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Correlation between STD-related social stigma and STD/STI screening among young adults in
the United States

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Abstract

Objective: To evaluate the relationship between STD-related social stigma and screening programs among young adults aged 18 to 30 in the United States and its implication for accessing future sexual and reproductive health services.

Design: A nationwide observational study by means of a questionnaire.

Methods: A cross-sectional survey was available to American young adults aged 18 to 30 via SurveyMonkey. Participants were asked to complete a questionnaire (Appendix 1) on sexual health and sexually transmitted diseases (STDs). 112 participants completed the survey and provided consent for data to be collected for analysis (Appendix 2). Statistical significance was examined using three domains: (1) attitudes toward sexual health, (2) awareness of sexually transmitted diseases, and (3) attitudes toward screening. Statistical analysis was performed using Spearman's correlation coefficient and Mann–Whitney U test to examine the relationship between STD-related stigma and self-reported reluctance to undergo screening.

Results: 112 American adults aged 18 to 30 participated in a brief survey that revealed a strong correlation between STD-related social stigma and willingness to undergo screening. 55.4% of our subjects reported that they prefer to use the Internet as a source to learn about sexual health (Table 1.1). Another statistically significant correlation found in our study reveals that participants aged 18 to 21 are less likely to seek medical treatment if they suspect a sexually transmitted infection compared to older participants aged 22 to 30 with ($r = 0.26, p = 0.006$).

Conclusions: Our study concluded that STD-related social stigma predominates in today's society due to attitudes toward sexual health and screening as well as social factors, such as cultural, ethnic, and religious beliefs and values. It becomes a social and moral obligation to

encourage young adults to undergo regular screening and to appeal to health care authorities to adopt an open and frank discussion with young adults during consultations.

Introduction

Sexual and reproductive health has always been a highly analyzed and debated subject within the public health sector. In recent years, Western industrialized countries have witnessed a surge in sexually transmitted diseases (STDs) despite medical advances and efforts to promote healthy behaviors. Sexually transmitted infections, such as chlamydia, gonorrhea, and syphilis have risen significantly over the past five years (CDC, 2019). These cases are most prevalent in the adolescent and young adult population, which constitutes a major health concern across the United States. Although ease of access to sexual and reproductive health services has improved exponentially over the years, there are still many reported cases of sexually transmitted diseases, contrary to predictions from leading epidemiologists (Manlove, Fish, & Moore, 2015). This alarming statistic outlines the importance of STD/STI prevention and screening methods. Social stigma among other factors, is a significant determinant in the growing epidemic of STDs among young adults in the United States (CDC, 2019). Numerous hypotheses and theories have been proposed to explain the confounding statistics, however there have been no definitive answers to this public health issue. STD/STI awareness and screening becomes vital at this time and a new approach to sexual and reproductive health must be taken in order to reduce the incidence of sexually transmitted diseases. Social stigma has been arguably one of the most significant barriers to accessing sexual and reproductive health services. According to Denison et al., 2017, shame of being diagnosed with a sexually transmitted disease has proven to be the biggest challenge in reducing the numbers of STDs in the United States. In addition to social stigma,

factors such as, privacy concerns, racial attitudes, and religious beliefs create an aura of discomfort and uneasiness surrounding screening (Lichtenstein et al., 2003). Furthermore, social and cultural discrimination, language barriers, provider bias, or merely the perception of these factors by minority groups can discourage young adults from seeking care (CDC, 2019). It is the duty of health care professionals, given this realization, to proactively reach out in an effort to reduce the incidence of STDs and increase awareness and comfort, particularly for racial and ethnic minority groups, those with strong religious ties, and the younger adult population.

Our study aims to evaluate the relationship between STD-related social stigma and screening programs among young adults aged 18 to 30 in the United States and its implication for accessing future sexual and reproductive health services.

Methods

A cross-sectional survey was available to American young adults aged 18-30 years via SurveyMonkey. Social media platforms, such as Facebook, Instagram, and Twitter were employed to help distribute the questionnaire to volunteers. The author(s) were solely responsible for formulating the questions in accordance with the privacy and confidentiality laws of the United States. The questions were obtained from external sources and adjusted to better suit the proposed study (Cunningham et al, 2009; GEAS, 2019). Participants were asked to complete a questionnaire (Appendix 1) on sexual health and sexually transmitted diseases (STDs). Data were collected anonymously, and no personal identifiers were obtained. 112 participants completed the survey and provided consent for data to be collected for analysis (Appendix 2). Statistical significance was examined using three domains: (1) attitudes toward sexual health, (2) awareness of sexually transmitted diseases, and (3) attitudes toward screening. The study took place from January until April 2020. The survey elicited participant

demographics, knowledge of sexually transmitted diseases (STDs) and health-related practices as well as attitudes toward screening.

Statistical Analysis

Observational codes were entered into a PC using © Word 2019, Version 16.0 and data were analyzed using Spearman's correlation coefficient and Mann–Whitney U test to examine the relationship between STD-related stigma and self-reported reluctance to undergo screening.

Results

Participants

112 American young adults (59 males and 53 females) aged 18 to 30 participated in a brief survey that consisted of 24 open-ended questions related to the three previously mentioned domains. The investigators found that the majority of participants were Caucasian, closely followed by African American young adults with an average age group of 22 to 30. 58% of participants identified themselves as Christian, followed by Islam with 14.3%. The highest level of education attained was a bachelor's degree with approximately 54.5% of participants having obtained an undergraduate degree. Participants under 18 years of age were excluded from this study. Socioeconomic factors were also excluded; however, no further exclusion criteria were applied. Figure(s) 1.1-1.4 show the distribution according to age, ethnic, and religious groups as well as educational backgrounds.

