



Effect of a Health Education Programme (HEP) on the HIV/AIDS Awareness among Students with Visual Impairment in Gindiri, Plateau State

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ABSTRACT

This study evaluates the impact of a Health Education Programme (HEP) on HIV/AIDS awareness among students with visual impairments in Gindiri. It is prompted by the observed low awareness levels of HIV/AIDS within this demographic. The primary objective were to determine the effectiveness of HEP as an intervention tool for enhancing HIV/AIDS awareness. Guided by three research questions, the study employs a quasi-experimental pretest-posttest control group design. The population includes all primary five and six pupils from the School for the Blind in Gindiri, with a sample of 10 students (balanced by gender) from these grades. The experimental group participated in the HEP, while the control group was not. Data were collected using a researcher-designed HIV/AIDS Awareness Instrument and analyzed using mean, percentage, and t-test statistical methods. The findings conclusively demonstrate the effectiveness of the health education programme in enhancing HIV/AIDS awareness among students with visual impairments. The baseline similarity between groups and the significant post-intervention gains in the experimental group validate the programme's impact. These results emphasize the importance of targeted and inclusive health education initiatives for addressing public health disparities among vulnerable populations.

INTRODUCTION

Health education programme is an integral part of community health which mainly based on all the health activities and measures that are carried out within the community to promote and protect the health of children of school and also the school staff. These activities may take place both within and outside the school compound. HIV stands for Human Immunodeficiency Virus. It is the virus which causes acquired Immune Deficiency Syndrome (AIDS). HIV/AIDS affects people from all walks of life regardless of race, gender, physique, educational background and socio-economic status (WHO, 2008). The awareness about HIV/ AIDS among adolescents has been reported to be high (Mummah, 2003). However, a significant number of studies reported that most adolescents still hold many misconceptions regarding HIV/ AIDS transmission and prevention (Sabwa, 2000). The pandemic continues to spread among adolescents without slowing down (WHO, 2005).

Information education and communication (IEC) interventions which have been Used to alert the general public about the risk of HIV/ AIDS have been based on the assumption that HIV/AIDS knowledge will cause people's sexual behaviour to change from risky sexual behaviour to non-risky behaviour or safer sexual practices. However, HIV/AIDS education on transmission and preventive measures has not particularly targeted the visually impaired students (Kendi, Mwenu and Kinai, 2012). Though HIV/ AIDS education has been integrated into school curriculum yet persons with visual impairment population are not taken into consideration. In addition, a lot of the HIV/AIDS literature available in schools, in print and electronic media is visual. This poses a great challenge to children with visual impairment.

Visual impairment also known as vision impairment or vision loss is a condition of decreased ability to see to a degree that causes problems not fixable by usual means such as glasses (Rein, 2013). There has been little research around the world on the need of people with disabilities with regard to HIV/ AIDS epidemic (Health and Disability working Group, 2004). Studies in South Africa, Uganda, Senegal and Zimbabwe reported that visually impaired youngsters have many mistaken ideas about HIV/AIDS and sexuality because they have lost access to information on HIV/AIDS and sexuality than their non-handicapped peers (Groce, 2003).

Visually impaired individuals face sexual temptations and are at a higher risk of HIV/AIDS due to lack of knowledge about safe sexual practices. Health education aims to promote health and prevent diseases through education-driven behavior change activities. This study aims to explore how a health education program could increase HIV/AIDS awareness among children with visual impairment, focusing on the importance of complete physical, mental, and social well-being.

