE		
1	I use condom during sex	Not at all	Sometimes	Always
2	I have done an HIV test in the past year.	Not at all	Sometimes	Always

3	I have many sexual partners.	Not at all	Sometimes	Always
4	I usually attend HIV/AIDS meetings, workshops and seminars.	Not at all	Sometimes	Always
5	I avoid risky sexual partners.	Not at all	Sometimes	Always
6	I only have sex with an HIV negative partner, who only has sex with me.	Not at all	Sometimes	Always
7	I talk with my sexual partner about HIV/AIDS before having sex with him/her.	Not at all	Sometimes	Always
8	I always withdraw and wash my genitals (private parts) after climaxing (ejaculation).	Not at all	Sometimes	Always
9	I want to be involved with HIV/AIDS activities.	Not at all	Sometimes	Always
10	I only have sex with people who had an HIV test.	Not at all	Sometimes	Always
11	I eat fruits and vegetable regularly.	Not at all	Sometimes	Always

End of questionnaire. Thanks for your time.

