THE EFFICACY OF INTERACTIVE SEXUAL HEALTH EDUCATION OF FEMALE ADOLESCENTS IN APAM, GHANA

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Howard University College of Medicine
While HIV has received a lot attention over the past 30 years, Sexually Transmitted Infections (STIs) are responsible for a great deal of morbidity and mortality among developing populations worldwide.

Both bacteria and viruses cause STI transmission.

While most are transmitted by body fluids, some are transmitted by skin-to-skin contact.

STIs cause grave complications ranging from death to neurological damage to infertility which all have profound impacts on individuals and their communities.

INTRODUCTION
• Adolescents are responsible for nearly one-third of all Chlamydia infections worldwide (Dehne and Riedner, 2005)
• Female adolescents have the highest rates of chlamydia detection as compared to other age groups (Dehne and Riedner, 2005)
Most of the STI data in Ghana focuses on HIV transmission and prevention

- The Overall HIV prevalence in Ghana is 1.5%
- One target of the Ghana AIDS Commission is to halve the sexual transmission of HIV by 2015
- Between 2010-2011, the HIV prevalence of 15-19 year olds rose from 1.5% to 1.9% (Ghana Country AIDS Report 2012)
• Research of the Demographic and Health Survey of Ghana has provided some STI surveillance
  - 22.8% of women sampled from Accra had symptoms of a RTI, STI or UTI in the last 6 months (Adanu et al. 2012)
  - 12% of females ages 15-24 reported STI symptoms (Ohene and Akoto. 2008)
  - Of note, 37% of the females ages 15-24 without a STI history knew where to get condoms, while only 24% of females with a STI history knew where to find condoms (Ohene and Akoto. 2008)
Many of the sexual health education programs in Ghana are joint efforts of both the Ministry of Health and the Ministry of Education.

Ministry of Education trains Teacher Training College students on HIV prevention.

Ghana Education Services has integrated the HIV ALERT model into schools in hopes of “institutionalizing HIV and AIDS into the education sector” (Ghana Country AIDS Progress Report).

- Uses teacher-led, child-led, and school-community-based pillars to teach
BACKGROUND

• Despite these efforts, knowledge of HIV has not increased among young people aged 15-19 between the years 2006-2008 (Ghana Country AIDS Progress Report)

• In the Multiple Indicator Cluster Survey, 25.1% of young women and 33% of young men aged 15-24 years had comprehensive knowledge of HIV/AIDS (MICS 2006)

• In the GDHS 2008, for those aged 15-24 years, 28.3% of females and 34.2% of men had comprehensive knowledge about HIV/AIDS

• Globally, the reason adolescents are at greater risk of STIs are due to poor education and especially on STI prevention (Dehne and Riedner, 2005)
STUDY QUESTION

• Can interactive sexual health education on sexually transmitted infections cause knowledge uptake of adolescent females in Apam, Ghana?
APAM, GHANA

http://www.onhiatus.com/journal/journal.cgi/GhanaPhotos.html#prettyPhoto[country]/5/
APAM SECONDARY SCHOOL

School Seal

http://apamseniorhighschool.webs.com/

School Grounds

http://apamseniorhighschool.webs.com/
Established in 1953
Student Population: 1,808 students
Teaching Staff: 63
Non-Teaching Staff: 48
• Quantitative and qualitative cross-sectional study
• 18 Female Form 3 and Form 4 students were recruited from the Apam Secondary School to receive an hour-long interactive intervention focused on sexually-transmitted infections
• Girls were only notified minutes before the session, so there was no incentive to review previous lessons
• Girls were given a quiz before the lesson to test their original knowledge and a post-quiz to test their acquisition of knowledge
• No demographic data was collected from the girls, it is assumed that they are a similar sample of girls because of where they attend school
• The Intervention
  - One hour lesson on various types of sexually transmitted infections with emphasis on complications
  - There was also a short video to highlight one STI to make the session more interactive with discussion after the video
  - Video was a poem on Gonorrhea
QUIZ QUESTIONS