Problem Statement/Justification

HIV/AIDS is a deadly disease that is ravaging the whole world. It is even worst that youths who are leaders of tomorrow are the most vulnerable due to their adventurous lifestyle. This problem makes awareness of HIV/AIDS to be very important to all and sundry. Though there seems to be increased awareness about HIV/AIDS, through literature, electronic and other forms of media. Yet all of these modes of awareness are not accessible to pupils with visual impairment. Hence at present, children with visual impairment are found to have poor awareness about HIV/AIDS (Dusu, 2014). However, irrespective of any form of disabilities, every human being is faced with sexual temptations. This situation makes persons with visual impairment to be at a greater risk as they have little or no access to information on HIV/AIDS. Moreover, most studies and interventions about HIV/AIDS do not incorporate persons with visual impairment. This makes the spread of HIV/AIDS among persons with visual impairment population to be high. Now the aim of the study will be to see how the use of a health education programme as an intervention strategy could be helpful in improving the HIV/AIDS awareness of students with visual-impairment using the school for the blind at Gindiri as a case study. Therefore, the study will answer the following questions:

1. What is the mean level of HIV/AIDS awareness among students with visual impairment before exposure to a Health Education Programme?
2. What is the mean level of HIV/AIDS awareness among students with visual impairment after exposure to a health education programme?
3. To what extent does the application of a Health Education Programme (HEP) affect the mean HIV/AIDS awareness of students with visual impairment?

Objective(s) of the Study

The main interest of the study is to investigate the effect of health education intervention on HIV/AIDS awareness among children with visual impairment in Gindiri school for the blind, Plateau State. Specifically, the study intends to:

1. identify the mean level of awareness of students with visual impairment about HIV/AIDS before intervention.
2. identify the mean level of awareness of students with visual impairment about HIV/AIDS after intervention.
3. determine the effect of health education programme on HIV/AIDS awareness on children with visual impairment

LITERATURE REVIEW

Concept of HIV/AIDS

HIV is an acronym for Human Immune Deficiency Virus. It is the virus that is responsible for causing acquired Immune-deficiency syndrome (AIDS). HIV is a virus that attacks and destroys the body white blood cells that help to fight germs and diseases, when a person is infected by the virus, the person may not notice any symptoms or may experience a brief period of influenza like illness (WHO, 2015). This is because the virus has a window period of six months before actual manifestation. As the infection progresses, it interferes more with the immune system, increasing the risk of common infection like tuberculosis, as well as other opportunistic infections and tumors that rarely affect people who have working immune systems (WHO, 2015). Symptoms occur in between 40-90% of cases and most commonly inflammation, a rash, headache or sores of the mouth and genitals (Mandell, Bennett & Dolan, 2010). Though the duration of the symptoms varies but it is usually between one or two weeks. In most cases, these symptoms are not often recognized as signs of HIV infection. Centre for Disease Control and Prevention (2010) noted that even cases that do get seen by a family doctor or a hospital are often misdiagnosed as one of the many common infectious diseases with overlapping symptoms. This is the reason why Elliot (2012) recommended that HIV be considered in people presenting an unexplained fever who may have risk factors for the infection. HIV destroys CD cells a specific type of white blood cell that plays a large role in helping our body to fight diseases (Gbenga and Igbinobu, 2013). The power of the body's immune system weakens as more CD cells are killed. As such HIV interferes with the body's ability to fight the organisms that cause diseases. One can have HIV infection for years before it develops into AIDS. It is when HIV has fully matured that it becomes AIDS. In essence, HIV infection eventually leads to AIDS (WHO, 1995). In the absence of specific treatment, about half of people infected with HIV develop AIDS while within ten years (Rockstroht, 2010). The most common initial conditions that alert to the presence of AIDS are pneumonia (40%) and candidiasis. Other common signs include recurring respiratory tract infections (Chu and Selwun, 2011). Opportunistic infections may be caused by bacteria, viruses, fungi, and parasites that are normally controlled by the immune system.

However, Simonds (2003) noted that people with AIDS have an increased risk of developing various viral-induced cancers especially cancer of the lymph nodes. Additionally, people with AIDS frequently have systematic symptoms such as prolonged fevers, sweats, swollen lymph nodes, chills, weakness and drastic weight loss. In 2014, statistics from around the world has it that about 36.9 million people were living with HIV and it resulted in 1.2 million deaths (WHO, 2015). Between the inception of HIV/AIDS and 2014, AIDS has caused an estimated 39 million deaths worldwide (Basic Statistics, 2015). At present, WHO (2016) documented that the 2014 statistics about

people living with HIV/AIDS have increased globally by 12% while the death toll has increased by 5%. In essence, it could be deduced that about 42.4 million persons worldwide are living with HIV/AIDS while HIV/AIDS have claimed about 1.6 million deaths. HIV/AIDS is considered a pandemic - a disease outbreak which is present over a large area and is actively spreading at a fast rate. HIV/AIDS has become a chronic rather than an acutely fatal disease in many areas of the world. Without treatment, average survival time after infection with HIV is estimated to be between 9-11 years (Basic Statistics, 2015).

