

*Full Length Research Paper*

# Knowledge and attitudes of registered Nurses towards HIV-positive patients in a rural under-resourced Hospital

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A quantitative descriptive study design was used to determine the knowledge and attitude of registered nurses towards AIDS patients at a rural hospital where nurses were the main careers. Data were collected from a sample of 109 using a structured self-administered questionnaire and was analyzed using the SPSS 17.0. 88% and 62% of the nurses knew that the main modes of transmission of the virus were sexual intercourse and mother to child; 96%, 93% knew that other modes of transmission were breast feeding and blood transfusion. 85%, 80%, 82%, 74%, 73%, knew that the virus was not transmitted through sharing of cups, mosquito bites, contact with urine, coughing and sneezing. The majority of nurses had a negative attitude as they agreed that patients deserve punishment, should not be admitted, should be isolated, their beds should be marked, patients' relatives to be notified of their status without their consent and that they would not to care for such patients. A minority agreed that patients were not responsible for their illness, did not deserve punishment, and that they would assist with the delivery of the patients' babies. Nurses in rural hospitals should be very knowledgeable about HIV/AIDS and to adopt positive attitude.

**Key Words:** HIV/AIDS, professional nurse, knowledge, attitude, rural hospital.

## INTRODUCTION

The knowledge and attitude of professional nurses who formed the bulk of the health care professionals who rendered services to HIV/ AIDS patients at a rural under-resourced hospital in the Eastern Cape Province of South Africa were unknown. This was of concern as the practices of these nurses were not evidence based and had a potential of compromising the care received by the patients. The aim of the study was to promote quality care to the patients. Wilson and Fairallin Abdool Karim (2009) state that in South Africa the most government-funded specialist HIV clinics are located in large regional and tertiary hospitals and such facilities are often not located in high HIV prevalence rural communities. The authors further states that nurses who render care to the

patients in the rural health care centers often had poor HIV treatment knowledge and skills. They often function without support from an on-site doctor or usually do not have a doctor on site at all. The situation in under-resourced rural areas is compounded by the shortage of skilled health professionals like doctors, and pharmacists. A similar problem was also identified in the current research site rural hospital in the Eastern Cape Province.

The main problem at this site was that although the nurses were the main service providers to HIV/AIDS patients, their knowledge of the disease as well as their attitude towards the patients were unknown, a factor with a potential to compromise the quality of patient care. A quantitative descriptive research design was used to determine what the nurses knew about HIV/AIDS and to determine their attitude towards the patients.

## Background

The District Health Information System (DHIS) (2008)

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statistics revealed that out of every eighty (80) admissions at this rural hospital, thirty (30) were HIV infected and the District Health Information System (DHIS) (2009) statistics revealed that there were 320 admissions of HIV/AIDS patients; 984 HIV positive pregnant women attending Ante Natal Care clinic; 2,354 were attending the wellness clinic and 1,870 were on ARVs. The main concern was that there were no studies ever conducted to determine what the nurses knew about HIV/AIDS as well as their attitude towards the patients despite the fact that they were responsible for such big numbers of patients. Knowledge about the illness is an important factor in determining the quality of care towards the patients. A study conducted in India on attitudes and willingness to care for HIV positive patients, revealed that health workers who lacked knowledge about the mode of spread of HIV, were fearful and had negative attitudes towards the patients (Fussilier, 2001). Such a notion defeats the view of Christopher et al, (2004) who state that nursing is a profession based on a close-caring, therapeutic relationship and interaction with patients irrespective of the nature of their affliction. Knowledge of HIV/AIDS.

