

ASSESSING CULTURAL BOUNDARIES AND BARRIERS TO HIV/AIDS
PREVENTION IN SUB-SAHARAN AFRICA

By

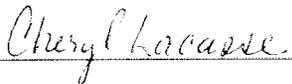
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Table of Contents

I. Acknowledgements.....4

II. Abstract.....5

III. Chapter 1.....6

IV. Chapter 2.....24

V. Chapter 3.....41

VI. Chapter 4.....68

VII. References.....74

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Abstract

The Human Immunodeficiency Virus (HIV), the cause of Acquired Immunodeficiency Syndrome (AIDS), is a chronic and progressive disease that is easily transmitted but also easily prevented. The best practice for HIV prevention among women of childbearing age in Tanzania proposed in this paper is based on the current evidence-based strategies being implemented by the World Health Organization, the Joint United Nations Programme on HIV/AIDS (UNAIDS), and the government of the United Republic of Tanzania. The best practice proposed is focused on increasing knowledge, increasing access, and decreasing discrimination through community involvement. An implementation pilot based on the best practice program proposed for a rural community is presented. By increase both access and knowledge, there can be a decrease in HIV transmission for women of childbearing age.

Assessing cultural boundaries and barriers to HIV/AIDS prevention in sub-Saharan Africa

Chapter 1: Introduction

There is a continued effort and need for Human Immunodeficiency Virus/ Auto Immune Deficiency Syndrome (HIV/AIDS) prevention in sub-Saharan Africa. While some strategies are more effective than others, the global community is still working towards lowering risk for women of child bearing age and eliminating mother-to-child transmission. In 2011, Hillary Clinton, US Secretary of State and former First Lady, spoke at the National Institute of Health and stated, “our efforts have helped set the stage for a historic opportunity, one that the world has today: to change the course of this pandemic and usher in an AIDS-free generation” (Clinton, 2011, pp1). The purpose of this best practice project is to explore current prevention strategies for HIV infections and develop a best practice approach to decrease the incidence of HIV infection for women of child bearing age in sub-Saharan Africa.

Overview of HIV

Progression of Disease

Understanding the progression of HIV within the body is a starting point for developing prevention strategies. HIV is the cause of AIDS. This virus causes a chronic and progressive disease. HIV attacks and destroys the body’s immune system. HIV is a retrovirus, meaning the virus’s genetic information is stored in RNA verses in DNA like human cells (Wagner, 2010). There are three main phases of the HIV infection that an individual will experience, the initial infection, the latent period, and ultimately the progression to AIDS the final stage. During the initial infection, the individual may or may not experience flu-like symptoms, an increase in ear and sinus infections and a general feeling of malaise. The body’s immune system is being overwhelmed by this initial influx of viruses that are attacking the CD4+Tcells which puts the

individual at higher risk for minor opportunistic infections (Wagner, 2010). After the first two months, the body's immune system is able to bounce back and control the current amount of HIV within the system; this is the progression into the latent phase. During this period, the individual feels healthy with no obvious symptoms of disease (Stine, 2010). While there is a higher viral load during the initial infection phase and during AIDS, an individual has a greater potential for transmitting the virus during the latent phase due to the length and lack of symptoms. The latent phase can last from six years to twenty-five years with antiretroviral (ARV) medications. With the increase in access of ARV medications prolonging the latent phase, HIV positive individuals can now live longer and symptom-free lives (Wagner, 2010).

ARV medications are able to delay the progression of the disease within the body. These medications are not a cure and over time the virus in the individual's body will overcome the immune system, leading to the last phase of HIV infection: which is AIDS. In this final state of the disease the body's immune system can no longer fight off opportunistic infections, for example tuberculosis, and cancers. There is currently no cure for HIV infection (Stine, 2010).

Modes of Transmission

There are identified modes of transmission which present avenues for prevention. The modes of transmission identify opportunities for prevention and health promotion. A way to understand the modes of HIV transmission from person to person is to identify the bodily fluids that contain a high concentration of HIV and areas of the body where these fluids can be exchanged. The bodily fluids that contain a high concentration of HIV are blood, semen, pre-seminal fluid, vaginal fluid and breast milk ("Fluids of Transmission", 2011). The areas of the body where HIV can be exchanged are the lining of the anus and rectum, the lining of the vagina and cervix, the meatus of the penis or opening at the tip of the penis, oral sores and bleeding

gums and any open cut or sore on the body (“Fluids of Transmission”, 2011). In other words, the fluids listed above which contain HIV must come in contact with the mucous membrane, weakened tissue or the blood stream in order to transmit HIV to an uninfected individual (“HIV Transmission, 2010).

The most common way HIV is transmitted is through unprotected or unsafe sexual behaviors: either homosexual or heterosexual, anal or vaginal. While there is a small risk with oral sex, the risk of transmission is dependent on open sores within the mouth and esophageal tract. Unprotected or unsafe sexual behaviors are generally defined as penetration of the penis within the anus or vagina, pre-ejaculation and ejaculation without the use of a condom (“Fluids of Transmission, 2011). During every sexual encounter there is a risk for transmission when one partner is HIV positive. The next mode of HIV transmission is vertical transmission or mother-to-child transmission. In an HIV-positive mother while the fetus is developing in utero, HIV is able to cross the placental barrier thus putting the fetus at risk. Also during birth, there are large amounts of maternal, HIV positive blood that could infect the baby. The last opportunity for mother-to-child transmission is during breast feeding (Stine, 2010). Breast milk does contain HIV and as the baby begin to teeth there are opportunities for transmission. Also, teething or improper latch on the breast can lead to open sores on the mother’s nipple which can lead to infant exposure. The final mode of transmission is blood-to-blood either through open wounds and sores or the improper disposal of needles or needle sharing as associated with intravenous drug use. All of these modes of transmission have a current prevention method in order to break the chain of transmission. Safer sexual practices, delaying sexual onset, ARV therapy for mothers, using formula or a wet nurse to protect the baby from exposure, strict hospital protocols for needle safety and clean needle programs are current methods of prevention (Stine, 2010).

While these seemingly easy actions can and do save lives, they have currently not been effective enough in combating this global epidemic.

Background

Global Impact of HIV

The first known cases of HIV infection were in 1981, and in a little over thirty years, HIV has spread to all corners of the globe, with “approximately 34 million people... living with HIV and nearly 30 million people have died of AIDS-related causes...” (The Kaiser Family Foundation(KFF)[Fact Sheet], 2012, pp1). While every case of HIV infection is devastating to the individual, community and country, 97% of HIV positive individuals live in low and middle income countries, with 69% of HIV positive individuals living in sub-Saharan Africa (KFF, 2012). This creates the largest impact on healthcare and other institutions in countries that are already at a disadvantage developmentally in the global community. This health disparity is one reason for the focus of this best practice project on this region of the world. There is a higher incidence of infections for young adults, slightly less than half of new infections are in individuals 25 years old and younger (KFF, 2012). This debilitates individuals during their most productive years for industry and education (KFF, 2012). The global prevalence rate of HIV is 0.8%, while the prevalence rate of HIV in Sub-Saharan Africa is 4.9%, over five times higher than the global prevalence of HIV (KFF, 2012). There were about 2.5 million new infections in 2011 globally with 1.8 million occurring in sub-Saharan Africa, or almost 5,000 new individuals infected with HIV every single day in sub-Saharan Africa (KFF,2012). Due to the large amount of new infections occurring daily in sub-Saharan Africa, a best practice project of prevention in this region would help a substantial amount of people.

While these statistics are helpful in understanding the large scale impact, when working with prevention programs and strategies the most valuable data is based on incidence. Incidence is the amount of new infections that occur over a period of time. The goal of prevention is to reduce the incidence of that event. For example, there were 2.7 million new HIV infections in 2010, which is “down 21% from the peak of the global epidemic in 1997” (UNAIDS “Data Tables”, 2011, p. 2). In addition to this decrease globally, the incidence rate has also fallen in 33 countries, 22 being within the most devastated region of sub-Saharan Africa (UNAIDS “Data Tables”, 2011). This shows large strides in prevention. The statistic of incidence will be used for evaluation of prevention programs.

While in the United States the initial onset and incidence of HIV was among homosexual males, that is not currently the situation globally. Worldwide, women make up half of infected individuals and 58% in sub-Saharan Africa, HIV-related deaths are the “leading cause of death among women of reproductive age” (KKF, 2012, pp1). Also, women between the ages of 15-24 are two times as likely to become infected as males within the same age range (KKF, 2012). This is another health disparity that is effecting the most vulnerable population since women in sub-Saharan Africa are already faced with negative gender inequalities, lack of access to services as compared to men, and increased sexual violence (KKF, 2012). Focusing the best practice project towards prevention of HIV in women of child bearing age would help to alleviate this disparity and make a greater impact on the region if successful.

These statistics present an overview of the devastating impact of HIV infections on communities globally and in the most vulnerable region of sub-Saharan Africa. The region of sub-Saharan Africa is composed of an estimated 800 million people who speak over 1,000 different languages, living in 47 different countries, with numerous tribal, religious and ethnic

backgrounds (Bowden, 2007). It would be unrealistic and culturally incompetent to try to create a best practice project for such a large region. I have narrowed down my research to the sub-Saharan African country of Tanzania, which has been greatly affected by the HIV epidemic, which has also been very active in providing effective prevention and treatment services. Hopefully, the basics of this project could be used to support other future research in the countries similar to Tanzania and within sub-Saharan Africa.

Tanzania's HIV epidemic. While Tanzania is a unique country within the larger region of sub-Saharan Africa, it has been significantly impacted by the HIV epidemic. Also, there is enough diversity within Tanzania that creating a successful best practice protocol for this country could later be expanded to countries similar to Tanzania and ultimately expanded to the greater sub-Saharan African region.

Tanzania is a country on the eastern coast of Africa, comprised of the mainland Tanzania and the island of Zanzibar off the Indian coast. The population of Tanzania is 46.2 million people with an average life expectancy of 58.2 years ("Tanzania", 2011). The infant mortality rate is 45.4 per 1,000 live births ("Tanzania", 2011). The prevalence of HIV in Tanzania is 5.9% of the population between the ages of 15-49 ("Tanzania", 2011). This prevalence rate is higher than the prevalence of the region of sub-Saharan Africa (4.9%). By focusing on a country with a higher amount of existing infections than the greater region, the best practice project could make a greater impact on preventing new infections. The HIV epidemic has affected Tanzania's national statistics by lower it's life expectancy, higher infant mortality, higher death rate, lower population growth rates and shifts to the extremes of population age distribution (CIA Factbook, 2013). Based on 2011 estimates, 1.6 million people are living with HIV and 760,000 women over the age of fifteen are living with HIV. That means 55% of the individuals infected with HIV

are women (UNAIDS, 2011). These are the mothers, the daughters and sisters; these are the caregivers of the community. The major industries of Tanzania are gold and tourism but the foundation of the economy is agriculture which provides a quarter of the GDP, 85% of exports and employs 80% of the population (CIA Factbook, 2013). In Tanzania there are over 120 different ethnic groups with unique histories, culture, social organization and tribal language. (Kurian, 1992). Less than 1% of Tanzania's population is composed of non-Africans ("Tanzania Demographics Profile 2013", 2013). In Tanzania, one third of the population identifies as Christian, another third identifies as Muslims and the final third is composed of numerous indigenous/tribal and some Asian religions (CIA Factbook, 2013). Tanzania is an ideal starting point for a best practice strategy for a prevention campaign because of its high prevalence rate of HIV which is higher than the prevalence rate for the greater sub-Saharan region, and its cultural diversity so the best practice project's methods of implementation could be used in different countries with their own unique cultural differences.

