

# AIDS: KNOWLEDGE, ATTITUDES AND INFECTION CONTROL PRACTICES OF GHANAIAN PROFESSIONAL AND TRAINEE NURSES

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## SUMMARY

*This descriptive, cross-sectional study seeks to determine knowledge about AIDS, attitudes towards AIDS/HIV-infected persons and infection control practices of Ghanaian professional and trainee nurses.*

*The study had as its survey instrument a pretested, standardised and self-administered questionnaire. The accessible (study) population (325) included available and willing professional and trainee nurses from Hospitals and Nurses Training Schools in Ghana's three (Accra, Cape Coast and Kumasi) University cities.*

*Using descriptive statistics, it was found that the nurses had a good knowledge about AIDS (> 90%) but that this knowledge did not seem to have alone influenced behaviour ( $r = 0.46$ ) nor did it appreciably affect their attitudes towards HIV-infected/AIDS patients ( $r = 0.35$ ). Infection control practices were also found to be influenced by a variety of factors including logistics.*

*It is concluded that Ghana's AIDS education campaign succeeded in imparting the necessary knowledge about AIDS to the target population but failed to influence their behaviour and attitudes towards AIDS/HIV-infected persons and that a combination of other factors working in concert with knowledge seemed to be necessary for positive attitudinal change.*

*Future studies should identify these factors and incorporate them in the educational strategies for AIDS control and prevention in Ghana.*

**KEYWORDS:** AIDS, Nurses, Knowledge, Attitudes, Infection Control.

## INTRODUCTION

AIDS (Acquired Immune Deficiency Syndrome), is a new and devastating infectious disease sweeping through the world in massive tidal wave of misery and devastation [1]. This retrovirus which causes AIDS was initially isolated in 1983 from patients with Acquired Immune Deficiency Syndrome (AIDS) and the AIDS related complex (ARC) [2, 3, 4]. However, AIDS was recognised as a disease entity in 1981 [5] and it was in 1985 that the first commercially available HIV assay method (ELISA) for detecting HIV-I was developed and licensed [6], making it possible for worldwide tracking of the spread of AIDS.

It is to be noted that the human immunodeficiency virus (HIV) exists in two distinct antigenic forms, namely, HIV-1 and HIV-2 [7, 8] with each form showing significant genomic diversity, particularly in the *env* sequence [9].

The first two AIDS cases in Ghana were diagnosed in March, 1986 in a mixed couple resident in Germany (Neequaye, personal communication). It was in 1989, when it was realized that of a total of 452 AIDS cases reported that year, 111 were those who had never left the shores of the country, that serious attention was paid to the AIDS problem in the country (Personal observation). Since then quite a sizeable number of individuals have been found to be HIV seropositive.

As of 31st July, 1991, 4824 HIV seropositive cases have been identified, 2525 of whom developed AIDS [10]. Another disturbing realisation was that HIV seropositive and AIDS cases are now being reported from all the 10 regions of the country as portrayed in Table 1. Obviously AIDS is now a serious public health problem in Ghana.



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**TABLE 1: REGIONAL DISTRIBUTION OF AIDS CASES IN GHANA AS OF 31ST JULY, 1991**

REGIONS	HIV SEROPOSITIVE	AIDS CASES
Eastern	1394	889
Ashanti	1063	728
Greater Accra	1021	310
Volta	410	187
Brong Ahafo	384	157
Central	339	145
Western	143	75
Upper East	38	24
Upper West	8	5
Northern	24	5
ALL 10 REGIONS	4824	2525
MALES	1538	627
FEMALES	3286	1898

There is no vaccine against AIDS so that health education becomes the only sure "vaccine" against the disease. The Ghana Ministry of Health, anticipating the spread of the disease throughout the country and realizing the impact health education has had on reducing the incidence of other communicable diseases in our community and may possibly have on curbing the spread of AIDS in Ghana, set up in 1985, the National Technical Committee on AIDS in Ghana, which immediately also identified Health Education as its primary prevention strategy. Thus, the mass communication media and community approaches were adopted for the purpose. Lectures, symposia, drama, etc. were organized for the general public. Two (2) major seminars were organized specifically for health care providers in 1986 and 1987. Many more such lectures, symposia and seminars have been organized after 1987. Voluntary organisations and individuals have also joined the crusade.

So far only a couple of assessments of the success or failure of the Ghanaian educational campaign efforts against AIDS have been undertaken [11].