Martin and Bedimo (2000) who studied attitudes of nurses and physicians in caring for HIV-positive patients, reported that nurses' awareness, fear and emotions do play a part in determining the comfort level of care for HIV-positive patients. The authors also reported that those who had low level of knowledge of HIV transmission had negative attitudes towards the patients. Nakhae (2002) reported a positive correlation between knowledge and attitude scores, and reporting that people with lower knowledge levels demonstrated negative attitudes towards HIV-infected individuals. On lack of knowledge about the mode of transmission of the virus and the behaviours indicating negative attitudes towards the patients, hospital health care workers in Nigeria who feared acquiring HIV at the workplace through needle pricks, tested patients for HIV indiscriminately (Oyeyemi, 2006). In Tavossi (2000) the majority of student nurses preferred not to sit near an HIV positive colleague in class and limited their interaction with such colleagues. Negative attitudes could also be demonstrated through the violation of patients' rights to confidentiality, respect, dignity, and privacy (Sharman, 2009; Goldberg and Tarcher, 2003). This view is also expressed in the UNAIDS (2008) report on the global AIDS epidemic, wherein it is stated that in health settings, people who are HIV positive are often stigmatized and discriminated against as they are refused medicines, access to facilities and receive treatment without consent including lack of confidentiality. Such reactions could be associated with ignorance of HIV transmission routes amongst health care workers. Negative attitudes, lower levels of knowledge and violation of a patient's rights as reflected

in literature, impact negatively on the care rendered to the patients. The patients at the research site hospital could have been compromised by the absence of information on what the nurses know about the disease as well as their attitudes towards the patients.

The South African Constitution Number 108 of 1996, Bill of Rights protects every South African citizen against disrespect and discrimination. HIV-positive patients are also included in these rights. In addition the patient has a right to confidentiality, to be treated with respect, dignity and privacy, irrespective of his or her HIV status. Lack of confidentiality has been repeatedly mentioned as a particular problem in health settings, signifying a negative attitude towards the patients. Sharman (2009) in a study about the attitudes of health providers towards HIV positive patients reported that health providers indirectly violated patients' rights an indication of negative attitudes. This study sought to determine what the nurses at a rural under-resourced hospital knew about HIV/AIDS and to determine their attitude towards the patients.

## METHODOLOGY

A quantitative descriptive design was used on a population of (N=218) professional nurses at a rural hospital. All these nurses had an opportunity to render care to the patients. A stratified random sampling method was used to select a sample of (n=120) participants from the monthly allocation list of nurses in the different wards, clinics and the Community Health Care Center.

### Instrument and Data Collection

A structured, self-administered questionnaire was used to collect data. The questionnaire was adapted from a study conducted by Link and Charap (2009) on AIDS related knowledge, attitudes and precautionary behaviours among emergency medical professionals. Each questionnaire had instructions on how to complete the questionnaire. Close-ended statements were used wherein the respondents were offered a number of defined response choices. A Likert scale was used to determine the opinion or attitude of the participant. The questionnaire had a fixed set of declarative statements with a scale after each statement. The scale had agreement options with statements from strongly agree to strongly disagree. The questionnaire had three sections, namely, the demographic data, the statements on knowledge of HIV transmission, statements on behaviours depicting nature of attitudes towards HIV-positive patients. The questionnaire was pilot tested for validity and reliability. Questionnaires were delivered by

hand to the participants and were collected after five days. The collected questionnaires were assigned identification codes for purposes of data analysis.

The first section of the questionnaire required demographic data with four questions on age, gender, qualifications and years of experience in the profession. The demographic section required participants to mark with an (X) in the appropriate space provided.

**Knowledge of HIV/AIDS:** This section had initially a set of ten (10) declarative statements to which the participant had to indicate whether he/she agreed or disagreed with the content of the statement. The reliability of the scale for knowledge was low below 0.7. Two statements were then deleted to increase the reliability to above 0.7. The participant had to mark with an (X) on the Likert scale, the item that best described his/her views about the statement. The Likert scale ranged from 'strongly disagree' with a numerical value of 1, equals no knowledge at all of the issue addressed in the statement, 'disagree' with a numerical value of 2, equals limited knowledge, 'neither agree nor disagree' with a numerical value of 3, equals fair knowledge, 'agree' with a numerical value of 4 equals good knowledge, and 'strongly agree' with a numerical value of 5, highly knowledgeable. The total score was 40. The cut-off point was set at 24, (60%) and any score below 24 was considered to be limited knowledge. The third section of the questionnaire had a set of 8 items for determining the professional nurses' attitudes towards HIV- positive patients. Each item was on the direct interaction with the patients. Participants were required to indicate the item which best described their own attitudes towards the patients and mark the relevant response by means of an (X) on the same scale as knowledge. The interpretation of the responses in relation to six (6) items on the attitude scale was classified as follows: strongly agree being equivalent to an extremely positive attitude, which was allocated the highest score of 5; agree, equivalent to a very positive attitude, with a score of 4; neither agree nor disagree, equivalent to a score of 3, equivalent to a neutral attitude; disagree denotes a score of 2, equivalent to a very negative attitude and strongly disagree with a score of 1 equivalent to an extremely negative attitude towards HIV- positive patients. Two statements on attitudes were scored negatively with 5 equivalent to strongly disagree, interpreted as an extremely negative attitude; 4 equivalent to disagree, a very negative attitude, 3 equivalent to neither agree nor disagree, 2 equals to a very positive attitude, and 1 equivalent to strongly agree, an extremely positive attitude. The scale values of the two negatively expressed items were reversed before data analysis