The structure of Tanzanian Healthcare is as follows: first the Village Health Service composed of one or two healthcare workers for each village who are elected by the village government and participate in minimum government training. These individuals provide the largest amounts of the primary care within the village. The next level is Dispensary Services which are able to provide basic health services to 6,000-10,000 people and supervise all village health posts within their area. The next level is the Health Center Services where each facility care for an administrative district, around 50,000 people. The next level of care is the district and the regional hospitals which provide all acute healthcare needs for their district and region ("Health", 2000). Due to the large population and geographic area these hospitals serve, it could be a day or two days travel to reach a hospital from a village. Tanzania has tried to increase their

access for HIV treatments with one in four healthcare facilities have HIV counseling and testing, one in eight have the ability to provide mother-to-child prevention, but only 4% are able to prescribe antiretroviral therapy to individuals in need (“Tanzanian Health Care Facilities”, 2007). Even with access to this care when available, “only 33% of health care facilities, including half of all hospitals, have running water” (“Tanzanian Health Care Facilities”, 2007, p.1). Other basic necessities are in very limited supply. For example, only 33% of healthcare facilities have the essential resource of soap, 50% have an adequate supply of latex gloves and less than 33% have effective process for needle disposal and infectious waste (“Tanzanian Health Care Facilities”, 2007). This healthcare system is overworked and unable to meet the needs of the people it serves. Now with the great number of HIV positive individuals becoming older and sicker, they will put a larger strain on this already overworked system. A strategy of prevention which would eliminate new infection and thus keep individuals out of the hospital would help to decrease this burden. Also, while this description of the healthcare system presents a very grim picture, for the majority of individuals living in Tanzania even going to a dispensary or a hospital is beyond their means due to the large amount of time required, high transportation costs and even lack of access to transportation.

About seventy percent of the Tanzanian population lives in rural villages, which is the targeted population for this best practice protocol (CIA Factbook, 2013). The population in rural villages in Tanzania has limited access to healthcare services and prevention campaigns but high prevalence rates of HIV. Through community support, people could align with this cause of prevention to save their wives, their families, their daughters and their village.

Significance

This health issue is important for all health professionals to be aware of and to be part of the change. Individual lives, families, and communities are being destroyed and countries' healthcare systems are being overworked, through a best practice model of prevention this suffering can be alleviated. In Tanzania and in other countries around the world, mothers and women in general, are the life blood or the center of the family unit, improving their health practices will improve the health practices of the entire family, community and the greater village. Preventing infection of mother, eliminates mother-to-child transmission entirely. While these are idealistic goals, they are achievable with the development of a best practice project of prevention which could be implemented in rural Tanzania.

Emotional Burden

The extreme emotional cost of HIV is devastating to individuals, families, communities and countries. The individual burden of a premature death, being unable to take care of and provide for the family and the continual fear of being discriminated against and isolated by your partner and community is overwhelming. For families the emotional burden is of taking care of individuals, being surrounded by death and sickness and fear of associated discrimination and stigma.

For example, I was able to work with a family in rural Tanzanian village. The family had adopted their nephew because his mother and father had died of what is believed to be an opportunistic infection associated to AIDS. The family was never tested or this information was not shared with the other relatives. When the nephew was orphaned, he was tested for HIV; the results were positive. This child had grown up living with HIV and was only to begin to decline with the observable signs of drastic weight loss, persistent respiratory symptoms and diarrhea at age nine. He had watched his mother and father become sicker and sicker, until they were unable

to take care of him and ultimately die all within the family's one room home. When he was all alone, his uncle and aunt adopted him into their home which was already filled with six other children. The uncle and aunt did not understand the modes of HIV transmission and isolated their nephew from the rest of the children fearing that the nephew would infect them during play or at meals. What is the emotional cost of this experience on this young life? A child with no other choice but to care for and watch both parents die, to be invited into a new home but to be kept at a distance and told continually that he would make the other children sick just by being around them. This is a child who has the advantage to live with an uninfected family, as compared to the million of AIDS orphans who are all alone with no one to take them in off the streets. By preventing the spread of this illness, children will no longer be orphaned, communities will understand the pathology and families and individuals will be saved.

Financial and Developmental Burden

The financial burden is expands to billions of dollars and all sectors of the global community are contributing to this global cost. Through prevention, there is an opportunity to decrease the number of individuals who become sick and require treatment and thus decrease expenses. Prevention is a low cost alternative to a lifetime of ARV therapy and hospital or health center cost for treatment of opportunistic infections and end of life care. Besides the billions of dollars spent on this global problem every year, the communities and countries affected are suffering from developmental costs as well. When young people are getting sick and eventually dying, they are missing the opportunities of school or work, until they become a burden on their family and the community. They are unable to provide for their families or to care for their children. Preventing this illness will increase both the available financial resources but also people able to work and further advance their community.

Personal Significance

The issue of HIV in rural Tanzanian communities is one that is personally very important to me. As the author of this thesis, I had the experience to work and live in the rural community of Shauri Moyo, outside of Babati, Tanzania for two months during the summer of 2011. Shauri Moyo was a village of about 500 people. I taught an educational and behavior change program to adults and children in this community. Living in a small village in rural Tanzania, showed me what an impact HIV/AIDS has had: how people are scared for their children and their own future, how people have adjusted to a way of life that includes death of young people, and how people feel helpless being so far away from any healthcare facility.

In the home next to where I was living, there was a man who was dying of AIDS. He was so weak he could no longer get out of bed, all he could eat without getting sick was a flour-water mush that is deficient in nutrients but very common in rural villages. His younger sister provided all of his care, while taking care of her own two year old son and working for food from other families within the community. Her husband left her when the brother came to live with them out of fear of infection. He was thirty-one and will probably die in that bed. This whole family's situation is impacted by HIV, a best practice project for prevention could have saved not only this young man's life but allowed for the sister to pursue other work that could further benefit her young child, and a child who might still have a father. HIV does not affect single members of a community; whole families are devastated and this creates further burden on the community as a whole.

Purpose

The purpose of this best practice project is to explore current prevention strategies for HIV infections and develop a best practice approach to decrease the incidence of HIV infection for women of child bearing age in sub-Saharan Africa. This project includes development of a pilot for the implementation of best practices in HIV prevention in rural Tanzania (a country representative of sub-Saharan Africa).

Guiding Theoretical Frameworks

The theoretical frameworks used to evaluate the current prevention strategies for HIV in Tanzania are the Expectancy-Value Model and the Health Promotion Model. Both of these models focus on what factors impact the decision making process and why individuals make behavior changes to improve their health. One of the important factors highlighted in both models is that of culture and personal value. The cultural environment a person lives in is the foundation for their set of values and thus decision making. This influence is necessary to recognize when developing prevention or behavior change strategies because the way individuals or individual communities value the problem and behavior will make change attainable or unattainable. By developing culturally competent prevention strategies, the researcher can use an understanding of cultural values as a catalyst for immediate and sustainable behavior change.

Expectancy-Value Model

The Expectancy-Value Model states that all human behavior is rational and economical (Pender, 2006). A person who starts a specific action and will continue with that action to either gain a positive personal outcome or a believed future positive personal outcome based on their current understanding (Pender, 2006). Based on those two motivations for actions, if an individual or group of individuals does not see value in the outcome they will not invest their

time or resources in the action. When considering HIV prevention for women of child bearing age a personal outcome would be HIV negative children, healthy children, and being healthy enough themselves to provide for and support their family. Also, if the individual believes that the outcome is impossible no matter how desirable or valuable, most will not invest their time or resources into that action. So in order to allow for successful behavior change, it needs to be presented in an attainable way consisting of small changes that have a large impact.

Understanding this model based on health promotion, the researcher needs to be in tune with the individual or groups perceived value of the outcome and if it is perceived to be achieved. A more simplistic visual description of the expectancy-value model is shown in Figure 1.

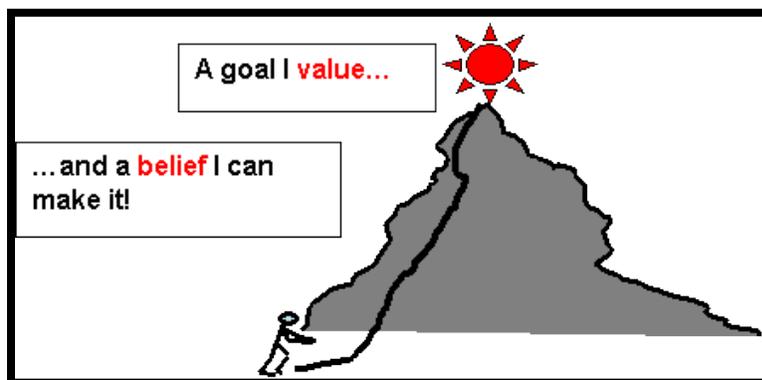


Figure 1: (The Expectancy-value Theory of Motivation. (2011). Retrieved from Cambridge Regional College website: http://www.teacherstoolbox.co.uk/T_Expectancy-value.html)

Health Promotion Model

The Health Promotion Model is the basis for many behavior change interventions because it considers multiple factors that affect community and individuals reasoning for a change in behavior (Pender, 2006). The first label is “Individual Characteristics and Experiences”; while this is important for learning and better understanding the community. Identifying these characteristics will help the researcher to better understand the population and community. Identifying a behavior change that would be valued by many members of the

community based on their past experiences and characteristics could lead to further success (Pender, 2006, p. 51). The next factor identified by the Health Promotion Model is prior related behavior. Past behavior is the “best predictor” for future behavior (Pender 2006, p.51-2). Understanding a community’s current or prior behavior is extremely valuable for health promotion; it provides a starting point but also identifies a challenge to overcome. What is the community doing and why? Prior related behavior recognizes the important of habit formation and habit strength, meaning each time a behavior is performed the likelihood of the specific behavior being repeated is increased until the behavior becomes a habit and part of the community’s routine. The next section is “Personal Factors”; this section isolates the community or individual’s demographics. Understanding personal factors could be achieved through key informant interviews and allows for the researcher to personalize the intervention to the community.

The next section is “Behavior-Specific Cognitions and Affect” this section can be modified by the nursing intervention and is considered the “core” or the focus of the intervention (Pender, 2006, p. 52). This section describes how an individual understands a behavior and the effect that the knowledge has on their own behavior. The general idea is that with an increase in knowledge there will be an increase in motivation for behavior change leading to health promotion. By learning the modes of HIV transmission communities could be motivated by the knowledge of behaviors that will prevent and protect themselves from acquiring HIV. The next section is “Perceived Benefits of Action”; this section relates back to the previous theoretical framework described, the Expectancy-Value Model. When an individual believes that there are benefits to gain with a certain behavior, they are more likely to perform that behavior. The future benefit motivates the community’s behavior change and drives them towards health promotion.

The next section is “Perceived Barriers to Action”; again this section relates to the previous theoretical framework described. If the community recognizes barriers, either real or imagined, then there is a decrease in motivation to overcome these barriers and to change the target behavior. These perceived barriers need to be either overcome or addressed in order to continue on with a successful behavior change. For example, there are many barriers to condom use like religious motives against contraceptive use, rumors about HIV spread through condom use, and their ineffectiveness. The next section is the community’s or individual’s “Perceived Self-Efficacy”. Efficacy is the personal belief that one can accomplish or excel at a task which they engage in. If an individual has high self-efficacy, they believe they will be successful at the actions and behaviors they engage in. A community that is highly engaged and has a high self-efficacy is usually more successful with a targeted behavior change, due to the belief that it can and will be achieved.

The next section is “Interpersonal Influences”, all the thoughts about “behaviors, beliefs or attitudes of others” (Pender, 2006, p. 55). The interpersonal influences are based in societal norms for behavior, the support of others around for a target behavior and learned based on others actions. If a target behavior is able to penetrate into the normal behavior of a community, it will be continually reinforced even after the intervention through modeling and positive support by other members of the community. The basis for this factor of influence on behavior change is an individual is influenced by the actions of the greater community, a band wagon approach. The next section is “Commitment to a Plan of Action”; if the community or individual is highly committed to the plan or the health promotion, they are more likely to complete the plan to fruition. Though plan might be completed, there is still the factor of the target behavior’s sustainability after the intervention or plan is finished. The end result of having health mothers

which results in health babies is highly valued and could lead to further commitment. The next section is “Immediate Completing Demands and Preferences”, this relates to all the other behaviors or actions the community or individual could engage in that is not the desired target behavior (Pender, 2006, p. 56). This section includes every obstacle that faces the target behavior in the community, could be devastating to an intervention if it is not considered. This is every other option besides the target behavior.