This study evaluates knowledge about AIDS and attitudes towards AIDS/HIV-infected patients and infection control practices of Ghanaian professional and trainee nurses from Hospitals and Nurses Training Schools in Ghana's three University cities, namely Accra, Kumasi and Cape Coast, and their Infection Control practices.

#### STUDY POPULATION AND METHODS

##### Sampling:

Our study population, both target and accessible (325 respondents), were professional and trainee nurses, aged between 18 and 60 years, from Hospitals and Nurses Training Schools in the three University cities in the country, namely, Accra, Kumasi and Cape Coast.

##### The Survey Instrument:

The survey instrument was a questionnaire designed to test respondents' knowledge about AIDS and their attitudes towards HIV-infected/AIDS persons and their infection control practices. It was based on two national AIDS campaign pamphlets both of which were designed by the Health Education Division of the Ministry of Health, entitled:

- i. "AIDS, What Every One Should Know".
- ii. "What is AIDS? A Manual for Health Workers".

##### Questionnaire Design:

The opening section of the questionnaire concerned itself with demographics and instructions as to how the specially designed Answer Sheet provided with the questionnaires were to be filled out. This section was followed by questions on the causal agent of AIDS, modes of its acquisition, its mode of spread, the outcome of infection therewith and the possible methods of AIDS prevention. Infection control practices and attitudes of the study population towards HIV infected/AIDS patients formed the concluding section of the questionnaire.

##### Administration of the Questionnaire

The questionnaire which was presented on a group of nurses at the Kintampo Health Centre in the Brong Ahafo Region of Ghana was self-administered after the relevant instructions had been given not only as to how the "Answer Sheet" was to be completed but also on the need to, by all means, complete the section on demography. Hereafter, respondents were left to themselves to complete the questionnaire in the presence, however, of a teacher of the Nurses Training School concerned, a procedure aimed at ensuring that the answers were not influenced.

#### RESULTS

##### Demographic Data:

Age and sex distribution patterns of the respondents are graphically depicted in Figure 1. In Figure 2 is shown the distribution of the various categories of nurses employed in this study, 49.5% of whom were married so that 50.5% were unmarried (single, divorced or separated). With regard to religious affiliations, there were 76.0% Protestants, 16.9% Catholics, 4.9% Muslims and 0.6% Buddhists.

##### The AIDS Virus (HIV):

The percentage of the nurses who knew that the causal agent of AIDS is a virus was 94.2%. However, only 45.2% knew that causal agent (Human Immunodeficiency Virus - HIV) by name. While 93.5% of the respondents knew what the acronym, AIDS, stands for, only 40.0% of the respondents knew that the virus is a retrovirus. That HIV produces a special enzyme called reverse transcriptase was novel to 82.8% of the respondents.

Three per cent (3.0%) of the respondents claimed that

the causal agent of AIDS is a bacterium, while 1.0% knew it to be a parasite. The percentage of respondents ignorant of the type of microorganism HIV is, was 1.8%. All respondents were, however, definite that HIV is not a Fungus.

#### Modes of Spread of AIDS:

It is discernible from Figure 3 that over 95.0% of respondents were conversant with the major modes of HIV spread and AIDS acquisition.

