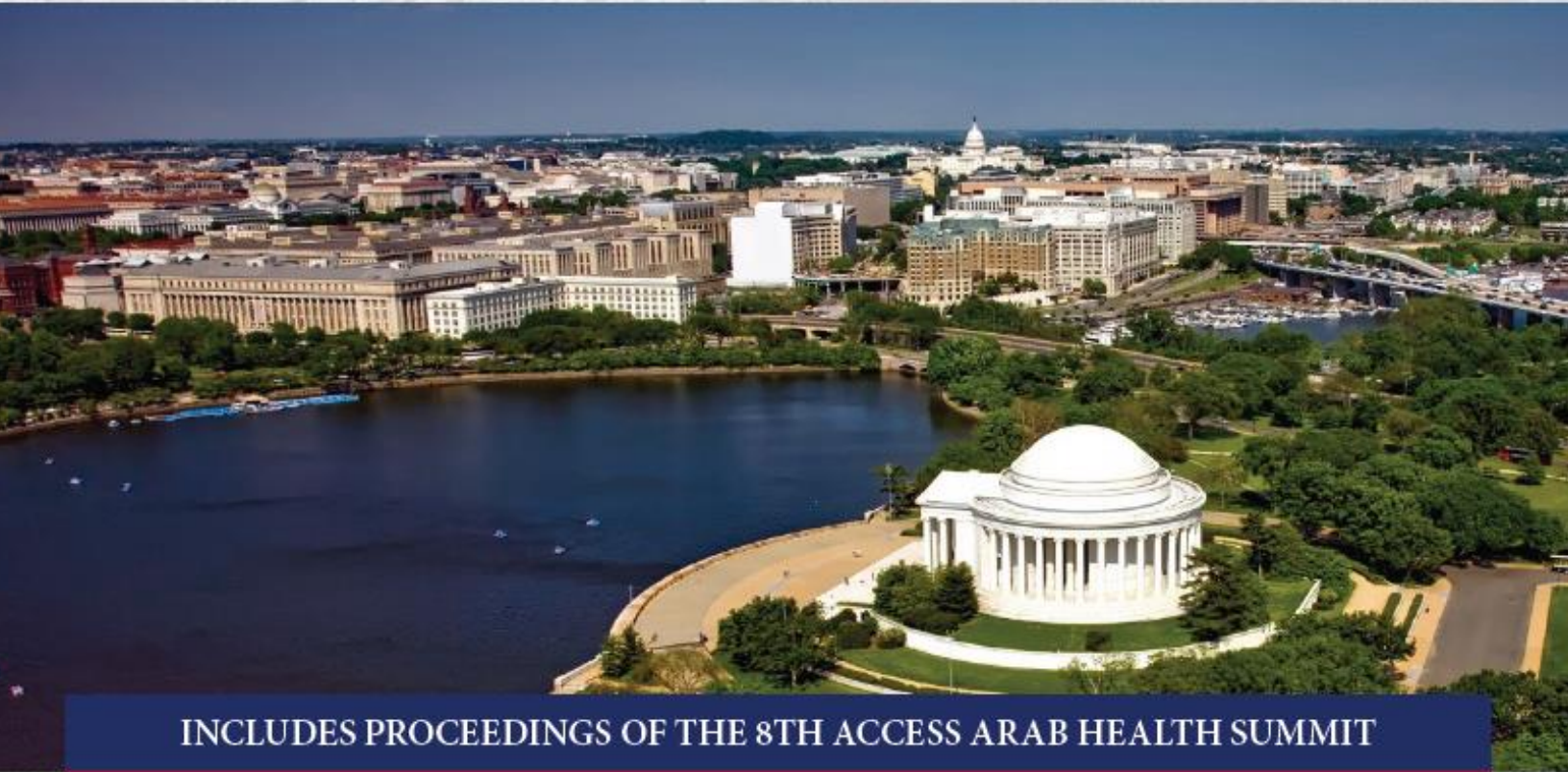




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Real Talk: Sexual Health Education for Muslim and Arab American Women in Southeast Michigan

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Abstract

Introduction: Muslim and Arab American women are in need of culturally competent and accurate information regarding sexual health, a topic that is often considered taboo in faith-based communities. The study aimed (1) to measure sexual health knowledge of Muslim and Arab American women, (2) to evaluate a community-based approach to sexual health education, and (3) to contribute to the paucity of literature on this understudied population. By employing a theory-based framework, the study sought to destigmatize sexual health while facilitating more informed decision-making related to women's health.

