

## A Peer-to-Peer Health Education Program for Vulnerable Children in Uganda

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Received: January 12, 2016    Accepted: January 28, 2016    Online Published: February 15, 2016

doi:10.11114/jets.v4i3.1294

URL: <http://dx.doi.org/10.11114/jets.v4i3.1294>

### Abstract

In this paper, children attending a U.S.-sponsored private primary school serving orphaned and vulnerable children in Uganda were interviewed in focus groups about their participation in a peer-to-peer health education program in which they used music, dance, poetry, art, and drama to convey health information. The children reported enhanced knowledge and changes in health behavior among themselves and their peers.

**Keywords:** peer-to-peer health education, Uganda, the arts, vulnerable children

### 1. Introduction

#### 1.1 Setting for the Project

Uganda faces many challenges as it pursues human development goals. The United Nations Development Program (UNDP) Human Development Indicators place Uganda near the bottom of the ranking of nations (163 out of 188 countries) (UNDP, 2015). The UNDP's most recent health indicators show a life expectancy at birth of 58.5 years, an under-5 mortality rate of 66/1000, and 33.7% of children under the age of 5 moderately or severely stunted in growth due to malnutrition (UNDP, 2015). All of these indicators reflect the devastating effects of poverty, hunger, disease, and lack of access to adequate healthcare. In addition, as of 2014 Uganda had an HIV/AIDS infection rate of 7.25% (CIA World Fact Book, 2015). Uganda has the fourteenth highest fertility rate in the world (5.89 children/woman), which has resulted in a country that is largely composed of children and youth (CIA World Fact Book, 2015).

The town of Lukaya (population around 24,700) is a truck stop on a major highway that is used to transport goods throughout East Africa (Quandl, 2015). With so many truck drivers passing through, the town's desperately poor women are driven to the sex trade by a variety of social factors, including lack of opportunity for other employment. In Lukaya, the rate of HIV infection is much higher than in Uganda as a whole, reaching 27% (*Daily Monitor*, January 21, 2013). This, combined with the high birth rate, has resulted in a very large population of orphaned and vulnerable children.

#### 1.2 Background of the Project

In 2003 two American couples fulfilled a life-long dream of going on an African safari. Thrilled with seeing mountain gorillas but dismayed at seeing the overcrowded conditions in a local primary school and then learning about the difficulties faced by the children they met, they returned to the USA and resolved to build a school. By 2006 they had established Real Partners Uganda (RPU), a U.S. not-for-profit organization [501(c)3] and later joined with Ugandan partners to form an indigenous organization, Tree of Life Ministries (TOLM) (RPU, 2016). In late January 2009 TOLM opened Mustard Seed Academy (MSA), a nursery and primary school, with RPU providing most of the funding through seeking grants and recruiting U.S. residents to sponsor the children and TOLM providing oversight for the school's leadership team that directs the daily operations of the school (RPU, 2016). As of 2015 MSA had 13 levels of instruction (nursery through the first three years of secondary school), more than 500 students enrolled, and a staff numbering more than 30. Students receive two nutritious meals a day, free medical care in an on-site clinic, uniforms, and counseling and support. To address community needs, several projects focusing on conservation, health promotion, and sustainable development have been added. After reflecting on the result of an informal needs assessment conducted in 2010 by an American social worker, RPU became

convinced that the students would benefit from an extracurricular program that would engage them in something both useful and fun—a peer-to-peer health education program using the arts.

In 2012 in response to this idea, RPU and TOLM recruited an American woman with a degree in community health education as the Health Programs Coordinator (HPC). Her charge was to launch *Child-to-Child*, a peer-led health education program that uses music, dance, poetry, art, and drama to educate Mustard Seed Academy children about disease prevention and health promotion. The program was to center on building confidence, identifying and expanding upon students' strengths, and using culturally significant art forms to spread information about a variety of health topics.

### 1.3 Relevant Scholarship

The recent history of Uganda has proven the efficacy of health education. According to estimates by the U.S. Census Bureau/Joint United Nations Program on HIV/AIDS (UNAIDS), the national prevalence of HIV in Uganda dropped dramatically from a high of approximately 15 percent in 1991 to 5 percent by 2001 (although there has been an increase since then) (Hogle, 2002). This change has been principally attributed to a high level of political support, planning, and health education (Hogle, 2002).

