

Post-intervention Survey on the Knowledge, Attitude, Beliefs and Practices of People in Lagos State, Nigeria about HIV/AIDS

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Abstract

The purpose of this study was to evaluate the impact of a mass-education campaign on knowledge, attitudes and practice of people living in Lagos State, Nigeria.

A pre- and post-intervention survey was conducted among 6000 respondents from 116 administrative wards randomly selected from all the 20 Local Government Areas (LGA) in Lagos State (300 respondents per LGA) in January 2002 to document the effect of a series of communication interventions on the prevention of HIV/AIDS implemented between May and December 2001 in the state and to describe the changes that may have occurred in the knowledge base, attitude, beliefs and practices.

The result showed that the level of knowledge is relatively high as indicated in both the pre- and post-intervention survey, though there was a gain in knowledge in some areas after the intervention. Respondent's practices as they relate to issues that cause the spread of the disease did not change significantly after the intervention.

The study demonstrated that mass campaigns using multiple channels can be effective in HIV/AIDS prevention, with the observed positive change and the sustained level of awareness.

Introduction

Together Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) has become one of the most critical developmental issues. HIV/AIDS was initially believed to be a health problem and challenge, but the overwhelming impacts on a number of developmental indices, including life expectancy, affect productive and sexually active age groups, the positive correlation between HIV/AIDS, migration, urbanization as well as cultural changes, are some of the indicators of its role in development.

Since the first case of AIDS was diagnosed in Nigeria in 1986, the disease has systematically permeated the entire social fabric of the country, affecting men, women, adolescents and children, indeed every Nigerian is vulnerable and at risk. The results of the limited periodic national HIV/STI seroprevalence surveillance surveys show that HIV prevalence in Nigeria is increasing progressively among the general population. It rose from 1.8% in 1991 through 5.4% in 1999 to 5.8% in 2001, with women accounting for more than half of the 3.2 million infected individuals. At the end of that year 2001, UNAIDS estimated that 1 million children orphaned by AIDS are living in Nigeria. One million seven hundred thousand of those infected are in the reproductive age group of 15–49 years (NACA 2002). However, there was a drop in the latest 2003 seroprevalence rate of 5%, with approximately 3.8 million Nigerians living with HIV/AIDS. In that year there were about 300,000 new cases and 80,000 children were born to HIV positive mothers (NACA 2004). Despite this, current projections show an increase in the number of new AIDS cases from 250,000 in 2000 to 360,000 by 2010.

Several factors have contributed to the rapid spread of HIV in Nigeria. These include lack of sexual health information and education, stigma and discrimination, poor healthcare services, sexual networking services such as polygamy, low condom use, poverty, low literacy and low status of women, among others.

There are many established strategies currently being pursued globally and in Nigeria to control the spread of HIV, and in all cases communication plays an important and pivotal role because the dissemination of information will lead to prevention of risk behaviours and spread awareness and thus lead to a reduction in social stigma. The World Health Organization (WHO) has advocated the role of education in spreading knowledge of HIV/AIDS transmission. The mass media (radio, television, newspapers and magazines) have been used primarily for this purpose. The effect of mass media as a preventive and control strategy in any part of Nigeria is unknown. There has been no state- or nationwide study to measure the impact of mass media and other education campaigns on peoples' knowledge, attitudes and practices as they relate to HIV/AIDS. This study, which was a pre- and post-intervention survey, looked at the knowledge, attitudes and practices of people living in Lagos State, Nigeria, before and after an intervention (mass campaign) education programme in 2001.