Methods: A quasi-experimental study with pre-post measures of sexual health knowledge was employed. Study participants were women who attended sexual health and healthy relations workshops held by a local Arab American community nonprofit. Paired t-tests determined if there were significant changes in sexual health knowledge due to the health intervention. **Results:** Among a sample of 32 women, there was a mean increase in sexual health knowledge of over two points. This difference between pre-post workshop scores was statistically significant ($p < 0.001$). Fourteen individuals reported difficulty in obtaining sexual health information. Greater sexual health self-efficacy was reported for issues related to contraception in comparison to STI/HIV testing. Following the workshop, low-scoring items tested knowledge of fertilization and reproductive anatomy, identifying potential improvements for workshop content and delivery.

Conclusion: The topic of sexual health is understudied in this population and study findings demonstrate the potential benefits of a community-based approach to sexual health education. Such findings may inform policy, funding, and support for preventative education in Muslim and Arab American women.

Introduction

Arab Americans and Muslim Americans are two distinct populations as the former is identified by ethnic origins and the latter by religious affiliation. Nonetheless, there are many similarities between Arab American and Muslim American populations since culture is often a bigger influence than religion, especially with health-seeking behaviors (ACCESS Health Journal, 2015). The United States Census Bureau estimates that at least 1.9 million Americans are of Arab descent while the Arab American Institute Foundation estimates that 3.7 million Americans are of Arab descent (Arab American Institute Foundation [AAIF], n.d.). Since the Census Bureau

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classifies Arabs/Chaldeans as Non-Hispanic Whites, accurate figures on demographics are difficult to obtain. One report states that in the USA, 63% of Arab Americans are Christian and 24% percent are Muslim (Hamdy, n.d.). According to the Pew Research Center (2017), there are currently 3.45 million Muslims living in the United States, comprising about 1.1% of the U.S. population. Muslim Americans are racially diverse with approximately 41% of adults identifying as White (including people of Arab/Middle Eastern descent), 28% as Asian, and 20% as Black or African American (2017). This study focused on both Arab Americans and Muslim Americans because of the large population residing in Michigan. Approximately 2.75% of the population in Michigan is Muslim (Jackman, 2017) and in 2015, there were about 500,000 Arab Americans living in the state (AAIF, 2015).

Arabs in Michigan tend to be less healthy than the overall population in Michigan (Hekman et al., 2015). This disparity holds true for issues related to women's health, particularly regarding prevention. The 2013 Arab Behavioral Risk Survey reports that about 60% of Arab women had a Pap test within the past three years (compared to 79% of all women in Michigan) and about 40% of Arab women over 40 years old had a clinical breast exam and mammogram within the past year (compared to 50% of all women over 40 in Michigan). "In addition to barriers related to language and access," the survey states, "Arab women face additional barriers related to embarrassment, discomfort, modesty, and fear of detection." Education on sexual health education can directly address these behaviors.

The health of Muslims and Arab Americans residing in the USA has become an important focus of national discourse. This population is generally understudied, especially on the topic of sexual health. The World Health Organization (n.d.) defines sexual health as "a state of physical, mental and social well-being in relation to sexuality" and calls for sexual rights to include the right to "(1) the highest attainable standard of sexual health, including access to sexual and reproductive health care services, (2) seek, receive and impart information related to sexuality, and (3) sexuality education". Sexual health knowledge can have long-lasting impact on individuals, their health-seeking practices, and overall population health. Sexual knowledge has previously been shown to be related to safe sex practices, including healthy relationships. According to Weinstein, Walsh, and Ward (2008):

Research has found that communication between partners is critical in negotiating safe sex behaviors such as condom use (Catania et al., 1992), and that communication and trust in a relationship encourage safe-sex practices (McQuiston & Gordon, 2000). Therefore, sexual health knowledge may influence communication skills, leading to improved confidence and negotiation of safe-sex practices. (p. 214)

By targeting sexual health knowledge, theory-based interventions can improve safe sex practices and sexual health. The Muslim and Arab American community may benefit from such an intervention that connects sexual health knowledge and its related practices.

