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Scaling up the Prevention, Treatment, and Control of Sexually Transmitted Diseases (STDs) through use of Information and Communication Technologies (ICTs) in the Provision of Information to Undergraduate Students at Moi University College of Health Sciences, Kenya

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Abstract: ***Many university students in Kenya are vulnerable to various STDs due to inadequate use of information in scaling up the prevention, treatment, control, and care of STDs. The aim of the study was to investigate scaling up the prevention, treatment, and control of Sexually Transmitted Diseases (STDs) through use of Information and Communication Technologies (ICTs) in the provision of information to undergraduate students, and make recommendations. The specific objectives were to: establish the kind of information needed by students and channels of communicating information in their bid to scale up the prevention, treatment, and control of STDs, establish the types of ICTs being used to provide information to students in scaling up the prevention and treatment, and control of STDs, determine the benefits of using ICTs to provide STDs information in scaling up the treatment, treatment and control of STDs among students, identify challenges hindering provision of STDs information to students through ICTs, with a view of making recommendations for improvement. The study was qualitative in nature with some aspects of quantitative techniques and adopted a case study approach. The sample size was 125 comprising undergraduate students at Moi University College of health sciences. Data was collected by use of questionnaires, interviews, and documentary review. Qualitative data collected were analyzed qualitatively by organizing it into themes from which generalizations were made, while quantitative data was analyzed using SPSSP Version 21. Results showed that students had various information needs for scaling up the prevention, treatment, and control of STDs. Various ICTs disseminate information to students, which include: desktop computer, laptops, internet, e – mail, Radio, TV, among others. Information provision to students was hampered by various factors such as poor infrastructure, lack of well defined policies, inappropriate STDs information, and inadequate staff. As a result, a large number of them did not satisfy their information needs in scaling up the treatment, prevention, and control of STDs. Based on the findings, the study recommends that the college should formulate policies and strategies on provision of STDs information to the students at the college, improve ICTs infrastructure, embark on effective and continuous capacity building in ICT, maximize use of available resources, lobby for budgetary allocation for improved utilization of ICTs.***

Keywords: Information and Communication Technologies (ICTs), Sexually Transmitted Diseases (STDs), University Students, Information, Moi University College

1. Introduction

Information is indispensable in any organization and better informed people make better decisions and its impact can only be felt if there is an effective means of identifying, processing, and availing information for easy retrieval to those who need it. The information offered must be in response to the information needs and any activity at hand. Thus, dissemination activity takes information to the user and ensures that the user receives the most relevant and reliable information on a regular basis. The act of taking information to the user by use of ICT is the core of this study. For any health sector to offer quality services there is need for quality research which can use research findings to offer better healthcare. Amoth (2000) while writing about the use of information by health workers in health care programmes notes that there is need to introduce information technology in health information centre to provide both local support facilities such as CD - ROM searches and access to regional, national and international networks. The Kenya Vision 2030 proposes among other elements a dynamic information and communication infrastructure that can facilitate processing, communication and dissemination of information. The bill of Rights in the Kenya Constitution gives more impetus to this by guaranteeing citizens access to information in article 35, thus, every citizen has the right to access to information.

According to Kenyan ICTs policy (2006), most countries such as Kenya are at some stage of health sector reforms to try to provide equitable access to quality services while reducing rising cost of healthcare. Thus, integrated ICT provides solutions to the increased demand for quality, efficiency, and improved workflow to help healthcare operations. In hospitals healthcare ICT has improved quality by increasing adherence to guidelines, enhancing disease surveillance, and reducing errors, accurately profile individual health risk to understand better, and to revolutionize diagnosis through new imaging and scanning technologies. Such technological development, however,

demands increased responsibility of managers, police makers, in assessing of new technologies. Outcomes and challenges in implementing and utilizing ICT applications in healthcare delivery can be accomplished successfully only if the required information is available as and when required (United Nations Economic Commission for Africa (2002**).**

