

Health Knowledge in College

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Presidential Scholars Prevention Group

Introduction

Preventative Medicine has the potential to save patients' money and time while substantially improving millions of lives. Our group decided to focus on five areas that we felt could markedly improve the current and future lives of college students: nutrition, smoking, drinking, sun exposure, and STIs. We felt that through a focused and interactive presentation on each topic we could arm students with the knowledge necessary to prevent future disease. Our community partners included students from both the Citadel and College of Charleston. We attempted to reach out to other universities, but were unsuccessful. Importance of topics addressed:

Tanning Beds (Sun exposure)

People who use a tanning salon before age 35 increase their risk of melanoma by 75%, according to the Centers for Disease Control and Prevention (1). Nationwide, the highest rates of indoor tanning were among white women aged 18–21 years (31.8%) and 22–25 years (29.6%). Among white adults who reported indoor tanning, 57.7% of women and 40.0% of men reported indoor tanning ≥ 10 times in the past 12 months. This clearly indicates a need for continued public health efforts to identify and implement effective strategies for reducing indoor tanning among adults in the United States, particularly among whites, women, and adults aged 18–25 years.

Obesity

Findings from a national survey conducted in 2005 indicate that 3 of 10 college students are either overweight (body mass index [BMI] 25.0–29.9 kg/m²) or obese (BMI ≥ 30.0 kg/m²) (2). Behaviorally, 9 of 10 students eat fewer than five servings of fruits and vegetables per day, and nearly 6 of 10 students participate fewer than 3 days per week in vigorous-intensity (20 minutes or more) or moderate-intensity (30 minutes or more) physical activity.

Binge Drinking

About 90% of the alcohol consumed by youth under the age of 21 in the United States is in the form of binge drinks. Binge drinking causes 80,000 deaths in the US each year and, in 2006 cost the US economy \$223.5 billion. Binge drinking prevalence (28.2%) and intensity (9.3 drinks) were highest among persons aged 18–24 years (3).

Smoking

Cigarette smoking is the leading cause of preventable death in the United States, accounting for more than 480,000 deaths, or one of every five deaths, each year. An estimated 42.1 million people, or 18.1% of all adults (aged 18 years or older), in the United States smoke cigarettes.

STI's

The CDC estimates that nearly 20 million new sexually transmitted infections occur every year in this country, half among young people ages 15–24. Rates of reported chlamydia infections continue to increase steadily: between 2010 and 2011, chlamydia infection rates increased by 10.5 percent among women and 12.4 percent among men between the ages of 20 to 24. Herpes Simplex Virus 2 (HSV-2), or genital herpes, affects one in five college aged students in the United States. There are approximately 5.5 million new cases of HPV every year in college age individuals, which accounts for 33 percent of all new STI infections annually.

Literature Review

- The rate of skin cancer continues to rise. The aim of this paper's study was to identify the current knowledge and awareness of and attitudes toward the avoidance of skin cancer among a variety of patient groups. The authors concluded that sun-awareness programs should target younger age groups (6.)
- The number of smokers continues to increase, despite the multiple studies that show the dangers of this practice. This study demonstrated how military smoking-cessation efforts may provide valuable lessons for the civilian community (7).
- Previous studies suggest that smokers minimize the personal health risk of smoking. Smokers may not be aware of the various smoking related disease risks or believe that they are susceptible to them. This study showed that knowledge and perceived risk of cardiovascular and oral diseases was high, however knowledge and perceived risk of reproductive-related problems, and cancers other than lung cancer were much lower (8).
- This study's survey was designed to answer 2 questions: 1) What is the current level of high-risk sexual behavior at a small private Midwestern College? 2) What is the current level of knowledge about high-risk sexual behaviors of those surveyed? (9).

Methods

- Designed a PowerPoint presentation with 5 main discussion topics:

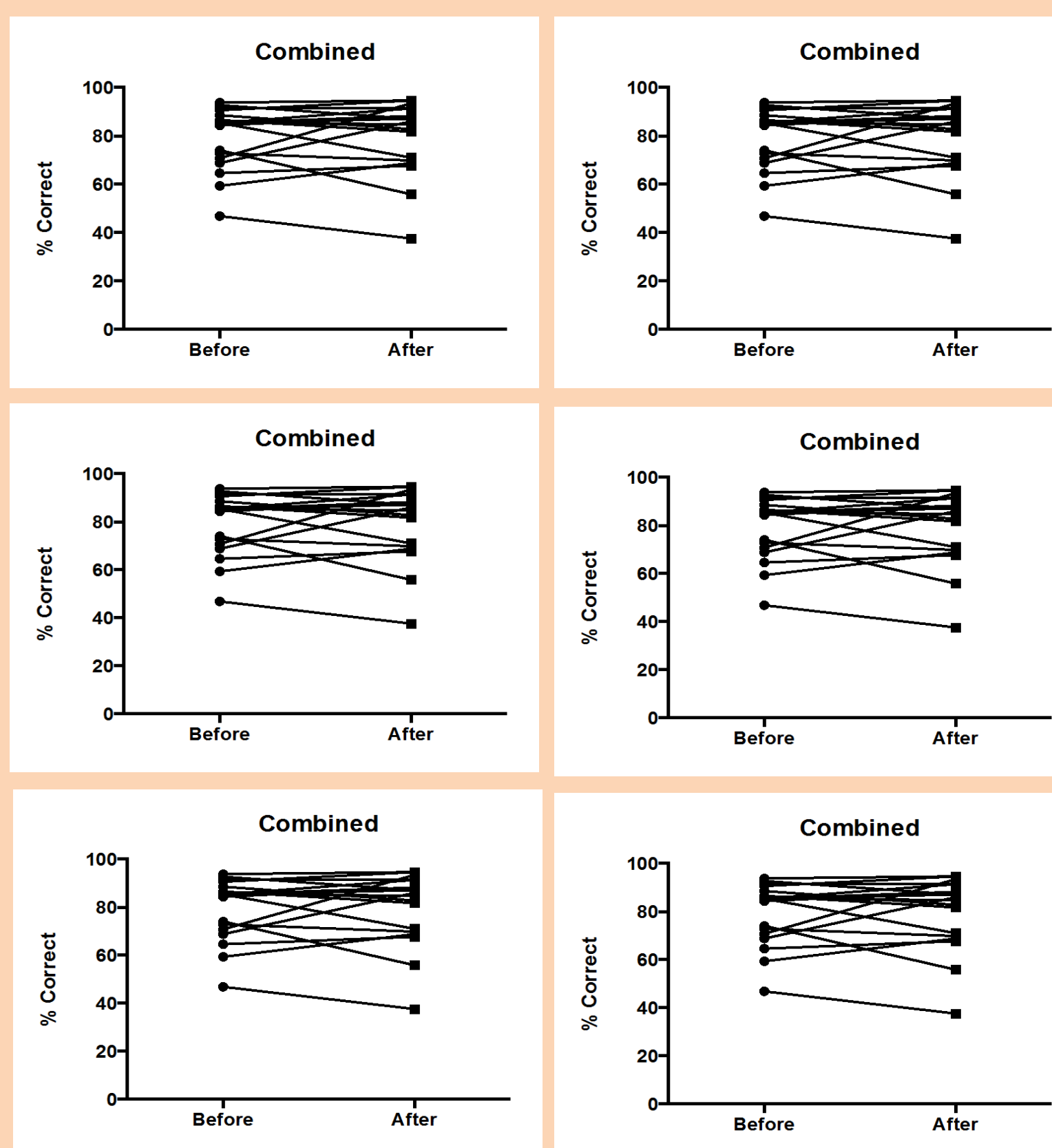
Sun Exposure
Obesity
Binge Drinking
Smoking
STIs

- Designed a 21 question True/False survey for students to fill out before and after presentation (Shown on the left).
- Recruited students from The Citadel and College of Charleston to participate in lecture and survey.
- Presentation lasted approximately 45 minutes, total time with pre- and post-surveys was 60 minutes.
- 96 students attended The Citadel presentation.
- Due to schedule conflicts no students attended the College of Charleston presentation.