was done to be in line with the other positively scored statements. All the statements were analysed at the level of strongly agree with a numerical value of 5 equal to extremely positive attitude, disagree equals to 4, a very positive attitude, neither agree nor disagree, 3, a positive attitude, agree, equals to 2, a negative attitude and strongly disagree, equals to 1, an extremely negative attitude. The total score was 40 with a cut-off point set at 24. Any scores below 24 denoted a negative attitude and any scores above 24 denoted a positive attitude.

A research ethical clearance certificate to conduct the study was obtained from the University of Fort Hare Research Ethics Committee. Permission to conduct the study was obtained from the Eastern Cape Department of Health Research Epidemiology Unit and from the Management of St Barnabas Hospital. The purpose of the study was clearly explained to the participants and was informed that there were no risks anticipated in this study. Those who agreed to participate signed a consent form. Anonymity and privacy was maintained through the use of questionnaires where the name of the participant was not required to be written in the questionnaire and each questionnaire was allocated a number for purposes of data analysis.

### **Reliability and Validity of the Instruments**

Reliability and validity of the instrument was ensured as the instrument was adapted from Link and Charap (2009) and was piloted with 5 nurses who were not part of the main study. The pilot was carried out to determine whether the questions were clearly understood. No problems were encountered in the use of the instrument. The reliability of the instruments was tested using Cronbach's Alpha co-efficient value to measure the extent to which all the items in the instrument consistently measure the intended construct. This was done to examine the amount of random error in the measurement technique. Pallant (2001:92, indicates that Cronbach's Alpha correlation coefficient should be at least 0.7. The Knowledge scale originally had 10 items and the reliability level was 0.46 (n=109). Two items which had low factor weights were deleted in order to improve the reliability of the instrument. The reliability of the 8- item scale increased to 0.7. The reliability of the Attitude scale was high. The Attitude scale had 8 items and its reliability was at 0.86.

The validity of the instrument was done by firstly conducting an extensive literature search to ensure that the instrument had the major elements relevant to the constructs being investigated, that is, knowledge and attitude. Secondly conceptual and operational definitions

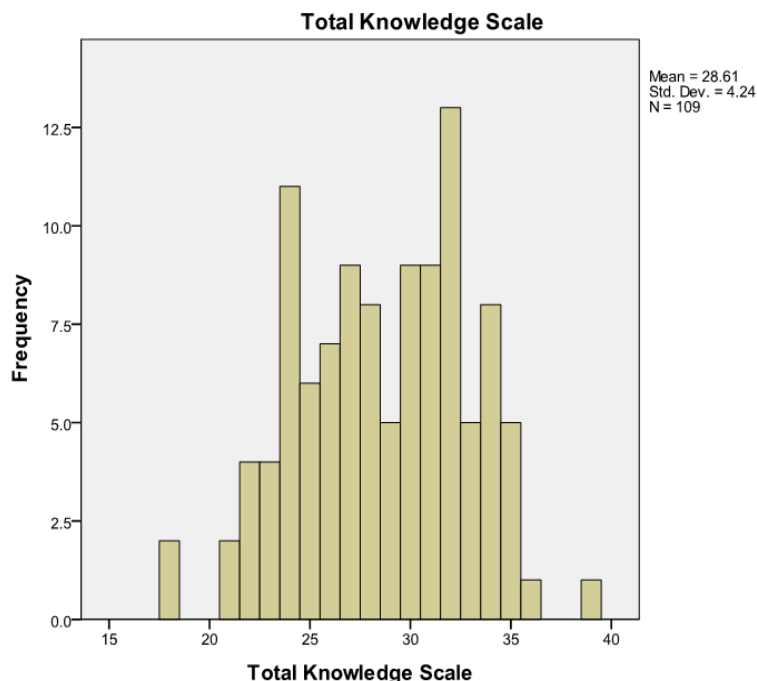


Figure1. Professional nurses' scores for knowledge.