Sexually transmitted diseases (STDs) are diseases that are mainly passed from one person to another by means of human sexual behaviour including vaginal intercourse, oral sex, and anal sex (Ministry of Health, Division of Reproductive Health, 2006). They affect men, women and children globally. These include: syphilis, Chlamydia, genital warts, gonorrhea, human immunodefiency virus, hepatitis, genital herpes, thrush, and genital candidosis, among others. According to Sikirime (2001), STDs and other problems resulting from sexual activity have increased among adolescents. He notes that HIV/AIDs are among the leading causes of the burden of disease. Every individual irrespective of age, sex, race, tribe, and so on is at risk but World Health Organization (2006) identified youth aged between 13 – 19 years as the group with the highest infection of STDs. This is because of their rapid development as they are going through hormonal and psychological changes. According to the Ministry of Health in Kenya (2006), risk factors/ behaviours among youth that contribute to STDs/HIV infection include: cultural practices, multiple sexual partners, unprotected sexual contact, drugs and substance abuse, among others. Studies carried out in various parts of Kenya show that students indulge in sexual relationships with inadequate information thereby placing their health at risk (Chikonzo, 2005).

Moi University is a Kenyan public university located in Eldoret, western Kenya. The Moi University College of Health Sciences was established in 1989 and comprises the schools of Medicine, Nursing, Public Health and Dentistry. It trains health care providers, nurses, doctors, public health officers and dentists. The College has a learning resource centre designed and organized to provide information to its users. The college offers information services through the Learning Recourse Centre, which disseminates information to students such as current awareness, internet, reference and referral, and information searching and retrieval services, among others information services.

2. Statement of the Problem

Although developments in ICTs can help in addressing some of the problems which hinder students from accessing adequate, relevant, and current information in satisfying their information needs in scaling up, treatment and prevention of various STDs, the Moi University College of Health Sciences lacks the ICT infrastructure which can enable information workers to fully manage and maintain automated information systems. There is no adequate funding by the government, thus making it difficult to avail STDs current information sources. Another challenge is that of information overload because there is a lot of information in different formats and from a myriad of sources making it confusing to students as to which is authentic. Existing information provided through ICTs in the university are not fully adapted to changing information needs of students since these needs have not been established in empirical study. Information illiteracy is another challenge because students do not possess the requisite skills to search and access the information they need particularly on the internet. The use of ICT among students, most of who have not reached the ranks of policy makers level has not yielded any fruit in curbing STDs. Lack of proper guidelines on STDs information provision to ensure the information is tailored to the target group is another challenge.

Since Moi university HIV/AIDs and STDs policy was enacted in 2006, the university set out to provide STDs information to the students, no study has been conducted to ascertain its progress. In addition, Moi University has tried to provide students with some information infrastructure; but it is not enough to provide students with computers and connectivity to the internet. The college has a resource centre with information channels of communication, which have not embraced ICT highly. Furthermore, staff lack skills to provide students with the right information. Social media and emerging technologies require monitoring and assessing their impact, which is a challenge at the College. Students therefore, are not provided with STDs information and lack access to adequate, appropriate, reliable, and accurate information to speed up the treatment, control, and prevention of STDs. It is against this background that the study set out to investigate the use of ICT in provision of information to students at the College, with a view of making suggestions for improvement.

The specific objectives of the study were to:

- Establish the kind of information needed by students and channels of communicating information in their bid to scale up the prevention, treatment, and control of STDs.
- Establish the types of ICTs being used to provide information to students in scaling up the prevention, treatment, and control of STDs.
- Determine the benefits of using ICTs to access and provide STDs information in scaling up the treatment, treatment and control of STDs among students
- Identify challenges hindering access to and provision of STDs information to students through ICTs
- Recommend measures that should be taken to improve use of ICTs in accessing and providing information to students in order to prevent, treat, and control.

