

Examining the Sustainability of the Youth Peer Health Education Network within Primary Schools in Njombe, Tanzania

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Abstract

Youth Peer Health Education (YPHE) is a health promotion technique that promotes sharing information, values, and behaviours among demographically matched peers. YPHE is increasingly being utilized in schools in sub-Saharan Africa to address the need for HIV prevention. Since September of 2010, a YPHE program has been ongoing within 50 primary schools in the Njombe region of Tanzania, where the prevalence of HIV is the highest in the country at 5.1% among youth aged 15-24. The program is managed by volunteers of the non-governmental organization Highlands Hope Umbrella (HHU), with no external source of funding since 2014. This qualitative research study examined the facilitators and barriers to the future sustainability of the program. Data was collected from individual interviews with key informants, participant observation during YPHE meetings, and focus group sessions with youth peer health educators and teacher-mentors. Facilitators for sustainability included an increase in leadership abilities among youth, a sense of moral responsibility to decrease the prevalence of HIV in the region, and ongoing support from adults in positions of authority. Barriers to sustainability included a lack of teaching materials, inadequate communication between involved members, scheduling issues, and no continuous source of funding. These findings will help inform sexual health programs for youth in low-recourse settings, and can be used to promote the integration of YPHE programs into school curriculums, leading to changes in health and education policies.

Keywords: adolescent health, sexual health, peer education, sustainability, HIV prevention, Sub-Saharan Africa

Introduction

In Tanzania, the number of people infected with HIV is reported at 1.4 million, having remained relatively consistent since 2010 (6). Although the last two recent national surveys indicate a stabilization of the HIV prevalence rate at around 5% of the total population, there remains a marked differential spread between and within regions (7). The Njombe region in the Southern Highlands of Tanzania has the highest HIV prevalence rate of the country at 14.8% for men and women between the ages of 15 to 49 (7). For youth aged 15-24 the prevalence of HIV in Njombe is reported at 5.1%, which is more than double the national average (7).

Youth peer health education (YPHE) is the process by which trained and motivated individuals lead educational and skill-building activities with their peers to support and improve young people's health and well-being (1-2). YPHE programs are designed to facilitate learning about sexual and reproductive health through training students as peer

educators using curricula developed from local resources and community involvement (1-4). These programs empower young people to engage in critical thinking and foster self-esteem through training in leadership skills and sexual/reproductive health, which can then be used to educate other children within their schools and lead to the promotion of sexual health practices and ultimately a decrease in HIV prevalence over time (2, 5).

Background

In 2010 a YPHE pilot project was launched through the partnership of McGill University's Ingram School of Nursing school and a local non-governmental organization (NGO) Highlands Hope Umbrella in the Njombe region (8). The pilot project trained 20 youth peer health educators in two primary schools and improved HIV knowledge and attitudes by 32.4%

among participants (8). The success of the pilot project led to the up-scaling of the program to include 50 primary schools in the region, training 500 youth peer health educators as well as 73 adult mentors from July 2014 to December 2015. This was achieved through one-time funding provided by Grand Challenges Canada.

Previous research on peer health education for youth in Sub-Saharan Africa suggests that most programs aimed at decreasing HIV prevalence are effective at increasing knowledge and attitudes related to sexual health, but show little impact on biological or behavioural outcomes such as decreasing rates of sexually transmitted infections or increasing condom use (2-5, 9-11). This may be in part due to the lack of long-term evaluation of the programs when changes in HIV prevalence may occur in a gradual manner (10-13). Furthermore, the evaluation of peer education programs demands time and resources, which is a proven challenge in many low-resource settings (5, 12). Therefore, although previous studies have identified factors that influence the effectiveness of peer-led health education programs in low-resource setting, there remains a lack of data on the impact of facilitators and barriers towards their sustainability over long periods of time (3, 11-13).

Aim of study

This study was designed to examine the facilitators and barriers towards the sustainability of a HIV prevention program for young people in Njombe, Tanzania. Since the YPHE program has not been evaluated since the major upscale of the program in 2014, a need for an in-depth exploration of the facilitators and barriers to the continuation of the volunteer-based program is necessary to determine its future sustainability.