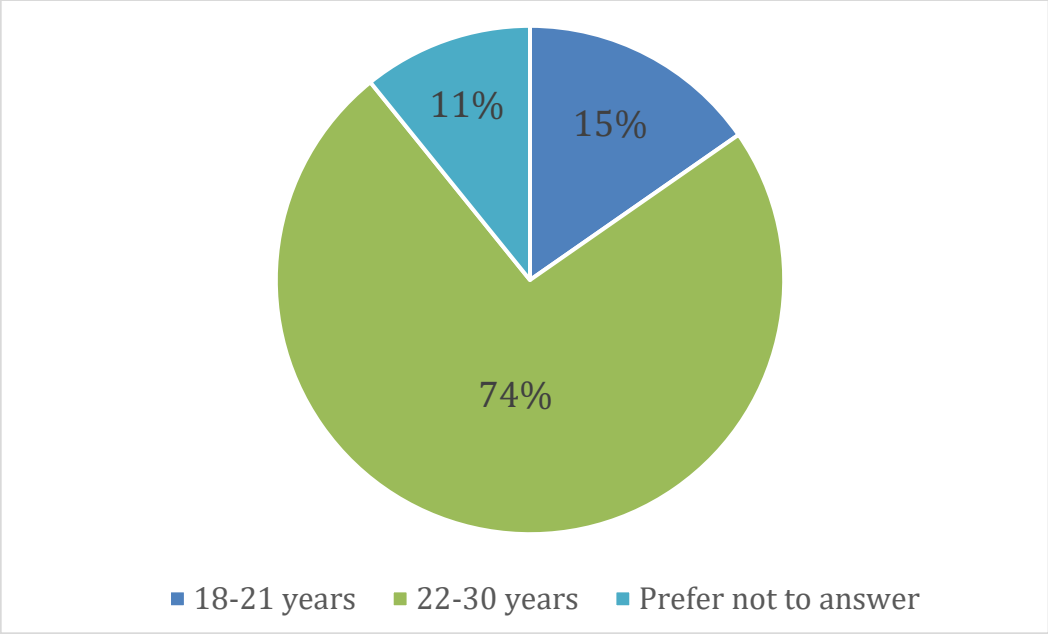


Figure 1.1 Distribution of participants according to age group

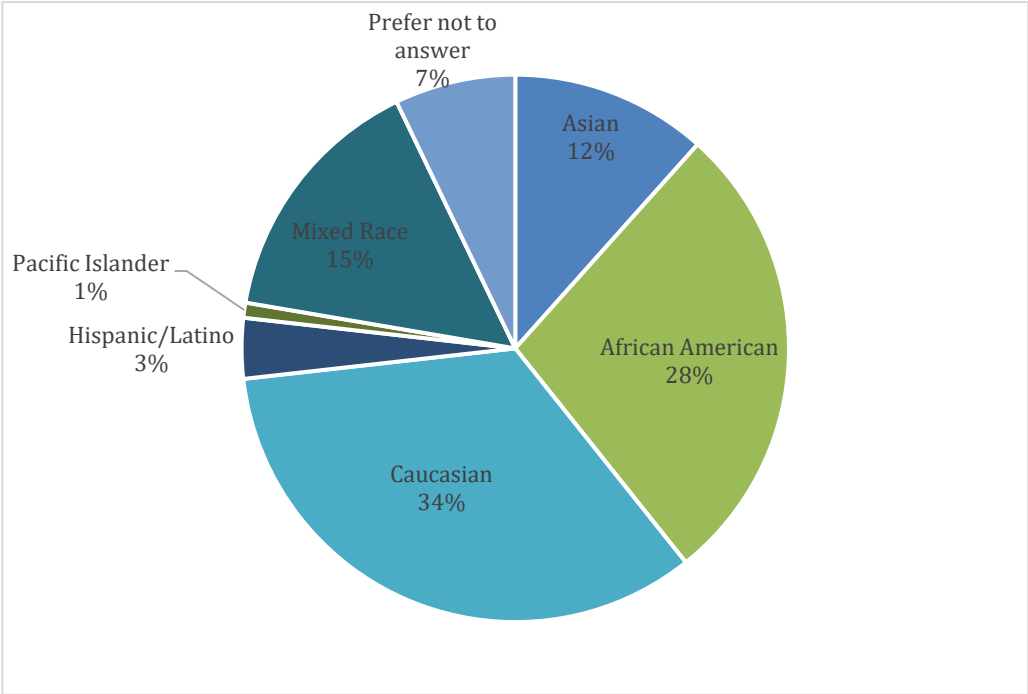


Figure 1.2 Distribution of participants according to ethnic group

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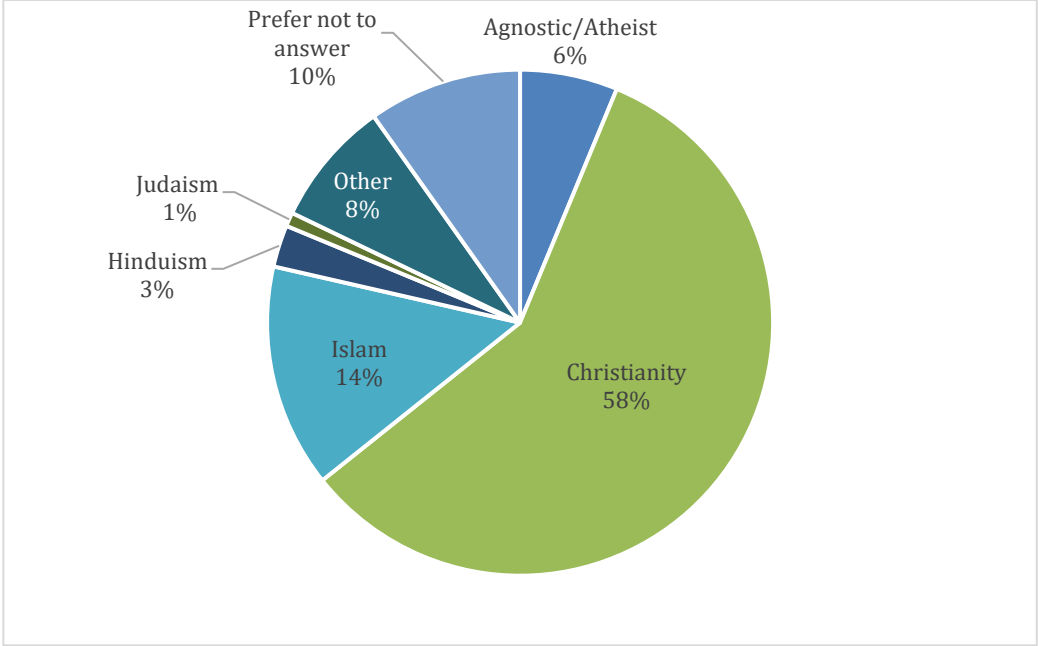


Figure 1.3 Distribution of participants according to religious group

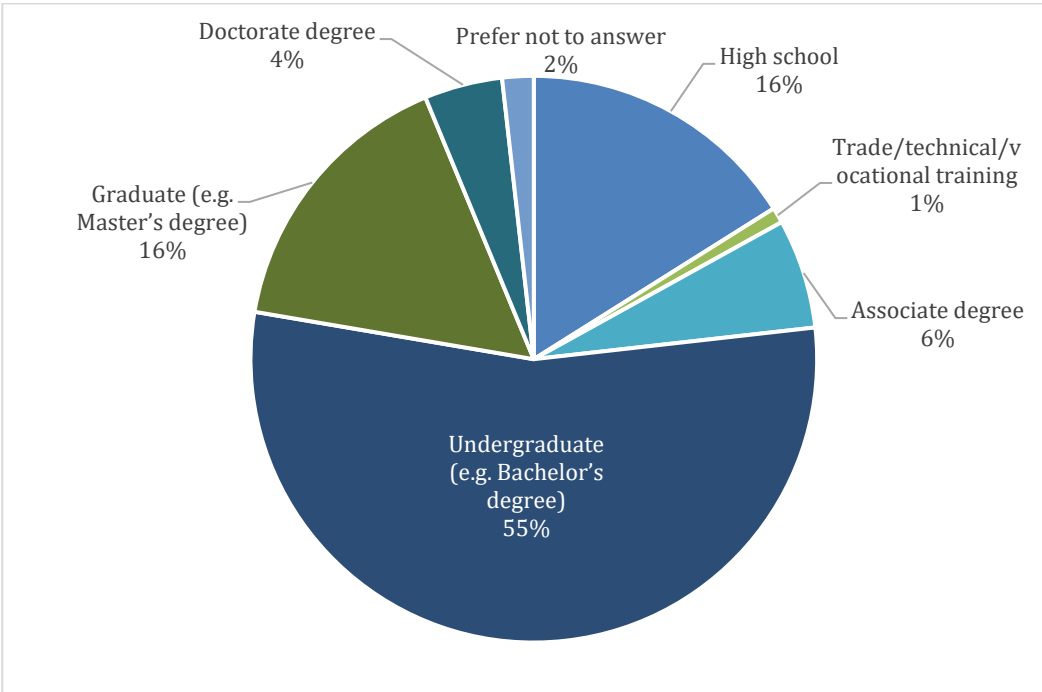


Figure 1.4 Distribution of participants according to educational background

Attitudes toward sexual health

Our survey yielded results that show remarkable differences in age, ethnic, and religious groups as well as educational backgrounds. 78.6% of participants revealed that they have been sexually active within the past year, however only 52% reported using contraceptive methods, which can explain the increasing numbers of sexually transmitted diseases among other factors. This could reflect an association between younger age and increasing risky behaviors due to impulses governed by cognitive growth and development in young adulthood (Balocchini, Chiamenti, & Lamborghini, 2013). The advent of modern medicine and scientific advances allowed those diagnosed with a sexually transmitted disease to receive treatment in a timely fashion and avoid subsequent complications, such as infertility. Despite this, our study revealed that the majority of young adults have never discussed contraceptive methods with their primary care provider, nor do they feel comfortable discussing about sexual health with their primary care provider. This could directly relate to a lack of sexual health communication between young adults and health care professionals in the United States and the increasing numbers of undiagnosed cases. The Institute of Medicine (1997) argues that “sexuality is a value-laden subject that makes people—including health care professionals, researchers, educators, and the public—feel anxious and uncomfortable talking about it. The resulting inability to address issues of sexuality places individuals at risk of STDs” [7]. 55.4% of our subjects reported that they prefer to use the Internet as a source to learn about sexual health (Table 1.1). This could explain the reluctance of American young adults to seek information about sexual and reproductive health from a health care professional. Park and Kwon (2018) argue that “sexual health information online was also closely linked to privacy issues as many youths felt reluctant to speak with an HCP about sensitive issues surrounding sexuality and instead use the internet to