The last section is “Health-Promoting Behavior”, this is the “endpoint or action outcome in the [Health Promotion Model]” (Pender, 2006, p. 57). When working with a community or individual considering all the factors and sections of the health promotion model will increase success and enable the best planning for a behavior change and lead to long lasting health promotion. The Health Promotion Model is very specific to the community or individual in order to be effective. When planning an intervention or best practice project the community’s culture and values must be investigated and serve as a cornerstone for the project.

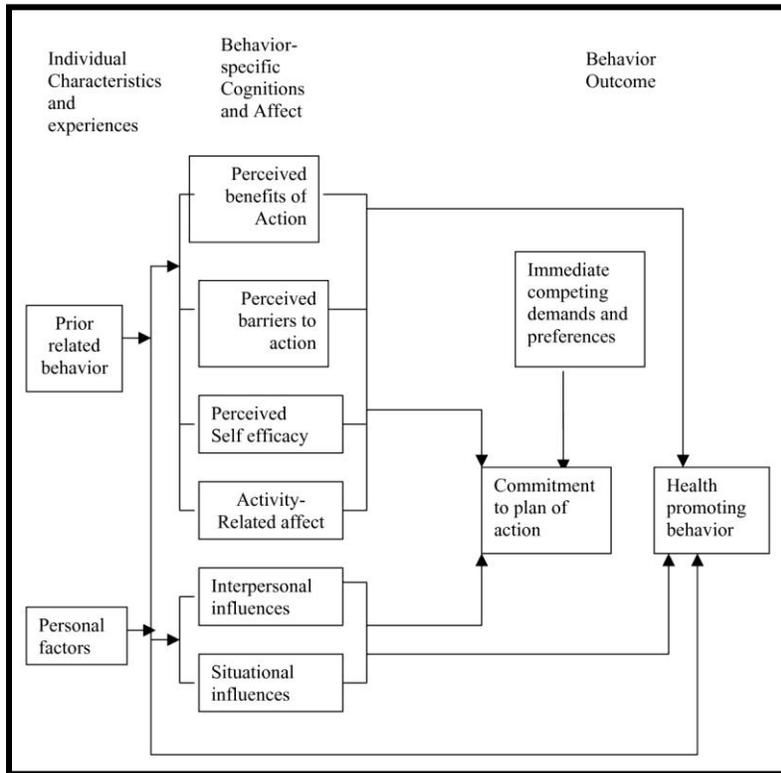


Figure 2: Health Promotion Model (Pender, N. J., Murdaugh, C. L., & Parsons, M. A. (2006). *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Pearson.

Summary

The progression of the HIV infection provides more opportunities for transmission than other chronic diseases. The three modes of transmission, sexual transmission, mother-to-child transmission and blood-to-blood transmission all allow for prevention opportunities. While HIV has affected all of the region of sub-Saharan Africa, the sub-Saharan country of Tanzania has been greatly affected and will provide an ideal country to develop a best practice approach for HIV prevention. Tanzania is an ethnically diverse country, made up of rural communities with a healthcare network that is lacking resources, and unable to provide for the demands of the population. The prevention of HIV is significant to healthcare professionals and the global community because of the emotional, financial, and developmental burden. The purpose of this

best practice project is to evaluate current preventions strategies and to develop a best practice approach to decrease the incidence of HIV infections for women of child bearing age in sub-Saharan Africa with a focus on Tanzania. The theoretical frameworks that guide this discussion are the Expectancy-Value theory and the revised Health Promotion model because of their description of why individuals make decisions and the importance of cultural values within the decision making process.

Chapter 2: Review of Literature

Introduction

The World Health Organization, (WHO), and the Joint United Nations Programme on HIV/AIDS, (UNAIDS), have developed strategic protocols to combat the current HIV epidemic. Both of these approaches are rooted in evidence-based practice, and evaluation of previous methods of prevention, treatment and care (UNAIDS, 2011 &WHO, 2011). These two protocols are very similar in their approach to achieve the Millennium Development Goals surrounding HIV/AIDS and due to the scarcity of current resources have aligned on certain efforts in order to prevent waste (WHO, 2011). With the focus on country led programs, I will discuss and evaluate the United Republic of Tanzania's previous prevention, treatment and care strategy.

World Health Organization's Strategy

Overview

There are four strategic directions of the WHO's strategy. The first is to "optimize HIV prevention, diagnosis, treatment and care outcomes" with the goals of "revolutionize HIV prevention, eliminate new HIV infections in children, catalyze the next phase of treatment, care and support and to provide comprehensive and integrated services for key populations" (WHO, 2011, p. 1). The second direction is to "leverage broader health outcomes through HIV responses" and this will be achieved through "strengthening links between HIV programs and other health programs" (WHO, 2011, p. 1). The third strategic direction is to "build strong and sustainable systems" and this will be achieved by "strengthen[ing] the six building blocks of health systems" (WHO, 2011, p. 1). The final direction is to "reduce vulnerability and remove structural barriers to accessing services" and this will be achieved through the goals of "promot[ing] gender equality and remove harmful gender norms, advance human rights and

promote health equality, and ensure health in all policies, laws and regulations” (WHO, 2011, p. 1). The WHO’s approach and strategy is to combat all areas of the HIV health issue, since this best practice project is focused to women of child bearing age, I will further discuss the areas of this strategy that are relate to prevention for women of child bearing age, specifically components of direction one, two and four.

Strategic direction 1. Creating HIV prevention programs, a combination of behavioral (counseling), biomedical (ARV therapy and testing) and structural programs (reducing stigma), that are specialized to the country’s epidemic are the “most effective approach to reducing new infections and improving service coverage...” (WHO, 2011, p. 11). Programs to decrease sexual transmission of HIV include “behavior change counseling, male and female condom programming, early initiation of antiretroviral therapy, safe male circumcision, post-exposure prophylaxis and quality-assured HIV testing and counseling of serodiscordant couples” (WHO, 2011, p. 11). The WHO has identified these interventions as ways to currently address sexual transmission among couples. They plan to continue to support and guide current interventions, and to expand to create an “evidence-based HIV prevention package” (WHO, 2011, p. 12).

The next focus of direction one is to eliminate new infections in the pediatric population. The strategy to achieve this goal is by “prevention HIV infection in women of child-bearing age,” decreasing unplanned pregnancies, reducing mother to child transmission and provide ARV treatments to women living with HIV (WHO, 2011, p. 12). In partnership with the United Nations Children’s Fund, (UNICEF), WHO will be promoting “provider-initiated HIV testing and counseling...” in antenatal, maternal, newborn and child health services and continued implementation on WHO’s guidelines for antiretroviral medications in pregnancy, breast feeding and for infants (WHO, 2011, p. 13). In order to stay up to date and effective in care, WHO will

support continued “evidence-based reviews” on current practice and further research for better implementation strategies (WHO,2011, p.13).

A third focus is on the best way to diagnose, treat, and holistically care for an HIV positive individual. HIV testing “must be voluntary, confidential and accompanied by appropriate counseling,” this will provide for better avenues of prevention strategies or induction into appropriate treatment (WHO, 2011, p. 13). Implementation at the country level for treatment is to update national protocols in order to start ARV treatment as soon as CD4 cell counts are less than or equal to 350/mm³ and to provide nutritional support to clients (WHO, 2011, p. 13). Provide early diagnosis and treatment for opportunistic infections, like “pneumonia, diarrhea, malaria, viral hepatitis, malnutrition...” and tuberculosis (WHO, 2011, p. 13). These treatment strategies are aligned with UNAIDS’s program Treatment 2.0. Also, countries should provide support for individuals living with HIV meeting the physical, psychosocial and spiritual needs. A current program that helps countries meet this objective is “Positive health, dignity and prevention” this program developed by UNAIDS’s Global Network of People Living with HIV helps to meet the health needs of HIV positive individuals but also to involve them in “rights-based health promotion... and HIV prevention...” (WHO, 2011, p. 14). The WHO would contribute to the goals of diagnostics, treatment and care by training healthcare workers to implement more HIV testing and counseling, further development and expansion of HIV testing and counseling of couples, increase the quality and coverage for HIV testing and counseling services (WHO, 2011, p. 14). The WHO would also support Treatment 2.0’s core areas: implementing ideal treatment regimens, standardizing diagnostic tools, combining HIV treatment with other health services, reducing overall costs, community centered design and implementation (WHO, 2011, p. 14).

The final focus is to provide services to the most vulnerable populations, which still have poor access to “a comprehensive set of evidence-based HIV interventions, resulting in continued transmission of HIV” (WHO, 2011, p. 15) In order to increase access, there is a need to overcome the “structural barriers” like stigmatization and discrimination (WHO, 2011, p. 15). At a national level the WHO recommends, a comprehensive package to address the health concern of vulnerable populations within the country’s epidemic, and increasing services for sex workers, men who have sex with men, transgender people and people who use drugs (WHO, 2011, p. 15). The WHO will help these initiatives by collaborating the United Nations Education, Scientific, and Cultural Organization, (UNESCO), United Nations Children’s Fund, (UNICEF), United Nations Population Fund, (UNFPA), and the United Nations office on drugs and crime to help implement an evidence-based prevention package, expand services for sex workers and men who have sex with men and promote a harm-reduction package for people who use drugs (WHO, 2011,pp 15-6).

Strategic direction 2. The main objective of this direction is increase HIV prevention, treatment and care methods through already existing health services; this will reduce overspending but will still provide needed care and prevention services to individuals. The WHO’s country recommendations are to increase HIV/tuberculosis treatment integration, increase HIV services and maternal, newborn and child health services integration, increase HIV services and sexual and reproductive health services integration, combine an HIV intervention to drug prevention, treatment and control programs, integrate HIV teaching into blood and injection health safety programs, and provide more HIV services within treatment for non-communicable and chronic diseases (WHO, 2011, p. 20). By integrating HIV prevention and treatment into multiple sectors of healthcare services more people will be able to be reached. Also, all these

health services are related to modes of HIV transmission or progression and would keep clients more informed and higher access to services. The WHO will help implement these recommendations by supporting integration of HIV and TB services. The WHO will also “develop and promote standardized and simplified operational tools...” for integrating HIV services into both maternal, newborn and child health and sexual and reproductive health services (WHO, 2011, p. 21). WHO will advocate for creating service implementations into all sectors of health services that relate to the HIV epidemic (WHO, 2011, p. 21).

Strategic direction 3. In the response to the HIV epidemic, the global community has focused on “promoting human rights, mobilizing communities, contributing to health equity and addressing social determinants of health.” but there is still room for improvement because individuals are still struggling to receive available care and prevention methods (WHO, 2011, p. 27). In order to alleviate the current health disparity, “gender-based health inequities and human rights protections for women, girls and key populations...” need to be addressed at the national level (WHO, 2011, p. 27). The first focus is to promote gender equality and remove harmful gender norms (WHO, 2011, p. 27). HIV prevention interventions can be used to “empower women and girls to reduce their vulnerability to HIV, challenge harmful gender norms and contribute to gender equality” (WHO, 2011, p. 27). On a national level, to achieve this accurate data needs to be collected in order to identify inequities and evaluate current programs. Also current programs can integrate gender issues into HIV services for example by “promot[ing] equity between sexes in sexual-decision making,...[and] negotiation of safer sex and use of male and female condoms (WHO, 2011, p. 28). The WHO will support these improvements to programs and help to “ensure HIV services meet the needs of women” (WHO, 2011, p. 27).