Survey Methodology

The study is part of a larger intervention study sponsored by the Aids Preventive Initiative in Nigeria (APIN) to improve the knowledge, attitudes and practices (KAP) of people of Lagos State, Nigeria, on HIV/AIDS. A baseline KAP survey of the people of Lagos on HIV/AIDS was conducted in March 2001. The baseline survey findings were used to design and adapt an effective HIV/AIDS mass-education programme. Following this, a series of education interventions were conducted between May and November 2001. At the end of the intervention period a follow-up survey was undertaken in February 2002. The follow-up survey was designed to measure the level of HIV/AIDS knowledge, attitudes, beliefs and practices among Lagos State residents. The study was jointly conducted by four non-governmental organizations (NGOs) and the Nigerian Institute of Medical Research, which made up the information, education and communication work group. The four NGOs are: the Association of Volunteers in the International Service (AVSI), HIV/AIDS Concern Group, Hope Worldwide Nigeria and Nigeria Youth AIDS Programme (NYAP). The study was initiated and funded by the Lagos State HIV/AIDS Control Agency with resources from the Aids Preventive Initiative in Nigeria. The study did not receive ethics approval. At the time it was initiated the institute did not have an ethics committee nor was there any in the country readily available to give ethics approval. The institute constituted an Institutional Review Board in November 2003, and reports of all completed studies conducted within the institute from 2000 were submitted to the Review Board as well as protocols for ongoing studies that were initiated from 2000.

Survey Sample

The study followed a pre- and post-design. Baseline surveys were conducted prior to the intervention's introduction in May 2001. The mass-education intervention was held between May and December in 2001 and the post-intervention data collection was carried out in January 2002. The study sampled members of households randomly selected from streets in each of the 20 LGA of Lagos State and these included students, artisans, professionals, educated, non-educated, Christians, Muslims, males and females. An identical sampling technique was used to select samples in both the baseline and follow-up survey. This technique was used because the research did not target specific study groups but targeted the whole Lagos State community and a reliable sampling frame from which to select a random sample of the whole State population was not available at the time of study. The respondents from the baseline and follow-up survey are separate though they were selected in as close a manner as possible, and the same number of samples was used in both surveys. The survey team did not make an attempt to re-contact the baseline respondents.

Demographic Characteristics

In the pre-intervention survey, the study had 61.5% males and 38.5% females with age range from 18-70 years. Majority of the respondents were Christians at the time of study (68.9%) while half were single (50.1%), the rest were either married, separated divorced or were co-habiting. The sample for the post intervention is similar to that of the pre-intervention survey. The study had 59.3% males and 40.7% females, age range 18-70, with the majority being Christians.

Study Site

Lagos State is located on the southwestern part of Nigeria, on the narrow coastal plain of the Blight of Benin. It lies approximately between longitude 20° and 42' and 3° and 22' east and between latitude 6° 22' and 6° and 2' north. Its landmass covers 358,861 hectares (3,577 sq. km). At the time of study the State was divided into 20 Local Government Area councils (LGA). Historically it has been inhabited by the Aworis and Eguns with an admixture of other pioneer immigrant settlers collectively called "Lagosians." Geographically Lagos State is the smallest state in Nigeria, but ranks highest in population, which is over 5% of the national estimate. The 1991 census figure for the state is 5,725,116.

Study Procedures

The study covered all the 20 LGA in the state. In each of the LGA the number of wards was identified and half (50%) of the wards were randomly selected for the study. The number of streets in each selected ward was identified, and systematic random sampling was used to select streets that were used for the study. A systematic random selection was also used to select the households in each street used for the study. A total of 300 questionnaires were administered per LGA, making a total of 6000 for the entire state.

Recruited participants were engaged in a multi-step intervention process: 1) pre-intervention data collection; 2) participation in the mass rally campaign and group education; and 3) post-intervention data collection.

Survey Team

Ten interviewers were recruited to administer the questionnaire per LGA, while two persons served as supervisors in each LGA. One day of training was held for the supervisors and interviewers in questionnaire administration technique, supervision and collation of data. Five interviewers were assigned to each supervisor. The interviewers administered the questionnaire in the field while the supervisors checked and edited all questionnaires that were returned by the interviewers.