3. Literature Review

According to Blair (2000), research, development programmes, health care issues can be accomplished successfully only if the required information is available as and when required. Many researchers among them those from the World Health Organization (2006) have underscored the need for good health. In their studies they have documented that STDs are a public health problem in most parts of the world due to lack of information. They add that lack of relevant information on some STDs such as HIV/AIDs is the main cause of increased spread of STDs. Yugi (2002) recognizes that university students have to change their behavior because HIV/AIDs is a serious problem facing mankind. Sekadde- Kigondu et al., (2009) discuss that the most frequently suffered STDs among university students was gonorrhea, followered by syphilis

and Aids. A study in Nairobi by Loma (1992) shows that majority adolescents obtained their knowledge from unreliable sources such as friends and peers. He notes that the youth indulge in sexual relationships with inadequate information thereby placing their health at risk. Furthermore, STDs education has not helped them to stop irresponsible sexual activity patterns of behaviours and has experienced little attention, thereby putting them at risk of getting STDs. Moi University (2002) states that ICTs are important and therefore students should be enabled to use them to access information.

Namaru et al (2009) indicate that young people aged 15 – 24 require adequate, timely and relevant information so that they can make informed decisions about their sexual life. They need to be informed on the causes of STDS such as HIV/AIDS and how they can protect themselves against getting infected. It is noted that young people lack accurate information and that the youth are most vulnerable group as WHO (2006) shows, the 15 -24 year olds comprise 20 % of the world population yet account for 60% of new infection of HIV/AIDS every year. Thus, it is imperative that young people are provided with information to prevent, control, and treat STDs. That high proportion of students indulge in unprotected sex at universities due to peer influence and lack of knowledge. It is clear from the literature review that information is necessary in enabling people to lead healthy lives and that ICTs have the potential to improve healthcare delivery, including the prevention, treatment, and control; of STDs among university students.

4. Research Methodology

The study was qualitative in nature and had some aspects of quantitative techniques and adopted a case study approach. The study population of 125 respondents was drawn from Moi University College of Health Sciences. The study focused on Moi University undergraduate students at the college in all the years of study. According to Moi University handbook (2014) there are 1460 undergraduate students at the college. This was used as a sampling frame. The study focused on undergraduate university students because of their educational endeavours and if they are provided with adequate, relevant and current information through various ICTs, they can scale up STDs treatment, prevention, and control, thereby improve their health, and be involved in socio – economic development.

The target population was 1460 students from College of Health Sciences. This was stratified proportionately according to the number of students in the four schools respectively. Ten percent sample was selected from each school leading to a total sample size of 125 for the study. In addition to this, five key informants were interviewed, who included: Director of ICT, Librarian, Clinical officer, Principal, College of Health Sciences, and the Finance Officer. Purposive sampling was used to get to Key informants, as a result of their skills and position within the College. Convenience sampling was used to get to the respondents to interview them.

Data was collected by use of interviews, and documentary sources. This enabled the researcher to collect enough data from the respondents. Qualitative data collected were analyzed qualitatively using Grounded by organizing it into themes from which generalizations were made, while qualitative data was analyzed using SPSSP. Grounded Theory technique was used to analyze answers from semi-structured questions, where common responses were grouped into themes. First, data was organized by transcribing interviews, sorting data, and scanning through the field notes. Secondly, data was coded in three stages namely, open coding – categories were labeled, axial coding where themes created during open coding were related to one another, and finally selective coding where themes and core categories emerged. At this stage, major themes came up which led to theory. Data was presented through tables. Creswell (2003) defines data analysis as an exercise which involves looking at the data, assigning categories and putting together emerging issues into themes in an attempt to answer the research questions. Data analysis is a systematic process of transcribing, collating, editing, coding and reporting the data in a manner that makes it sensible and accessible to the reader and researcher for the purpose of interpretation and discussion

5. Ethical consideration

Approval for the study was sought from Moi University‘s Institutional Research and Ethics Committee (IREC) before data collection commenced. The study participants were informed on the importance and purpose of the study and were also assured of their confidentiality and that of information obtained. Consent was obtained from undergraduate students taking part in the study. The researcher maintained a high level of integrity by acknowledging all other peoples work referred to in the course of research, kept information collected from respondent’s confidential and maintained anonymity. In addition, at no point was any respondent’s name given or a description given that reveals the identity of the respondents.