Methods

Design and Sampling

This study was conducted through a qualitative descriptive design. A purposive sample of 3 key informants, 19 youth peer health educators (between the ages of 12-18), 16 teacher-mentors, and 1 principal from a total of 10 different primary schools in Njombe took part in the study. Key informants were recruited in person by the 1st author in consultation with the rest of the study team. Teacher-mentors, principals, and youth peer health educators were recruited from the schools where the YPHE program is currently implemented by members of the local NGO. All participants and parents of participants under the age of 18 were freely asked to give informed and ongoing consent for the study and written consent forms in Kiswahili were explained in detail, regardless of age or literacy level. Signed assent forms in Kiswahili were also obtained from all youth participants under the age of 18.

No participants refused to join the study or dropped out.

The sample size was sufficient to enable data saturation to be achieved, based on a similar study conducted in the same setting and timeframe to examine the sustainability of a Point-of-Care HIV testing program (15).

Data Collection

Data collection for this study included individual interviews, focus group sessions, and participant observation from September to December 2017. Prior to recruitment of YPHE program members, three individual interviews were held with key informants. Key informants are considered highly knowledgeable local experts that have an interest in the focus of the study (16). The interviews were conducted in English by the 1st author at a location chosen by the key informants, lasting between 45 to 60 minutes, audio-recorded and transcribed verbatim within 48 hours of the meeting.

Two separate focus group sessions were held with participants from nine different primary schools. The first focus group included 16 teacher-mentors and the second focus group included 19 youth peer health educators, each session lasting approximately 60 minutes, conducted in Kiswahili by a hired research assistant. One additional 20-minute interview was held with a principal from a tenth school since the principal was unable to attend the focus group session. All interviews were audio-recorded, transcribed, and translated into English by the research assistant. See Figure 1 below for sample focus group guiding questions.

Three participant observation sessions during active YPHE meetings were held at three additional schools lasting approximately 60 minutes each. The purpose of these sessions was to convey unstructured observations including the actions, dialogue and context of the YPHE program. Field notes were taken by the 1st author and preliminary interpretations were discussed with the research assistant immediately after the sessions.

Data Analysis

Qualitative content analysis was used to identify prominent categories, themes, and patterns in the data (17). This method of analysis includes breaking down raw data into smaller groups, naming the groups according to the material they represent, and further grouping the content according to shared concepts (17). Data from each session was analyzed separately and then integrated to form a composite analysis.

Scheirer & Dearing's sustainability framework was used to organize the data according to facilitators and barriers towards sustainability outcomes. The framework provides definitions for six aspects of sustainability that capture sustained outcomes as well as nine associated innovation, organization and community factors (see Figure 2). Scheirer & Dearing's sustainability framework guided data collection

Sample Focus Group Questions

- Please tell us about the youth peer health education program in your school.
- How has the program been going in your school?
- What do you think is the best part of the program?
 - Could you provide an example?
- What do you think does not work well in the program?
 - Could you provide an example?
- Why did you decide to get involved in the program in the beginning?
- Would you be willing to continue being involved in the program in the future?
 - Why or why not?
- What could be changed to better support you in your role?
 - Could you provide an example or elaborate on this?
- Is there anything that impedes you from wanting to commit to the program?
 - Could you provide an example?

Figure 1. Sample focus group questions

as well as content analysis through the identification of facilitators and barriers to the six outcome variables of sustainability within the YPHE program in Njombe.

Data analysis was conducted by several members of the project team to ensure that all data was examined in an integrative way.

Trustworthiness and Rigour

Various strategies were employed to ensure trustworthiness and rigour in this study. A reflexive approach was employed by the 1st author keeping a journal to monitor personal thoughts and impressions of the data as well as engaging in continuous consultation with the rest of the study team and local community members to identify personal biases. The 1st author was also immersed in the Njombe region for four months, took detailed field notes during data collection, paraphrased with participants to verify information, and audio-recorded interviews for accuracy. A detailed record of the study process with multiple data sets being used to achieve the stated objective also contribute to the dependability of the results. Careful documentation and review of findings by other members of the study team allowed for objectivity to be maintained throughout.