Peer-to-peer health education models with youth have been studied. For example, Dunn, Ross, Caines & Howorth (1998) compared the effectiveness of nurse-led versus peer-led school-based HIV/AIDS prevention education programs in a Canadian high school, finding that, although both were effective, the peer leaders were more effective than the nurses in enhancing students' knowledge, attitudes, self-efficacy, and behavioral intentions. A number of other studies have argued that students are able to reach their peers in ways that might not be accessible to adults (Kelly et al., 2006; Kocken, Voorham & Brandsma, 2001; Mellanby, Rees & Tripp, 2000; Price & Knibbs, 2009), suggesting that a peer health education model might be appropriate. Norton & Mutonyi (2007) used such a model with 160 secondary school students in four Ugandan schools. The students participated in extracurricular HIV/AIDS clubs that used drama, popular culture, and community outreach as program strategies. Students were encouraged to take leadership in designing the program. Much of the current research on peer education programs highlights sexual health curricula with adolescents (Medley, Kennedy, O'Reilly & Sweat, 2009; Hampton, Fahlman, Goertzen & Jeffery, 2005, Warwick & Aggleton, 2004, Rabielpoor, Taskin, & Mikaili, 2011, Ebreo, Feist-Price, Siewe, & Zimmerman, 2002, Barrett & Bissell, 2005, Norton & Mutonyi, 2007, Kim & Free, 2008). The program described in this paper is unique in that it covered a wide range of topics to reach *primary* school aged students in several areas of health.

The design and implementation of an effective peer-led health education program in a developing country is a challenge, due to cultural, socio-economic, and community barriers. Previously successful peer-led health education programs have incorporated the use of enjoyable activities to share information and engage students on a different level (Burrows & Olsen, 1998); resulting in higher motivation to participate and retention of information from student participants (Ebreo et al., 2002). Aware of both the challenges and potential benefits of peer-led programs, the leadership of RPU and TOLM sought to develop a program that would meet the unique needs of the MSA community.

### 1.4 Development of the Program

The HPC worked collaboratively with MSA Administration at the beginning of program development to generate ideas for sustainable outcomes. The Headmaster recommended the establishment of a team made up of teachers, nurses, and the HPC to facilitate the program, arguing that any efforts made by the HPC during her time in Lukaya would disappear unless she would share this knowledge with the Ugandan teachers and nurses. Agreeing with this suggestion, the HPC requested that the Headmaster compile a list of teachers he felt had strong qualities of leadership, work ethic, knowledge of science, and/or artistic ability. Together, the Headmaster and HPC were able to narrow this list to two teachers and both school nurses. The HPC and these facilitators comprised the five Team Facilitators that co-developed and led the program.

Another plan to assure sustainability of the program materialized in the selection of student participants. The HPC charged the other Team Facilitators and Headmaster with the task of identifying 5-7 students from primary levels 5, 6, and 7 who would serve as qualified candidates. The mixed grade levels ensured that as older students moved on to secondary school, younger members would continue the program as "returners" during the next school year. Returners bring with them a foundation of knowledge about health from the previous year and an understanding of program goals and expectations. Team Facilitators defined a qualified candidate as a student with an interest in health, artistic ability, and desire to teach and learn. The HPC advised Team Facilitators and Headmaster to identify an equal number of boys and girls and not to distinguish between shy or outgoing students. As a result, informal invitations to join the program were distributed to the final 21 candidates, and 19 students accepted.

At the start of the *Child-to-Child* program, there were 10 girls and 9 boys and an evenly distributed number of students from P-5, P-6, and P-7. (Three additional males joined by the end of 2<sup>nd</sup> term to increase the number of drummers during school

performances.) The group met twice a week from March to November during the 2012 school year, with optional meetings taking place once a week between terms.

As a team, the facilitators taught this selected group of 21 student leaders about a variety of health topics. The students enthusiastically took ownership of the program by asking to change its name. Child-to-Child became known as the Mustard Seed Health Team (MSHT). Students were encouraged to develop materials to teach their peers and create a platform for that health education to occur.

The curriculum, carefully designed by the HPC and the Team Facilitators, consisted of three phases, which systematically occurred during one school year. The first phase of the curriculum aimed to educate student participants about the health topics. During the first lessons, Team Facilitators encouraged the student group to create a list of health topics about which they were curious. This approach addresses one of the concerns raised in a recent critique of peer health education programs—lack of youth participation in planning the programs (Price & Knibbs, 2009). After compiling the final student list, Team Facilitators worked with the TOLM Leadership to expand the list to include any other health concerns not previously present. In an effort to introduce all health topics in a logical pattern, the HPC and nurses worked together to establish a meaningful outline to the curriculum. To ensure student comfort-level with themselves, their peers, and the Team Facilitators, the nurses and the HPC introduced difficult-to-discuss topics at a gradual pace. This gave the facilitators ample time to build trust, establish a fun and safe environment for learning, and identify the needs of individual students. The final education curriculum included (listed in order of instruction): immunization, prevention of communicable diseases, hygiene and sanitation, introduction to germs, malaria prevention, personal safety and avoiding bad peer groups, boys' puberty, girls' puberty, HIV/AIDS prevention, STI prevention, healthy and unhealthy relationships, nutrition and dietary supplementation, and a cumulative review (Author, 2012).