Pre-intervention Knowledge, Attitude and Practice (KAP) Survey

A pre-tested semi-structured questionnaire was used to ascertain respondents' KAP, both in the pre- and post-intervention phases. The questionnaire schedule included the following:

- socio-demographic characteristics of respondents
- respondents' understanding of the causation, transmission, prevention and control of HIV/AIDS
- their belief system and attitudes towards people living with HIV/AIDS
- their practices and behaviour related to exposure

Mass Campaign

Intervention was conducted in all the 20 LGA and was targeted at all individuals in the LGA. The intervention adopted four approaches, namely: training of members of the Local Action Committee (LAC) on HIV/AIDS; Training of Trainers (TOT) workshop for school teachers; campaign rallies; and radio, television and newspaper messages in clips, jingles and special features articles.

Training Members of the Local Action Committee (LAC) on HIV/AIDS

Members of the LAC were trained in each of the 20 LGA which served as the study sites. The training included the causation, transmission, prevention and control of HIV/AIDS. They were also trained in education and communication intervention schemes and in how to use the various materials adapted for the study intervention.

Training of Trainers (TOT)

A TOT workshop was held for selected teachers in each of the LGA of study. This was aimed at educating teachers on how to provide technical assistance and present education programmes to their students and other members of the community, to improve their presentation skills, gain a deeper knowledge of the study and exchange ideas. The training lasted for three days.

Campaign Rallies

Campaign rallies were held in all 20 of the LGAs. The different LACs together with the four NGOs were involved in the planning and implementation of the rallies. Each campaign rally took place between 9am and 6pm on the scheduled day in each LGA. These were mobile rallies driven around very strategic locations in the state, with at least 10 stops in hot spots such as markets, garages, motor parks, bus stops and such locations where people congregate for different social activities in each LGA.

Group Education

In addition to the mass rallies, a specially targeted group education programme was implemented. This included prevention of HIV/AIDS in workplaces for artisans, immigration officials and sportsmen and women in government sporting centres. The training lasted one day and participants were provided with skills and information to eliminate the risk of HIV infection, proper handling of work equipment and tools to avoid HIV infection and desirable behaviour and practices for healthy leaving.

Education Packages

Several education packages targeted to different social groups (e.g., parents, women, men, adolescents, truck drivers among others) that were earlier developed by the National AIDS Control Agency in collaboration with international agencies like the United Nations Children's Fund (UNICEF) were adopted and adapted for distribution in each of the mass campaign rallies, with relevant talk and demonstration. Banners, T-shirts, face caps and other memorabilia were designed and distrib-

uted to participating public members as reminders of the awareness programmes, while adequate print and electronic media coverage was given to the programme.

Follow-up Survey (Post-intervention Survey)

After the baseline KAP survey, the training and the campaigns/educational intervention, a follow-up survey was carried out in the same way as the baseline pre-intervention survey. The result permitted pre- and post-intervention comparison.

Statistical Methods

The data generated was analysed using the EPI info software version 6.04. Data collected on the demographic and the KAP of respondents were analysed using descriptive statistics. Statistical comparisons of data were tested using the chi-square and Students t test at a significance level of 5%.

Limitations of the Survey

This study like other pre- and post-intervention surveys has some limitations and these include:

- Samples were not randomly selected, though attempts were made to reach a broad group of the population.
- Differences exist in the demographic characteristics of respondents of the baseline and follow-up surveys, though attempts were made to select them in as close a manner as possible.
- Bias may have been introduced based on the individual people selected to be interviewed in each household, as each interviewer chose anyone from within the household selected. It may be that those not chosen might have better or worse KAP on HIV/AIDS, but how this affected the study might be unclear.
- As in all surveys social desirability may have occurred, as respondents may have modified their answers according to their perceptions of interviewer's expectations.
- The result cannot be applied to the general population and since the survey did not have a control group, it cannot be categorically stated that the observed outcome was as a result of the intervention. Advertisements on increasing awareness on HIV/AIDS are available in the media in the state and a toll-free hotline for information on the subject was made available by the State government. These various education measures might have made an impact on the populace and could have affected the outcome of this study.

Though advertisements to increase awareness on HIV/AIDS were communicated through the media, the APIN intervention was a comprehensive and extensive outreach that used many methods and materials and some of the materials were specifically adapted to reach a particular audience.

