

Addressing the Sexual Health of Delaware Teens through Evidence-based and Promising Education

Christopher C. Moore, BA, LSSGB¹ and Nicole A. Fournakis, BS²

1. Senior Manager, Office of Health Equality, Christiana Care Health System; member, Delaware's sexual health education and research community; Adjunct Faculty, Department of English, Delaware Technical and Community College

2. Program Coordinator, Office of Health Equity, Christiana Care Health System

Abstract

Objective: Readers will be able to identify the impact of the Alliance for Adolescent Pregnancy Prevention (AAPP) in improving knowledge and attitudes regarding risky sexual health behaviors. **Methods:** Three AAPP, *Be Proud! Be Responsible! (BPBR)*, *Making Proud Choices! (MPC)* and *Wise Guys: Male Responsibility (Wise Guys)*, are assessed using 3 similar pre- and post-surveys which are designed specifically for these curricula. These surveys measure changes in knowledge and attitudes toward sexual health and risky behaviors at baseline and completion of the course. **Results:** In Delaware, adolescents who completed any of the three AAPP programs have shown an increase in knowledge around condom usage; an increase in awareness of the factors around safe sexual health practices and healthy relationships; and, a positive change in attitude around communication – both with a partner and their parent(s)/guardian(s). Post-survey scores improved for *BPBR*, *MPC* and *Wise Guys* by 8%, 18% and 8%, respectively. **Conclusions:** Reproductive health education is essential for teenagers, giving them the tools to make safer choices if they choose to have sex (Delaware Department of Health and Social Services, n.d.). In Delaware, the Youth Risk Behavior Survey (YRBS) indicates that teens continue to take risks with their sexual health. Programs like AAPP have the capacity to continue to make a positive impact on reducing the risk of STI and HIV transmission, along with potentially lowering the number of teens who become pregnant.

Introduction

Teens and young adults in the United States represent 25 percent of the population who identify as sexually active; however, this adolescents make up 50 percent of the new cases of sexually-transmitted infections (STI) each year.¹ In 2016, the state of Delaware climbed the rankings to number 8 in the nation for the incidences of Gonorrhea and Chlamydia, especially in teens.² Annually, rates of STIs continue to rise across Delaware.³ In addition, unintended pregnancies and teen birth rates have declined nationally by 63% within the last 25 years; however, Delaware still ranks high compared to national levels.⁴ Delaware teens consistently reported high rates of sexual activity in the 2017 Youth Risk Behavior Survey (YRBS). Delaware ranks high among all states in sexual activity, number of sexual partners, and age at which students begin to have sex. As of 2017, Delaware's rates of sexually active teens, and teens who became sexually active young, ranked 2nd highest in the nation of states who participated in the survey.^{5,6} These high rates of STI or pregnancy incidence in teens are not a coincidence; conversely, they are the result of risky behaviors that is characteristic of teens. While there has been a call for state and local health departments to initiate efforts around rapid detection and clinical treatment, an argument for focusing on education and prevention to mitigate these risky behaviors can be made. Research shows that education around risk-reduction strategies and contraception can help youth delay sex, use condoms or contraception, and be monogamous.⁷ Moreover,

another study found that teens who received comprehensive sex education were 50% less likely to get pregnant and conversely, risk of HIV and STIs significantly drop as a result of these education programs.⁸ Given the high STI ranking and unintended teen pregnancies and births in Delaware, there is a prime opportunity to use education to reduce these risky behaviors from teens through a comprehensive, evidence-based teen education program. The Alliance for Adolescent Pregnancy Prevention (AAPP) is doing just that: it provides quality reproductive health education across the state, and efforts to implement more rigorous evidence-based interventions are proving successful. With this high-caliber program in place, Delaware will become a national model for collective impact in public health, most especially for this youth population. These AAPP programs often serve as a compliment to larger programs and services available to teens, including the School-Based Health Centers, community centers and faith-based initiatives.