Traditionally, Muslim and Arab American women face barriers in accessing sexual health services that arise in part from cultural beliefs and practices (Yosef, 2008). One such belief is modesty and consequently, sexual health is deemed a taboo topic that is immodest to discuss. However, stigma and the absence of culturally competent sex education has had serious repercussions, including the "spread of misinformation and unhealthy attitudes toward gender

and sex” and the “lack of understanding of what constitutes a healthy relationship” (HEART Women & Girls, 2011). In order to promote empowered and informed decision-making, public health efforts have been focused on improving sexual health knowledge in this population.

As noted above, limited studies have been conducted on sexual health or sexual health knowledge among Muslim and Arabs and even less among women. A 2014 study on sexual and reproductive health knowledge in Saudi female university students found that unmarried women were at greater risk of sexually transmitted infections (STIs) and unintended pregnancy because they may not seek sexual health services (Farih et al., 2014). Avoiding public shame is an important value in Arab culture that ends up affecting help-seeking behaviors (Nassar- McMillan, Ajrouch, & Hakim-Larson, 2014).

For Muslim and Arab American women, sensitive health issues include STIs, sexual relationships, and counseling in cases of sexual dysfunction (Hammoud, White, & Fetters, 2005). A 2016 study on Australian Muslim women indicated poor knowledge about STIs and contraception (Meldrum, Liamputtong, & Wollersheim, 2016). Another study on Muslim American women ages 18-45 revealed that 35% of them did not know how STIs were transmitted, 46% did not receive regular Pap tests, 49% were unaware of the most effective birth control form, and 53% could not identify when ovulation occurs (HEART Women & Girls, 2017). These knowledge deficits may result in under-utilization of health services, although constraints placed on this population’s health-related choices may also have an influence (Nassar-McMillan, Ajrouch, & Hakim-Larson, 2014).

Sexual knowledge acquisition has been identified as an integral component of sexual agency (Curtin et al., 2011). In their study, Curtin et al. explored how gender ideologies play a role in this acquisition and found that women who reported more traditional mindsets of being “passive sexual gatekeepers” were less likely to seek sexual health information (2011). Sexual self-efficacy, or confidence in the ability to perform positive sexual health behaviors, was also identified as an important component of sexual agency. Health interventions that consider this social context for Arab and Muslim women may therefore be better equipped to provide relevant and meaningful content. With this particular population, a community-based approach to sexual health education can produce multiple positive effects.

Objectives

To our knowledge, no studies have evaluated the effects of interventions aimed at improving sexual health knowledge among Muslim and Arab American women. The purpose of this research study was to evaluate a community-based program that provided sexual health education to Muslim and Arab American women in Southeast Michigan. The study determined if the program was effective in improving sexual health knowledge and analyzed predictors of this change in knowledge. Knowledge was measured before and after a workshop on sexual health in order to determine if significant improvements occurred. It also explored the existing level of sexual health knowledge in this population, their information-seeking behaviors and sources of information, and predictors of change in knowledge pre- and post-intervention, such as race, marital status, religiosity, and generation status. These questions were evaluated through a quasi-experimental study.

Methods

Population

Participants were recruited from women-only workshops on sexual health and healthy relationships conducted as part of a collaboration between two community agencies. The Arab Community Center for Economic and Social Services (ACCESS) is located in Dearborn and it is the nation's largest community health center that serves the Arab population. HEART Women & Girls is a national organization headquartered in Chicago that specializes in sexual health education and sexual violence prevention in Muslim communities. In order to deliver these workshops in Michigan, a formal partnership was created between the two organizations. Preliminary discussions with the local community were also held to determine whether community members shared concerns regarding a lack of openness surrounding this topic, perceived such workshops as potentially beneficial, and what type of sexual health information would be helpful.