avoid embarrassment and overcome privacy issues” [12]. Furthermore, 57% of our subjects reported that they believe sexual health is still seen as a taboo topic in today’s society, which reinforces the aforementioned statement. Human sexuality throughout history has primarily been reserved for reproductive purposes. Women were expected to repress their sexuality as sexual activity other than for the purposes of conception was frowned upon and even punished at times (Ladelfa, 2015). Contrary to popular belief, our study did not find a significant difference in sexual activity among males and females, which reveals that gender differences in sexual activity are absent in today’s social climate. Differences in response rate according to religious groups must also be noted. Our data showed a statistically significant correlation between various religious groups and perceived norms ($r = 0.202$, $p = 0.033$) as seen in Figure(s) 1.5-1.6.

Participants who identified themselves as Hindu, Muslim, or Jewish agreed with the statement that sexual health is still seen as a taboo topic in today’s society. On the other hand, participants who identified themselves as Atheist or Christian were more likely to disagree with the above-mentioned statement. This can explain the influence of certain religious institutions on ethnic minorities in the United States. As Wingood and DiClemente (2000) suggest, certain religious beliefs, such as Islam condemn premarital sexual activity, thus creating difficulties for young adults, particularly females to access sexual and reproductive health services. When comparing different ethnic groups, the data collected suggests a level of discomfort when discussing sexual health and sexually transmitted diseases. Some studies suggest that sexual attitudes and beliefs are highly influenced by the cultural and familial context (Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001). This attitude is seen more in Caucasian and Hispanic families in contrast to ethnic families in which religion dictates their communication regarding sexual health. The disparity among differing ethnicities is clearly visible. Although a majority of ethnic groups

consider the subject taboo, they still express the willingness to seek information as evidenced by Figure 1.5. The results of the survey conclude that a majority of young adults across a wide demographic are not willing to discuss sexual and reproductive health matters.

Table 1.1 Source of information about sexual and reproductive health

Source of Information	Responses	%
Family	5	4.46
Friends	7	6.25
Internet	62	55.36
Primary care provider	20	17.86
School	15	13.39
Prefer not to answer	3	2.68
Total	112	

Awareness of sexually transmitted diseases

In the United States, young adults are highly influenced by the media where views on sex and sexuality tend to be more relaxed and with no consequences. The media portrayal of human sexuality can often lead to negative health impacts, particularly in vulnerable populations, such as adolescents and young adults. 95.5% of our participants reported that they are aware of sexually transmitted diseases (STDs) indicating that there is a general knowledge among young

adults in the United States. Furthermore, 68.5% reported having attended a school-based program for sexual health education at some point in their lives. Regarding treatment of sexually transmitted diseases, 79.3% disagreed with the statement that “*most sexually transmitted diseases can be cured without any treatment whatsoever*” indicating a general awareness of the risk of health complications if left untreated. We can conclude that a high level of education directly contributes to a larger awareness as evidenced by a statistically significant correlation found in our study between these two variables ($r = -0.21, p = 0.026$). Despite this, numbers of undiagnosed cases continue to be on the rise. Manlove, Fish, & Moore (2015) proposed that this may be caused by several other factors leading to a shortage of information, such as lack of youth-friendly resources, budget cuts, and staff reductions. Our study also revealed that there continues to be a lack of awareness about sexually transmitted diseases in the media as evidenced by 74.8% of our participants disagreeing with the statement that “*there is too much talk about sexually transmitted diseases in the media*” outlined in Figure 1.5. This finding reinforces the need for more STD/STI prevention and screening methods.

Attitudes toward screening

Our results show that social stigma is a significant barrier to accessing sexual and reproductive health services in accordance to previous studies that confirm young adults are more reluctant to undergo screening due to “shame of being diagnosed with a sexually transmitted disease” (Denison et al., 2017). Another statistically significant correlation found in our study reveals that participants aged 18 to 21 are less likely to seek medical treatment if they suspect a sexually transmitted infection compared to older participants aged 22 to 30 with ($r = 0.26, p = 0.006$). This evidence points to a need for further education on the risks and complications associated with sexually transmitted diseases in order to encourage safe sex

practices among young adults. Sexual literacy becomes a key factor in young adults' willingness to collaborate with health care professionals and accept to discuss sexual and reproductive health matters.