Ethical Considerations

Ethical approval was obtained from the affiliated university's Institutional Review Board, as well as from the primary school board in Njombe before data collection commenced. Given that the study took place in Tanzania with a history of colonization, the integration of anti-colonial methodologies was incorporated throughout the study. To ensure power sharing between the study team and participants a participatory approach was employed, including valuing local

knowledge and perspectives from community members, and involving them in planning, implementation, analysis, and interpretation of the data (18). The community of Njombe is acknowledged as the primary holders of the findings from this study.

Results

Facilitators to sustainability

The results of this study indicate that various facilitators and barriers affect the sustainability of the YPHE program and are divided into distinct themes. The facilitators to sustainability identified include a) gratifying volunteerism, b) a sense of moral obligation, c) advancement of leadership abilities, and d) engaged and supportive authority figures. Each theme is discussed below with selected verbatim quotes from interviews and focus groups to help illustrate the themes in more detail. Barriers to sustainability are provided subsequently.

Gratifying volunteerism

One of the primary facilitators for the continuation of the YPHE program was the presence and dedication of its volunteers. All active participants of the program including the teacher-mentors, principals, and youth peer health educators participate on a volunteer basis. In addition, volunteers from the local NGO conduct training sessions for the youth peer health educators as well as program monitoring and evaluation. All participants in the study stated they would continue being part of the YPHE program solely on a volunteer basis, and did not expect to be directly compensated. When asked to explain their reasons for participation as volunteers in the program teacher-mentors

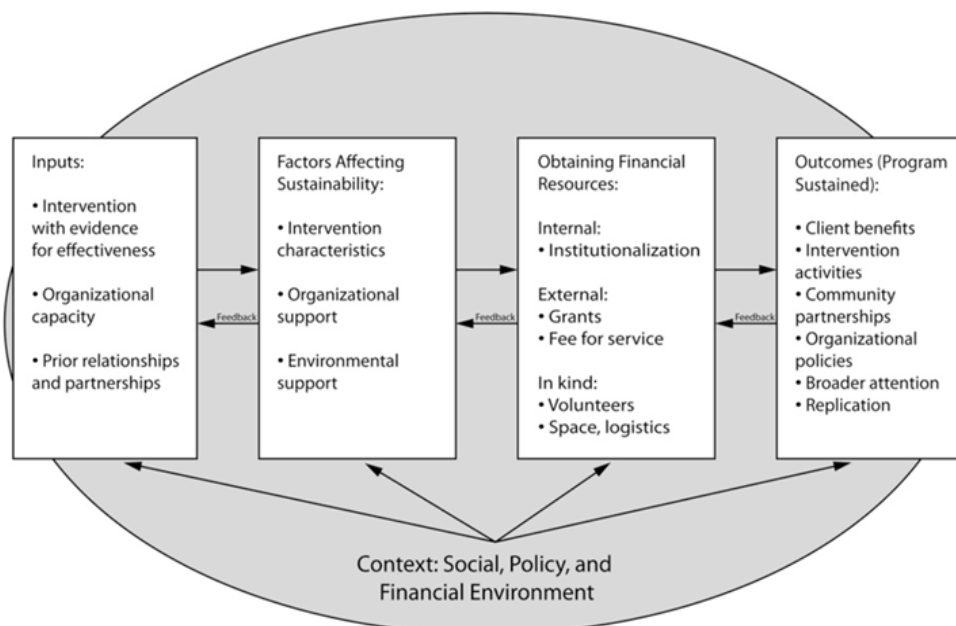


Figure 2. Conceptual framework for sustainability of public health programs

stated that the program’s benefits extended beyond the education of youth; it also increased their own knowledge and skills. Youth educators stated that the program helped them to realize their desires and ambitions:

“I agreed to join the program so as to reach my goals and to educate my fellow peers so they can also reach their goals.”
 –YPHE2

Volunteerism in Njombe was described as being an unstructured activity and social endeavor, where there were often minimal resources but large amounts of goodwill. Personal networks were also of key importance as it is the primary method for recruiting new volunteers. Therefore, the continued availability of volunteers is essential for maintaining the program into the future as the positive outcomes of volunteerism is clearly recognized by its members.