The workshop content focused on consent, communication skills, reproductive anatomy, contraception, and common health myths in the Muslim and Arab American communities. It was an interactive and discussion-based workshop that included activities, videos, and a condom demonstration. Titled "Real Talk", the two-hour workshop was delivered multiple times in different locations across Southeast Michigan, including Ann Arbor, Dearborn, and Rochester Hills. It was heavily advertised through organizational networks, local community leaders, printed flyers, and social media. It was advertised as women-only and for those over 18 years old, given the sensitive nature of the discussion. The workshops were conducted in private locations that were not open to the general public.

Procedure

The research study itself was not separately advertised to the community. Rather, women who attended the workshop were informed about the study before the workshop began. They were eligible to participate if they met the following criteria: (1) identified as Muslim and/or Arab, (2) were over 18 years old, and (3) spoke English. The research study was conducted in the same area where the workshop took place, ensuring privacy when participants completed the measures. The informed consent process entailed describing the study according to the standard script from the Research Information Sheet. Each participant was given a copy of this sheet and the opportunity to ask any questions about the study. Then, the pre-workshop questionnaire was administered. Participants were asked to use a unique 6-character ID, which consisted of their initials, birth month, and birth year, to match post-workshop data. Both pre- and post-tests were administered on pencil and paper. There was no compensation for participation in the study (or workshop). Women were able to attend the workshop without participating in the research study. The research protocol was approved by the Institutional Review Board at Wayne State University.

Sexual health knowledge was measured at three different time points: before the workshop began (pre-intervention), immediately after it ended (post-intervention), and one month after it was completed (follow up). Sexual health self-efficacy was also measured because of its role as a key construct in health behavior change and theory (Glanz, Rimer, & Viswanath, 2015). It was tested at two different time points: pre-intervention and one-month follow up (via

Qualtrics). Currently available follow-up data is sparse due to ongoing data collection and attrition; therefore, the one-month follow up measures of sexual health knowledge and sexual health self-efficacy are excluded from this analysis.

Materials

The questionnaire collected data on knowledge and self-efficacy related to sexual health, information-seeking behaviors, and demographics. Psychometrically-sound and culturally-sensitive instruments are lacking for this population (Nassar-McMillan, Ajrouch, & Hakim-Larson, 2014). Nonetheless, validated tools of measurement were used in attempt to showcase their effectiveness with this particular population.^[SEP]

Sexual Health Knowledge

For the knowledge component, an 11-item questionnaire was adapted from Sexual Health Knowledge Scale, which originally contains 37 items (Walsh & Ward, 2009). The subscales for Reproductive Health (5 items) and Contraception (6 items) were used to assess sexual health knowledge related reproductive systems and contraception. Permission to use this scale was provided by the authors. For each item, participants answered either true or false. A correct answer was coded as “1” and an incorrect answer was coded as “0”. The total points earned were summed for pre- and post-workshops tests.

Reliability testing indicated that the Sexual Health Knowledge scale had poor reliability (see Table 2). The Kuder Richardson-20 (KR-20) score was .18 for the pre-workshop measure and .38 for the post- workshop measure. Such findings are not uncommon for knowledge measures where items do not necessarily covary in a consistent fashion (i.e. knowledge in one area of sexual health may be unrelated to knowledge in another area).

Sexual Health Self-Efficacy

For the self-efficacy component, the 4-item subscale for Sexual Health Care from the Sexual Health Practices Self-Efficacy Scale was used (Koch, Colaco, & Porter, 2013). The questions asked about practices related to self-breast exams, STI and HIV testing, and contraception using a five-point Likert scale anchored by “not at all confident” (1) and “extremely confident” (5). Permission to use this scale was provided by the authors. It was a reliable measure of sexual health self-efficacy in this population ($\alpha = .86$).