The HPC worked closely with each teacher and nurse to identify and capitalize on his or her strengths in teaching. Over the course of the first term, each Team Facilitator had the opportunity to design lessons during weekly Team Facilitator collaboration meetings.

The material and instructional development phase of the curriculum began during the end of second term and introduced a variety of teaching methods to the students. There was strong emphasis on providing an opportunity for students to design their own teaching tools, because students hold the advantage of understanding the perspective of their peers. These included poetry, posters, dramas, facilitated group discussions, and songs.

Collaborative efforts between Team Facilitators were required most during this phase, because each facilitator brought unique talents and experiences to these developmental lessons. One of the facilitators was a talented musician and lyricist and was able to work closely with students to write songs about a variety of health topics. Another facilitator had performed with the African Children's Choir when she was a primary student and was able to use her experiences to choreograph and refine these musical performances. Yet another facilitator worked with groups of students to develop their ideas for using poetry to illustrate health promotion and disease prevention concepts. Together, the five facilitators assisted students in developing 14 poems (ranging across all health topics), 10 classroom posters, 3 dramas, 1 facilitated group discussion, and 3 songs within the 2012 school year.

The final phase of the curriculum required students to work in small groups and choose a health topic to review and design one teaching method to use in educating the new members of the next school year. For example, students working with the topic "Safety and Avoiding Bad Peer Groups" wrote and performed a poem condemning adults who defile young children. A group working with the topic of puberty created an interactive lesson using a poster as a visual aid. They led a discussion about signs of puberty to help their peers better understand the similarities and differences in boys' and girls' experiences during development. The team had several weeks to prepare, rehearse, and then perform these teachings to the newest health team members at the end of third term. Team Facilitators modified many of the learning tools designed by students for use during a school wide health education assembly at the start of the first term in 2013.

Team Facilitators recognized an opportunity for participants to develop as empowered leaders of the school and community. During curriculum development, Team Facilitators worked together to create purpose-driven activities for the beginning and end of each lesson. These activities challenged students to improve their public speaking abilities, build confidence, and foster creativity. This area had perhaps the greatest improvement from the program. During the first weeks of the MSHT, only 4 out of 19 students were able to answer questions without mumbling their words and facing the ground when they spoke; by the end of the program, all 21 students were able to not only answer questions, but also give school-wide presentations with confidence.

The first school-wide education project coincided with another health program. The TOLM Leadership charged the MSHT with the task of teaching the whole MSA community (students, teachers, and staff) about *Artemesia*, a tea that can reduce

the risk of malaria if taken twice a week. The tea is extremely bitter, and TOLM Leadership was doubtful that students would ever agree to take it. However, the MSHT and the Team Facilitators wrote and choreographed a song about drinking the tea twice a week and the students performed the song for all grade levels the day before the school-wide implementation of the tea program. Despite the bitter taste and previous community-wide negative connotations about *Artemesia* tea, the program received a 100% turnout of students taking the tea. This high turnout continued through the remaining two terms of school and the school health clinic noted a slight drop in malaria incidence by the end of the school year. This example highlights the MSHT's ability to motivate their peers effectively in order to change or improve health behaviors.

In the beginning of the 2013 school year, the American social work professor returned to Lukaya and conducted focus groups with the MSHT to garner the children's perspectives on what they had learned through the program and how effective it had been in changing their own health behaviors and those of their fellow students at MSA.

## 2. Method

Students who participated in the MSHT as peer educators were asked to participate in focus groups to discuss what they learned about the health topics covered in the program and about how they may have benefited from their participation. Two focus groups were held in February 2013, both with students who had participated in the MSHT during the previous academic year (February-December 2012). The first group (9 students) consisted of students who were still in primary school in February 2013. The second group (10 students) was composed of students who had moved up from Primary 7 to the first year of secondary school. All participants were volunteers. Children were asked to sign a statement that they assented to participate, and the Headmaster gave his consent. This study was submitted to and approved by the Institutional Research Board of Stockton University.

Since all students had been in primary school the previous year and had all participated in one group with one curriculum, the results of the two focus groups were combined. Students were asked to respond to five questions. The focus groups were audio recorded and transcribed by an individual who was well acquainted with the Ugandan accented English spoken by the children. Students were interviewed at the very beginning of the 2013-14 academic year and asked to reflect back on their learning in the program from the previous academic year. Although students might have forgotten some of what they learned during the two-month school holiday, it would be expected that they would remember the content that they believed to be most significant and relevant to their lives. Despite their lack of familiarity with the facilitator of the focus group, students appeared eager to participate and exhibited no reticence about answering the questions posed. Their responses were recorded and analyzed for themes.