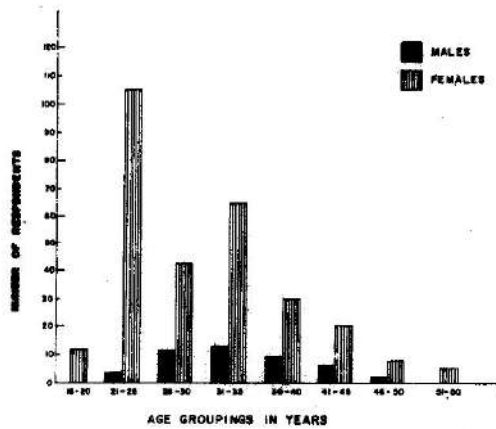


Fig. 1 AGE AND SEX DISTRIBUTION PATTERN OF RESPONDENTS

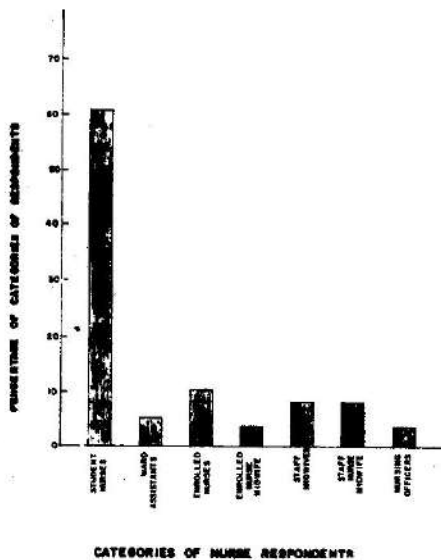


FIG 2 DISTRIBUTION PATTERN OF RESPONDENTS ACCORDING TO RANK IN THE NURSING PROFESSION

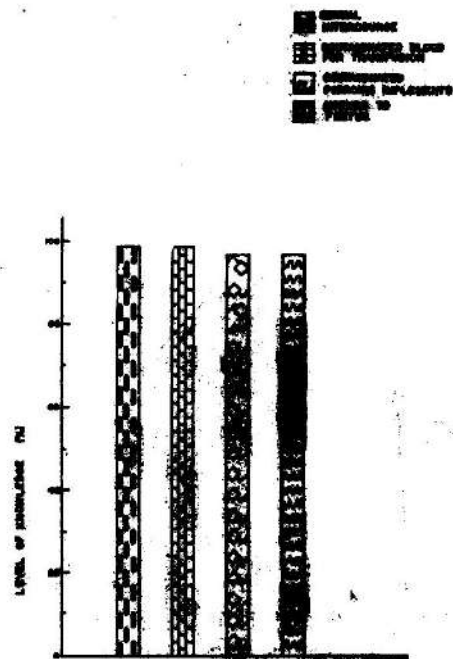


FIG 3 LEVEL OF KNOWLEDGE (%) ABOUT THE MAJOR MODES OF HIV TRANSMISSION

When asked whether or not social contact could play a role in the spread of AIDS, the majority of the respondents answered in the affirmative. Fifty (50.0%) per cent of the respondents mentioned kissing as one of the major modes of spread of AIDS. On the other hand, handling of items used by an AIDS/HIV-infected patient was thought to contribute to the spread of AIDS by as many as 54% of the respondents.

Levels of knowledge of the respondents regarding other modes of spread of AIDS are summarized in Fig. 4. This figure also shows that more than 60% of the respondents were aware of the fact that shaking hands, eating and living with an AIDS/HIV-infected patient pose no health problem. Air, water, food, insect bite, toilet seats and the communion cup were recognized by again more than 60% of the respondents to be safe as far as the spread of AIDS is concerned.

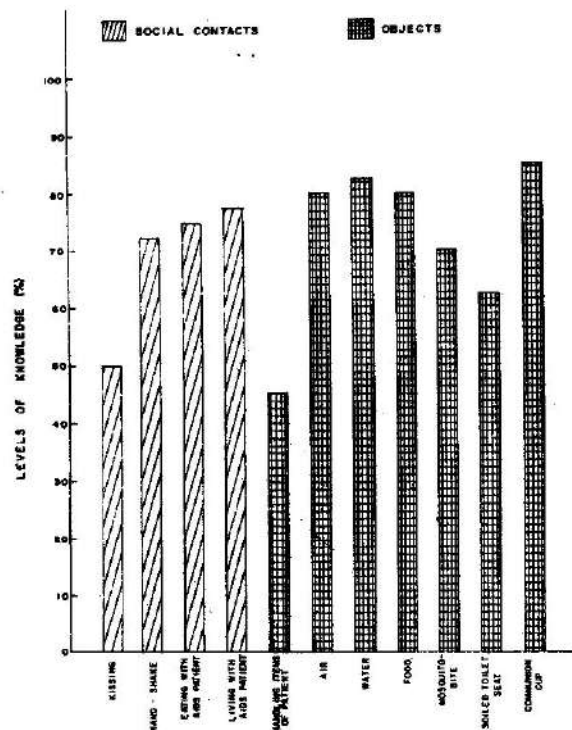


FIG. 4 LEVELS OF KNOWLEDGE (%) ABOUT SOME OBJECTS AND SOCIAL CONTACTS, AND THE SPREAD OF AIDS

**How one gets to know one has AIDS in the absence of Laboratory Support: Clinical Manifestations of AIDS**

While 92.6% and 93.5% of the study population, respectively, knew that diarrhoea and weight loss are among the major clinical manifestations of AIDS in Ghana and indeed the whole of Africa, the awareness of persistent fever and cough as also being some of the major clinical manifestations of AIDS was registered by 86.5% and 81.2%, respectively of the study population.

Levels of knowledge of respondents with regard to other major signs and symptoms of AIDS as well as the minor ones are depicted graphically in Fig. 5.