A sense of moral obligation

The YPHE program was designed to bring awareness to the high prevalence of HIV among youth in Njombe, and therefore a significant motivator for involvement in the program is a sense of responsibility to address issues pertaining to sexual health.

“I decided to join the program because I saw that it was to save our kids in their life according to those topics that they have been taught.” – P1

This emphasizes the convictions of program members to act

in ways they believe will benefit future generations. Similarly, youth educators stated that the knowledge they gained from the program helped not only themselves and their fellow peers, but also the greater community.

“I have seen that the society has no knowledge about the YPHE program so I got the knowledge and then I taught them and now they know, they have the knowledge like me.” – YPHE18

Therefore, involvement and continuation of the YPHE program is related to its member’s sense of what is important and relevant in the current sociopolitical context, and how they feel morally obligated to help each other address it.

Advancement of leadership abilities

One of the indirect benefits of the YPHE program was its ability to increase leadership skills amongst its members. The YPHE strategy is unique compared to other public health education programs targeting sexual education in that youth become leaders among their peers. By empowering youth to provide education and teach each other, volunteer trainers are not required to come to schools and provide the education themselves, which is intended to be a self-sustaining approach. One teacher mentor explained:

“The kids have also managed to rule themselves since before the program the teachers were telling them everything about what they had to do, but after the program they can do things on their own

and they know how to rule themselves, they know the meaning of leadership, they are able to administer themselves to make decisions.” - TM7

Youth are selected to become peer educators through a voting process with their classmates; they are not pre-selected by teachers, principals, or the trainers. They therefore demonstrate the ability to govern amongst themselves and decide upon leaders and role models for their own education. In addition, when the youth educators are promoted and recognized by their teachers, they continue to feel that they are valued and respected, which in turn hones their leadership skills and contributes to the sustainability of the program.

“In some schools ... you find teachers are like promoting them, to make them feel like, oh we are special, we are valued” - K12

Engaged and supportive authority figures

Although the YPHE program is youth focused, it relies heavily on support from various levels of authority. Teacher-mentors are the primary point of contact for the youth educators and therefore must be involved and approachable.

“I have educated my fellows so when they get problems they cannot be afraid to see the teachers.” - YPHE12

When authority figures are receptive to the program, it is one of the most critical aspects for the program’s successful integration into schools and therefore greatly facilitates the sustainability. The support for the program from higher levels of government has increased over time, which is one of the most influential facilitators to sustaining the program as society is increasingly receptive to providing youth with sexual health information.

“It’s very dependent on the quality of the teacher mentors; like what was their motivation, did they really get it, did they really believe in it, are they going to fight for it within their structures... head teachers become critical, the educational system, like the managers of the system at the regional level, they become critical.” - K11

There are many levels of authority that have a stake in the continuation of the program including principals, regional officers, district directors, and the local education officials. Therefore, it is necessary to promote the program at all levels of governmental authority to ensure that communities and

schools are willing to continue with the program in the future.

Barriers to Sustainability

The barriers to sustainability of the YPHE program that were identified include *a) insufficient methods of communication, b) scarcity of equipment and materials, c) school timetables lacking designated schedule, and d) inconsistent and insufficient financial resources.* Each of these barriers is discussed below with selected verbatim quotes from participants.

Insufficient methods of communication

A major barrier to the sustainability of the YPHE program is insufficient communication methods. Effective modes of communication are necessary between the program implementation team and the program members, the teacher-mentors and principals in the involved schools, the youth educators and their peers, and between the peer educators themselves. Teacher-mentors and principals require ongoing support from the NGO implementation team, including regular contact with the volunteer trainers. In addition, having visitors come to the schools increases the students’ enthusiasm for the program and stimulates their learning since there are new people in their environments. Contact between the volunteer trainers and the youth peer health educators also ensures that the youth are receiving accurate and up-to-date sexual health information. The teacher-mentors must also be able to communicate with each other within and between different schools, since physical meetings are not always feasible given distance and the cost of transportation.