Health Knowledge in College Pre-Survey	
You are being invited to participate in a study titled "Health Knowledge in College." This study is being done by Presidential Scholars members from the Medical University of South Carolina. You may not directly benefit from this research, however, we hope that your participation in this study may help us understand how health knowledge in the college population can be improved. Your answers to this study will remain confidential. By proceeding with this survey you are indicating that you are at least 18 years old and agree to participate in this research study. Please DO NOT write your name on the survey.	
1. Skin cancer does not spread to vital internal organs:	TrueFalse
2. Measuring BMI is the most accurate indicator of a healthy body:	TrueFalse
3. Skipping meals is an effective way of losing weight:	TrueFalse
4. Men may have higher tolerance to alcohol than women because they typically weigh more:	TrueFalse
5. If you do not acquire a STI after intercourse with an individual, this does not decrease your risk of acquiring one from the same individual in the future:	TrueFalse
6. Smoking is the leading cause of preventable death in the United States:	TrueFalse
7. Drinking diet sodas over regular drinks is not an effective method of losing weight:	TrueFalse
8. Getting a base tan will not decrease skin cancer risk:	TrueFalse
9. Sex in the swimming pool/ocean cannot transmit STIs because chlorine/salt kills the infections:	TrueFalse
10. As long as I exercise daily, I will lose or maintain my weight:	TrueFalse
11. The elliptical trainer tells me exactly how many calories I burn when I exercise:	TrueFalse
12. Smoking causes more deaths than HIV/AIDS, drug use, car accidents, suicides and murders combined:	TrueFalse
13. Coffee speeds up the clearance of alcohol from the body:	TrueFalse
14. Binge drinking is defined by drinking 5+ drinks in one sitting:	TrueFalse
15. While STIs are uncomfortable and unsightly, they do not have long-term side effects:	TrueFalse
16. Quitting smoking may reduce the risk of dying prematurely from a smoking-related disease by as much as 90%:	TrueFalse
17. A beer is less intoxicating than wine or a mixed drink:	TrueFalse
18. Smoking does not cause harm to internal organs:	TrueFalse
19. Tanning beds are safer than the sun because the amount of UV light received can be controlled:	TrueFalse
20. The only consequence of binge drinking is hangovers and potentially missing class:	TrueFalse
21. If I acquire a STI, I will know it and be able to treat it:	TrueFalse

Results

- Combined improvement between pre- and post-survey showed no significant improvement. A significant improvement was seen in the smoking category (Chi square test, P = 0.0361).
- Each topic contained questions that were answered correctly by less than 70% of the participants. This indicates a potential lack of well-rounded health knowledge in the college community.



Barriers of Project

Recruitment and attendance
Busy schedules
Making subject material appealing
Losing participant's focus during the presentation
Making survey questions non-ambiguous

Discussion

Recommendations for Change

We recommend that preventative health education be further incorporated into colleges by using college peers to disseminate the information, along with alternatives to any "unhealthy" activities. The rationale behind this recommendation is that the CDC's statistics stress the importance of prevention and health awareness. As college of the first time that many young adults are living independently, exposed to a broad array of choices, we believe this is a good age group to target. Due to the limited population in this project, we cannot directly conclude which health knowledge topics are the weakest in the college population.

Interprofessional Collaboration

An interprofessional approach was valuable to our work as all of the team members were able to contribute unique perspectives, thoughts, experiences, and approaches to the project of "Health Knowledge in College". The importance of interprofessional collaboration is increasing in the healthcare field as studies demonstrate, and healthcare professionals realize, that many disease processes affect a range of organ systems. Diseases can subsequently be cured by a multidisciplinary approach. For example, sun exposure, obesity, binge drinking, smoking, and sexually transmitted infections are not just treated by one professional in a single discipline, but rather can be diagnosed by a range of healthcare professionals. For instance, poor nutrition may eventually lead to type II diabetes that will then have resulting effects on the systemic and oral health of a person that requires them to need pharmacologic intervention and possible long term nursing care and follow-up. From a medico-legal perspective, it was beneficial to have a member of the law community, and undoubtedly experience from the graduate studies program brought knowledge of IRB participation to our group that allowed us to successfully put on our health education presentation titled, "Health Knowledge in College".

Lessons Learned

Our group's success is attributed to impeccable leadership and cooperation on behalf of each student. With different schedules and rapidly approaching deadlines, effective communication among group members was of the utmost importance. In regard to the actual research process, we can extract two very valuable lessons from the project: understanding and navigating the IRB process and conducting research on a limited budget. As banal as food and other incentives may seem, we can safely assume more participation at the College of Charleston if incentives were provided.

Recommendations for future study / Presidential Scholars:

What Questions Remain Unanswered?

- Do Charleston area college-students have an in-depth understanding of preventative health behavior?
- Is an interactive presentation by peers an effective delivery method for educating college students?

Future Continuation of Project

Preventative medicine is the key to avoiding many life-threatening or chronic diseases. In cases where the disease cannot be prevented, early detection leads to better prognosis. This project could lead to valuable education, and is thus worth continuing. Measures which would make future "health knowledge for college" presentations more successful:

- IRB approval from the target colleges while obtaining MUSC IRB approval to avoid unnecessary delays.
- Design surveys with clear questions and integrate survey questions into the presentation.
- Distribute a follow-up survey (1 month post presentation) to determine the short-term success of the presentation, as well as the immediate success with the post-survey directly after the presentation.
- Invite feedback from participants.

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