of the key concepts were provided to guide the process of identifying items for each construct. The identification of the relevant population for the study also assisted in ensuring some degree of validity. In addition the pilot study also assisted in determining clarity and relevance of the content of the instrument. All the participants agreed to participate and complete the instrument as an indication of their perception that the instrument measures the content they agreed to provide. The items met clarity criterion as all participants had the same understanding of the items. All the items were specific to the construct being measured.

### Pilot Study

Prior to the main study, a pilot study was conducted at another facility, to determine clarity and relevance of the content of the instrument. The time it would take to complete a questionnaire was also taken into consideration. Five professional nurses were randomly selected for the pilot. There were no adjustments made as there were uniform responses to the questions.

### Data Presentation and Analysis

The presentation of data consisted of data collected from the participants. Of the one hundred and twenty (120)

questionnaires administered, seven (7) participants did not complete the questionnaires and this reduced the sample size to 113, giving a 94% return rate. Out of the 113 returned questionnaires, four (4) questionnaires were discarded as they had gaps and were therefore incomplete. Only one hundred and nine (109), that is, 91% were usable. Data analysis was based on the (n=109) participants. All the usable questionnaires were allocated a participant code number for purposes of identification. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) 17 .0 software for Windows (SPSS Inc., 2008) with a focus on mainly descriptive statistics. The significance levels of tests was set at 0.05. Data were cleaned to detect any errors that may have occurred when the participants responded to the questions. Data for each participant, were analysed according to the three sections of the questionnaire namely, demographic data, knowledge of HIV and AIDS and attitudes towards HIV- positive patients. A computer analysis of the frequencies of each variable was performed as a second check of the accuracy of the data. There were no missing data identified.

Descriptive statistical analysis for the frequencies, the means, modes and standard deviations, where applicable, were conducted on all the variables. The mean scores on variables knowledge and attitude were formed on the basis of responses to each item, as scored on a scale of 1 – 5. Frequencies and percentages were computed on each of the variables for each participant.

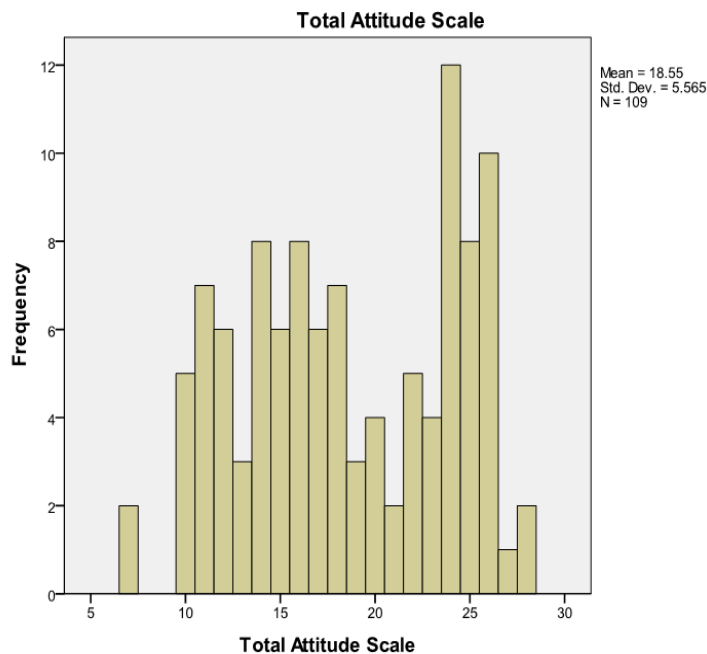


Figure 2. Professional nurses' scores for attitude towards HIV- positive patients.

The results of the statistical tests were presented in tables and bar graphs. (Attached on a separate sheet of paper Annexure 'A').