6. Results

The sample size in the study comprised of 125 from who use of interview was used to investigate use of ICTs in the provision of information for scaling up the prevention, treatment, and control of STDs. Regarding the general characteristics of students, 59% were males and 41 % were females. The majority of the participants 96% were between 19 – 24 years old. Five of them were married and 120 were singles. When asked about their knowledge of STDs, it was revealed that most of the participants had heard about common STDs such as HIV/AIDS, syphilis, gonorrhea. Some students had suffered from some STDs such as syphilis, gonorrhea, chancroid, urinary tract infection, among others. Majority 75% students were aware of the contributory factors for STDs as multiple sexual partners, unprotected sex, rape, sex under the influence of alcohol, and peer influence, among others.

The study findings showed that students needed different kinds of information to satisfy their information needs which included, treatment for STDs, among others as indicated in the table 1.

Table 1: The kind of information needed by students in their bid to scale up the prevention, treatment, and control of STDs (n = 125).

Kind of information needed by students	*No of respondents*	*%*
Treatment for STDs	94	75
Symptoms of STDs	93	74
Management of STDs	90	72
Types of STDs	86	69
Control of STDs	85	68
STDs care	79	63
STDs transmission	79	63
Available drugs	70	56
Use of medications and their side effects	69	55
Use of Condoms	60	48
Prevention	58	46
Where to get tested	45	36
Epidemiology	16	13

6.1 Multiple Responses

It is clear from the table 1 above that more students needed information on treatment for STDs (75%), than on prevention 46%. It is interesting to note that students needed information for treatment than on prevention. This may be explained that those students sought for information when they already had STDs. Thus, continues access to adequate and up to date STDs information is important if scaling up prevention and control of STDs. The important thing to note is that ICT can be used to enhance provision of the said information and therefore help meet the desired need in the course of scaling up the treatment, prevention, and control of STDs.

Table 2: Channels through which students receive STDs information (n = 125).

Channels of communication	No. of Respondents	%
Oral communication	100	80
Meetings	99	78
Notice boards	98	77
Posters	98	76
Memos	97	75
Newspapers	96	74
Magazines	92	73
Bronchures	91	72
Newsletter	91	72
Letters	90	71
Circulars	90	70
Talks	86	69
Internet through e - mail	72	58
Seminars	68	54
Conferences	62	50
University website	62	50
Social media	61	49
Web - based discussion groups	45	36
Exhibitions	40	32
Networking	36	29

6.2 Multiple Responses

Findings showed that (80%) students received information orally compared to other forms of communication such as e - mail. The key informants confirmed that official communication at college was through meetings (78%), followed by notices 77%, posters (76%), memos (75%), and e – mail (58%) and so on. This shows that oral communication through meetings was very popular, while communication through e – mail was limited at (58%). These results would seem to confirm even with the adoption of information technologies, oral communication remains an important mode of communication. The respondents were asked if they were on social media, and some 49 % said they had social media accounts on one or several networks. 52% used their real names, while 25 % used pseudo names. One of the key informants from ICT department said the use of social medial would not be easy to control and that it is not easy dealing with faceless clientele. Respondents said social media can be used for official communication because it is widespread, could reach many people at ago and can go fast and far. However, the other 51% respondent disapproved of the use of social media saying it can easily be distorted and was generally casual. All the respondents admitted to having sound assistance from ICT staff at one time or the other to solve their problems. However, it was apparent that lack of ICT resources and lack of needed skills affected service delivery by ICT staff. Thus, the above channels of communication were not very effective in providing STDs information to students.

Types of ICTs being used to provide information to students

Table 3: ICTs available to students (n = 125).