Sexual Health Beliefs and Information-Seeking Behaviors.

For beliefs and information-seeking behaviors, three items were adapted from the World Health Organization Core Instrument (Cleland, Roger, & Nicole, 2001) and a questionnaire developed for Saudi women (Farih et al., 2014). These items collected exploratory data on population needs and potential predictors of changes in sexual health knowledge. With dichotomous yes/no responses, two questions asked if it is easy to obtain sexual health information and if sexual health education would increase the incidence of sex practices. These responses elucidated beliefs on available resources regarding sexual health and the influence such education has on sex, a practice that is explicitly reserved for marital relationships in the religious/cultural context.

A third multi-select question asked where participants would seek help if there was a problem or question about sexual health. Response options included clinic/hospital, qualified doctor, spouse, parents, religious leader, friends, teachers, and other (with space to specify). A hypothesis was that this population may seek information from religious leaders, since they are knowledgeable of Islamic views on certain health issues like abortion.

Demographics

Demographic information was collected from participants on the post-workshop questionnaire. The responses for race/ethnicity were specific, with subcategories under Asian and Middle Eastern/North African categories. Other items included generation status, education level, marital status, religion, religiosity, and current zip code.

Statistical Analysis Plan/Strategy.

The statistical analysis plan (SAP) included providing descriptive statistics of sample demographics, beliefs and information-seeking behavior, and specific questions measuring sexual health knowledge. A paired t-test determined if there was a significant difference in sexual health knowledge pre/post the health intervention. Linear regression modeling identified any potential variables that predict the outcome of knowledge difference. Variables of interest include (1) demographics: specific race, age, generation status, education level, marital status, religiosity, (2) beliefs: ease in obtaining sexual health information, sexual education increases incidence of sex practices, and (3) baseline data: sexual health knowledge and sexual health self-efficacy. With respect to this regression analysis, the SAP covered the variable selection process, model assumptions, and fitting diagnosis.

Results

During the course of this project, 51 women attended the workshops – 42 (82%) of them agreed to participate in the research study and 32 (62%) fully completed the pre-post measures on sexual health knowledge. Missing data resulted from participants omitting the unique ID question, which matched pre-post responses in data analysis. Participants also entered the workshop after it had started or left before it ended, missing the opportunity to learn about the research study and complete the pre-post workshop surveys.

The following demographic information was collected from 37 of the 42 women who agreed to participate: 20 (53%) were Middle Eastern/North African, with majority of this category identifying as Lebanese); the age range was 18-44 year olds; 32 (87%) were single, never married); 27 (73%) were second generation American, born in the U.S. and at least one parent immigrant; 19 (53%) possessed a bachelor's degree or higher, and 23 (62%) identified as "religious" or "highly religious". These results are summarized in Table 1.

Among 35 participants who completed questions regarding beliefs and information-seeking behavior, 14 (40%) reported that sexual health information is difficult to obtain and 8 (23%) reported that sexual health education would increase incidence of sex practices. Among 36 participants who completed questions regarding behaviors, only 3 (8.3%) reported that they would seek help from a religious leader if they had a problem or question about sexual health. This was contrary to the hypothesized potential influence of religious leaders in this population. Seeking information from a qualified doctor was the most common selection (67%).

Among individual items of the Sexual Health Practices Self-Efficacy Scale, the highest mean score was reported for sexual health care practices related to contraception (3.25 ± 1.44) over STI testing (2.75 ± 1.54), HIV testing (2.69 ± 1.49), and self-breast exams (2.64 ± 1.18).

Baseline data indicated poor existing sexual health knowledge, with a mean pre-workshop score of 68% (7.44/11). The lowest-scoring questions covered how long an egg is viable for fertilization (26% of the sample answered correctly), where fertilization occurs in the body (50% answered correctly), the birth control pill's effect on the lining of the uterus (54% answered correctly), and how antibiotics affect the pill (58% answered correctly). These results reflected existing gaps in knowledge related to fertilization, reproductive anatomy, and contraception.