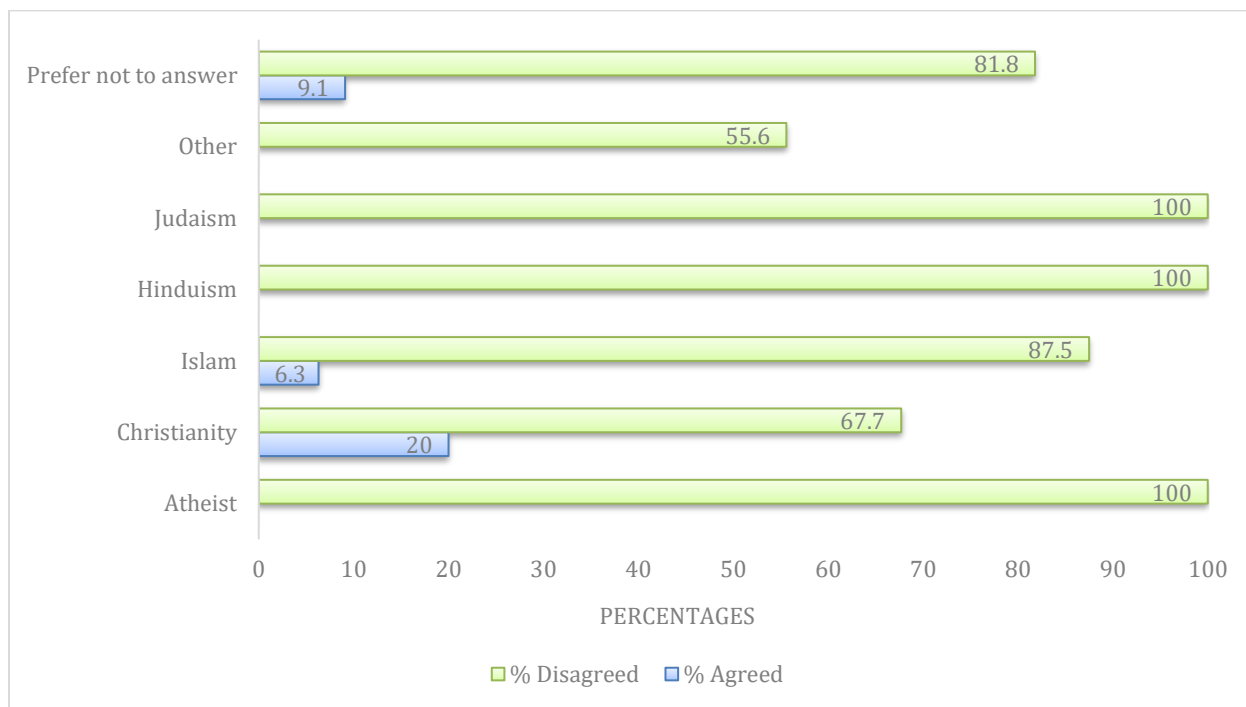


Figure 1.5 Response rate (%) to Question 20 “There is too much talk about sexually transmitted diseases in the media” with a p-value of 0.017

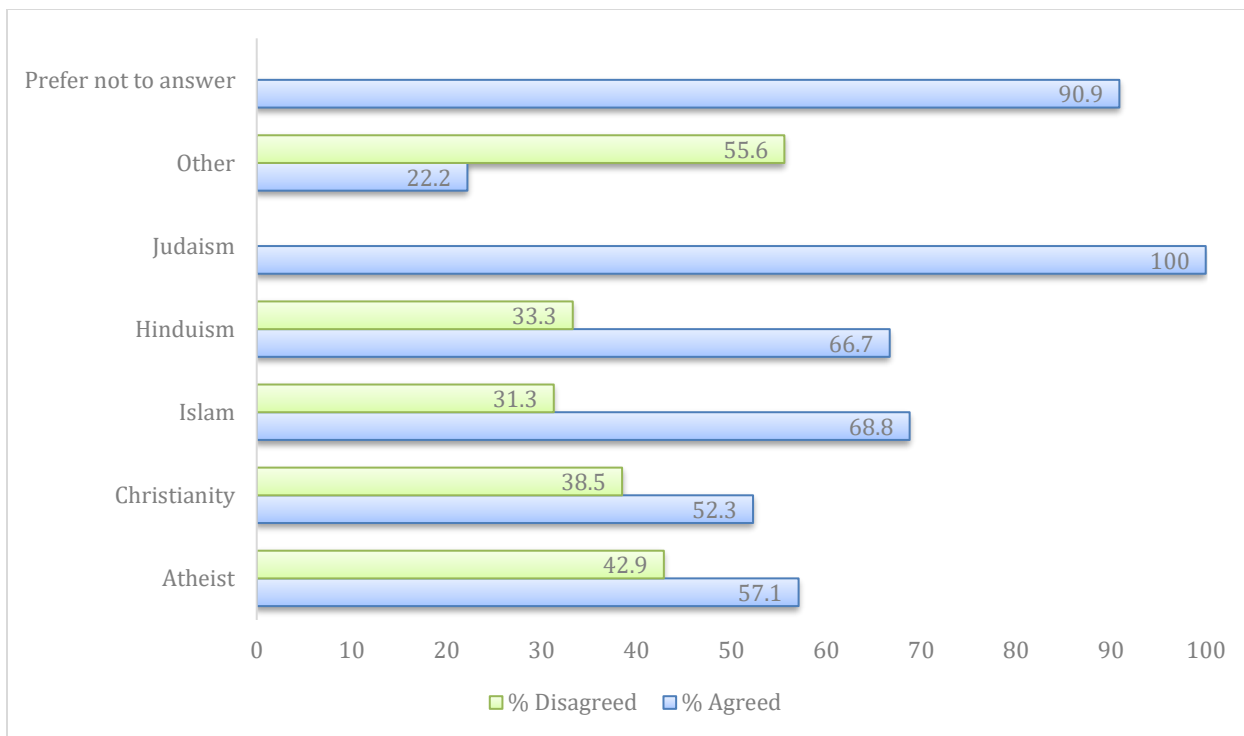


Figure 1.6 Response rate (%) to Question 24 “Do you find that sexual health education is still considered a taboo subject?” with a p-value of 0.001