The second focus is on developing policies and laws that support individuals of vulnerable populations and help to decrease structural barriers to access. On the country level, there should be implementation of laws and policies that would “eliminate stigmatization, discrimination and other human rights abuses on access to health services” against people living with HIV or who have a high risk for becoming infected (WHO, 2011, p. 28). The WHO will support this goal by evaluating individuals’ access to health services and to develop a protocol to reduce stigma and discrimination held by healthcare workers against people living with HIV and other vulnerable populations (WHO, 2011, p. 29).

The third focus on this strategic direction is to unify all policies, laws and regulations to support further health promotion, with a specific focus on eliminating and reducing gender inequalities and to protect human rights of vulnerable populations (WHO, 2011, p. 29). On a country level the WHO recommends that all legal entities be evaluated to ensure they do not further vulnerability of any population or decrease access to health services. Also, the national level should ensure that current laws and legislation does not increase discrimination focusing on: “travel restrictions, employment, homophobia, sex work, drug control laws and criminalization of HIV transmission” (WHO, 2011, p. 29). The WHO will support this goal by helping to evaluate current laws and to draft new policies for health promotion for all populations.

Strengths of the WHO Strategy

There are many strengths of the prevention strategy proposed by the WHO. The first is it identifies the importance of country support within success of their programs. The WHO has identified the importance of the country to take a leading role in order to create a healthier future. The WHO also identifies that health is multifaceted and all aspects have to be incorporated in

order to be successful. The WHO has a focus on nondiscriminatory legislation with a strong focus on gender equality. They have also goal of improving accessed by further distributing the HIV preventative services to multiple areas of healthcare. This will help individuals who do not routinely visit healthcare facilities to still get the needed preventative services. The WHO's Strategy is aligned with the UNAIDS strategy, the program Treatment 2.0 and the program Positive Health, Dignity and Prevention, by aligning all these groups goals to decrease HIV infections and stigmatization, and increase access to services, the WHO can just continue to enhance these programs. Multiple times throughout the report the WHO emphasizes evaluation and assessment. They have a strong commitment to efficiency and ensuring that all programs are beneficial to the community they are serving. One of the final strengths is that the WHO's strategy is based on previous research and experience with a continued focus on evaluation.

Weaknesses of the WHO strategy

Although the WHO's strategy has numerous strengths as discussed above, there are multiple weaknesses associated with their strategy. The strategy is a global strategy so the country goals proposed are very vague which could lead to different interpretations and confusion. Also, progress goals are to be determined by the each individual country. This is a potential problem if some countries are not as motivated or are unable to support large-scale prevention programs. There is a large focus on the legislative goals which can take a long period of time to implement due to different legislation processes. The focus of some laws is promoting rights for sex workers whose occupation could be illegal and socially taboo making it harder to gain wide range support for these endeavors. Even though increasing access and decreasing legal barriers for sex workers would make a large impact on the HIV epidemic, gaining support for this vulnerable population would be difficult. Another component of the WHO's strategy is to

increase services for individuals at other health services. While this would increase access, it still would not reach individuals in communities without health facilities. Finally, the WHO wants to take on a supportive role in the prevention programs but also wants to evaluate these services provided. This evaluation process might be biased due to community distrust if the WHO has not been visibly involved prior to the evaluation phase.

UNAIDS 2011-2015 Strategy: Getting to Zero

Overview

The Getting to Zero Strategy presented by the Joint United Nations Programme on HIV/AIDS, (UNAIDS), is creating steps in order to reach the ultimate goal of: Zero new infections, Zero AIDS-related deaths, and Zero discrimination. The strategy presented was developed through the lens of the “best evidence and driven by a moral imperative” (UNAIDS, 2011, p. 5). The long term goals are to “achieve universal access to HIV prevention, treatment, care and support” and to “halt and reverse the spread of HIV and contribute to the achievement of the Millennium Development Goals” (UNAIDS, 2011, p. 7). The three strategic directions defined within this strategy on HIV are first to “revolutionize HIV prevention”, second to “catalyse the next phase of treatment, care and support” and lastly to “advance human rights and gender equality for the HIV response” (UNAIDS, 2011, p. 7).

Revolutionize HIV prevention. The goal of this direction is to provide the most effective prevention methods to areas in most need. The slogan “Know your epidemic, know your response” has been used to focus prevention methods on programs that are needed and work for a specific community (UNAIDS, 2011, p. 32). This can be used to decrease the gaps in prevention for example long term relationships or serodiscordant couples, would benefit greatly from prevention and treatment but have been ignored in current interventions (UNAIDS, 2011, p.

32). Also, young people have limited access to health services and prevention strategies, Getting to Zero suggests further implementation of effective school-based education programs to meet this need of limited access (UNAIDS, 2011, p. 32). By identifying these gaps in coverage, programs can be more effective by providing tools and services to the audience that needs them. These suggested methods for revolutionizing prevention and focusing on fundamental shifts for programs process of implementation and evaluation are described within the UNAIDS strategy. These shifts in understanding are visually described in Table 1.

Old Approach		New Approach
Individual	—————→	Network
Leaflet	—————→	Social Media
Victim	—————→	Actor
Institution	—————→	Movement
“We know what works”	—————→	“You know what works”
Prevalence	—————→	Incidence
Treatment vs. Prevention	—————→	Treatment and Prevention
AIDS is exceptional	—————→	AIDS leads the way

Table 1. “Revolutionizing the way we think about prevention” (Getting to zero: 2011-2015 strategy joint united nations programme on HIV/AIDS (UNAIDS). (2010). Geneva, Switzerland: UNAIDS. Retrieved from http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2010/jc2034_unaids_strategy_en.pdf)

The UNAIDS strategy also suggests the use of combination biomedical prevention programs with behavior change programs. By continuing to evaluate and further develop programs; these programs will stay relevant and impactful for the community (UNAIDS, 2011, p. 33). The use of “comprehensive sexuality education” and “family-centered approaches” can improve the health of young people and their family units as supported by evidence (UNAIDS, 2011, p. 34). In revolutionizing prevention, the community is at the utmost importance and they must be involved with the program to support it’s sustainability and success. Also, this strategy

identified the use of people living with HIV as important tools for implementing prevention. HIV positive individuals are extremely motivated and “powerful advocates” for prevention and involving people living with HIV can decrease stigma and discrimination (UNAIDS, 2011, p. 34). It is also important to use the available resources for “epidemic hot spots” where the intervention would be most effective (UNAIDS, 2011, p. 34).

Catalyze the next phase of treatment, care and support. There are multiple needs to expand and further develop modes of treatment care and support for individuals living with HIV. The combination of stigma and individuals unaware of their HIV status leads to gaps in treatment and access to care and services. UNAIDS has researched that globally “fewer than 40% of people living with HIV are aware of their status” (UNAIDS, 2011, p. 37). Also, the high cost of HIV treatment and care can lead to individuals without adequate treatment or support. In the region of sub-Saharan Africa, “children still account for close to one in six people newly infected...” and treatment still remains inadequate to support this populations’ care needs (UNAIDS, 2011, p. 38). The UNAIDS response to these populations that lack support is to combine services for treatment and to implement Treatment 2.0. The Treatment 2.0 program is designed to increase access for individuals to the highest quality medication regimen for the lowest cost. With an increase in access to treatment for individuals living with HIV, there would be a significant decrease in new infections; ARVs “reduce HIV transmission by 92% among discordant couples and has a significant positive impact on rates of TB and maternal and child deaths” (UNAIDS, 2011, p. 39). So by implementing the program Treatment 2.0 more individuals will have access to treatment which can reduce the sexual and mother-to-child transmission of HIV. Another way UNAIDS plans to expand and further treatment for HIV is to provide a holistic care incorporating individuals and families affected “psychosocial, physical,

socioeconomic, nutritional and legal...” needs (UNAIDS, 2011, p. 40). This can be accomplished by further development of community services, increasing community support and involvement, partnering with existing organizations, and integrating services currently provided. By achieving this initiative, individuals and families affected by HIV will receive the support and care that is needed but also through the involvement of the community it will decrease stigma (UNAIDS, 2011, p. 41).

Advance human rights and gender equality for the HIV response. This focus of the UNAIDS strategy is to increase human rights in all aspects of HIV prevention and treatment. First by understanding the gaps in rights and equality, the areas of improvement are identified. Decreasing stigma and discrimination will increase vulnerable populations access to services and create new avenues for prevention. The majority of HIV related women’s services address preventing mother-to-child transmission while a “full range of women’s vulnerabilities...” need to be addressed and incorporated into care and prevention (UNAIDS, 2011, p. 43). Many of the current HIV programs do not include the topics of “gender, sexuality, inequality, unprotective legal environments, mobility and drug dependence [and] must be transformed to do so” (UNAIDS, 2011, p. 43). UNAIDS plans to increase legal understanding in order to promote equality and rights in the context of HIV, increasing the country’s ability to decrease stigma and to further develop programs tailored towards the needs of women (UNAIDS, 2011, p. 45). The range of women focused programs should include the topics to “reduce harmful gender norms, to provide legal support for equality in property and inheritance rights, and to enhance economic and social empowerment” (UNAIDS, 2011, p. 45). These principals align with the principals for the UNAIDS program “Accelerated Country Action for Women, Girls and Gender Equality and HIV” (UNAIDS, 2011, p. 45).

Strengths of UNAIDS strategy

There are many strengths of the UNAIDS strategy for prevention of HIV globally. First, it identifies the gaps in prevention, treatment, and human rights and proposes ways to alleviate those gaps in services. All the methods proposed by UNAIDS are supported by research and statistical analysis. UNAIDS is very focused on the community driven approach and developing ways to make largest impact with the smallest amount of financial resources. Due to UNAIDS reputation and previous effectiveness, many other relief organizations and global health organizations have partnered with their efforts. There is also a strong focus on prevention and how to improve the current prevention strategies to be more effective.

Weaknesses of UNAIDS Strategy

There are also multiple weaknesses to the UNAIDS strategy on HIV prevention. First there are many holistic care strategies proposed by the UNAIDS; these holistic care strategies might be hard to implement and sustain if the financial burden fell onto the communities. There is also a large focus on the legal and political concerns about human rights violations in associating with HIV infection. Changes in legislation might be difficult to implement and accomplish due to motivating individuals in power.

WHO and UNAIDS Review

Both HIV strategies had three very similar directions for improvement of care. The first focus was on prevention with the need for further evaluation of current interventions that are effective and to implement treatment programs into areas that need service. By selecting most at risk areas for prevention, the program can have a greater impact overall. The second was to expand treatment. The WHO planned to develop more HIV related services into the already existing health and social services provided to the community. UNAIDS wants to integrate but

also expand services to meet the full range of needs for individuals and families living with HIV. The final goal was to increase human rights and equality for all vulnerable populations that are affected by HIV. This goal relates to political and legislative changes; it would be very difficult to implement but results would be long lasting and potentially provide a humanitarian service to all disadvantaged populations. These strategies were not specific to any region of the HIV epidemic, so evaluating specific needs or creating specific interventions would be inappropriate. Both strategies place a high value on community and national support to achieve these goals in prevention, treatment and human rights.

National Multisectoral HIV prevention Strategy 2009-2012,

The United Republic of Tanzania

Overview; Prevention in Mainland Tanzania

The current prevention approach for the Tanzanian mainland developed by the national government is grounded in multiple behavioral and biomedical approaches for the most vulnerable populations and the general population (The Republic of Tanzania's Prime Minister's Office (PMO), 2009, p. 6). The behavioral programs are developed to decrease individual's risky behavior. The biomedical programs include "the prevention of mother to child transmission, HIV counseling and testing, management of sexually transmitted infections, blood transfusion and injection safety and post-exposure prophylaxis for post-rape and occupational exposure" (PMO, 2009, p. 6). Goals for prevention are to increase access to both biomedical and behavioral interventions and to integrate prevention into "other ongoing health services and other developmental programs" (PMO, 2009, p. 6).