Methods

The Alliance for Adolescent Pregnancy Prevention (AAPP) is a partnership between Christiana Care Health System and the Delaware Division of Public Health, providing Delaware youth with skills and information to help avoid or reduce involvement in risk behaviors, particularly high-risk sexual behaviors, and to promote positive youth development. More specifically, AAPP works to reduce the number of teenagers who are sexually-active, become pregnant and become teen parents. AAPP offers evidence-based and promising programming statewide for young people. It also serves physicians, educators, nonprofit groups and anyone else who provides care for teens and their families. Currently, AAPP provides three programs: two evidence-based curricula, *Be Proud! Be Responsible!* (BPBR) and *Making Proud Choices!* (MPC); and, *Wise Guys: Male Responsibility (Wise Guys)*, which is designated a promising program by the Centers for Disease Control.

The two evidence-based curricula – *BPBR* and *MPC* – are designed to empower young adolescents (13-18 year-olds and 11-13 year-olds, respectively) to change their behavior in ways that will reduce the risk of becoming infected with HIV and other STIs, and their risk of becoming pregnant. These programs emphasize the reality that teens, especially those who are at-risk, have the power can reduce their own risk for STIs, HIV, and pregnancy by using a condom when choosing to have intercourse.⁹ As abstinence-plus curricula, BPBR/MPC also discusses the importance of understanding that abstaining from sexual behaviors is the most guaranteed risk-avoidance behavior. With social media and access to sexually-explicit media are influencing young people, now, more than ever, not all teens will choose abstinence.¹⁰ Both *BPBR/MPC* are designed to address specific objectives related to knowledge, attitudes, and behaviors around sexual health. At the completion of the *BPBR/MPC* curricula, youth are expected to have (1) increased knowledge about prevention of HIV, STDs and pregnancy; (2) increased positive attitudes/beliefs about condom-use; (3) increased confidence in their ability to negotiate safer sex and to use condoms correctly; (4) stronger intentions to use condoms if they have sex; and, ultimately (5) a lower incidence of STD/HIV risk-associated sexual behavior and (6) stronger sense of pride and responsibility.^{11,12} The former is delivered over 6, 1-hour sessions, the latter over 8, 1-hour sessions, thus giving *BPBR* participants 60 and *MPC* participants 80 hours of education.

In addition, AAPP also provides a program targeting males: *Wise Guys*. This promising program is designed to prevent adolescent pregnancy by reaching adolescent males, which makes it unique from the majority of curricula. The program acknowledges young males as "whole" individuals with a variety of needs and desires.¹³ Interactive lessons and activities focus on assisting participants to question their own identity, their future goals and what steps they would need to take to turn goals into successes. The curriculum focuses on understanding one's self, values, future goals, and sexuality. In addition, *Wise*

Guys addresses personal and family values, communication and theories around “masculinity”, dating violence, abstinence and contraception, STI and HIV-prevention and the impact of teen parenting.

All three AAPP programs are assessed using pre- and post-surveys which are designed specifically for each curriculum. The surveys for *BPBR* and *MPC* are required to be used as all aspects of these curricula must be delivered with fidelity, including the assessment.^{11,12} The *Wise Guys* survey, while not validated, was created by the authors, Children’s Home Society of North Carolina, and is the preferred assessment tool to be used by agencies delivering the program.¹³

These surveys measure changes in knowledge and attitudes toward sexual health and risky behaviors. The *Wise Guys* surveys also measures efficacy around condom use and perception of ability to communicate with parents.

Results

Between July 2016 and June 2017, AAPP reached 609 teens through education across the state of Delaware. Of this number, 53% were male and 47% were female. The average age for an AAPP participant was 15, and the majority of the participants across the three programs self-identified as a racial minority (African-American, Hispanic/Latino, and multi-racial). Of the total number of teens who signed-up for an AAPP group, 84% completed the program. The three programs were implemented in middle and high schools, public, private and charter, and in community sites ranging from Boys and Girls clubs to a summer camp. Teens that completed these programs have shown an increase in knowledge around condom usage; an increase in awareness of the factors around safe sexual health practices and healthy relationships; and, with *Wise Guys* specifically, a positive change in attitude around communication – both with a partner and their parent(s)/guardian.

Be Proud! Be Responsible!