Following the workshop, the mean post-workshop score increased to 86% (9.50/11). The lowest-scoring question remained how long an egg is viable for fertilization (53% answered correctly). The other ten knowledge questions were answered correctly by a range of 70-100% of the sample. This result identified a potential area for improvement (fertilization and reproductive anatomy) in workshop content and delivery. The pre-post results for each item of the Sexual Health Knowledge Scale are summarized in Table 3.

The paired t-test measured the null hypothesis that the true difference in means was equal to zero. A graphical representation of this difference showed a normal distribution (see Figure 1). The mean difference in pre/post scores was 2.13, with a 95% confidence interval of 1.48 to 2.77. Since the p-value was < 0.001 at the $\alpha = 0.05$ level for a two-sided paired t-test ($t=6.71$, $df=31$), it rejected the null hypothesis; there was a significant difference in sexual health knowledge from pre- to post-workshop.

In order to predict which individuals will have the most change in sexual health knowledge, linear regression modeling was employed via stepwise selection for variables of interest. After checking model assumptions and fitting, one observation was removed since it was identified as an influential point, leverage point, and outlier. Out of the variables of interest, only pre-workshop score was a significant predictor of the outcome ($t = -6.105$, $df = 30$, p-value $< .001$). The beta coefficient for this simple linear regression was -0.89 ; for every one (1) unit increase in pre-workshop score, the difference in pre/post knowledge scores decreased by 0.89. Essentially, a higher pre-workshop score predicts a lower difference in pre/post workshop scores. This reflects the fact that individuals who score high at baseline have little room for improvement on the post-workshop measure. The following predictors had p-values that were approaching statistical significance: generation status, education, religiosity. These predictors could be studied further in order to determine who will respond best to this intervention. However, a multiple linear regression was limited by the study's small sample size given the importance of preserving degrees of freedom.

Discussion

A community-based approach to sexual health education in Muslim and Arab American women resulted in significant improvements in sexual health knowledge. The objectives-oriented evaluation considered pre-post measures of sexual health knowledge, which included reproductive health and contraception. Workshop content can be improved by providing more information on the process of fertilization, which remained a low-scoring item after the workshop. The study determined the effectiveness of an intervention targeting a population with

specific needs, barriers, and gaps in knowledge. Not only is it first of its kind, contributing to the paucity of literature on this population, but it fosters one of the goals of Healthy People 2020: “to create social and physical environments that promote good health for all” (Center for Disease Control and Prevention, 2011). The workshop discussed a taboo topic in an informative and open setting that promoted learning about sexual health.

Results from the study provide important information on the topic of sexual health in Muslim and Arab American women. Sixty percent of the sample found it difficult to obtain information on sexual and reproductive health. There are specific religious and cultural expectations and beliefs that may hinder access to and retrieval of sexual health information; therefore, culturally competent information may also increase the likelihood that such women access accurate sexual health information.

Romantic relationships and sexual experiences that occur before marriage are typically frowned upon within the cultural and religious context. In addition, one commonly held community concern regarding the provision of sexual education is that it increases engagement in pre-marital sex. However, studies on the effects of sexual education programs in White adolescents have not supported this belief. The effects of comprehensive sexual education are summarized by Weinstein, Walsh, and Ward (2008):

For example, a review of comprehensive sex education programs concluded that all the programs studied had increased students’ knowledge and some had reduced sexual risk-taking behaviors: four of 13 programs delayed students’ onset of sexual intercourse, five of 11 programs reduced their frequency of sexual intercourse, four of seven reduced their number of sexual partners, and four of eight programs increased their condom use (Santelli et al., 2006). Additionally, none of the reviewed programs hastened the onset or increased the frequency of sexual intercourse, alleviating fears that comprehensive curriculums actually encourage sexual activities. (p. 214)

These findings may need to be better communicated to Muslim and Arab American communities, in order to increase support for programs such as the one evaluated in the present study.