In order to achieve that goal and ultimately decrease transmission, there are obstacles that need to be overcome. While there has been recent decline in the prevalence rate of HIV in

Tanzania, the largest obstacle for prevention is “inconsistent alignment of HIV prevention programmes to the drivers of the epidemic, including intervention content as well as geographic and audience targeting” (PMO, 2009, p. 7). Another challenge is creating and implementing interventions that “influence behavior change, such as risk perception and self-efficacy” rather than just pure education which might not result in behavior change (PMO, 2009, p. 7). Also, creating a standard of care for the available biomedical interventions, currently there is not only areas that lack services but also different standards for providing biomedical approaches (PMO, 2009, p. 7). Finally, the challenge of limited finances is always an issue even with the large amount of support from non-governmental organizations, faith-based organizations, other countries and international organizations. These challenges must be overcome to effectively provide prevention programs to all areas of the Tanzanian mainland. The ten items included in the current minimum package of prevention services for at-risk adults are outlined in Table 2.

The Minimum Package of Prevention Services for At-Risk Adults

- **Behavior change communication integrated into existing structures (religious institutions, work places, school, etc.)**
 - **Messages and social norms promoted through mass media**
 - **HIV counseling and testing**
 - **Condom promotion**
 - **STI screening and treatment**
 - **Male circumcision**
 - **HIV care and treatment**
 - **Prevent Mother to child transmission**
 - **Blood, injection, and bio-safety**
 - **Supporting policy and advocacy**
-

Table 2. Minimum Package of Prevention Services for At-Risk Adults (The United Republic of Tanzania Prime Minister’s Office (2009, November). National multisectoral HIV prevention strategy, 2009-2012 [National Report]. Retrieved from <http://ihi.eprints.org/974/>

First Priority Action of the Prevention Strategy

Safer sexual behaviors. The sexual behaviors that this strategy has identified as priorities are multiple partners, cross generational sex, early sexual debut, transactional sex and sex work, low condom use, and low incidence of male circumcision. In order to combat these

risky behaviors and drivers of the epidemic, the strategy identified necessary actions to take.

The first is to “scale up improved communication on safer sexual behaviors...” (PMO, 2009,p.

6). In order to achieve this there must be a standardized prevention message that will be effective for the target population. Once the message is created the next step towards achievement is to improve the communication methods and the currently existing prevention materials in institutions. Once all the systems and materials are updated for delivering the message, the next step is to deliver the prevention method to the target population. After delivery, continual evaluation and improvement will be needed to ensure that the prevention message is reaching the targeted audience to promote safer sexual behaviors (PMO, 2009, p. 19).

The next goal in achieving a decrease in risky sexual behaviors is to “empower national, regional and community leaders to engage communities in high quality behavioral HIV prevention activities” (PMO, 2009, p. 20). The methods to achieve this goal are to first talk with community leaders about normal and cultural behaviors that could transmit HIV and discuss cultural issues with current methods of prevention. Then encourage community participation in developing an intervention strategy of behavior change that would be effective within the community, allowing the community leaders to oversee the intervention. The next step is to encourage community leaders and members to reevaluate laws and social norms that promote unsafe sexual practices and develop ways to prevent this in the community. The last method is to create safe spaces for community youth and develop “communication ‘kits’ to guide community leaders in their activities” (PMO, 2009, p. 20).

The next goal to achieve a decrease in risky sexual behaviors is to “strengthen the quality, implementation and monitoring of behavioral initiatives” (PMO, 2009, p. 20). This can be achieved through the method of first increasing the ability organizations and networks to create,

implement and evaluate prevention interventions (PMO, 2009, p. 20). Next is to ensure a quality standard for prevention messages, minimum prevention packages and referral systems. The final goal is to “strengthen multi-sectoral coordination forums at the national, regional and community levels to ensure high quality behavioral HIV prevention initiatives (PMO, 2009, p. 20). The methods to achieve this goal are to first decentralize the structure, thoroughly evaluate strengths and weaknesses of initiatives, and finally develop coordinated roles for all members (PMO, 2009, p. 20).

Discussion

The Prime Minister’s Office has outlined an inclusive strategy to prevent the further transmission of HIV among the Tanzanian population. Community members were included at all levels of the prevention strategy. The importance of understanding the target population is their reasons behind behavior choices in order to provide behavior change.

Best Practice Prevention Program

Based on the reviewed protocols and further research, the best practice prevention protocol for women is multifaceted and dynamic. First, combination behavioral change and biomedical prevention initiatives should be increased to meet all areas of need in both the general population and vulnerable populations. These prevention initiatives should be established on the foundation of coordination of organizations and health networks but also the community where the prevention initiative will be implemented. With this foundation of coordination, prevention methods should be tailored to the needs and concerns of the community, thus providing appropriate and wanted prevention programs. This will allow for increased community support and if these programs are successful there will be a decrease in risk for individuals and sustainable behavior change. Methods of prevention should be available and integrated into all

sectors of health: for example available testing and counseling at reproductive health services.

This increase in services and increased number of individuals trained in HIV prevention will create more opportunities for individuals to receive needed preventative care. In all areas where this best practice prevention protocol is initiated, policies should be initiated to decrease stigma and discrimination. Also including individuals living with HIV into prevention initiatives will help to decrease stigma and better promote behavior change.

Chapter 3: Best Practice Program and Implementation Pilot

Introduction

This chapter will discuss the importance of a best practice program and how the use of a program will lead to better and universal care provided all individuals. The best practice program integrates the strategies described in chapter 2, the UNAIDS, the WHO and the National Tanzanian Strategy. Understanding how innovations are spread within a community is beneficial and necessary when trying to implement a prevention strategy. The methods described in the report [*Diffusion of Innovation in Healthcare* (2002) by Cain and Robert] are informative and have been considered when deciding on the ideal target population for a implementation pilot of the best practice program. The best practice program will be implemented in first a smaller scale through an implementation pilot, based on the results of this implementation pilot expansion of the best practice program can be implemented. The target population is described in detail, highlighting their advantages for behavior change. The implementation pilot is then described focusing on creating a relationship within the community to create trust and adoption of the prevention strategies. Finally, financial and intangible costs are outlined to begin the evaluation process of the pilot study and best practice protocol. This chapter concludes with a discussion of all topics presented within chapter three.

Overview of Best Practice

The components of this best practice protocol are based on the evaluation of the UNAIDS strategy for HIV prevention, the WHO's strategy for HIV prevention, Tanzania's strategy for HIV prevention, other research of methods of prevention and the author's personal experience with prevention. The components of the best practice protocol for prevention of HIV for women

in Tanzania are a combined strategy of education, access, tolerance and community involvement. The best practice project is outlined in detail in diagram 5. While both the UNAIDS, the WHO, and the Tanzanian strategy had overlapping components, the author selected components from each to focus on in order to develop the best practice project. The UNAIDS revolution of prevention increased both knowledge and access to prevent services for individuals but also focused in on important aspects of prevention (UNAIDS, 2011). This is highlighted in the “Increase Prevention” column in Table 3 below. Both the UNAIDS’s and the WHO’s strategies to increase access to services and prevention methods were integrated into the best practice project. This is highlighted in the “Increase Access” column in Table 3. The column of “Decrease Discrimination” is a combination of the legislation changes proposed by the WHO strategy and the ways to combat gender inequalities and human rights as proposed by the UNAIDS strategy. While the Tanzanian strategy is instrumental in ensuring culturally based approaches, it also includes measures on prevention and access. The implementation of these strategies will be tailored to the culture and needs of the specific community for the implementation pilot and greater best practice program expansion.

Table 3: Best Practice Program

Best Practice Program for Prevention of HIV transmission for women of childbearing age in rural communities in Tanzania			
Increase Knowledge	Increase Access	Decrease Discrimination	Community Involvement

<ol style="list-style-type: none"> 1. Knowledge of HIV progression and transmission (UNAIDS, 2011, p. 32) 2. Knowledge of prevention strategies (behavior change) (UNAIDS, 2011, p. 33 & PMO, 2009, p. 11) 3. Knowledge of risky behaviors (WHO, 2011, p. 16 & PMO, 2009, p. 19) 4. Education on these subjects will be provided for both individuals within the community and the healthcare providers 	<ol style="list-style-type: none"> 1. Integrate HIV prevention into existing healthcare services (WHO, 2011, p. 19) 2. Biomedical services like condoms and vaginal ARV gels (WHO, 2011,p. 11) 3. Testing and counseling services (WHO, 2011, pp13-14 & UNAIDS, 2011, p. 33) 4. Expand existing prevention programs (WHO, 2011, p. 29 & PMO, 2009, p. 32) 	<ol style="list-style-type: none"> 1. Policies and legislation* (WHO,2011,p. 29 & UNAIDS, 2011, p. 24) 2. HIV positive testimonials and involvement in prevention (UNAIDS, 2011, p. 34) 3. Gender equality education (WHO,2011,p. 27) 4. Gender violence services and legislation (WHO, 2011, p. 27) 	<ol style="list-style-type: none"> 1. Community led and supported programs on prevention (WHO, 2011, p. 23 & UNAIDS, 2011, pp26,34) 2. Access to HIV preventative services within every community (WHO, 2011, p. 16 & UNAIDS, 2011, p. 34)
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*while these step are critical to prevention, they will not be discussed because they are beyond the scope of practice

The overall goals are to expand HIV education for women of childbearing age, expand prevention methods to all avenues of currently available healthcare facilities thus increasing

access, and to expand policies designed to decrease stigmatization and discrimination for individuals associated with HIV. It is important to create an HIV prevention protocol in order to provide needed services to communities and to ensure that the quality of prevention initiatives is standard throughout all of Tanzania. Through use of the standardized training, information and basic strategies for prevention, the public can adapt to the behavior change and use the presented prevention strategies to better protect themselves, their families and communities. By having a universal technique and plan for prevention, individuals will receive the same services which can decrease current health disparities associated with preventative care

The initiatives presented above are broad enough to be utilized by many different communities within Tanzania but also specific enough that there will not be decreases in services provided and the quality of the prevention strategies can be ensured. The initiatives presented are based on the evidence-based and evaluated protocols of the WHO, UNAIDS and the United Republic of Tanzania Prime Minister's Office. In order to ensure a standard of care, training will be required for all change agent individuals and healthcare providers. Training for the change agents, the individuals who would help initiate and implement the prevention strategy within a community, will be necessary and quality controlled to ensure that all prevention messages are the same and quality information is provided to all individuals within the target community. Current healthcare providers would also have to participate in a training program to be able to provide prevent services to all individuals seeking care. The goal is that a uniform message and information is being presented to the community and the greater population. This would ensure that after an individual's encounter with a prevention strategy at one facility, they will not be later confronted with a contradictory prevention strategy at a different facility, or individuals from different town would not have different or conflicting prevention strategies. By reinforcing

the same message across the country, individuals and communities will be more able to adapt and incorporate a prevention strategy in their daily lives. Once the best practice protocol is established, the next step is to start implementing the protocol on a smaller scale as a low cost way to assess feasibility of implementation, community responses to implementation of the protocol and evaluate the potential effectiveness of the protocol.

Roger's Diffusion of Innovations

Everett Rogers has researched for over 50 years on the topic of how new ideas are spread and adopted, in the report *Diffusion of Innovation in Health Care* (Cain & Mittman, 2002). Rogers's ideas are adapted to the context of new ideas within health care. This information is important to understand prior to the being of a pilot implementation that is based on adopting new information on HIV prevention strategies. Also individuals implementing the pilot study will need to know the key individuals within the target population that will affect the adoption of the prevention behaviors. This information is also very similar to the theoretical frameworks on how individuals adopt new behaviors based on their culture, values and potential gain among other influencing factors presented earlier within chapter 1.

First, when embarking on a prevention strategy that involves behavior change and the use of new technologies, the researcher must understand that most people are currently comfortable with a situation and do not like the process of changing (Cain & Robert, 2002, p.4). The process of "diffusion" is how a new idea or technology is spread between different modes of communication within a community or social system (Rogers, 1995, p.5). The individuals who facilitate diffusion are known as change agents (Rogers, 1995, p.27). In this best practice program's implementation pilot, the term change agents will also be used. There will be further discussion about the characteristics and roles of the change agents in association with the best

practice implementation pilot. The methods of successful change agents are dependent on both the innovation itself and how it is accepted by the community.