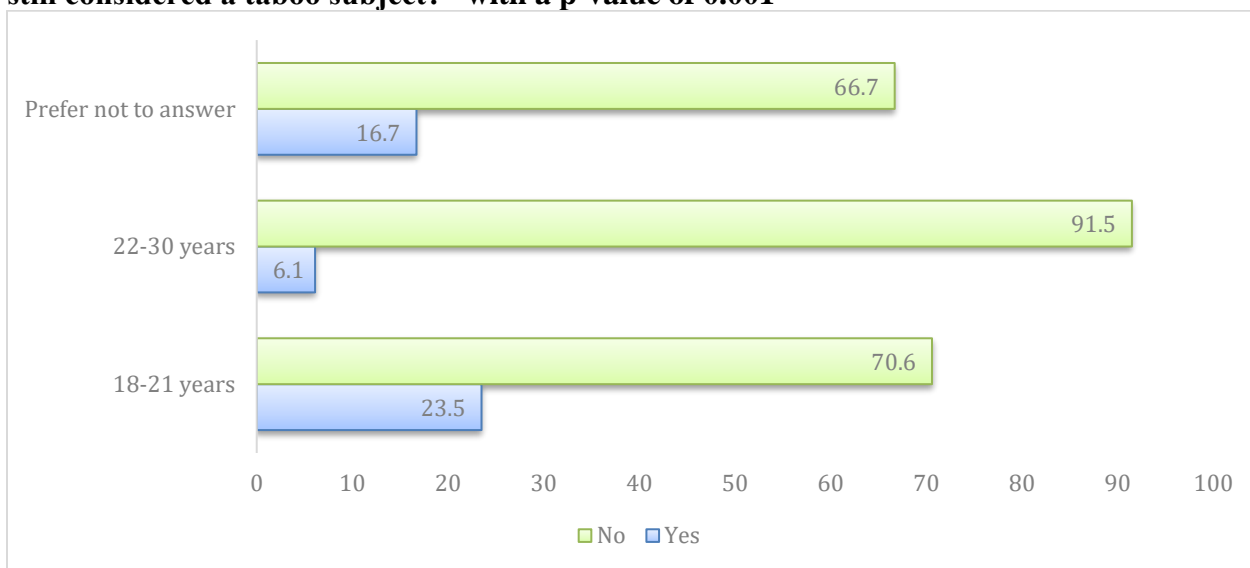


Figure 1.7 Response rate (%) to Question 17 “Is it better to wait for an unpleasant symptom to persist than to go to the doctor immediately?” with a p-value of 0.006

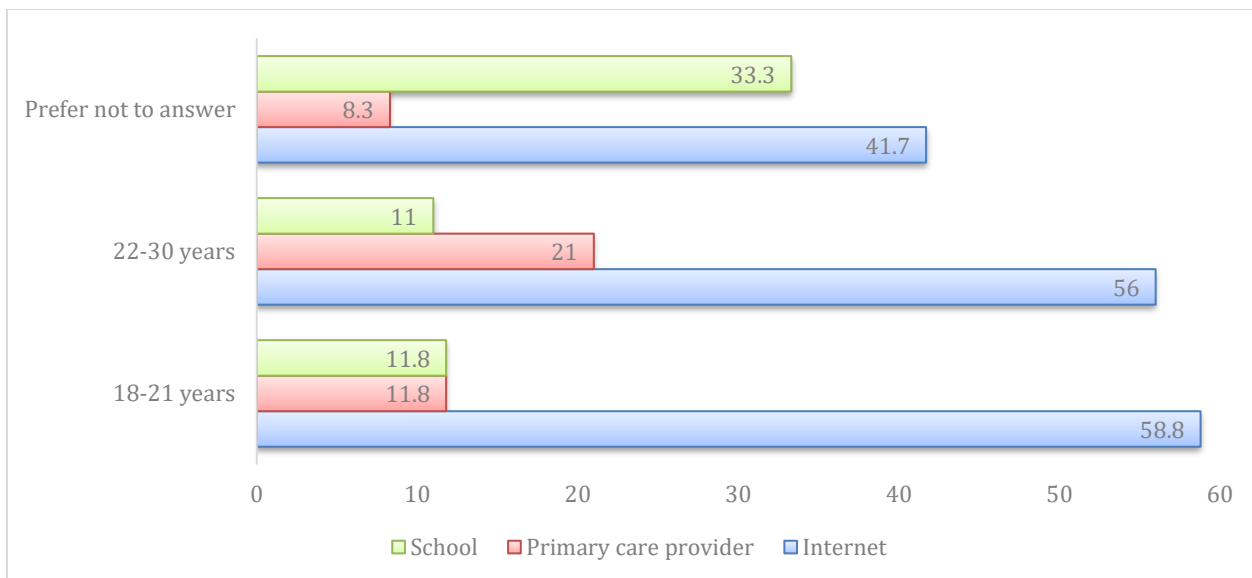


Figure 1.8 Response rate (%) to Question 8 “Where do you get most of your information on sexual health” with a p-value of 0.036