The data gathered for the analysis of the *BPBR* program was derived from self-reported pre- and post-test knowledge, attitude, and behavior measures between July 2016 and June 2017. Averaged scores have been used to analyze the change in pre- and post-test results for youth participating in the 6-module program. This assessment was delivered at the first and last session for each group and is comprised of 22 multiple choice questions. Of that number, 17 questions measure knowledge and 5 address behaviors based on knowledge. For the 17 knowledge-based questions, the scores for correct responses increased from 68% to 82% (14%) from pre- to post-test. This included questions related to modes of HIV-transmission and proper condom usage. For the 5 questions assessing behaviors based on knowledge, the scores for correct responses increased from 63% to 83% (20%) from pre- to post-test. This included questions related to safe sexual practices using condoms. Overall, the number of correct responses increased from 66% to 82% (16%) from pre- to post-test (n=194).

Making Proud Choices!

The data gathered for the analysis of the *MPC* program was derived from self-reported pre- and post-test knowledge, attitude, and behavior measures between July 2016 and June 2017. Averaged scores have been used to analyze the change in pre- and post-test results for youth participating in the 8-module program. This assessment was delivered at the first and last session for each group and is comprised of 24 multiple choice questions. Of that number, 19 questions measure knowledge and 5 address behaviors based on knowledge. For the 19 knowledge-based questions, the scores for correct responses increased from 62% to 91% (29%) from pre- to post-test. This included questions related to modes of HIV-transmission and proper condom usage. For the 5 questions assessing behaviors based on knowledge, the

scores for correct responses increased from 53% to 92% (39%) from pre- to post-test. This included questions related to safe sexual practices using condoms. Overall, the number of correct responses increased from 55% to 87% (32%) from pre- to post-test (n=220).

Wise Guys

The data gathered for the analysis of the Wise Guys: Male Responsibility was derived from self-reported pre- and post-test measuring knowledge, behaviors and attitude, between July 2016 and June 2017.

Average gain scores (converted to percentages) have been used to analyze the significance of different reported gains in pre- and post-test results for youth participating in the 10-week program. The Wise Guys: Male Responsibility pre- and post-test delivered at the first and last session of each group is comprised of 27 questions, ranging from multiple choice, to a measurement of attitudes using a Likert Scale. Of that number, 10 questions measure attitudes, 9 questions measure knowledge, 3 questions assess behavior and 2 questions assess efficacy of condom use. For the 10 questions measuring participant attitudes toward safe sexual practices, the percentage of positive answers illustrating healthier choices increased from 66% to 85% (19%) from pre- to post-test. For the 3 questions measuring participant behaviors around safe sexual practices, the percentage of positive answers illustrating healthier choices increased from 70% to 86% (16%). For the 9 knowledge-based questions, the percentage correct responses increased from 60% to 93% (33%) from pre- to post-test (n=195).

Discussion

The results from the 2016-2017 school year for these three programs are positive. However, the increases with *MPC* and *Wise Guys* participants are more significant. There are some factors which may be impacting this. First, *MPC* participants receive 2 additional hours of educator than participants in *BPBR*. In addition, by virtue of being 11-13, *MPC* participants may not have received any sexual health education in school, prior to this intervention; *BPBR* participants are more likely to have had at least one semester of sexual health education if they are attending a public high school. *Wise Guys* participants receive 10 hours of education, and the material focuses on health from a more holistic lens, giving males the opportunity to speak freely about topics they may not otherwise be discussing in other social settings (ex: values, goal-setting and healthy relationships).

It is also worth noting the intent behind the use of 3 different tools to compare 3 different curricula. While the 3 curricula, *BPBR*, *MPC*, and *Wise Guys*, aim to accomplish a positive impact on teen's attitudes, behaviors, and health, each must be unique in delivery to cater to the dynamic teen populations. While both *BPBR* and *MPC* are similar in content, their assessment tools and delivery of the curriculum must be tailored to suit the age and attrition level of the participating teens. Even a few years difference between age groups matters in how well a teen can retain curriculum information. Thus, it is critical to measure knowledge and attitudes between the two groups differently to appropriately match by age levels. *Wise Guys*, while more specific than *BPBR/MPC*, is unique compared to other adolescent programs nationwide because of its specificity to focus on teen boys. Few programs exclusively consider the health of adolescent boys making *Wise Guys* a unique addition to AAPP programming. Given the nature of yet another teen population, *Wise Guys* too needed a separate tool from *BPBR/MPC* to align the specific curriculum deliverables to adolescent males. It is necessary to compare all curricula together in order to view all successes and opportunities of the AAPP program for the adolescent population in its entirety. But even adolescents comprise of dynamic characteristics with regard to age (specifically maturity level), gender, attitudes, and beliefs. A single tool of "one size fits

all” to measure these dynamic groups would not be feasible or do justice to realistically measure the sought-after outcomes of the AAPP program.