The first dimension of diffusion of new information is presenting the “relative advantage” based on the new idea or behavior change (Cain & Robert, 2002, p. 7). This is very similar to the Expectancy-Value Model and an influencing factor within the Health Promotion Model, that states prior to adoption of the new idea the individual needs to know that “the benefits of using the innovation will outweigh the risks of using it” (Cain & Robert, 2002, p. 7). For HIV prevention, the future benefits are a healthy life, no risk for transmitting a lifelong, critical and debilitating infection to children, no financial burden of ARV medication or increased risk for opportunistic infection and associated medical and transportation costs. Mothers and women of childbearing age who stay HIV free are able to provide for and take care of their children and greater families, and to be active members within their communities. This is a large potential benefit, which will hopefully outweigh the associated risk for behavior and biomedical change interventions for example the financial cost for safer sex practices. A persuasive way to present the immeasurable benefit of good health would be to provide testimonies from both HIV positive individuals and individuals who have already adopted prevention methods (Cain & Robert, 2002, p. 8). This strategy may be very effective as a culturally-sensitive and community trusted method of disseminating valuable information to the target population (Cain & Robert, 2002, p. 8).

The next method of diffusion of new information is to expose the innovations “trialability” so individuals who are undecided or unsure about a prevention strategy could try it without large personal investment or commitment (Cain & Robert, 2002, p. 9). By allowing individuals to try a prevention strategy, they create a personal experience which can sway an individual for or against a strategy (Cain & Robert, 2002). For example the prevention strategies

of male and female condoms use, antiretroviral vaginal gels, and periods of abstinence are just some strategies that individuals could try without high cost or commitment. Another way this method could be used is with hands on teaching for proper condom application with the use of a rubber or plastic phallus (Cain & Robert, 2002, p. 9). The method of trialability is more effective within small groups especially when the small group is composed of respected and trusted community leaders (Cain & Robert, 2002, p. 9).

The next method to enhance diffusion of new information is through the use of visual reinforcement. For example, when an individual is able to witness or observe another person performing a behavior they can make their own educated decision on if the behavior is safe and beneficial, hopefully leading to their adoption of the behavior (Cain & Robert 2002, p. 10). This method works by first reinforcing the prevention behavior and then convincing the individual that they should do it to, a bandwagon approach. The observer has even less commitment than the individual who is trying out the behavior but still is able to view the potential benefits. Some examples of how this can be achieved in HIV prevention strategies are through disproving rumors about condoms having holes by filling a condom with water, or disproving that condoms are too small and will tear by putting a condom on a larger object like a soccer ball or a volunteer's arm. Another example would be highlighting a community leader who is in a committed relationship where neither partner has an outside relationship. The influence of this method increases as more and more individuals adopt the prevention strategies.

As described in Figure 3, once the early adopters choose to engage in a prevention behavior or use of a biomedical strategy then it takes less time for the early and late majority to adopt the prevention strategy. The most important group for the change agents to convince are the early adopters because while they are only slightly more than ten percent of the population,

they are composed of individuals of leadership, who are “well integrated in [the] social system” and have a history of “judicious and successful use of innovation” (Rogers, 1995, p. 276). These are trusted individuals within the community who will encourage adoption of health promotion among other individuals. This is extremely important in rural Tanzanian communities due to lack of access to other sources of information and persuasion. Based on author experience, the community is informed by cultural leaders, influence of neighboring communities and very limited access to mass media outlets like radio. While there is community discussion on most topics among community leaders once a decision is made by the tribal leader the decision is final and unwavering. This unwavering opinion is very influential for other members of the community, potentially causing the upward swing in adoption in the Diffusion S-Curve. Also, based on author experience, many women are influential in rural communities for example the community healthcare worker, religious leader’s wives, and community leader’s wives. If the important and influential individuals are swayed towards health promotion, a whole community can also be swayed.

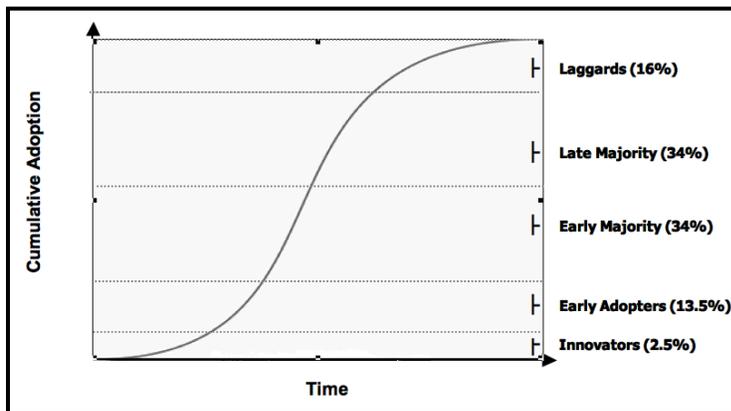


Figure 3. Visual Depiction of the Diffusion S-Curve. (Garritty, C., & Emam, K. E. (2006). Who's using PDAs? Estimates of PDA use by health care providers: A systematic review of surveys. Journal of Medical Internet Research, 8(2), doi:10.2196/jmir.8.2.e7)

The next method of diffusion of new information is effective navigation of the communication channels within the social systems of a community. The diffusion of new ideas is based on the social communication of individual, those who know about the new idea who then share it with an individual or group who do not (Cain & Robert, 2002, p. 13). This can be extremely beneficial when the spread of information is correct but can also be harmful if the spread of information is inaccurate for example with rumors of misinformation (Cain & Robert, 2002, p. 13). This is another reason for the use of continual evaluation is very important in order to stop the spread of misinformation; the evaluation methods for the implementation pilot of the best practice program will be discussed further within this chapter. The use of personal contact or in-person discussion of a new idea is an effective way to diffuse information (Cain & Robert, 2002, p. 14). The informal communication channels that can support the message of prevention for women in rural Tanzania are through religious groups, extended family gatherings, discussion with neighbors, gathering to watch sporting events and children and other opportunities of discussion during hair braiding, farming, food processing, cooking, gathering water, and laundry. Another effective strategy is to “piggyback their message on existing communications channels” this allows for the current informal communication channels to carry and deliver prevention messages to all members of the social system (Cain & Robert, 2002, p. 14). This could be achieved through the use of already established healthcare facilities to spread the message of HIV prevention to clients.

The next method is to deliver the new information to a group of similar kind or a “homophilous group” (Cain & Robert, 2002, p. 15). Homophilous groups share basic characteristics and values as supported by the Health Promotion Model an individuals or a groups values are the foundation for adopting new behaviors, ideas or prevention methods

(Pender, 2006). Presenting information about a new idea for example a prevention method to a homophilous group as it relates to their values will increase amount of individuals who adopt the behavior due to their similar values. This is a benefit for presenting prevention strategies to a small group of individuals with similar values like a small community. Adherence to the newly presented information will be increased if the presenter and the audience are similar because “communication is more effective when the source and receiver share common meanings, beliefs, and mutual understanding.” (Cain & Robert, 2002, p. 15). This is another benefit for involving the community in the prevention strategies. This way the prevention strategies can be shared in a way to show “potential adopters... their own perspective and show that you understand their daily challenges” (Cain & Robert, 2002, p. 16).

The next method to achieve successful diffusion is to understand and evaluate the rate of changes to the original new idea. As innovation is presented to the greater public, individuals make changes to the function and the purpose of the original innovation (Cain & Robert, 2002, p. 17). It is always important to evaluate how the idea is being understood and prevention strategy used in the public in order to gauge success but to also fix problems and adapt to real world situations. A small degree of change may be necessary for use of a prevention strategy within a culture or community based on resources or beliefs (Cain & Robert, 2002, p. 17). But if the original message of prevention is altered or the standard of care is degraded changes must be made to the original in order to increase its practical use. Sometimes this change can lead to expansion of the original message to incorporate more than what was originally intended (Cain & Robert, 2002, p. 17) This can be seen with the expansion of HIV prevention and treatment to also include human rights issues within governments and legislations of affected areas.

By engaging in these methods for effective diffusion of ideas, the individual will be presented with the information and persuaded to make the best health promotion decision but it is ultimately left to the individual to decide to adopt a prevention strategy (Cain & Robert, 2002, p. 18).

Description of Target Population

Chapter 1 has previously described the demographics of sub-Saharan Africa and the United Republic of Tanzania. The population of women of childbearing age is a high priority based on the large health disparity within this region and the greater impacts of an HIV infection on the individual, the future child and the family. While there is reportedly a higher prevalence rate within cities as compared to rural villages, the data collection methods for rural villages varies extensively; this could be related to poor data collection methods, self reporting and lack of knowledge due to insufficient available testing. A rural village community has a lack of access to larger health facilities, technology for example running water and electricity, and some previous prevention campaigns. This lack of access increases the need for a pilot implementation of a prevention strategy protocol in a rural village to determine feasibility of the protocol success in a community with limited resources but has the potential for significant impact on healthy behaviors.

The ideal target population would be a small rural village with both traditional healers and a village health care worker. The importance of traditional healers and government employed village health care worker would be the bridge of traditional healing and modern technologies (UNAIDS “Collaborating with Traditional Healers...”, 2006). This will also increase village support by involved these influential members of the community within the

implementation of the prevention strategies within the community (Cain & Robert, 2002). Also these members of the community have “a tremendous capacity to care for people living with HIV...” and ensuring the sustainability of the behavior change strategies within the community after the completion of the intervention (UNAIDS “Collaborating with Traditional Healers...”, 2006, p. 8). The majority of the members of this ideal community will be self-sufficient financially with economic resources of farming industry, live stock, and small stores within homes. Due to this self-sufficiency, the majority of members have never left this community within their lifetime, except to the neighboring village (three hours away by foot) for special purchases, visiting friends or extended family members. There is a lack of transportation resources within the community with the most abundant form of transportation being bicycle.

This village would be a homophilous group of individuals based on similar cultural and religious upbringing. The village would also be very socially strong and all members would be connected by multiple social systems. These social systems could extend to neighboring villages, where prevention strategies could be further diffused. These social systems would also provide avenues for teaching the prevention strategies to groups. There are strong family systems but also a large population of young adults who are beginning to form serious relationships. This village like many communities in Tanzania would be impacted by HIV through the premature death of both infants and adult members of the community. This past exposure to the devastating effects of untreated HIV infection and the transmission of HIV will increase the village’s receptiveness for prevention strategies both behavior and biomedical change and health promotion.

Many villages meet all or some of these described characteristics within the country of Tanzania. By looking for a community that meets these characteristics, there is a greater

potential for successful behavior change and long term health promotion. Another way to find a motivated community that might not have these described characteristics would be to offer the implementation pilot to different village's leaders and wait to receive an invitation to conduct the implementation pilot. By allowing the village leaders to invite this implementation pilot, health promotion and behavior change will be ultimately their idea and the community can take further ownership of the pilot.

Implementation Pilot of Best Practice Program

The purpose of the implementation pilot is to decrease the incidence of HIV infection for women of childbearing age in sub-Saharan Africa, based on current prevention strategies for HIV infections. The implementation pilot will be conducted in the ideal rural village in Tanzania (a country representative of sub-Saharan Africa) described in the previous section. The effectiveness of this study will either provide evidence for expansion of the best practice protocol or provide evidence for needed changes. There are four phases of the pilot implementation which are discussed below. The methods of evaluation will be discussed in later in this chapter. The best practice implementation pilot is outlined in Table 4. Table 5 has examples of teaching messages for the community.