ICTs available	*No of Respondents*	*Percentage*
Mobile phone	100	80
Desktop computers	98	78
Laptops	92	74
Internet	91	73
Television	90	72
Flash discs	89	71
Radio	86	69
Email	82	66
Databases	74	59
Social media	72	58
Personal Digital Assistant	67	53
Online discussions	65	52
Videoconferencing	45	36

6.3 Multiple Responses

The students were provided information through a range of ICT facilities. These included mobile phone, desktop computers, laptops, printers, telephone, among others.
ICTs preferred by students were mobile phone, internet, and television. This is shown in Table 3. The results suggest that students use various ICTs to access and be provided with information

Benefits of using ICTs to access and provide STDs information and their potential in scaling up the treatment, treatment and control of STDs among students

Some of the students found the STDs information received through various ICTs useful as the information made the students aware of issues related to STDs/HIV/AIDs and enabled students to make informed decisions about their sexual life . The information also constantly reminded them of the HIV/AIDS scourge. Information through various ICTs were used to design automated information systems; map the

STDs within the college, strengthen the delivery of public education messages; networking of health professionals; accelerate the treatment and prevention methods of STDs, and help to form networks. At the same time scale up the application of virtual medicine or telemedicine; develop STD National health information systems, and eliminate duplication, among others. Thus, information from use of the available ICTs was used to promote better health behavior; improved decision making , promoted information exchange among peers, and enhanced effectiveness of information delivery to students at the college.

Challenges faced in provision of and access to STDs information through use of ICTs.

Table 4: Barriers to information provision n=125

Challenges faced	No. of respondents	%
Poor ICT infrastructure	100	80
Corruption and inadequate funding	90	72
No monitoring mechanism in place	86	69
Inadequate ICT skills and competences	77	62
Lack of policies and procedures to guide.	76	61
High rates of power outrages	74	58
System failure	72	57
High accost of access	60	48
Lack of computers	60	48
Low bandwidth	59	70
Inadequate budget	58	46
Poor security and confidentiality controls	46	37
Institutional culture	47	38
Reliability and authenticity	30	24

6.4 Multiple Responses

Findings showed that there were many challenges faced in provision and access to TDs information through the available ICTs. The challenges mentioned were of magnitude to stop the use of ICT in provision of information to students.This means that Moi University has not been fully effective in disseminating HIV/AIDS information to the students. Moreover, the promotion of STDs/HIV/AIDS education and awareness among students, which is the objectives of Moi University policy, has only partly been met. Table 4 summarizes the responses on barriers to information provision.

Table 5: Measures to improve the use of ICT in provision of information (n = 125)

Measures to improve the use of ICT in provision of information	No of respondents	Percentage (%)
Provide computers to students who do not have laptops	120	96
Establish a centre where students can access information	99	79
Internet connectivity - wireless	89	71
Regular capacity building in ICT skills	88	70
Encourage use of ICT resources	87	70
Establish information sharing networks	85	68
Improve the Budget	84	67
Review ICT policy	83	66
Repackage and disseminate information	76	61
Research between institutions	65	52
Sharing of knowledge and insights	58	46
Improve infrastructure	46	37
Connectivity between professionals, and students, and hospitals	44	35
Facilitate access to library and other information sources	34	27
Outreach activities	22	18

6.5 Multiple Responses

Respondents were of the opinion that dissemination of information through ICTs should be improved especially provision of information resources to the students who do not have ICTs resources Train the students on how to use ICT effectively and efficiently in order to scale up the prevention, treatment, and control of STDs as presented in table 5.

7. Discussion

According to the study findings, majority 51% were males and 49 % were females. This is an indication of a well balanced group in terms of gender orientation. This could perhaps be an indication of the university organization embracing the gender balance opportunity. This is also good for the study since the opinion of both genders is equally presented. From the results it was clear that majority of the respondents were doing degrees in health sciences. The results suggest that this is a good group who are reasonably educated, and therefore is in a better position to answer questions and give technical opinion on the subject of the study. As showed in the study, majority of the participants were aged between 20 to 27 years. This is an indication that the College has a young population which can use computers and be able to use ICT comfortably with minimum challenges. This supports WHO (2006) that more than half of the people that are newly infected with STDs such as HIV/AIDS in Kenya are aged between 15 – 24 years. Kenya Commission for University Education (2013) quoting the Kenya Demographic and Health Survey 2008/2009 notes that the majority of STDs such as HIV/AIDS new infection in Kenya occur among young people of 15 – 24 years.