As AAPP staff plan for the future, it is critical to remain aware of the needs of teens that may not comfortable accessing these programs. This includes Lesbian, Gay, Bisexual, Trans and Queer youth (LGBTQ+), youth of color and youth with disabilities. It is important to acknowledge that curricula used by AAPP, while inclusive frames the education around a heterosexual, non-disabled lens. While the evidence-based curricula comes with the expectation that each is delivered with fidelity, it is critical to also be creative in meeting the specific needs of these populations. While AAPP continues to provide quality, evidence-based and promising education for Delaware teens, there are a number of opportunities which have become a priority as the program plans for the future. This includes strengthening capacity to consistently serve the diverse needs of teens across the state of Delaware, while maintaining fidelity; and, reaching marginalized groups with reproductive health education they may not otherwise be receiving.

Conclusions

AAPPs evidence-based curricula has the capacity to continue making a positive impact on reducing the risk of STI and HIV transmission, along with potentially lowering the number of teens who become pregnant. As such, these reproductive health programs make Delaware the perfect canvas to serve as a national model for collective impact by positively influencing teen health. Adaptations to the curricula will be needed in an ongoing basis for different groups and changing social norms.

References

1. Centers for Disease Control and Prevention. (2017). Adolescents and young adults. Retrieved from: <https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm>
2. Centers for Disease Control and Prevention. (2016). Chlamydia: Reported cases and rates of reported cases by state, ranked by rates, United State, 2016. Retrieved from: <https://www.cdc.gov/std/stats16/tables/StateRankingTables.pdf>
3. Newman, M. (2017, August 22). 4 things to know about getting teens tested as STI rates rise in Delaware. the News-Journal. Retrieved from: <https://www.delawareonline.com/story/news/health/2017/08/22/4-things-know-getting-teens-tested-sti-rates-rise-delaware/579499001/>
4. United States Department of Health and Human Services. (2016). Trends in teen parenting and childbearing. Retrieved from: <https://www.hhs.gov/ash/oah/adolescent-development/reproductive-health-and-teen-pregnancy/teen-pregnancy-and-childbearing/trends/index.html>
5. Delaware Department of Health and Social Services. (n.d.). Delaware teen pregnancy prevention. Retrieved from: <http://dhss.delaware.gov/dph/chca/dphahtpp01.html>
6. Delaware Department of Health and Social Services. (n.d.). Delaware adolescent health reproductive health state plan. Retrieved from: <https://dhss.delaware.gov/dph/chca/dphahtppes.html>
7. Alford, S. (2008). Science and success: sex education and other programs that work to prevent teen pregnancy, HIV and sexually transmitted infections. 2nd ed. Washington, DC: Advocates for Youth. Retrieved from <https://eric.ed.gov/?id=ED582011>

8. Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008, April). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *J Adolesc Health, 42*(4), 344–351. [PubMed https://doi.org/10.1016/j.jadohealth.2007.08.026](https://doi.org/10.1016/j.jadohealth.2007.08.026)
9. Canfield-Davis, K., Jain, S., & Meyer, B. (2011). The effect of parenthood education on self-efficacy and parent effectiveness in an alternative high school student population. *The Professional Counselor: Research and Practice, 1*(1), 29–40.
10. Landry, M., Turner, M., Vyas, A., & Wood, S. (2017, May 19). Social media and sexual behavior among adolescents: Is there a link? *JMIR Public Health and Surveillance, 3*(2), e28. [PubMed https://doi.org/10.2196/publichealth.7149](https://doi.org/10.2196/publichealth.7149)
11. Jemmott, J. B., Jemmott, L. S., & McCaffree, K. A. (2015). *Be Proud! Be Responsible!* New York, NY: Select Media, Inc.
12. Jemmott, J. B., Jemmott, L. S., & McCaffree, K. A. (2015). *Making proud choices!* New York, NY: Select Media, Inc.
13. Children's Home Society of North Carolina. (2017). *Wise guys male responsibility curriculum*. Greensboro, NC: CHNS.

Copyright (c) 2018 Delaware Academy of Medicine / Delaware Public Health Association.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc-nd/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.