Cultural and religious expectations may explain the lower self-efficacy reported for sexual health practices related to STI and HIV testing versus contraception. The latter is viewed more positively (contraception is permissible in Islam according to most schools of thought) while the former may elicit unfamiliar terminology and concepts that connote risky sexual behavior. Greater understanding of such clinical testing, from the cost and process to the confidentiality of testing, may improve sexual health self-efficacy in performing these positive health behaviors. This may be an area to explore for future workshops with extended content.

Study limitations include low internal consistency of the Sexual Health Knowledge scale. Some researchers posit that knowledge scales do not need high reliability since different items intend to measure different components of knowledge. However, the low internal consistency may also indicate that the scale is not appropriate for this specific population. There may be a disconnect between the scale and the workshop content, as both were developed separately. In addition, the full scale was not used, as only eleven items measuring knowledge on reproductive

health and contraception were included. Nonetheless, the reliability issues with this scale highlight the need for psychometrically-sound measures for minority populations.

The initial survey design posed challenges for the regression analysis. For example, collecting race-specific information was important to the study’s objectives so multiple options were provided on the survey. The levels of this categorical predictor had to be collapsed in order to ensure that the regression analyses could be conducted with acceptable degrees of freedom. Given the small sample size, there were also limitations placed on the number of covariates that could be included in the final regression model.

The sample also included predominantly college-aged women (84% of the sample were in the 18-24-year-old category). To enhance attendance, the workshops were offered at organizations that were more willing to discuss this topic like Muslim Student Associations on college campuses. These organizations serve younger audiences compared to the broader age demographic visiting mosques, for example; however, mosques in Southeast Michigan were less inclined to offer such programming. Due to this factor, more college-aged women were included in the sample. By extension, the majority of the sample was single; it would be interesting to explore marital status further as there may be a direct link to sexual health knowledge given the cultural and religious expectations surrounding marriage. Because of these limitations and small sample size, our results may lack generalizability to other Muslim and Arab American women, especially those who are older and differ in marital status. The topic of sexual health is still relatively new for the Muslim and Arab American community and may take more time to garner vested interest from the broader population. Providing the workshop and survey instruments in Arabic may also help with this effort.

The data collected from this study can be used to inform public health programs serving Muslim and Arab American women. It showcases the effects of a community-based intervention for sexual health education while contributing to the lack of literature on this underserved population. Educational health programs can help prevent stigma about sensitive topics in Muslim and Arab American communities; at the very least, these initiatives can neutralize public opinions that may be stigmatizing (Nassar-McMillan, Ajrouch, & Hakim-Larson, 2014). Sexual health researchers should know this population seeks such programming and are willing to participate in research studies despite existing stigma. Any efforts towards reaching populations who may lack access to health information can assist in advancing overall health and wellbeing.

Table 1. Internal Consistency of Sexual Health Practices Self-Efficacy and Sexual Health Knowledge Scales

Scale	α /KR-20	Mean \pm SD	Range
Sexual Health Practices Self-Efficacy	0.857	11.33 \pm 4.75	11.34 11.35 4 - 20
Sexual Health Knowledge			9.51
Pre-workshop	0.178	7.44 \pm 1.50	0 - 11
Post-workshop	0.375*	9.50 \pm 1.23	0 - 11

*Item 3 (regarding alcohol consumption) had zero variance and was removed from the reliability analysis

Table 2. Proportion of Sample Scoring Correctly on Each Item of Sexual Health Knowledge Scale at Pre- and Post-Workshop Measurements