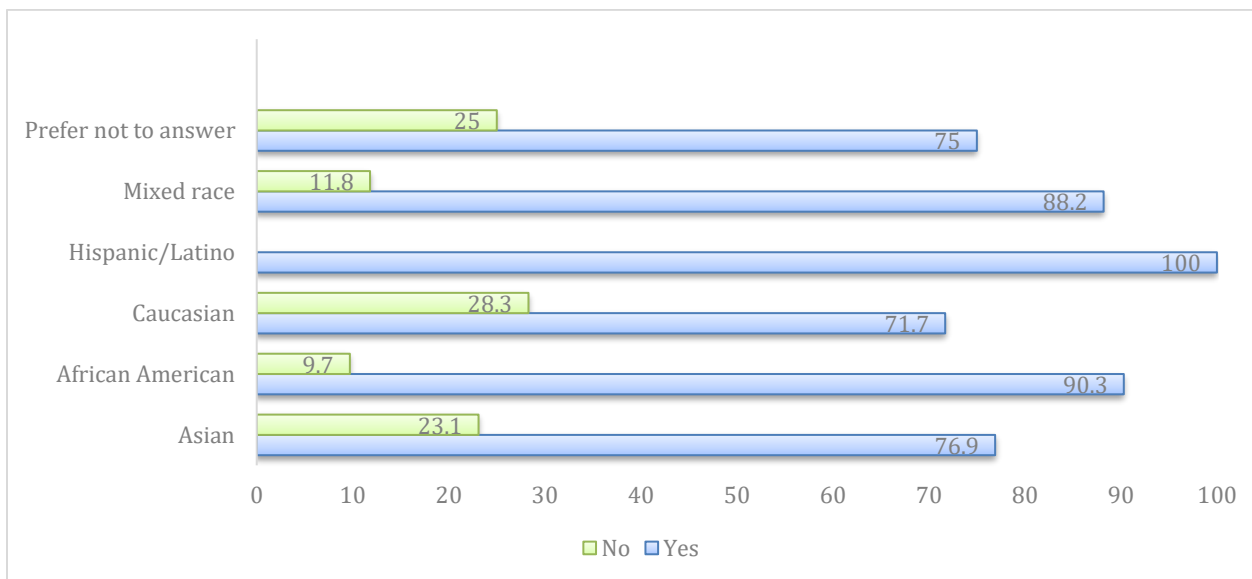


Figure 1.9 Response rate (%) to Question 9 “Do you feel comfortable enough to ask questions regarding your sexual health” with a p-value of 0.036

Discussion

Social stigma has many facets, ranging from self-prejudice and how one perceives oneself to discrimination against others based on cultural, ethnic, and religious values. This study

concluded that religious institutions may pose significant barriers to accessing sexual and reproductive health services as they “serve as a foundation for community values and norms that are often culturally determined and socially sanctioned” (Wingwood & DiClemente, 2000). Additionally, Hall, Moreau, and Trussell (2013) found an association between regular worship attendance and an underutilization of sexual and reproductive health services among young adults. In Islamic cultures, for example, young women are expected to fully abstain from any type of sexual activity prior to marriage as this may be viewed as dishonorable. Moreover, the set of constraints imposed by religious beliefs may lead to a lack of awareness and subsequent knowledge of STD/STI prevention and screening methods. This, in turn will lead to a series of complications, including untreated sexually transmitted infections due to STD-related social stigma (Alomair et al., 2020). Strong religious ties will not only give rise to faith-related stigma but also present challenges for young adults as it will create a strong internal conflict and unwillingness to undergo screening or access future sexual and reproductive health services [1]. Ethnicity and religion are concepts that overlap quite frequently so they must be looked at in a comparative manner. It is thought that ethnic groups that practice Christianity tend to be more open to discuss subjects deemed more sensitive to other cultures. Previous studies revealed that Hispanic parents are more comfortable communicating with their children about contraceptive methods (Lantos et al., 2103). These findings coincide with the results of our survey showing statistical significance between Caucasians and Hispanics ($r = 0.239$; $p = 0.011$) compared to Asians and African Americans who are of the opinion that sexual health is considered a taboo subject. This shows that certain ethnic groups are not comfortable discussing about the subject. Moreover, age factors can play a crucial role in how young adults perceive their risk of contracting a sexually transmitted disease. This study concluded that regardless of age, young

adults are more likely to look to the Internet as their primary source of information on sexual health and sexually transmitted diseases. Negative attitudes, such as shame and embarrassment may impact one's view on screening. Social expectations of one's behavior with respect to sexual health may have an impact on future interactions with health care professionals. Youth-friendly programs aimed to identify healthy behaviors and protective measures in a safe and respectful learning environment have been proven more effective in developing a trusting relationship with the young adult population (Manlove, Fish, & Moore, 2015).

Conclusion

Sexual health is an important aspect of overall health and well-being. Contrary to popular belief, our study revealed there is no significant difference in sexual activity among males and females, which underlines the importance of encouraging sexual health discussions in the media, in public as well as private health care settings and in everyday life. The recent surge in sexually transmitted diseases (STDs) outlines a need to promote health behaviors among young adults, who are the most affected population (CDC, 2019). A major player in the battle to increase sexual and reproductive health is the concept of sexual literacy. This knowledge is needed to advance and protect one's own sexual health and well-being. Sexually transmitted diseases not only pose a significant risk to overall health, but also create a burden to the health care system in the United States [7]. Our study concluded that STD-related social stigma predominates in today's society due to attitudes toward sexual health and screening as well as social factors, such as cultural, ethnic, and religious beliefs and values. It becomes a social and moral obligation to encourage young adults to undergo regular screening and to appeal to health care authorities to adopt an open and frank discussion with young adults during consultations. In doing so we hope

that we can reduce the number of undiagnosed cases and improve the well-being and quality of life of our future generations.