Table 4. Implementation Pilot

Pre-implementation	Implementation	Post Implementation
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	Phase 1: Creating Partnership and Community Assessment	Phase 2: Developing Community Intervention	Phase 3: Community-based Intervention		Phase 4: Evaluation
			Part 1	Part 2	
Objectives	<ul style="list-style-type: none"> • Proposal of goal and teaching timeline • Gain community approval • Partnerships with healthcare professionals established • Community assessment • Conduct health behavior interviews • HIV Prevention training for healthcare professionals 	<ul style="list-style-type: none"> • Identify short and long term goals • Create teaching materials • Develop teaching schedule • Advertise/ gain support from greater community • Process evaluation 	<ul style="list-style-type: none"> • Joint teaching 2-3 times a week • Provide HIV testing and counseling • Provide biomedical technologies to local healthcare facilities and local shops • Impact evaluation 	<ul style="list-style-type: none"> • Community Healthcare teaching 3-5 times a month • Change agents review every two months • Provide HIV testing and counseling • Provide biomedical technologies • Conduct health behavior interview • Impact evaluation 	<ul style="list-style-type: none"> • Interviews with healthcare professionals • Conduct health behavior interviews • Compare results to national and regional incidence and prevalence rates • Outcome evaluation
Time	5-7 months	2-4 months	1-2 months	10 months	After 5 years, two months of evaluation
Cost	<ul style="list-style-type: none"> • Change agent salary and boarding • Healthcare professional stipend • Training course • Transportation • Recording and analysis equipment 	<ul style="list-style-type: none"> • Change agent salary and boarding • Teaching materials 	<ul style="list-style-type: none"> • Change agent salary and boarding • Healthcare professional stipend • Testing and counseling cost • Biomedical technologies 	<ul style="list-style-type: none"> • Change agent salary • Healthcare professional stipend • Transportation • Testing and counseling • Biomedical technologies • Recording and analysis equipment 	<ul style="list-style-type: none"> • Change agent salary • Transportation • Recording and analysis equipment

Table 5. Examples of Community Messages

Talking Points for Educational Message:

Integration of Behavior change and biomedical technology strategies

- Progression of HIV
- Modes of transmissions
- How HIV is not transmitted (decrease stigma)
- Proper condom use
- Being Faithful
- Getting tested, talking to your partner about HIV status
- Living with HIV
- Protecting your family
- Talking about safe sex with your partner
- Sexual education
- Available community services

Change Agents

The term change agents will be used for hired individuals who will implement the pilot in the rural village. These individuals, preferably two to five, will be native Tanzanians who grew up in a rural village similar to the pilot community. It would be ideal for the change agents to work in their home village, but it might be unrealistic expectation. By having the similar background of village life, the change agents will not be viewed as outsiders within the target community. They will also have an education background, at least some university schooling, with a strong understanding of the health sciences. These change agents will need to be extremely knowledgeable about HIV infection, the current prevention strategies, other compounding issues of health and health disparities. The change agents will be fluent in Swahili and other native languages. Ideally, these individuals will be in their thirties to forties so they

will have a large amount of energy and flexibility but also have an air of experience due to their age when interacting with the community.

The change agents are the drivers of this community implementation pilot. For the duration of 20-25 months, these individuals are critical to the success and sustainability of the implementation pilot. These individuals will be compensated for work at \$120 per month. The average annual income in Tanzania is \$530 as estimated in 2012, which is \$44 a month (World Vision, 2013). Change agents will be paid more than the national average due to the high amount of required training and change in location costs.

Pre-implementation

Phase One: Creating Partnership with Community

Though the goal of this best practice project would be to spread throughout all of the Republic of Tanzania, gaining each individual community's support is vital to the success the implementation pilot within that community. By first including the community leaders and gaining their trust, there will be greater support for prevention strategies by these influential leaders. Through these initial discussions, areas of concerns about proposed prevention methods can be discussed and culturally sensitive solutions can be reached. Since these solutions will align with the community's culture and set of values, based on the previously presented theoretical framework individuals will more likely adopt these health promotions. This process will take between one and three months, during this period of time change agents will be living and interacting within the community.

By having the change agents work with community leaders and stay within the community for an extended amount of time while building a relationship, other members of the community can understand their sincere investment and desire to improve the community with the involvement of its members. During this time, change agents need to make social connects with local store owners, the community healthcare worker, tribal healers, school teachers and the principal and religious leaders. By gaining these unique individual support and cooperation, their cooperation will be very useful during the next phases of the implementation. All of these influential leaders need to be included in this first phase of the implementation pilot. Their support will help guide and implement the prevention strategies into all of the social systems within the community.

Partnering with community leaders. By first gaining these leader's support there will be increased access into the community but also greater success for the implementation pilot. The first step is to present the overall goal of the implementation pilot, to decrease HIV transmission for women of child bearing age, and the basic time line for both change agent teaching and teaching by the community healthcare providers. By presenting this initial information the leaders of the community can understand the goals and the general steps to achieve these goals within their community. After this information is presented, the next step is to gain the community leader's approval. With the leader's approval, identify key health care professionals within the community. These individuals could be midwives, government community healthcare providers, tribal healers and others who the community holds in respect for their medicinal knowledge. Once these individuals are identified, forming a partnership with them is key, since they are the ones who will be providing the sustainable aspect of this implementation study and they are the individuals that community members seek out for medical

advice and healthy behaviors. Once these individuals have agreed to support HIV prevention and have committed to working on the implementation pilot, they can begin the HIV prevention training course to ensure everyone understands the same information and it will create a standardization of information.

Community assessment. The goal of the community assessment is to truly understand the health needs of the community are, what the current risky health behaviors are and what the health promotion behaviors are within the community. The physical community will be diagramed in order to identify areas where community and small group teachings could be held. The gathering places of different social channels would be ideal potential teaching locations. These could be but are not limited to religious gatherings, cooking homes, the community clinic, outside popular stores and soccer fields. A large component of the community assessment will be health behavior interviews which will be one-on-one interviews with a majority of the members of the community. These interviews will ask basic HIV progression knowledge, transmission knowledge, current health practices, risky behaviors and stigmatization. The answers provided by these interviews will identify areas of deficient knowledge where future teachings will be focused. In addition, these interviews are opportunities to advertise the upcoming community teaching because of the personal setting.

Evaluation. The evaluation measures for this phase of the implementation pilot are first how many community leaders are supportive of the implementation pilot, the ideal would be 80-100%. Another goal would be that all community healthcare providers are involved with the implementation pilot and have full compliance with the prevention training course. The goal for behavior change interviews are that at least 85% of the community population is interviewed. The community assessment needs to be completed within the five to seven months of phase one.

If these goals are not met further evaluation and change in the implementation pilot are necessary for the continuation of the pilot.

Phase Two: Developing community Intervention

Now that the change agents have the community's support and the needed in-depth information about the community's risky behaviors, with the community leaders and health professionals, the change agents can start developing the community intervention. With the community the first step is to identify short and long term goals for the implementation pilot that support the overall goal of decreasing HIV incidence for women of childbearing age. A short term goal could be 85% of sexually active couples correctly use a condom the next time they have intercourse. Another short term goal could be a 85% of the target population is able to explain the modes of HIV transmission after the three teaching sessions. An example of an intermediate goal is a 70% of couples have HIV testing and counseling together where status is shared after three months of teaching sessions. The specific goals will be based on the status and needs of the community as identified and defined by the community. All community messages will be covered, some communities will need to focus on certain topics more than others.

Once the long and short term goals are created, teaching materials like diagrams, posters and learning activities need to be developed based on community rituals and customs. Then, with the healthcare providers of the community, a teaching schedule needs to be created. This schedule will be followed for the next twelve months of teaching. After the schedule is created, change agents, community leaders and healthcare providers will rally the greater community and advertise the upcoming teaching sessions.

Evaluation. Phase two of the implementation pilot will be evaluated by completion of the communities long and short term goals. The continuing attendance of both community leaders and healthcare providers will also be used as an evaluation tool. Also, community response to the announcement of teaching sessions can be used as a gauge for community support. If the short and long term goals are not completed within the one to two month time period for phase two, the implementation pilot cannot progress into phase three.

Implementation

Phase Three: Community-based intervention

Initial implementation. Finally, the change agents and health care providers can begin teaching prevention strategies to the greater community. They will utilize the community's previously identified gathering locations for the target population. It will be a combination of both large and small group teaching based on the setting. It is important to educate large groups of community members to increase spread of the message but also have smaller group teaching sessions for deeper discussion on more personal aspects of the HIV epidemic. Even though the target audience is women of childbearing age, it is important for the men of the community to also be educated on HIV prevention. The men of the community will not be turned away from large group teaching sessions but for the target population it is important to keep the small group discussions to solely female or multiple couples. Change agents and community healthcare providers will begin teaching twice a week together at multiple locations. The goal for attendance for these teaching sessions will be for every female community member to attend at least one teaching every two weeks. Based on the community response and the quality of the community teachers, these joint teachings will last a month or two months.

The second component of the implementation pilot is to increase access to biomedical technologies. Biomedical technologies like condoms and vaginal ARV gels will be provided to local stores. This would make these prevention products available to all members of the community. These will be sold at set price to ensure business owners profitability (increasing their likelihood of continuing to sell them) and ability to purchase by the average community member. Also, stocking the local clinic with HIV testing and counseling supplies along with ARV medication for the prevention of mother to child transmission will occur during this phase. This will increase individual's access to these services, even though it is a high cost to the greater implementation pilot.

Evaluation. Phase three will be evaluated in part one and in part two. The evaluation for part one is based on teaching session attendance from the target population. Also, participate understanding can be evaluated through verbal tests of previously discussed content. The use of biomedical technologies can be evaluated by how many have been sold or provided to the community. The use of testing and counseling can be evaluated by how many individuals and couples are using this service. It is important to ensure confidentiality as the highest priority with HIV testing, so when recording usage data only use numbers verses individuals names.

Sustaining intervention. After the completion of the joint teaching of the implementation phase, the change agents will allow for community teachers to take the lead and continue teaching prevention methods on their own. This is the premise of creating a sustaining intervention. This will allow for the community healthcare providers to teach the community prevention strategies on their own without the support of the change agents in the community. Teaching sessions will decrease to three to five times a month due to the increased responsibility placed on the community healthcare providers. The change agents will return to the community

monthly to counsel the community healthcare providers on any teaching difficulties and to sit in on a teaching. This will give the healthcare providers the opportunity to teach on their own but still receive counsel from the change agents if problems arise. These monthly visits will also ensure that messages are not altered or information changed or distorted. Monthly visits also provide change agents with the opportunity to assess the use of the biomedical technologies within the community via the local stores and the healthcare providers facilities.

Evaluation. Part two of phase three of the implementation pilot is through attendance to the solely healthcare providers teaching sessions. Evaluation of the healthcare providers teaching is conducted through comparing the accuracy of information provided by the healthcare providers to the information provided in the initial training course. The number of biomedical technologies and number of individuals and couples utilizing testing and counseling services will also be evaluated.

Evaluation

Phase Four: Evaluation

After the implementation phase, post intervention interviews will be conducted to evaluate if behaviors have changed and use of biomedical technologies among the target population. These interviews will be anonymous conducted by different change agents as to decrease bias within the study. Interviews will also be conducted with the healthcare providers who have been teaching within the community. It would be beneficial for future implementation to have a greater understanding on what teaching methods were most effective and how the community responded to different teachings. Also, this is an opportunity to investigate how many individuals actually used the extra HIV prevention services provided in the existing healthcare facilities. The final step in evaluation would be the comparison of implementation

pilot data as compared to Tanzanian National Survey data. Then, in five years researchers will reexamine the national survey data to see if there have been are changes in prevalence rates, incidence rates and mother to child transmission rates. While a decrease in any of these categories cannot be solely contributed to the implementation pilot, but through previous evaluation it can be established that knowledge, behavior and attitudes change changed then it is expected that there is a decrease in new infections. Overall, any decrease in incidence would be a step towards success in overcoming the HIV epidemic.