Results

The study revealed that the overall level of awareness of HIV/AIDS among the sampled respondents in the post-intervention survey is 96%, a result similar to that obtained in the baseline (95%). The percentage of those receiving information from various channels increased, though not significantly from the baseline, and 18.2% in the post-intervention study indicated the street campaign as their channel of information (Table 1). As in the pre-intervention survey, there was no significant difference between the sexes in the level of awareness. The rate of awareness increased with increasing educational status with those having tertiary education and above being more aware. This is statistically significant both in the pre-intervention and post-intervention surveys.

Peoples' belief that HIV/AIDS exists did not change after the intervention, 94.3% and 93.2% in the post- and pre-intervention survey respectively did believe that HIV/ADS exists. Belief in the existence of HIV/AIDS was higher in the younger age group and was highest in age group of

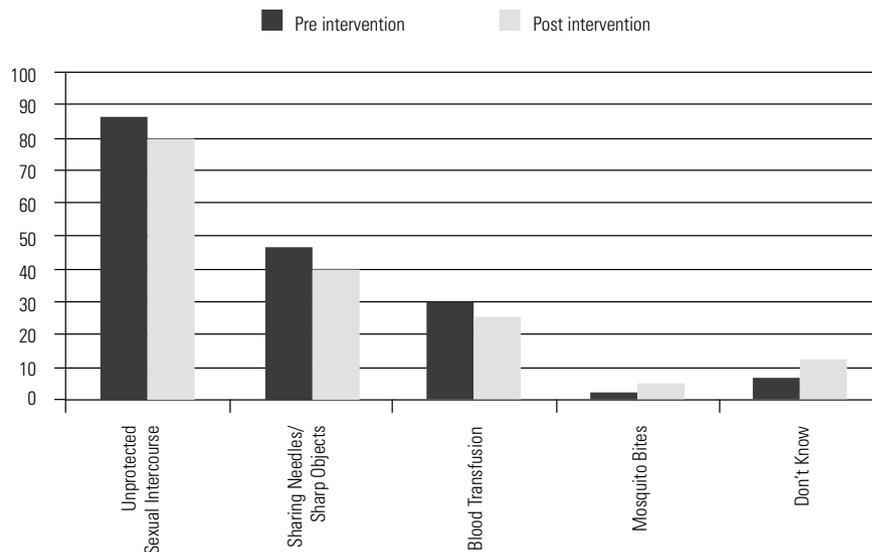
20–29 in both surveys; however, a significant difference occurred in the belief about existence in the older age range (50 years and above) with 82.1% in the post-intervention survey and 41.8% in the pre-intervention survey.

Table 1. Distribution of level of awareness of HIV/AIDS by sources of information

Source of information	Pre-intervention	Post-intervention
Relations	4.4	6.7
Friends/neighbours	28.3	29.6
Newspapers	23.4	21.2
Radio/TV	73.7	79.3
School	4.5	8.4
Health facility	4.6	8.6
Street campaign	-	18.2

The level of knowledge of HIV/AIDS in Lagos was relatively high, as indicated in both surveys, though some improvement was made after the intervention. The number of respondents mentioning at least one route of infection increased. 86.3% in the post-intervention survey and 79.5% in the pre-intervention survey rated unprotected sexual relationships as the major route of infection. Other methods of infection identified were: sharing of needles and sharp objects, 46.5% (post), 39.1% (pre); blood transfusion, 29.8% (post) and 24.9%, (pre) (Figure 1). In both surveys their level of education influenced their identification of the route of infection and so did religion. The increase in their level of knowledge about the route of infection was accompanied by an increase in condom