Scarcity of equipment and materials

Another barrier to the sustainability of the program is the lack of basic materials that are required to keep the YPHE program functioning. Equipment such as pens, exercise books, and brochures with current health information and statistics are tools that would strengthen the program into the future, according to its participants. Other required resources include food and transportation to bring youth educators together and/or to bring them to different schools to meet each other. Gifts and prizes for the students who are doing well or demonstrating increased leadership and initiative in the program would also be beneficial. As it functions, the only material utilized by the youth peer health educators is that which is already available in the classrooms such as chalkboards, tables, desks, and chairs. There is no other equipment or materials that are specifically designed or intended for sexual health education, and in one school there was no classroom available for the YPHE session, which took place outside in the schoolyard instead.

School timetables lacking designated schedule

One of the most frequent complaints or concerns within the YPHE program voiced by participants in the study was a lack of time for the program. This is due to scheduling issues, for

example:

"We have time in our school it is on 12 o'clock but that is during the break time when students are running out, they are playing so they can't listen." – YPHE18

One principal explained this barrier further:

"The timetable the youth peer health educators have is inadequate according to their class timetable which starts from morning up to 3:20 pm, maybe what is needed is that leaders such as the education officials must know about the program so that they can help to organize time for the program, so that kids will have a special time in their timetable to be educated" – P1

The frequency of the YPHE meetings was also an important factor affecting the program as weekly sessions are necessary for the youth to remember the information they have been taught and have the chance to interact and engage with their peers on a regular basis.

"You have to educate your fellows frequently so that they don't have to wait a long time before they get education." – YPHE7

These scheduling barriers for the YPHE sessions were also apparent during the participant observation sessions. None of the schools visited had a designated time or place to conduct the program, instead the sessions that were observed were arranged upon consultation with the principals in each school in a retroactive manner. The date and time was decided upon after requesting to attend the session, instead of occurring on a regular basis.

Inconsistent and insufficient financial resources

The most constant barrier to the sustainability of the YPHE program is maintaining a source of continuous funding. A lack of financial resources was brought up in every interview and focus group and is recognized as the most critical factor to sustaining the YPHE program. Although the local NGO continues to apply for grants and various sources of financing, the success rate is low. Furthermore, once one source of funding runs out, the organization must re-apply, severely restricting the ability to sustain the program in a continuous, on-going manner. This barrier of inadequate financial resources impacts almost all of the previously mentioned factors of sustainability, as it is required for transportation and communication, purchasing of materials, maintaining a network of volunteers, and for running the NGO office and

all its program components. Although the YPHE program is volunteer based, asking members to pay out-of-pocket for expenses that are incurred is not conducive to a sustainable system. Therefore, unless the economic status of the YPHE program changes, the lack of financial resources will remain the biggest barrier to its continuation.

Discussion

The findings from this study indicate that there are many facilitators and barriers to the sustainability of the YPHE program in Njombe, and that an adequate understanding and interpretation of the various factors affecting the continuation of the program is critical. Firstly, the need for advertising and recognition of volunteers to maintain a strong network both within the NGO and within the YPHE program specifically is required for the program to maintain its intervention activities and benefits to the community (8, 14). Social connection, opportunities for public recognition, and personal development have been evidenced as motivating factors for individual volunteers, yet despite the important role that this plays for service delivery and advocacy, volunteer contributions are often downplayed (19-21). Notably, Scheirer & Dearing's sustainability framework does not explicitly incorporate the values and beliefs that contribute to a sense of moral obligation or commitment by those involved in public health programs (14). The convictions that individuals and communities display towards a cause they believe in is a strong driver of social change, allowing for the development of programs and policies targeted towards morally-charged issues (21, 22). It is critical that volunteerism be promoted and publicized within community organizations, including volunteers' individual sense of responsibility and beliefs about what is ethically and morally important, as they are major facilitators for sustainability (19-22).