The results show that students need various kinds of STDs information such as treatment for STDs (75%), symptoms of STDs (74%), management and care (72%), while 46% needed information on prevention of STDs, among others. This indicates that majority students believed in the treatment of STDs as opposed to prevention. They needed information on treatment, symptoms of various STDs and how they can protect themselves from getting infected. Namaru et al., (2009) note that information needs of students needs to be satisfied so that they can make informed decisions about their sexual life to prevent STDs. This means that readily available, up to date information enables people to make timely and informed decisions. Chikonzo (2005) indicates that young people aged 15 – 24 require adequate, timely, and relevant information so that they can make informed decisions about their sexual life, the causes of STDs and how they can protect themselves against getting infected. They add that continued access to adequate and up to date STDs information is important if humanity is to win the war against the HIV/AIDs scourge.

The results suggest the main means of communication of STDs information is verbal communication from health professionals, family members and friends because they are trustworthy and also readily available. Students received STDs information in different ways depending on their availability. The most easily accessible sources were verbal from the health centre followed by meetings, posters, memos, and print media. For example, posters were placed in many locations in the university, e.g. on walls, buildings, notice boards. The university often distributes information in print form such as booklets, brochures, leaflets, among others. This makes it possible for the information to reach a large number of students or target group. University students are often disseminated with STDs information through reading, printed sources, watching television, listening to radio and attending lectures conducted by resource persons. According to Namaru et al (2009), university students prefer visual format followed by magazines, radio, television, books, friends, and health officials The above mode of communication are preferred by students because they are open, provide detailed information, and are easily available.

The available types of ICTs through which students accessed and were provided with information were: mobile phone (80%), desktop computers (78%); and laptops (74%) internet (73%), Television (72), among others. As revealed in the study, most students received STDs information orally at the university health centre. This means that a lot of electronic resources are underutilized because ICT infrastructure is low making it difficult to access electronic resources. This goes to show that even with the adoption of ICTs in the Kenyan universities, oral communication still remains an important media of communication. The internet was the other major source for most students with the exchange of information via websites and email. Mwangi (2006) supports this that email increases the avenues by which information can be shared worldwide, which is crucial to have ready and available up to date information. This enables students to make timely and informed decision making as well as efficient allocation and mobilization of resources to treat, prevent, and control STDs. As a result, the use of the internet has significant potential to improve healthcare decision making, enhance health management, and produce better patient outcomes among students.

Majority of the respondents in this study reported that they had knowledge and skills to use ICT in their daily activities. This corresponds to a study by Gatero (2010) where most respondents had adequate ICT skills to utilize ICT tools and services effectively. This could be attributed to a majority of the respondents being of younger generation and in college. A few respondents in this study had ICT training intergrated in their basic healthcare course. The results show that 62% respondents lacked adequate skills to use various ICTs. This is in line with Mwangi (2006) that medical doctors and nurses lack skills to effectively exploit ICT services and facilities as computer courses and training was not part of the curriculum of medical studies. However, efforts to strengthen ICT knowledge and skills through training are likely to result to improved ICT utilization in the treatment and prevention of STDs.

It was also revealed that the level of ICT use is limited, occasioned largely by inadequate provision of requisite resources and infrastructure, inadequate involvement of stakeholders in use of ICT, lack of physical access to ICTs, as well as lack of an overall ICTs culture among stakeholders. This confirms that low and middle income countries including Kenya continue to benefit less from the potential of electronic technologies due to high costs, low levels of skills, and absence of effective operational and regulatory frameworks (ITU, 2012).These findings help in indicating potential solutions to problems of ICT use in accessing information. Ouma and Herselman (2008) in their study on e-health in rural Kenya note that health workers were positive to e-health initiatives if only infrastructure, training, cross-sector linkages and government policy are addressed.