**Findings:** The results revealed that (53%) of the participants were above 40 years of age with 47% below 40 with a mean age was 43.39; (83%) was females; 46% had a Degree, 43% had a Diploma and 11% had other qualifications. 63% had an experience of between 20 and 29 years, whereas only 6% with an experience of 1 to 9 years in the nursing profession. On knowledge of the mode of transmission of the virus, the majority, 88% and 62% respectively, knew that the main modes of transmission of HIV were sexual intercourse and mother to child-transmission. 96% and 93 % respectively knew that breast feeding and blood transfusion could transmit the virus. (85%), (80%), (74%) and (72%), respectively knew that sharing cups and saucers, mosquito bites, contact with urine, as well as coughing and sneezing, did not spread the disease. The results revealed that the nurses were knowledgeable about the mode of transmission of HIV. (Figure 1). Professional nurses' scores for knowledge). With regard to their attitude towards the patients, the majority had negative attitude as 32% agreed and 49% strongly agreed that HIV positive patients deserve punishment; 36% agreed and 24% strongly agreed that HIV positive patients should not be admitted; 46% agreed and 27% strongly agreed that HIV positive patients should be isolated; 36% agreed and 22% strongly agreed with the statement that they would prefer not to care for HIV positive patients; 39% agreed and 30% strongly agreed that beds of HIV positive patients should be marked; 36% agreed and 26% strongly agreed that relatives of HIV positive patients

should be notified of their status without their consent. Those who had positive attitude, 38% disagreed and 34% strongly disagreed with the statement that HIV positive patients were responsible for their illness; 29% disagreed and 45% strongly disagreed that HIV positive patients deserve punishment; 71% agreed and 12% strongly agreed to a statement on their willingness to assist with HIV positive patients; on willingness to assist with delivering HIV positive patients' babies, the majority (70%) agreed and (12%) strongly agreed. (Figure 2). Professional nurses' scores for attitude towards HIV-positive patients). Out of the twelve statements on attitude, responses on seven statements seemed to indicate a negative attitude towards the patients whereas positive attitude was reported only on five statements, an indication of compromised care towards the patient.

The majority of professional nurses who rendered services to the patients at St Barnabas Hospital were younger than 39 years of age. Regarding qualifications and experience, those with degrees were in the majority, as well as those with fewer than 20 years of experience. It was recommended that the strategies to improve the quality of care to patients at St Barnabas should focus on the nurses whose demographic data was in the majority.

### Knowledge and Attitude

A score of knowledge above 24 = (n=86), (78.8).79%) = knowledgeable; A score of knowledge below 24, (n=23) (21%) = less knowledgeable. The mean score on knowle-

**Table 1.** Measures of central tendencies on knowledge, attitude.

		Total Knowledge Scale	Total Scale	Attitude
N	Valid	109	109	
	Missing	0	0	
Mean		28.61	18.55	
Median		29.00	18.00	
Std. Deviation		4.240	5.565	
Minimum		18	7	
Maximum		39	28	
Sum		3118	2022	

dge was 28.61(29) (SD4.2). The results showed that (79%) the majority of nurses at St Barnabas Hospital were knowledgeable about HIV and AIDS as they scored above 60%. The results on attitudes were as follows: Score of less than 24 = (n=72), (76%); Score of more than 24 = (n=21) 23% participants that is, a minority of participants had positive attitudes. The mean of attitude was 18.55 and SD = 5.5. The results on attitudes were as follows: Score of less than 24 = (n=72), (76%); Score of more than 24 = (n=21) 23% participants that is, a minority of participants had positive attitudes. (Table 1). Measures of central tendencies on knowledge and attitude). A possible interpretation is that being knowledgeable has no positive influence on the attitude. The results indicated that although the nurses had knowledge of disease, the quality of care they rendered to the patients was compromised by their negative attitudes.

## DISCUSSION OF RESULTS

Burlew (2007), who studied age differences in knowledge and attitudes of HIV transmission among African-Americans, found that older African-Americans were not as knowledgeable as their younger counterparts. The study showed that respondents aged sixty-one and over, were significantly less knowledgeable about HIV transmission than the young ones. Quality nursing care to HIV/AIDS patients needs to be knowledge-based, mainly because of the dynamic nature of the mutation of the virus as well as the syndromic nature of the disease. In addition, HIV positive patients have the right to: access health care; receive timely emergency care at any health care facility that is open, regardless of one's ability to pay, and to the right to access counseling services without coercion, discrimination or violence (Maya, 2000). Janice (2009) reported that nurses at times resent taking care of the patients and thus compromise the quality of patient care. Such behaviour may be attributed to negative attitudes amongst nurses towards the patients.