Concept of Visual Impairment

Visual impairment, also known as vision impairment or vision loss, is a decreased ability to see to a degree that causes problems not fixable by usual means, such as glasses. Some also include those who have a decreased ability to see because they do not have access to glasses or contact lenses. Visual impairment is often defined as a best corrected visual acuity of worse than either 20/40 or 20/60 (Health and Disability working Group, 2004). The term blindness is used for complete or nearly complete vision loss. Visual impairment may cause people difficulties with normal daily activities such as driving, reading, socializing, and walking (Fishbein, & Ajzen, 1980). The most common causes of visual impairment globally are uncorrected refractive errors (43%), cataracts (33%), and glaucoma (2%). Refractive errors include near sighted, far sighted, presbyopia, and astigmatism. (Groce, 2003) Cataracts are the most common cause of blindness. Other disorders that may cause visual problems include age related macular degeneration, diabetic retinopathy, corneal clouding, childhood blindness, and a number of infections. Visual impairment can also be caused by problems in the brain due to stroke, prematurity, or trauma among others. These cases are known as cortical visual impairment. Screening for vision problems in children may improve future vision and educational achievement. Screening adults may also be beneficial (Rein, 2013). The World Health Organization estimates that 80% of visual impairment is either preventable or curable with treatment. This includes cataracts, the infections river blindness and trachoma, glaucoma, diabetic retinopathy, uncorrected refractive errors, and some cases of childhood blindness. Many people with significant visual impairment benefit from vision rehabilitation, changes in their environmental, and assistive devices. As of 2012 there were 285 million people who were visually impaired of which 246 million had low vision and 39 million were blind. The majority of people with poor vision are in the developing world and are over the age of 50 years. Rates of visual impairment have decreased since the 1990s. Visual impairments have considerable economic costs both directly due to the cost of treatment and indirectly due to decreased ability to work. The definition of visual impairment is reduced vision not corrected by glasses or contact lenses. The World Health Organization (2006) uses the following classifications of visual

impairment. When the vision in the better eye with best possible glasses correction is:

1. 20/30 to 20/60 : is considered mild vision loss, or near-normal vision
2. 20/70 to 20/160 : is considered moderate visual impairment, or moderate low vision
3. 20/200 to 20/400 : is considered severe visual impairment, or severe low vision
4. 20/500 to 20/1,000 : is considered profound visual impairment, or profound low vision
5. More than 20/1,000: is considered near-total visual impairment, or near total blindness
6. No light perception : is considered total visual impairment, or total blindness

Blindness is defined by the World Health Organization (2013) as vision in a person's best eye with best correction of less than 20/500 or a visual field of less than 10 degrees. In practice, the definition depends on individuals' visual acuity and the extent to which their field of vision is restricted. The Department of Health (2013) identifies three groups of people who may be classified as severely visually impaired. Those below 3/60 (equivalent to 20/400 in US notation) Snellen (most people below 3/60 are severely sight impaired).

1. Those better than 3/60 but below 6/60 Snellen (people who have a very contracted field of vision only).
2. Those 6/60 Snellen or above (people in this group who have a contracted field of vision especially if the contraction is in the lower part of the field).

The Department of Health also states that a person is more likely to be classified as severely visually impaired if their eyesight has failed recently or if they are an Older individual, both groups being perceived as less able to adapt to their vision loss.