Figure 1. Respondents' perception on how one can be infected with HIV

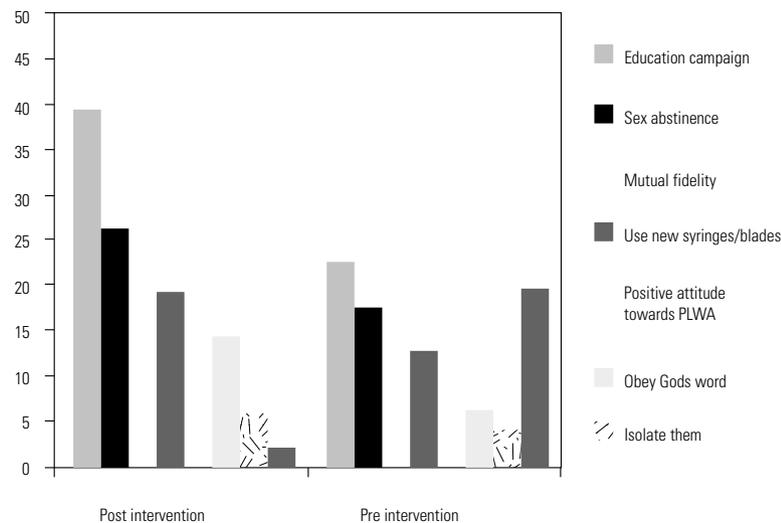


use. The percentage of respondents that use condoms during sexual intercourse increased 46.9% and 38.4% in the post- and pre-intervention studies respectively. A percentage of the study population changed from occasional users to regular users after the intervention, the percentages being 42% and 39.8% in the post- and pre-intervention studies respectively. No significant difference was observed between demographic characteristics of respondents and condom use in the pre- and post-intervention surveys.

The follow-up survey indicated a remarkable improvement in the respondents' perception on identifying people that are HIV positive. Seventy-five percent admitted they did not know how one could identify a person infected with HIV as against 42.3% at baseline. Despite this, respondents believed that there are indicators by which one could identify those with full blown AIDS, with frequent illness being the most mentioned indicator. Forty-eight percent of them affirmed that laboratory tests is the only sure means of identifying persons infected with HIV in the post-intervention survey; the percentage was 22.3 in the baseline survey.

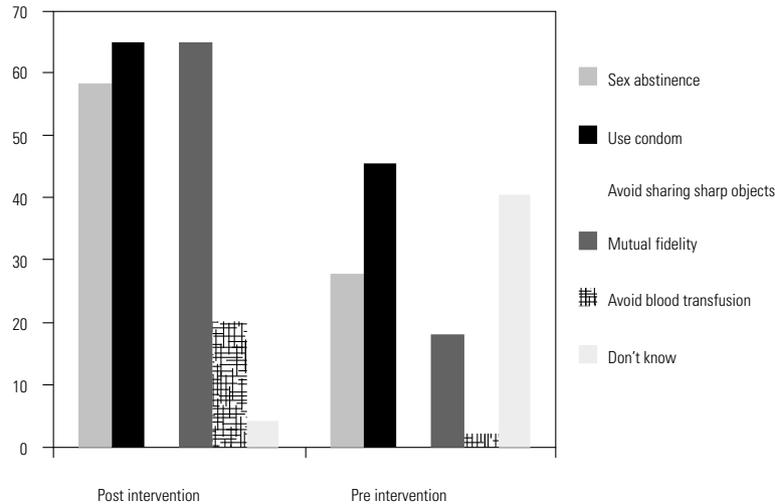
It is interesting to note that the majority of respondents in the post-intervention survey believed that HIV/AIDS mass campaigns are a result-yielding tool in the control of the disease. The post-intervention survey also indicated a significant improvement in their knowledge on the control of the infection, with 47.8% and 12.7% mentioning mutual fidelity respectively in the post- and pre-intervention surveys. Other methods of control are education campaign, abstinence from sex, use of new syringes and obeying God's word (Figure 2). Similar to the pre-intervention survey, significant differences were demonstrated in their knowledge of control measures and socio-demographic characteristics measured by age, sex and level of education.