• Name four Sexually Transmitted Infections.
• What body fluids can HIV be transmitted through?
• Sexually Transmitted Infections can cause infertility. True or False?
• Gonorrhea and Chlamydia both cause which disease?
• What is the most effective way to prevent Sexually Transmitted Infections?
• Which sexually transmitted infection can cause Cancer?
• Which sexually transmitted infection causes burning of the genitals and blisters?
• Which sexually transmitted infection can cause brain damage?
• What is the name of the structure where a woman’s eggs are stored called?
• What is the name of the structure where a normal pregnancy occurs?
HOW DID THEY DO?
• 17 completed quizzes were collected from 18 of the girls

Table 1. Average Scores for Pre- Post-Quiz

<table>
<thead>
<tr>
<th></th>
<th>Mean Score</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
<td>Pre-Quiz</td>
<td>52%</td>
<td>±10</td>
</tr>
<tr>
<td>Post-Quiz</td>
<td>69%</td>
<td>±11</td>
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• A t-test was performed to compare the two quiz scores with a p<0.01
  - Rejecting the null hypothesis that the intervention would have no effect
Comparison of Scores for questions before and after Intervention

![Comparison of Scores for questions before and after Intervention](image_url)
FIGURE 1.

Comparison of Scores for questions before and after Intervention

- Infertility T/F
- GC Cause What
- Best Prevention
- Causes Cancer
- Causes Burning...
- Causes Brain...
- Structure of Eggs
- Structure for...

Pre-Quiz
Post-Quiz
FIGURE 2.

Individual comparisons between pre- and post-quiz scores

- Red: Post-Quiz Score
- Green: Difference
- Blue: Pre-Quiz Score
RESULTS

Table 2. Answers to “Name Four Sexually Transmitted Infection”

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<td>15</td>
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<td>3</td>
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Mean Number of STIs named Pre-Quiz: 3.71  
Mean Number of STIs named Post-Quiz: 3.94

• A t-test found there was not a statistically significant difference between the number of original answers and post-quiz answers, p = 0.075
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Table 3. Answers to “What body fluids can HIV transmitted through?”

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Mean Number of correct body fluids named Pre-Quiz: 1.18
Mean Number of body correct fluids named Post-Quiz: 2.24

• A t-test found a statistically significant difference between the original answers and post-quiz answers, p=0.0011
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OPINIONS

• “The presentation was great but needed more videos and pictures to make it easier to remember or understand.”
• “Generally, I think the presentation is very educative [sic]. And I love the relaxed atmosphere you created. Thank you.”
• “The presentation has made it very easy for me to learn about STIs. The presentation is good.”
• “The videos are good, but should be more vivid in explanation.”
• “I think the language you use for the videos should be clearer, especially when showing them to African students.”
• “Students learn more with pictures, so with more of these, absorption would be better.”
DISCUSSION

- There was a significant difference between quiz scores before and after the intervention
  - An average 17% increase in quiz score was noted
- Most questions had an increase in percentage correct
- Most students increased their individual score, except for one student who’s score decreased and another two students’ who score remained the same
• Not only was there an increase in knowledge, there was an increase in the diversity of knowledge of sexually transmitted infections
  - Students became aware of other STIs like Herpes and HPV and more modes of transmission of HIV like breast milk
• In terms of learning, the students felt that images and videos, the interactive portion of the lesson, were what they liked most and learned from the most
• There is a need for effective sexual health education among adolescents to impact their sexual and reproductive health needs (Shaw, 2009)
LIMITATIONS

- Cross-sectional study
  - No control to compare
- Did not collect demographic data on students
- Did not measure effect on behavior, only measured knowledge
- Small sample size
CONCLUSION

- Interactive lessons can increase the knowledge of STIs among female adolescents in Apam.
- The knowledge the students gained could prevent them from acquiring STIs and their complications like infertility and ectopic pregnancies.
- Knowledge could also potentially increase condom use among these students which would also prevent poor reproductive health outcomes like unsafe abortions and pregnancy complications.
ACKNOWLEDGEMENTS

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• Dr. Dorcas Obiri-Yeboah, Cape Coast Medical School
• My Co-Scholars
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MEDASE!
REFERENCES