Sexual Health Knowledge Items	Pre-workshop mean \pm SD (N=34)	Post-workshop mean \pm SD (N=32)
Q1: Fertilization of the egg by the sperm (conception) occurs in the woman's uterus.	.50 \pm 0.51	.94 \pm 0.25
Q2: Sexual dysfunction is often a symptom of underlying problems like diabetes or hypertension in men.	.74 \pm 0.45	.97 \pm 0.18
Q3: Consumption of significant amounts of alcohol can have serious negative effects on men's sexual functioning.	.91 \pm 0.29	1.00 \pm 0.00
Q4: A female ovum (egg) is viable for fertilization for approximately one week after it is released.	.26 \pm 0.45	.50 \pm 0.51
Q5: A small amount of sperm can be released before ejaculation.	.85 \pm 0.36	.97 \pm 0.18
Q6: If a woman has taken the pill for two years and then stops, she will have a much more difficult time getting pregnant, compared to a woman who has never used the pill.	.79 \pm 0.41	.94 \pm 0.25
Q7: In terms of preventing pregnancy, antibiotics do not reduce the effectiveness of birth control pills.	.59 \pm 0.50	.75 \pm 0.44
Q8: After unprotected sex > 98% of women will not get pregnant if the emergency contraceptive pill is taken in the first 72 hours.	.62 \pm 0.49	.91 \pm 0.30
Q9: Oral contraceptives work immediately, therefore backup methods (additional methods of contraception) are not necessary when a woman is on her first cycle of the pill.	.88 \pm 0.33	.91 \pm 0.25
Q10: The pill changes the lining of the uterus to make implantation unlikely.	.56 \pm 0.50	.84 \pm 0.37
Q11: Blood clotting is a possible serious side effect of the pill.	.74 \pm 0.45	.97 \pm 0.18

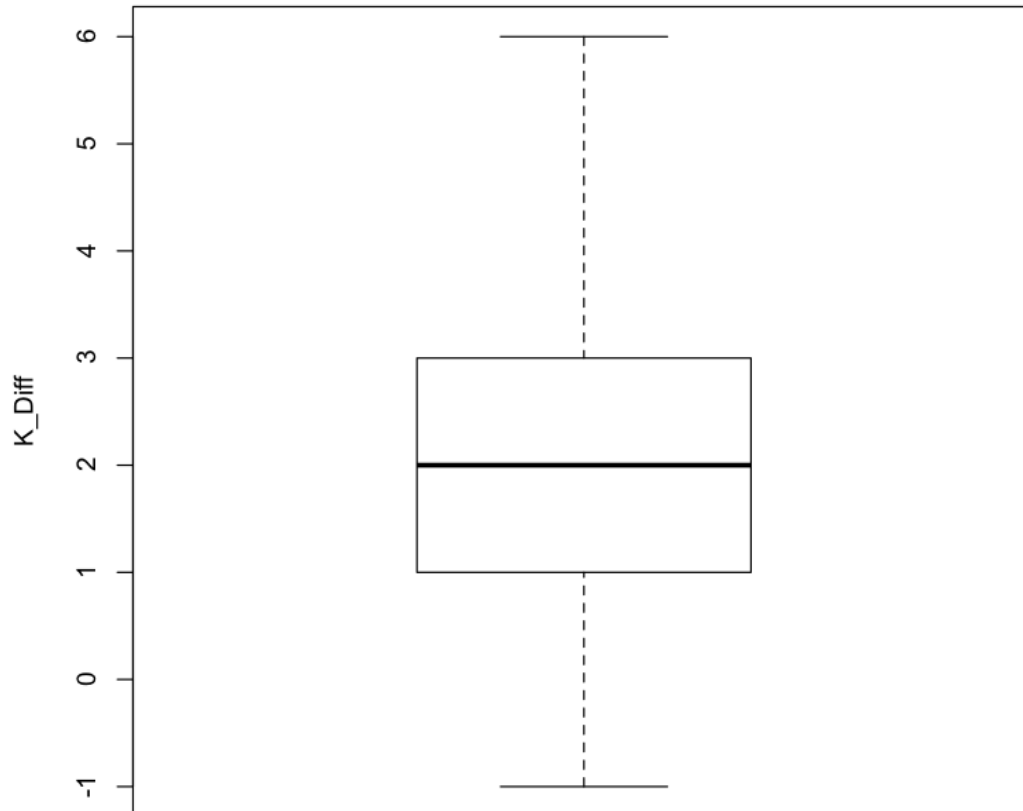


Figure 1. Boxplot of Difference in Sexual Health Knowledge: Pre- and Post-Workshop Scores

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