Figure 2. Respondents' perception on how the spread of HIV/AIDS can be controlled



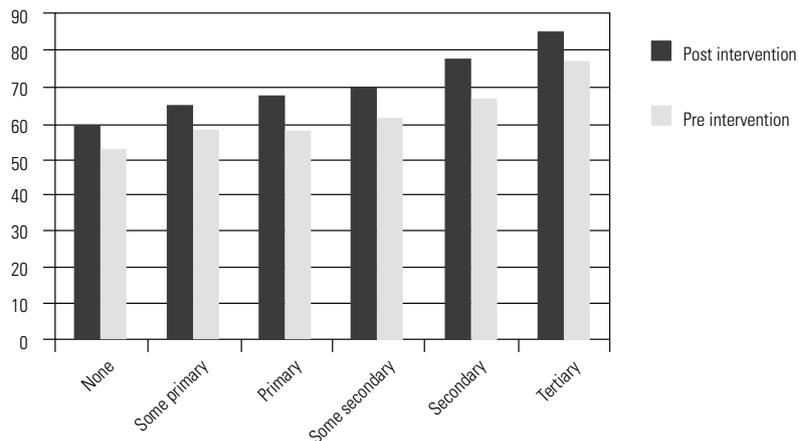
The level of knowledge about HIV infection prevention increased significantly following the intervention. The proportion mentioning different kinds of preventive methods increased from the baseline, with abstinence (58.2% in post-intervention survey) topping the list as against 27.6% in the baseline. Other preventive measures mentioned in both surveys, but at a higher percentage in the post-intervention survey, are regular use of condoms, avoiding the sharing of needles and other sharp objects, mutual fidelity and avoiding blood transfusions. In the baseline survey, 40.3% of the respondents indicated that they did not know any method of prevention; this improved significantly in the follow-up survey, as the percentage of "do not know" decreased to 4.2 (Figure 3).

Figure 3. Respondents' perception on the prevention of HIV infection



Their level of knowledge about associated risks between HIV/AIDS and sexually transmitted infections (STI) increased with 83.8% of the respondents in the post-intervention survey affirming that there are associated risks between HIV/AIDS and STIs as against 62.5% of the pre-intervention survey. The knowledge of the associated risks between HIV/AIDS and STIs gradually increased with the educational status of respondents both in the pre- and post-intervention surveys, but the increase was more remarkable in the post-intervention survey (Figure 4).

Figure 4. Relationship between education and awareness of associated risk between HIV/AIDS and STIs



In both the interventions, knowledge about the cure of HIV/AIDS varied. The percentage of people that did know that there is no cure for the disease as at the time of interview increased significantly from 11.2% in the pre-intervention survey to 38.4% in the post-intervention survey. Despite the intervention, quite a proportion still think one can obtain cure through traditional means.

The follow-up survey did not record much change in the respondents' attitude towards people living with AIDS (PLWA). The baseline survey revealed that respondents' general attitudes towards (PLWA) was very negative, with only 30.4% admitting that they will relate with PLWA as normal human beings. The percentage increased slightly to 33.9% in the post-intervention survey. Attitudes during both survey were not influenced by gender and education but were significantly influenced by age, with the older respondents having very negative attitudes.

As in the pre-intervention survey, more than half of the respondents had one or more sexual partners. The percentages are 38.1% and 40.1% for one sexual partner and 23.7% and 25.1% for two partners in the post- and pre-intervention surveys respectively. There was only a slight percentage decrease of those with two sexual partners. The number of people that had three or more sexual partners decreased after the intervention from 23.4% to 19.5%.

Discussion

Mass media and other forms of education campaigns have been used in various tropical countries including Nigeria to convey information, promote healthy practices and reduce transmission of HIV/AIDS and some other tropical diseases. The impact of educational intervention programmes on other conditions, for example, onchocerciasis, have been documented and reported to be effective in Nigeria (Manafa et al. 2003). This study extends information on the impact of mass education on HIV/AIDS.

The pre-intervention survey KAP of the people towards HIV/AIDS indicated an awareness of the disease. Their level of contact with the mass media and interactions with friends seemed to be important factors in determining and explaining people's KAP about the disease. Study from other countries indicated that the mass media have been very important sources for HIV/AIDS information (Benfo 2004).