In the United States, any person with vision that cannot be corrected to better than 20/200 in the best eye, or who has 20 degrees (diameter) or less of visual field remaining, is considered legally blind or eligible for disability classification and possible inclusion in certain government sponsored programs. In the United States, the terms partially sighted, low vision, legally blind and totally blind are used by schools, colleges, and other educational institutions to describe students with visual impairments. (Sabwa, 2000) They are defined as follows:

- a) Partially sighted indicates some type of visual problem, with a need of person to receive special education in some cases.
- b) Low vision generally refers to a severe visual impairment, not necessarily limited to distance vision. Low vision applies to all individuals with sight who are unable to read the newspaper at a normal viewing distance, even with the aid of eyeglasses or contact lenses. They use a combination of vision and other senses to learn, although they may require adaptations in lighting or the size of print, and, sometimes, Braille.

- i) Myopic - unable to see distant objects clearly, commonly called near-sighted or short-sighted.
- ii) Hyperopic - unable to see close objects clearly, commonly called far-sighted or long-sighted.
- c) Legally blind indicates that a person has less than 20/200 vision in the better eye after best correction (contact lenses or glasses), or a field of vision of less than 20 degrees in the better eye.
- d) Totally blind students learn via Braille or other non-visual media.

Visual impairments may take many forms and be of varying degrees.

Visual acuity alone is not always a good predictor of the degree of problems a person may have. Someone with relatively good acuity (e.g., 20/40) can have difficulty with daily functioning, while someone with worse acuity (e.g., 20/200) may function reasonably well if their visual demands are not great. The American Medical Association (2006) has estimated that the loss of one eye equals 25% impairment of the visual system and 24% impairment of the whole person; total loss of vision in both eyes is considered to be 100% visual impairment and 85% impairment of the whole person. Some people who fall into this category can use their considerable residual vision – their remaining sight - to complete daily tasks without relying on alternative methods. The role of a low vision specialist (optometrist or ophthalmologist) is to maximize the functional level of a patient's vision by optical or non-optical means. Primarily, this is by use of magnification in the form of telescopic systems for distance vision and optical or electronic magnification for near tasks. People with significantly reduced acuity may benefit from training conducted by individuals trained in the provision of technical aids. Low vision rehabilitation professionals, some of whom are connected to an agency for the blind, can provide advice on lighting and contrast to maximize remaining vision. These professionals also have access to non-visual aids, and can instruct patients in their uses.

Mode of Transmission of HIV/AIDS

The principal means of HIV/AIDS transmission is by having sex with a carrier. This is because the virus is found in the semen or other body fluids like blood. However, William (2007) documented that HIV is transmitted by three main routes: sexual contact, significant exposure to infected body fluids or tissues and from mother to child during pregnancy, delivery or breast feeding. Transmission from mother to child is popularly referred to vertical transmission.

HIV/AIDS Awareness among Students with Visual Impairment

Awareness as a concept is the ability to directly know and perceive, to feel, or to be conscious of events, objects, thoughts, emotions or sensory patterns (Wyart and Tallor, 2009). It is equally the state or quality of being aware of a thing that leads to reaction in a certain manner. Based on the premises above, awareness can be defined as the level of

understanding or consciousness one has about a thing. It involves the alertness of the senses to be able to respond to the object, situations or conditions according to knowledge. HIV/AIDS awareness refers to the level of knowledge or understanding individuals have regarding the diseases. In this regard, HIV/AIDS awareness means the level of knowledge one has about HIV/ AIDS. Evidences abound in literature (Aboki, 2009) that the level of awareness of HIV/AIDS among children with visual impairment is very low globally. Seminars by the visually impaired people reported a lack of knowledge and access to information on HIV/AIDS among visually impaired (NACC, 2006). Many studies carried out on adolescents and HIV/AIDS have concentrated on the sighted (non -visually impaired) population. There has been little research round the world on the need of people with disabilities with regard to HIV/AIDS epidemic but the few studies carried on the visually impaired reported low knowledge levels (Groce, 2003; Health and Disability Working Group, 2004; Kelly, 2004). The reason may be due to the interplay of many erroneous idea and beliefs about HIV/AIDS. Centre for Disease Control and Prevention (2015) noted that a number of fallacies exist which people hold about HIV/AIDS. Some of such include but not limited to the following.