Studies by the World Health Organisation (WHO 2008) in India, Indonesia and Philippines, found that (34%) of the

respondents reported breach of confidentiality by health workers. Some people did not get an opportunity to choose how, when and to whom to disclose their HIV status.

## CONCLUSION

The findings in this research showed that the level of knowledge of the majority of professional nurses at St Barnabas Hospital, though high, still was of concern as only a few were extremely knowledgeable about the disease a cause for concern as the quality of patient care was likely to be compromised. The HIV/AIDS disease is a phenomenon that is dynamic in its nature, more especially in its mutation and transmission patterns, and this is compounded by the absence of a cure though treatable. Orner (2007) states health professionals who render services to HIV/AIDS patients need to be extremely knowledgeable and have a positive attitude towards the patients.

Recommendations were that nurses from rural hospitals need to be continuously empowered with the knowledge about the latest developments on HIV/AIDS transmission with a possibility of a positive disposition towards the patients. The results of this study have a potential to be used as evidence based information to guide the interventions for better quality nursing care to HIV-positive patients at a rural under resourced hospital. Such an approach could also increase the confidence on the capability and competency of nurses in rural hospitals to independently and effectively manage the patients.

The limitation of this study was the small size of the sample as determined by the small population size. This limitation was further compounded by the non-response of seven participants in the sample and the four incomplete questionnaires.

## LIST OF REFERENCES

- Abdool Karim SS, Abdool Karim SQ (2010). HIV/AIDS in South Africa. 2edn. Cape Town, Cambridge University Press. Kindly provide the page number.
- Burlew AK (2007). Knowledge about HIV transmission amongst African American men and women: J. Amer. Nurs. 101(2): 1133-1140.

- Christopher E, Daley D, Armstrong R, Gupter P (2004). Preventing local transmission of Tuberculosis in hospital. *J. Pr. H C.* 29(2): 879-905.
- District Health Information System (DHIS). 2008.
- Fusilier A (2001). Health care workers AIDS attitudes and willingness to provide care. *J. H. Hum. S. Admin.* 20(4):151-154.
- Goldberg DJ, Tarcher PJ (2003). HIV and AIDS resource manual 2nd edn. Pretoria, Van Schaik Publishers.
- Janice F (2009). HIV/AIDS, What it is, and its spread: Coverage of AIDS 2010: The XVIII International AIDS Conference. Vienna.
- Link R, Charap N (2009). AIDS related knowledge, attitudes and precautionary behaviours among emergency Medical Professionals: Public Health Report, September-October. 105(5): 496-504.
- Martin H, Bedimo L (2000). Nurses attitudes towards patients with AIDS. *J. Adv.Nurs.*, 118(2):16-21.
- Maya A (2000). Patients' rights a charter does not make: The Patients' Network. 5(2):5-10.
- Nakhae FH (2002). Knowledge of HIV /AIDS and its prevention in Kerman. *Am. J. Nurs.*, 13(6): 450-453.
- Orner PJ (2007). Rights and reproductive choice of HIV positive patients. *J. W. Bio.*, 1(2):11-17.
- Oyeyemi A (2006). Caring for HIV patients. Knowledge and attitudes and global level. *J. Adv. Nurs.*, 53(2): 45.
- Pallant J (2001). *SPSS survival.2<sup>nd</sup>edn.*. New York: Two Penn Plaza.
- Sharman A (2009). Nurses willingness to care for AIDS patients, spiritually, social support, and death and anxiety. *J.Nurs. Sch.*, 28(30): 205-256.
- South African Constitution No. 108 of 1996.
- Tavossi A (2000). Knowledge and attitudes about HIV/AIDS amongst Iranian Students: *B.M.C P.cJ.* 4(1):17.
- UNAIDS(2008). Reports on HIV / AIDS related stigmatisation, discrimination and denial by HIV infected patients. WHO(2008).Improving Estimates, Reports on Global HIV/AIDS epidemic in 2004.