There is no difference in the aggregate score of level of awareness between the pre- and post-intervention stages for both surveys. This implies that awareness, which is a fundamental requirement to behaviour changes in relation to HIV/AIDS, was high in Lagos State, even before the intervention, due to the high profile status enjoyed by HIV/AIDS information, education and communication in the last three to four years that resulted in the Nigerian government accepting the challenge of becoming the arrowhead of HIV/AIDS control in Africa.

Though studies from the literature indicate that people of low socio-economic status are not only economically poor but also find themselves severely restricted to basic information including health information, the post- and pre-intervention surveys were able to identify significant changes in levels of awareness across the states, but on aggregate terms, access to HIV/AIDS information in Lagos did not reflect the inequality in socio-economic status. Mass media as typified by television, radio, newspaper, magazines, pamphlets and stickers are the most singular important source of information, which is a similar to observation that of Ross and Carson (1988). Interpersonal information through friends, neighbours, workplaces and health facilities were also important source of AIDS information, which is in line with observations in other countries and studies.

It is interesting that similar proportions of the aggregate respondents did not have significantly improved knowledge, attitudes or practices in some areas. This observation may give an erroneous impression that the campaign had little or no impact on the population, rather the methodology applied to the study may be responsible for such observations. The messages were mass communicated and did not specifically target the respondents.

However, there appeared to be improvement in some other key knowledge areas such as identification of persons with HIV. Similarly, a significantly higher proportion was able to identify severe rapid weight loss and frequent sickness as signs and symptoms that could be used to identify PLWA. This observation could be attributable to the effect of the campaigns and mass communication.

The knowledge of the respondents on how HIV/AIDS can be controlled appeared to have increased with a significantly higher proportion identifying the positive role of mass campaigns,

abstinence and mutual fidelity of married couples as priority control measures. Other areas where improvement occurred in knowledge included the associated risks between HIV/AIDS and STIs, =HIV/AIDS and blood transfusions as well as regular use of condom.

Attitudes towards PLWA appeared not to have significantly changed, particularly with issues of stigmatization with similar proportions in the pre- and post-intervention surveys indicating they will avoid them. However, significantly higher proportions identified advice and counselling as a positive attitude towards PLWA in the post-intervention survey. In general terms the population appeared to be adopting some positive attitudes towards PLWA, which could be further enhanced with appropriate sustained messages.

Risk behaviours appeared to have changed slightly, with 43.2% having multiple sex partners compared to 48.5% in the pre-intervention survey. Similarly the proportion of occasional condom users increased slightly across the state. Previous awareness as indicated in the pre-intervention survey and their improved KAP does not mean that people have fully and generally forsaken long-standing behaviours and practices and support the view that education campaigns should be continuous until reasonable behavioural changes are observed and recorded within target communities. The gap in the distribution of knowledge and behaviour has also been described by Benfo (2004) in Ghana as well as in so many other developing countries as reported by Caldwell (1999) and WHO/GPA (2000).

Behaviours are generally influenced by factors such as age, education, social status, religious beliefs and the environment within which such populations reside. A fundamental assumption that is also true is that the information available and how such information is perceived, analysed and manipulated by societal values and norms influence behaviour. The intervention services of the dissemination of HIV/AIDS messages were able to identify most of the audiences and specific messages and channels that were used, thus the justification for using print media to capture the literate audience, radio, television and short plays/films for families, concerts, rallies and displays to capture the attention and interest of youths, while discussions and workshops at workplaces provided the needed messages to workers.

The study observed that the fear of God in terms of obedience to God's rules and laws was also given significant recognition, thus the need to utilize religious organizations as channels for dissemination of HIV/AIDS messages.

This study recorded some improvements in peoples' KAP towards HIV/AIDS after an education campaign. It also fully suggests that educational campaigns should be done on a continuous basis and assessed so as to measure their impact on the target populations.

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