- 1) HIV/AIDS is caused by demons or evil spirit.
- 2) HIV/AIDS can be cured by sleeping with a virgin.
- 3) HIV/AIDS can be treated with some drugs.
- 4) Mosquito bites, handshake etc can give one HIV/AIDS.
- 5) HIV/AIDS can infect only gay men and drug users.

These misconceptions mislead many young people hence they live carefree lifestyles that most times predispose them to HIV/AIDS infections. Another reason that has been advanced as a major cause of poor awareness of HIV/AIDS among persons with visual impairment is the denied access to information about HIV/AIDS. Kendi (2005) documented that majority of the available information on HIV/AIDS are in mediums which are not accessible to persons with visual impairment. Many citizens are holding unto many erroneous believes and practices including stigmatization and ostratization of HIV/AIDS patients due to poor awareness of the causatic agent of the disease and its modes of transmission. UNICEF (2005) noted that HIV/AIDS awareness among young people is very poor. The awareness of HIV/AIDS is usually created via electronics or print media. These media are not accessible to persons with visual impairment. As a result, the student with visual impairment seem to be at a greater risk of acquiring HIV/AIDS due to their susceptibility to physical abuse and the lack of intervention and appropriate preventive mechanisms or outreach (World Bank, 2004). There is need for HIV/AIDS information in accessible formats and the development of a training manual that is suitable for the visually impaired persons (Kendi, 2005).

Effects of HIV/AIDS on Pupils

HIV/AIDS is a disease that causes many dangerous effects which include health, psychological, social and economically. Health wise, HIV/AIDS attacks the antibodies in the human body and makes them very weak to the point that they are not able to fight against germs. This situation makes the patient vulnerable to opportunistic infection due to low immunity.

Psychologically, HIV/AIDS gives Trauma to the carrier due to stigmatization and other negative attitude of the public. The attitude of the society towards HIV/AIDS patient (which are usually negative cause emotion and psychological trauma to the victims etc). Infection with HIV/AIDS brings stigma around world in a variety of ways. Goodman (2008) categorized the HIV/AIDS related stigma to include ostracism, rejection, discrimination, avoidance or quarantine of persons who are perceived to be infected with HIV. In the same vein, Reid (2012) noted that in some placed, compulsory HIV testing is done without prior consent or protection of confidentiality of the patient. These stigma-related violence or fear of violence prevents many people from seeking HIV testing returning for their results or securing treatment, possibly turning what could be a manageable chronic illness into a death sentence.

Economically, infection with HIV/AIDS has impact on the person. Management of HIV/AIDS patients is very expensive. Apart from the fact that such persons may not be able to work effectively to earn money they will also require significant medical care. It was estimated in 2007 that there were 12 million AIDS orphans (Goodman, 2008). In the same vein Acherman (2012) noted that returning to work after beginning treatment of HIV/AIDS is difficult; and affected people often work less than the average worker. In the long run, this less productivity may lead to unemployment. Losing one's job (unemployment) especially of people with HIV/AIDS is also associated with suicidal tendencies, memory problems, and social isolation (WHO, 2006). This is because employment increases self-esteem, sense of dignity, confidence, and quality of life. In the same vein, infection with HIV/AIDS reduces the nation's taxable population by affecting many young adults and making them to be less productive. This situation causes a reduction in the resources available for public expenditure such as education, health services.

Also at the immediate family level, HIV/AIDS causes both loss of income and increased spending on healthcare. A study in Cote D' Voire by Essien (2006) showed that households having a person with HIV/AIDS spent twice as much on medical expenses as other households without HIV/AIDS patient. The cost is rather appreciating as the days go by. The additional expenditure in maintaining a HIV/AIDS patient leaves less income to be spent on education and other personal or family investment.