**Measures that may prevent AIDS**

When asked how one may avoid catching AIDS, whereas 96.6% of the respondents believed that the cultivation of the habit of always using a condom for sex could be the most effective means of avoiding catching AIDS, 95.3 felt that keeping to one sexual partner would be a more effective preventive measure. Avoidance of receiving injections from unqualified persons and refraining from casual sex scored 94.5% and 94.1%, respectively. The lowest rating of 92.9% was scored for the admonition that people should avoid sharing tooth brushes and razor blades.

Screening of donated blood for transfusion purposes and the use of one needle and syringe per patient were advocated by 86.5% and 90.8% of the respondents, respectively.

**Modes of acquisition of AIDS in the Hospital Setting**

Concerning the respondents' knowledge about the mode of spread/acquisition of AIDS in the hospital setting, it could be deduced from responses received that respondents were fully aware of the fact that AIDS cannot be contracted through making the bed (94.8%) of and bathing (92.0%) an AIDS patient. It was also noted that as many as 88.9%, 89.3% and 85.5% respectively, of the respondents knew that handling the belongings of an AIDS patient, having an AIDS patients sneeze or cough, inadvertently, into your face or drink from the same cup previously used by AIDS or HIV-infected person, do not constitute any risk for HIV transmission. It is sad, however, to note that 65.8% of the respondents thought that disposal of urine and faeces from AIDS/HIV-infected persons should be done wearing gloves. With regard to blood donation, only 51.1% were aware of the fact that this, in no way, puts the donor at any risk of HIV transmission. That having sex with a healthy HIV-carrier and pricking oneself with HIV-contaminated injection needle carry high risks for HIV transmission was known by 71.4% and 90.8% of the respondents, respectively.

#### **Attitudes of Nurses towards AIDS/HIV-infected Patients:**

Of the 325 respondents in the study, 79.7% sympathized with the plight of the AIDS/HIV-infected victim. They felt that AIDS patients deserve the same treatment as do patients with other infectious diseases. However, it is gratifying to note that it was only a tiny proportion (12.0%) of the nurses who suggested that they should have the right to refuse to handle items used by or clean the rooms of AIDS patients. The same proportion of respondents wanted to have the right to leave the meal tray outside the room of the AIDS patient. It is again sad to note that 23.1% of the nurses wanted to be given the right to refuse to offer nursing care to AIDS/HIV-infected patients.

Of the 325 respondents, 42.5% suggested that all AIDS patients should be nursed in specialized wards, for fear of nosocomial spread of the disease, while 32.9% of the nurses wanted Government to put a tag on all AIDS patients for easy identification. Some (67.1%) went to the extreme to suggest that AIDS patients should be confined to designated institutions. While 30.8% of the respondents would wish to see government inject more money into research studies on malaria than on AIDS research, as is the current practice, 28.6% of them wish to work in Wards without AIDS patients.

#### **Knowledge and Practice of Infection Control:**

When respondents were asked to indicate the need or otherwise for WHO suggested infection control practices, the following were obtained:

Of the 325 respondents 78.8% rightly indicated that there was no need for gloves to be worn when measuring the blood pressure of an AIDS/HIV-infected patient. Ninety-one point one per cent (91.1%) of the respondents did not support the thesis that refusing to care for or spending as little time as possible with an AIDS/HIV-infected patient would protect the nurse from contracting AIDS. The suggestion that all equipment used by and/or on AIDS/HIV-infected patients, should be disposed of, on the one hand, and that gloves, masks and protective clothing should be worn when giving oral medication to AIDS/HIV-infected patients, on the other hand, were rejected by 88.6% and 81.2%, respectively, of the 325 respondents. A further suggestion, that feeding utensils for AIDS/HIV-infected patients should be disposable ones which should be thrown away or burnt after use, was rejected by 59.4% of the respondents.

The proportions of respondents aware of some of the AIDS prevention guidelines in the hospital setting, namely wearing gloves when blood or body fluids are to be handled, the disposal of used needles and syringes into puncture-resistant containers and no-capping-of-needle after use were 78.5%, 42.6% and 89.5%, respectively. A small proportion of the respondents (44.0%) were unaware of the fact that the wearing of face-masks and eye-protectors are mandatory when undertaking medical procedures that produce aerosols

or involve more extensive contact with blood or body fluids.

#### **Sources of Information on AIDS**

It was found that two major sources of information on AIDS for the respondents were the Radio and Television, 90.0% of the respondents utilizing these sources.