Limitations and further recommendations

Several limitations must be noted in this study. First, we focused on a rather limited sample of participants, which may potentially lead to bias. Second, we acknowledge that there was a lack of diversity within our sample as the majority of our subjects were Caucasian and African American young adults aged 22 to 30; both ethnic groups identifying Christianity as their primary religious affiliation. Third, considering that data were collected anonymously, and no personal identifiers were obtained, it is nearly impossible to examine honesty in survey responses, which may potentially lead to response bias. Lastly, considering that subjects under 18 years of age were excluded from this study may potentially limit our results.

Recommendations for future research include looking at various other factors that may prevent young adults from accessing sexual and reproductive health services, such as socioeconomic factors and problematic substance use.

Acknowledgments

The author(s) would like to express their sincerest gratitude to Dr. Victoria Minakova, PhD for her support in completing this study and to Dr. Aleksandar Dusic, MD for sharing his knowledge and expertise. The product of this research paper would not be possible without them. The author(s) declare that there is no conflict of interest and no costs have been incurred during the conduction of this study.

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Appendix 1

1. What is your gender?
 - Female
 - Male
 - Prefer not to answer

2. What is your age group?
 - 18-21 years
 - 22-30 years
 - Prefer not to answer

3. I identify my ethnicity as:
 - Asian
 - African American
 - Caucasian
 - Hispanic/Latino
 - Native American
 - Pacific Islander
 - Mixed Race
 - Prefer not to answer

4. What is your religious affiliation?
 - Agnostic/Atheist
 - Buddhism
 - Christianity
 - Islam
 - Hinduism
 - Judaism
 - Other
 - Prefer not to answer

5. What is the highest level of schooling you completed?
 - High school
 - Trade/technical/vocational training
 - Associate degree
 - Undergraduate (e.g. Bachelor's degree)
 - Graduate (e.g. Master's degree)
 - Doctorate degree
 - Prefer not to answer

6. Have you been sexually active within the past year?
 - Yes
 - No
 - Prefer not to answer

7. If you responded 'yes' to the previous question, are you using any method of contraception?
 - Yes
 - No
 - Prefer not to answer

8. Where do you get most of your information on sexual health?
 - Family
 - Friends
 - Internet
 - Primary care provider
 - School
 - Prefer not to answer

9. Do you feel comfortable enough to ask questions regarding your sexual health?
 - Yes
 - No
 - Prefer not to answer

10. How often do you see a doctor for an overall wellness check?
 - Weekly
 - Monthly
 - Yearly
 - Never
 - Prefer not to answer

11. If you responded 'yes' to the above question: Were the questions you asked during the consultation answered adequately?
 - Yes
 - No
 - Prefer not to answer

12. Did you ever discuss contraception with your primary care provider?
 - Yes
 - No
 - Prefer not to answer

13. In your opinion, a person doesn't have to seek sexual health advice regularly if they have not had sexual relations for a long period of time.
 - Agree
 - Disagree
 - Prefer not to answer

14. A person doesn't have to seek sexual advice regularly if they have never had sexual relations.
 - Agree

- Disagree
 - I don't know
 - Prefer not to answer
15. Apart from HIV/AIDS, there are other diseases that men and women can catch by having sexual intercourse? Have you heard of any of these diseases?
- Yes
 - No
 - Prefer not to answer
16. If you needed treatment for a sexually transmitted disease, would you schedule a consultation with your primary care provider?
- Yes
 - No
 - Prefer not to answer
17. Is it better to wait for an unpleasant symptom to persist than to go to the doctor immediately?
- Yes
 - No
 - Prefer not to answer
18. Most sexually transmitted diseases can be cured without any treatment whatsoever.
- Yes
 - No
 - I don't know
 - Prefer not to answer
19. Following medical advice contributes to maintaining sexual health.
- Agree
 - Disagree
 - I don't know
 - Prefer not to answer
20. There is too much talk on sexually transmitted diseases in the media.
- Agree
 - Disagree
 - I do not follow news/social media
 - Prefer not to answer
21. It is good to know as much as possible about sexually transmitted diseases.
- Agree
 - Disagree
 - I don't know
 - Prefer not to answer

22. Have you ever attended a school-based program for sexual health education?

- Yes
- No
- Prefer not to answer

23. Do you feel comfortable asking your loved ones about sexual health?

- Yes
- No
- Prefer not to answer

24. Do you find that sexual health education is still considered a taboo subject?

- Agree
- Disagree
- I don't know
- Prefer not to answer

Appendix 2

DISCLAIMER/PRIVACY POLICY

This is a working paper, and hence it represents research in progress. This paper represents the opinions of the authors and is the product of professional research. It is not meant to represent the position or opinions of the entity known as “Saint James School of Medicine” (*hereinafter* SJSM) or its Members, nor the official position of any staff members. Any errors are the fault of the authors.

The purpose of this research project is to discuss the incidences and issues with STDs and STIs amongst a certain age range. We will be using SurveyMonkey to disseminate the questionnaire. You are invited to participate in this survey because you are within the demographics chosen for the study. Your participation in this research is voluntary. Should you choose to participate, you may withdrawal at any time. If you chose to withdrawal or cease participation at any time, you can do so without any repercussions or penalties.

The procedure involves filling out a survey that will take approximately 25 minutes to complete. All responses will be confidential. We do not collect any identifying information including but not limited to names, email, physical, or IP addresses. All surveys and subsequent publishing of collected data will not contain any identifying information. All information collected will be used for our research alone.

If you have any questions or concerns, please do not hesitate to contact our legal research advisor, Romain Sewchand at romainsewchand@gmail.com.

Given the above disclaimer, do you accept to proceed with the survey?

- I accept
- I do not accept