HIV/AIDS Intervention Techniques

These refer to strategies in form of awareness, campaign, instruction and education that are aimed at helping young people live a HIV-free life. Most young people are vulnerable to HIV/AIDS infection due to poor knowledge. They become victims by mere ignorance. In the present study, a Health Education programme will be used to help young people with visual impairment to live a HIV free life. The HIV/AIDS intervention technique is necessary for the health of the nation. Health is wealth, and a healthy nation is a wealthy nation. In this regard, the essence of the intervention is to educate individuals on how to live healthily and change their behaviour (which may be part of the cause of their ill health) in order to enjoy health. The purpose of HIV/AIDS intervention technique is to expose individual to some behaviours which they engage in out of ignorance which put them at risk of contracting or being infected with HIV/AIDS virus. This intervention technique is necessary because many children with visual impairment do not have access to printed media in order to get information about HIV and AIDS. This lack or difficulty makes them very vulnerable to HIV and AIDS infections. In the submission of WHO (2006) the purpose of health education is to positively influence the health behaviour of individuals and communities as well as the living and working conditions that influence health. HIV/ADS is one of the major diseases rampaging the whole world: its spread is becoming geometric; worst still the pandemic is infecting young adults thereby creating fear about the future of humanity. This is the rationale for a HIV/AIDS intervention technique. In the design of the present study, the participants in the study will be taken through series of health education topics which are basically centered on HIV/AIDS. The reason is to adequately and succinctly acquaint them with accurate and timely information about HIV/AIDS as well as some risky behaviours which they ought to desist from to avoid being infected. This teaching is necessary because most of (if not) all the information about HIV/AIDS are presented in book forms (printed media) which are traditionally not accessible to or useable by children with visual impairment. In the HIV/AIDS intervention technique, other forms of information dissemination different from book or print form will be used which will benefit all including children with visual impairment (who are the main focus of the study). It will involve tutorial/teaching which children with visual impairment will access via their auditory senses (ears) which they

are not impaired. The intervention technique proposed for the study entails teaching, instructing, creating awareness about and educating the children with visual impairment about HIV/AIDS, its causes, history, mode of transmission, effects and prevention strategies by the researcher. The essence is to adequately inform the visually impaired children about HIV/AIDS so as to be able to live a HIV/AIDS-free life. This mode of intervention is considered most appropriate (Kendi, 2005) to be used for creating awareness about HIV/AIDS to children with visual impairment because assimilation of the lesson is done by the use of the ear (not the eye) and the brain coordination.

METHODOLOGY

The study adopted the quasi-experimental design, specifically, the pretest and posttest control group design. In this design, there are usually two groups called the control and experimental groups. The two groups are not exposed to the same treatment, but different treatments. In this study, the experimental group was exposed to a health education programme (HEP) (referred to as treatment or intervention) while the control group was not exposed to the health education programme. At the end of the intervention period, the two group were post tested to determine whether a significant difference existed between them in terms of awareness of HIV/AIDS. The population for the study consisted of all

Students in the school for the blind at Gindiri. There are a total of 42 pupils at School of the blind, Gindiri, hence the population is 42 pupils. The sample for the study consisted of 10 pupils that were selected out of a population of 42 students at School for the blind Gindiri. Data that obtained were analysed using the mean, percentage and t-test. The percentage and the mean were used to answer the three research questions.

RESULTS AND DISCUSSION

Results

Research question one: What is the mean level of HIV/ADIS awareness among students with visual impairment before exposure to a Health Education Programme?

Table 1: mean level of HIV/ADIS awareness among students with visual impairment before treatment

Groups	N	Mean Score	Group Mean Difference	Remarks
Control	5	65.6%	0.4	Not Significant
Experimental	5	65.2%		
Total	10			

The data in Table 1 reveal that the mean level of HIV/AIDS awareness among students with visual impairment prior to the health education programme

was very similar for both the control and experimental groups. The control group had a mean score of 65.6%, while the experimental group scored 65.2%, resulting

in a negligible mean difference of 0.4%. This indicates that both groups started from nearly the same level of awareness, and the difference was not statistically significant. This establishes a comparable baseline for further assessment of the health education programme's impact.

Research question two: What is the mean level of HIV/AIDS awareness among students with visual impairment after exposure to a health education programme?