The National Dailies were AIDS information sources for 84.0% of the study population while lectures and symposia ranked third (65.0%) as important sources of information and knowledge about AIDS. Role-play on AIDS and AIDS information pamphlets, provided by the Ghana Ministry of Health and the WHO, did not seem to have contributed much (only 34.0% on the average) to the study population's knowledge about AIDS. Less than 40.0% (36.5%) of the respondents sought information on AIDS from friends and colleagues.

#### **DISCUSSION AND CONCLUDING REMARKS:**

The National Health Education Campaign on AIDS has achieved some measure of success. However, there is yet more to be done.

The campaign has heightened Nurses' awareness of the AIDS problem in Ghanaian and brought to the fore the need to involve nurses in educating AIDS/HIV-infected patients and the community about the Dos and Don'ts of AIDS.

The results further demonstrated that the Ghanaian nurse knows quite a great deal about the many facets of HIV, HIV-infection and AIDS.

In the area of HIV transmission, about 50% or so of the respondents believed that kissing, and handling of items previously handled by an AIDS/HIV-infected person would result in HIV infection. Over 95.0% of the respondents, however, were conversant with the major modes of HIV/AIDS transmission.

Limited or scanty knowledge about the AIDS virus was exhibited by almost all respondents. The majority of the respondents knew all the major clinical symptoms and signs of AIDS, as was the case with knowledge about the major modes of HIV/AIDS transmission.

Fifty-one point one percent (51.1%) of the respondents entertained the notion that they would become infected with the HIV if they should donate blood. This is disturbing since the role the nurse is expected to play in blood donation campaigns will be grossly compromised.

The Ghanaian nurse still believes that he/she runs the risk of HIV infection if he/she should dispose of urine and/or faeces from an AIDS/HIV-infected patient without wearing protective gloves, an indication that urine and faeces are considered vehicles for the transmission of AIDS.

The need for a change of attitude of the Ghanaian nurse towards AIDS/HIV-infected patients is recognized. One out of every five nurses would not wish to: (a) be patients (b) clean rooms of AIDS/HIV-infected patients and, (c) offer nursing care to AIDS/HIV-infected persons.

Furthermore, the suggestion that AIDS patients should be nursed in specialized wards will not entirely be out of place if only the nurses are willing to care for these AIDS/HIV-infected patients. As it is, some of the nurses would like to see AIDS/HIV-infected patients labelled for easy recognition, but would also like to see them kept away from the general population in special institutions for that purpose.

The Ghanaian nurse showed a good knowledge of AIDS (> 90.0%) but this knowledge did not seem to alone have influenced her/his behaviour ( $r = 0.46$ ) nor did it appreciably affect her/his attitude towards HIV-infected/AIDS patients ( $r = 0.35$ ). A combination of factors working in concert with knowledge seemed to be necessary for positive attitudinal change. Infection control practices seemed to have been influenced by a variety of factors including logistics.

#### SUGGESTIONS:

1. Ghana's Health Education campaign efforts in AIDS need be intensified and areas identified which would need special emphasis in future educational campaigns include:
  - i. What the HIV virus is and how it causes the pathological changes associated with HIV infection and AIDS.
  - ii. There is the need to stamp out or banish from the minds of respondents, the nurses, those beliefs and practices that are at variance with what are known and proven.
  - iii. Radio and Television are the most sought after sources of AIDS information. Utilization of those sources needs, therefore, to be intensified and in combination with AIDS education brochures and pamphlets, as well as lectures and symposia should help spread the AIDS message wider.
  - iv. The value of role-play in informing the Ghanaian community about AIDS should be investigated.
2. All categories of nurses, but particularly Student Nurses, should be engaged in intensified AIDS education campaigns, since their present training which includes education on AIDS brings them abreast with current AIDS information.
3. Future campaign efforts should be focussed on the following areas as well:
  - i. Positive change of attitude of Ghanaians in general and the Nurse, in particular, towards AIDS and HIV-infected patients.

- ii. Adoption of AIDS prevention strategies which are based on experiences following scientific evaluation of the nation's hitherto employed AIDS Education Campaign Programmes.
- iii. Institution of sound Infection Control Practices in all our hospitals, including, of course, accurate knowledge of AIDS prevention guidelines.
- iv. Future studies should aim at identifying the various factors which may positively influence attitudinal change, and incorporate the same in the educational strategies for AIDS control and prevention in Ghana.

There is no doubt, a lot more needs be done and with diligence and determination and a oneness of purpose and of course with Government committing its fullest support to the fight against AIDS, many lives can be saved.

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