A key finding is that there are factors that impede access to and utilization of ICTs which include: lack of technical infrastructure, such as electricity, telephone, and the technical capabilities of the students who use ICTs. There is also inadequate funding of libraries by parent organizations thus making it difficult to avail timely information to students. The National Information & Communications Technology Policy of Kenya (2006) based on four guiding principles: infrastructure development, human resource development, stakeholder participation and appropriate policy and regulatory framework aims at addressing the lacuna in the previous laws and among its policy framework. It aims at Ensure affordability and access to ICT nationally and addresses issues of privacy, e-security, ICT legislation, cyber crimes, ethical and moral conduct, copyrights, intellectual property rights and piracy. However the policy is beset by challenges: investment in ICTs, Network versatility, training, ethical dilemmas (protection of personal data), and legal/regulatory gaps.

8. Conclusion

This study concludes that undergraduate students at the College need different kinds of information on treatment, symptoms, prevention, control, management and care of STDs, among others. They used various communication channels such as word of mouth, memos, and circulars, and so on. Students had general awareness of the common STDs including HIV/Aids but their knowledge about use of ICTs in scaling up, prevention, and control was limited. They used various ICTs such as mobile phone, desktop computers, laptops, internet and TV to access information on STDs. This enabled them to access and be provided with information in their bid to scale up the treatment, control, and prevention of STDs. Although students got some information from the available communication channels and available types of ICTs, the information provided to them was not adequate enough in scaling up the prevention, treatment, and control of STDs. Thus, if students in public universities could get access to sufficient information in an appropriate format they can strengthen their ability to solve problems, make decisions and choices, and take desired actions in scaling up the treatment, prevention, and control of STDs. This can also increase their knowledge of STDs, by enabling them to complete their studies well, perform

their activities more efficiently, leading to empowerment and consequently improved health outcomes.

The study concludes that management of the university should provide ICTs and internet resources to the students and with basic computer skills and training to access adequate information in scaling up treatment, prevention, and control of STDs**.** It is clear from the study results that students require adequate, timely and relevant information in order to control and understand how vulnerable they are when they engage in risky sexual behavior. The study also notes that there is room for ICT to be used optimally at the college of Health sciences to enhance the provision of information to students. The conclusion draws its strength from students who are still young and therefore should be able to use ICTs to access and be provided with information.

9. Recommendations

The results suggest that students do not access adequate information in scaling up the treatment, prevention and control of ICTs. It is recommended that the University College of Health sciences should review the STDs programme that disseminates information to students to increase their knowledge. This will enable students to access information through various ICTs to satisfy their information needs in the treatment, prevention, and control of STDs. The results also show that students lack ICT skills to access STDs information. The implication here is that students may not access adequate and be provided with quality information. It is thus recommended that staff and students should be equipped with ICT skills to enable them access STDs information. The university should raise awareness amongst staff and students of the importance of ICTs in providing information in scaling up and prevention of STDs. Thus, it is imperative that young people are informed about the dangers of STDs and how they can keep themselves safe. There is need to strengthen the channels of communication in the university which can increase awareness and the risks involved in casual sex and sensitize students on the dangers of careless and sexual activities and to improve healthcare quality and safety, thereby scale up the treatment, prevention, and control of STDs amongst students.

Use of various ICTs hold great potential in solving problems of capture, storage and communication of information for STDs prevention, control, and care. The implication here is that this can facilitate quick and informed actions that can enable students to build social networks on prevention, treatment, control, management, and care services. It is thus recommended that ICT training should be integrated in the basic healthcare course curriculum, to equip students with knowledge and skills to be able to utilize ICT applications in healthcare.

The study reveals that the university college lacks proper policies so as to ensure the availability of the necessary STDs information. It is recommended that the university should formulate policies on provision of STDS/HIV/AIDs information .To be more effective in the struggle against HIV/STDs, the potential offered by ICT is for this information to be repackaged and disseminated to different target groups of students in the prevention and control of STDs. ICT should be introduced in the curriculum of every basic health professional course. Moi University should develop appropriate ICTs infrastructure, implement ICTs education and training programme for staff, and involve all stakeholders in decision-making. The university should also strengthen information management committees, encourage innovativeness among all students in the university and build social support networks. This could increase efficiency of STDs treatment and care and at long last scale up the prevention, treatment, and control of sexually transmitted diseases (STDs).

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