Table 2: mean level of HIV/AIDS awareness among students with visual impairment after treatment

Groups	N	Mean Score	Group Mean Difference	Remarks
Control	5	67.6%	22.4	Significant
Experimental	5	90.0%		
Total	10			

Table 2 illustrates a marked difference in post-test scores between the control and experimental groups. While the control group showed a slight increase to a mean score of 67.6%, the experimental group demonstrated a significant improvement, achieving a mean score of 90.0%. This resulted in a group mean difference of 22.4%, which is statistically significant. These findings suggest that the health education programme had a substantial impact on improving the

HIV/AIDS awareness of students with visual impairments in the experimental group, whereas the control group, without exposure to the programme, showed minimal improvement.

Research question three: To what extent does the application of a Health Education Programme (HEP) affect the mean HIV/AIDS awareness of students with visual impairment?

Table 3: Mean/Mean gain in scores of controls and experimental groups

Groups	Type of test	N	Mean Score	Group Mean Difference	Remarks
Control	Pretest	5	65.6	2.00	Low
	Post-test	5	67.6		
Experimental	Pretest	5	65.2	24.8	Great extent
	Post-test	5	90.0		

From Table 3, the mean gain scores between pretest and post-test for the control and experimental groups highlight the programme's effectiveness. The control group had a mean gain of 2.0%, indicating a low impact from natural exposure or other factors unrelated to the intervention. In contrast, the experimental group achieved a mean gain of 24.8%, reflecting a significant improvement in awareness following the health education programme. This suggests that the application of the health education programme greatly enhanced HIV/AIDS awareness among students with visual impairments.

DISCUSSION

The baseline data in Table 1 indicate that the mean level of HIV/AIDS awareness among students with visual impairments was almost identical for both the control and experimental groups before the intervention. Specifically, the control group had a mean score of 65.6%, while the experimental group scored 65.2%, with a negligible mean difference of 0.4%. This lack of significant difference establishes that the two groups were comparable at the outset. Such a baseline is critical in experimental studies to ensure that

observed changes can be attributed to the intervention rather than pre-existing differences (Cook & Campbell, 2019).

Post-intervention data in Table 2 reveal a stark contrast in HIV/AIDS awareness between the two groups. The control group, which did not receive the health education programme, showed a marginal increase in mean awareness to 67.6%. However, the experimental group demonstrated a substantial increase to 90.0%, resulting in a significant mean difference of 22.4%. This suggests that the health education programme was highly effective in enhancing awareness among students with visual impairments.

The improvement in the experimental group aligns with findings from similar interventions in which tailored health education programmes significantly increased knowledge and awareness of health issues in marginalized populations (World Health Organization, 2018). The difference between groups underscores the importance of targeted educational efforts to address specific gaps in awareness.

Table 3 provides a comparison of mean gains in awareness between pretest and post-test scores for the control and experimental groups. The control group exhibited a mean gain of only 2.0%, indicating minimal

change, likely due to incidental exposure or natural learning processes. Conversely, the experimental group achieved a remarkable mean gain of 24.8%, showcasing the profound impact of the health education programme.

This finding reinforces the effectiveness of structured health interventions in improving knowledge and altering attitudes toward health issues, particularly among populations with disabilities (UNICEF, 2021). The significant gain highlights the necessity of accessible and inclusive educational materials tailored to the needs of students with visual impairments.

CONCLUSION

The findings conclusively demonstrate the effectiveness of the health education programme in enhancing HIV/AIDS awareness among students with visual impairments. The baseline similarity between groups and the significant post-intervention gains in the experimental group validate the programme's impact. These results emphasize the importance of targeted and inclusive health education initiatives for addressing public health disparities among vulnerable populations.

Recommendations

1. Educational institutions and health policymakers should integrate structured health education programmes designed specifically for students with disabilities to address knowledge gaps effectively.
2. Government should ensure that health education resources are available in accessible formats such as Braille, audio recordings, and interactive sessions to cater to the needs of students with visual impairments.
3. Government should provide training for teachers and facilitators to deliver health education in a manner that accommodates the unique needs of students with disabilities, enhancing the programme's reach and effectiveness.
4. Establish mechanisms to regularly assess the impact of health education initiatives on awareness levels to ensure their continued relevance and effectiveness.

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