Community Partnership. Based on the use of both national survey's and community member interviews, there will be a continued community partnership in HIV prevention strategies. This long term implementation pilot can show a strong community commitment to overcoming HIV infections in women of childbearing age.

Revision. By evaluating the interviews of members of the community and of healthcare providers, necessary revisions can be made in the prevention protocol to improve effectiveness of prevention provided. Based on this feedback, the researcher can discover which areas of the protocol are the most effective at changing behavior and thus expand on these most effective areas. Due to the dynamic nature of this protocol and implementation because of the focus on community integration and leadership, revisions made for one community might not be universal for other communities. As the dynamics of the epidemic change and different populations become more vulnerable, the protocol can be adapted to better meet the needs of different populations.

Tangible and Intangible Costs

Tangible Costs.

There are many financial, tangible costs that need to be evaluated within this pilot and for the broader implementation of the best practice program. The change agents need to be hired and trained prior to the start of the implementation pilot. Then, there are the overall costs of the pilot for the initial target community. This implementation pilot will last between twenty and twenty-five months. During this time, change agents need to be financially supported for their work within the community. There are also their living expenses to consider since one of the goals of the change agents is to integrate within the community by living within the community. While this will save transportation costs it also adds living expenses. It is also appropriate to provide financial incentives for healthcare providers for the additional time needed to conduct community teachings and the initial training.

The costs for phase one: community support and approval, are the initial costs of the intervention. Transportation, living expenses and initial welcome gifts are culturally appropriate when starting the relationship with the leaders of the community. The costs for phase two: Assessment, are mainly materials for interview recording, data analysis and transportation to get to and from interviews within the community. Interviews will be recorded via digital recordings and then analyzed by the change agents working within the community. The materials for recording and analysis must be provided. The costs for phase three: Designing a Community Based Pilot Study, are related to time spent for healthcare providers training. Materials needed for teaching, like posters, and markers. Another cost will be advertising to the community, through a distribution of flyers providing information about the upcoming implementation pilot and more specifically times and locations of the community teachings.

The costs for phase four: Implementation of Pilot Study, are relatively low except for the continuation of financial support for healthcare providers to teach and the change agents salaries.

The locations for teaching would be public centers of the community so they would not need to be rented out or paid for. The highest cost will be to stock the community’s clinic and the local stores with biomedical technologies like condoms, HIV testing kits, vaginal ARV gels, ARV medications and ARV medications designed to prevent mother to child transmission. The cost for phase five: Follow Up and Continuing Education, would be the transportation costs for the change agents in and out of the community and extra teaching if necessary. While this is a long pilot study with multiple facets and financial costs, the benefits of a successful study would outweigh the costs.

Table 6. Cost Analysis Tables

Phase 1	
Cost	Estimated price
Change agent salary and board	\$1800-\$2520 (\$120 x 5-7 months x 3 change agents)
Healthcare Professional stipend	\$400-\$560 (\$20 x 4 healthcare professionals x 5-7 months)
Training course	\$800 (\$200 x 4 healthcare professionals)
Recording and analysis equipment	\$500
Transportation	\$2000 (gas and maintenance)
Total	\$5,500-\$6,380

Phase 2	
Cost	Estimated price
Change agent salary and board	\$720-\$1440 (\$120 x 2-4 months x 3 change agents)
Teaching materials	\$150
Total	\$870-\$1590

Phase 3	
Cost	Estimated price
Change agent salary	\$2160-\$2520 (\$120 x 6-7months* x 3 change agents) *half pay for part two due to decreased work
Healthcare Professional stipend	\$400-\$560 (\$20 x 4 healthcare professionals x 5-7 months)
HIV Testing and Counseling services	\$6400 (\$2.00/test x 2000 + \$120 counseling x20 months)
Biomedical Technologies	\$4,000 (\$0.40/condom x10,000)
Transportation	\$5000 (gas and maintenance)
Total	\$17,960-\$18,480

Phase 4	
Cost	Estimated price

Change agent salary and board	\$720 (\$120 x 2 months x 3 change agents)
Transportation	\$2000 (gas and maintenance)
Recording and analysis equipment	\$500
Total	\$3,220

Intangible Costs

The intangible costs of not providing these services would affect countless lives physically, psychologically, socially and spiritually. There would be the countless lives devastated by this debilitating disease, the huge burden on the healthcare services due to an increase in opportunistic infections, HIV care and palliative/end-of-life care, and the destruction of families. Having the current number of HIV prevalence continue to exist or even rise is not an option for the global community, action needs to be taken to prevent the spread of this disease, to protect the most vulnerable and to intervene in community most at need. This pilot, if successful, will help alleviate the burden of this epidemic. By providing a fraction of the costs upfront through prevention, billions can be save later on treatment and care of individuals.

Chapter 4: Evaluation

Introduction

This final chapter, I will discuss the evaluation of the best practice prevention program. The chapter will continue on with the discussion of difficulties of evaluation due to the method of prevention and the discussions of strategies to overcome this barrier. The next topic will be the overview of strengths and limitations of this best practice project. The author will also highlight areas of future research that would better address issues of culturally competent prevention strategies for the HIV epidemic. Finally, the chapter will conclude with a dissemination of pertinent information for the entire project or the “take home” messages.

Evaluation

Difficulties Due to Prevention

First, it is very difficult to evaluate the effectiveness of any prevention programs based on statistical data. Due to the uncertainty of the future and of individual’s decisions, it is impossible to prove that a decrease in target behavior or prevalence of disease is directly related to the prevention protocol. While the overall goal may be achieved to reduce a target behavior or prevalence of a disease, this change could be due to other confounding variables outside of the prevention protocol. In many nations affected by the HIV epidemic, national surveys have begun to be collected to record individual’s HIV status, views on discrimination, and current behaviors. In Tanzania, these surveys are informative but also are lacking in distribution in rural communities (National Bureau of Statistics, 2012). Many individuals do not understand the reason behind the surveys and are distrustful especially if they are HIV positive due to fear of discrimination (National Bureau of Statistics, 2012).

Strategies

The strategies used for evaluation of this best practice protocol and implementation pilot are comparison of the pre and post implementation interviews, interviews with the healthcare providers within the community and comparison of national survey data pre-implementation and five years after implementation. By using multiple approaches even the slightest of degree of change in behavior and increase in health promotion should be visible to researchers. Ideally, after multiple implementations of the protocol there will be significant changes in behavior leading to a decrease in incidence and prevalence rates of HIV infection among women of childbearing age.

Strengths

One of the major strengths of this best practice protocol is both the inclusion of the community and the resulting implications of success. This is an approach to decrease the spread of HIV for an at-risk population in an underserved area (women of childbearing age in rural communities with limited access to medical resources). Even if individuals do not change their behaviors or do not start implementing biomedical technologies, they will still be presented with the accurate information and then be able to make the most educated decision while understanding risks of certain behaviors.

Best practice program. The strengths of this best practice project is that it is not only identifies health disparities but implementation provides access to prevention services to all individuals of the community. The focus of increasing prevention, increasing access, decreasing discrimination through community lead initiatives is something that the global community can rally behind and support. The best practice protocol is culturally competent and sustainable due to the large amount of community involvement. The increasing access to preventative services will allow individuals to become more informed and to seek health resources when they are in

need. For example, by providing local health facilities with rapid HIV testing and counseling, the individuals of that community will be able to easily go and know their HIV status. As compared to before implementing this strategy, an individual would have to travel to a regional community health facility in order to be tested for HIV. She would have to leave her work and her family for a whole day at least to go to an overcrowded facility in order to learn life changing information. These travel costs and financial restrictions would deter many individuals from seeking this critical information.

One of the long term goals of this best practice program is to reduce discrimination for individuals living with and associated to HIV infection. This goal will not only affect people living with HIV, it will decrease stigmatization for many vulnerable populations for example women, and men who have sex with men. In Tanzania, this decrease in discrimination will be instrumental in altering negative gender norms and inequalities within the culture. A way to measure this could be issue specific questions in national surveys or recording the use of preventative services by vulnerable populations. With a decrease in discrimination, vulnerable populations access to care and services should increase.

Implementation pilot. There are many strengths of this implementation pilot. First, it will provide an underserved community with extra resources and HIV preventative services. After implementation, these services will be sustainable and be available within the community through teaching and biomedical technologies (through small business seeing profits in initial sales of condoms). The implementation pilot will also serve as a gauge for community response throughout the region and be an early indicator of effective or ineffective methods of prevention. It is a low cost way to assess large scale feasibility and provide revisions for improvement of the overall best practice protocol. The increase in knowledge and access to services for this

community is a huge strength because it will make an impact in the lives of the community members.

Limitations

A major challenge to formulating a best practice protocol for HIV prevention interventions is the overwhelming volume of literature which addresses different prevention strategies. Multiple approaches were available but without concrete data of success due to the recently discussed issues with evaluation of prevention programs. The author selected to use large world-wide organizations methods due to the reputation and large amount of experience. Some smaller research studies could have identified successful prevention programs but were overshadowed by these larger organizations. Another limitation is even though the author has spent extensive time working on prevention in Tanzania, she is not a native and does not fully understand all the cultural complexities of the Tanzania culture. This would be the same for any outside researcher trying to provide culturally competent care for a different culture.

Best practice project. There are a few limitations of the implementation of this best practice project. First, this protocol would require large financial donations prior to implementation, which would be difficult to fundraise in the current economic climate. The success of the project is primarily based on community acceptance, and there would be a loss if the community rejected this method of prevention. Due to the prevention strategy and long term nature of this protocol, there is at least a five year wait time to compare post intervention data with pre-intervention data. When implementing a new protocol it is beneficial to see improving results as soon as possible to keep momentum with fundraising and support for the project. This lag time before large scale data could be evaluated is a major limitation of the protocol.

Implementation pilot. The limitations of the implementation pilot are that the pilot will only be conducted in one community. General feasibility of the pilot can be measured by the success of this implementation. However, this success may not translate to each individual village within Tanzania. These differences could be due to different social resources, basic medical knowledge, cultural mistrust of outsiders and many other factors. Another limitation is that the majority of the success of the pilot relies on the effectiveness of the change agents within the community. If the community rejects these individuals, the implementation pilot will not succeed. There could also be a distrust of members outside the local community or western approaches to healthcare.

Recommendations for Future Research

There is an abundance of current research on the topic of HIV prevention for vulnerable populations. The global community has responded to this epidemic and is flooding the data bases with useful research. One area where research could be increased is country based research for effective prevention strategies. Another would be to discover the best way to identify high risk rural communities or individuals who have limited access to healthcare and prevention services. An increase of culturally competent prevention methods would also be extremely beneficial in the global community's fight against the HIV epidemic. Increasing the knowledge base on the most beneficial teaching methods for HIV prevention in rural schools with varying attendance and ages would be beneficial for many HIV effected, third world countries. Besides the focus on behavior change prevention programs, it is crucial to continue the research on effective vaginal ARV gels, a low cost HIV vaccine and a more effective therapy for the prevention of mother-to-child transmission. The long term goal of HIV research is to discover a cure for HIV, a way to eliminate the spread, or 100% protect populations at risk.

Dissemination of Information

The HIV epidemic has touched millions of lives around the world, millions are sick and dying and individuals are still becoming infected at an alarming rate. As a global community, there needs to be an increased effort to overcome this extreme health disparity. There is an understanding of modes of transmission and effective ways to prevent the transmission of this infection. By integrating the UNAIDS, the WHO, and the Tanzanian prevention strategy, the author has developed a best practice protocol to combat this debilitating epidemic for women of childbearing age in Tanzania, a country representative of the greater sub-Saharan region. The major pillars of this best practice approach are to increase knowledge, increase access, decrease discrimination all through community involvement. By conducting the proposed implementation pilot a community will gain all the benefits of the protocol and decrease the transmission of HIV among the community. Together decreasing the spread of HIV infections can occur globally.

Summary

This chapter discussed the evaluations of the best practice protocol and the implementation pilot. It also highlighted areas of future research and the large scale messages of the thesis project.

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