Communication tools are also vital for sustaining programs such as the YPHE network in Njombe, particularly in maintaining community-level partnerships (14). Resources such as mobile phones and social media applications like WhatsApp messaging groups or Facebook pages can be strategies for teacher-mentors to connect with each other and for youth educators to stay involved in the program when they are older, since the vast majority of adults in Tanzania have their own mobile phone (7, 23, 24). Evidence on the efficacy of using social media platforms for health promotion purposes is increasing, and non-governmental organizations and other stakeholder are encouraged to use this tool more often for sexual health promotion and education, as it does not require additional financial resources to implement (23, 24). In addition, regular visits by volunteer trainers give youth and teachers the sense that they are being monitored and overseen by the organization, and helps to maintain attention to the core issue of sexual health and HIV prevention through evaluation of the knowledge and practices of youth (5, 14).

Nevertheless, the timetabling issue of the YPHE program within schools remains a large barrier. The question of who is ultimately responsible for arranging a time for the program within the schools' schedules is unclear. Teacher-mentors stated that the principals of their schools needed to provide a time for the YPHE program, whereas the interviewed principal said that the district education officials must assign a designated time. Therefore, both resource constraints and general disorganization and bureaucracy impede the implementation and communication of peer education activities (9).

Ultimately, it is unlikely that the YPHE program will be maintained or strengthened without a source of continuous funding. However, if the program is integrated into the required curriculum of the primary schools, then the NGO could take a step back from their involvement in financing the program's activities, as it would become a public service within the education system. This would require continuous training and support from parents, teachers, healthcare providers, political leaders, and donors, as they all have a role to play in the social, political, and financial contexts that affect sustainability (13, 14). At the same time, this study illustrates the agency of youth in the YPHE program as individuals who have the interest and ability to affect change, make autonomous and independent choices, and act in self-determining ways (12, 25, 26). The youth peer health educators in the program in Njombe display an inherent capacity to participate in activities that benefit not only their own health, but the health of their peers and wider society. Their commitment to the YPHE program demonstrates that young people can understand, act, and promote their involvement in matters affecting their health, which will have important implications on how future health care services and programs are delivered (12, 27). Therefore, community engagement, structures and supports are necessary conditions for the YPHE program to be maintained, and strategies for sustainability should be aimed at providing a supportive environment for youth, as they are the foundational force of the program, the ones implementing the intervention activities, and also the intended beneficiaries.

The findings of this study should be used to expand recommendations for other public health programs targeted towards youth in similar low-resource settings. Additional evaluation of the effectiveness of the YPHE program in eliciting behavioural and biological changes among youth in Njombe would enhance the possibility of its future integration within schools' curricula, and lead to changes in health and education policy in Tanzania. Future research should also focus on identifying the community-level structures and supports required for sustainability of public health programs as well as adapting the current discourse on public health sustainability frameworks to incorporate moral convictions and responsibilities of involved members.

Limitations of the study

One of the study's main limitations includes the potential for bias during the focus group sessions. Although the hired research assistant was not directly affiliated with the YPHE program, the presence of other volunteers from the NGO in the room during the sessions may have affected participant's willingness to speak openly about the negative aspects of the program. Furthermore, the two focus group sessions contained 16 and 19 participants respectively, and therefore may have been too large to allow everyone an adequate and equal amount of time to voice their opinions.

Conclusion

Facilitators to the current YPHE program in Njombe, Tanzania are positive volunteer incentives, personal and moral obligations, increasing leadership abilities among youth, and support from authority figures such as teachers, principals, and government officials. Barriers to the program include obtaining adequate tools and material resources, lack of communication between involved members, improper scheduling and time management, and lack of finances. Recommendations to ensure the continuation of the program in the future would be to recruit and advertise for volunteers by publicizing the benefits of volunteerism, supplying appropriate teaching materials, increasing modes of communication, and using social media to provide regular program updates. Most importantly, the YPHE program should be incorporated into primary school's curricula so that there is a designated time for the peer education sessions and so that the program does not rely on outside funding for its continuation and implementation of these recommendations.

This study helps to expand the current understanding of youth agency, as it demonstrates young people's interests and capacities to be involved in matters related to the health of their society. Therefore, the strategies for managing the facilitators and barriers to sustainability must be aimed at providing a supportive environment and context for youth to be engaged. The YPHE network in Njombe can only be sustained through the combined efforts of stakeholders who recognize the importance of maintaining a sexual health education program that empowers youth and continues to address the prevalence of HIV within the region.

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