## 3. Results

There were 21 responses to the first question posed: "What made you want to join the Health Team?" The following table summarizes the students' responses.

Table 1. Students' Motivation to Join the Health Team

Motivation to Learn More About:	Number of Times Mentioned
Disease prevention	6
Personal hygiene and sanitation	3
Immunity and immunization	2
Personal health	2
Boys' and girls' puberty	2
Personal safety	1
Avoiding bad peer groups	1
Nutrition	1
Enhancing the health of others	1
Widening my knowledge	1
Passing exams	1

Students' concerns about protecting their health appear to be the most frequently mentioned factor motivating them to join the Health team.

The following table summarizes the responses to the next question: "What have you learned so far as a member of the Health Team?"

Table 2. What Children Reported Learning

Health Topics	Number of Times Mentioned
Disease prevention (Students mentioned malaria, AIDS, and diarrheal diseases.)	11
Immunity and Immunization	5
Hygiene & Sanitation	5
Boys' and Girls' Puberty	5
Personal Safety and Avoiding Bad Peer Groups	4
Nutrition and Dietary Supplementation	3

It is not surprising that students remembered the content about preventing disease. Disease has affected and continues to affect their lives significantly. A large proportion of the children has lost one or both parents to disease, especially AIDS. Most of the children have suffered from bouts of malaria, and some have seen friends hospitalized or die from this widespread disease.

Students were asked whether they had changed anything about caring for their own health since becoming part of the MSHT and also whether they had observed changes in the behaviors of other students in the school in response to the peer-to-peer health education.

Table 3. Changes Reported in MSHT Participants and in Other MSA Students

Behavior Change	Change in Own Behavior	Reported Change in Behavior of Other Students
No longer sharing sharp objects or clothing with others (to avoid spreading infections)	3	1
Now avoiding bad peer groups	2	2
Now drinking Artemesia tea (to prevent malaria)	2	1
Now always sleeping under a mosquito net (to avoid malaria)	2	
Now always washing hands (to avoid germs)	1	1
Now drinking only boiled or treated water	1	1
Now able to help a friend understand the changes in puberty	1	1
Now cutting finger nails (to avoid germs)		1
Now washing (bathing) regularly		1
Now combing hair or shaving heads (to avoid head lice)		1
Now eating a balanced diet	1	

As can be seen by the above table, the children reported not only that they had changed their own health behaviors in response to learning the lessons of the health curriculum but that their peers in the school had changed their behaviors as well.

The methodology used (focus groups) was not able to measure the extent of the changes reported by the children, but if any credence is to be given to the enthusiasm and certainty with which the students reported changes in themselves and their fellow students, the change was meaningful. Key stakeholders, such as the program facilitators, also were able to identify several areas of improvement in the health and well-being of MSA students. One of the Health Team facilitators reported that health information learned in the program is disseminated both formally (e.g., through the posters, songs, poems, and dramas that had been developed to get health lessons across) but also informally as children interact with peers in the classrooms, on the playground, or around the latrines. In addition, children involved in the program began demanding higher health regulations at home, for instance washing food before eating anything raw and boiling water before drinking. A number of parents had resisted immunizing their children due to a mistaken notion that immunization can cause disease. Listening to their children convey facts about immunization caused some parents to change their minds and immunize their children. Reports of these informal acts of peer health education occurred on a weekly basis from fellow students, MSA teachers and staff, and several MSA parents.

#### 4. Discussion

This preliminary, informal study of a peer health education program conducted in a Ugandan primary school suggests that children are not only learning important lessons about disease prevention, hygiene, sanitation, personal safety and avoiding bad peer relationships, puberty, and nutrition, but they are changing their own behavior and the behavior of their peers. As discussed earlier in this paper, researchers have demonstrated the strength of peer-led health education programs in enhancing health knowledge and changing health behaviors in adolescents in many countries, the efficacy of health education in preventing the spread of disease in Uganda, and the value of peer education using drama and popular culture in Ugandan secondary schools. The research described in this paper suggests that peer education using the arts can also be successfully used at the *primary* school level in Uganda (and perhaps elsewhere) to change health behaviors.

It is notable that this program was created by a partnership between an American volunteer with a community health education background and a team of Ugandan teachers and nurses, who found a way to work together across cultural

differences and to involve primary-aged students in designing a comprehensive and effective peer health education program that uses the arts to promote healthier behaviors. Further study of this promising approach is suggested.

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