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**Abstract:**

**Purpose:** The purpose of this study is to determine the breast and testicular self examination practices of US college students from 2000-2013. **Subjects:** College students on campuses who administer the ACHA-NCHA survey on their campuses. The students include undergraduate and graduate students. **Methods:** The American College Health Association’s National College Health Assessment (ACHA-NCHA) has been conducted for 14 years. The data spans 2000-2013 and this data was used for this study. This is a secondary analysis of the ACHA-NCHA data. The data was analyzed using SPSS version 20. **Results:** More college females do not perform BSE (61.56%) than do perform BSE (37.67%). Only one third of females perform BSE in any 30 day period of time. More males do not perform TSE (58.64%) than do perform TSE. Only 37.93% of college males perform TSE. **Conclusions:** College health educators must do a better job educating their students about BSE and TSE so the students, who did not learn it in high school, do learn how to perform it in college, and then BSE and TSE can become regular health habits. A special emphasis needs to be on international students as they are not performing BSE or TSE at much lower levels than their fellow US undergraduate classmates.

**Keywords:** Breast Self Examination, Testicular Self Examination, Health Practices of College Students

**Introduction**

 Breast self examination by females and testicular self examination by males are prevention behaviors that can help in early detection of breast and testicular cancer. Breast cancer occurs in 1 out of 8 women. While it occurs most commonly in women over the age of 40, it can and does also occur in women younger than 40. Breast self examination is one of the techniques by which a woman can detect changes within her breast tissue. BSE is provides this early detection. It is imperative that all females perform BSE beginning with menarche. By starting BSE early, a female can become familiar with her own breast tissues and thus can detect changes that might be cancerous. Testicular cancer is the most common cancer in males between the ages of 15 and 34. The overall annual incidence rate of testicular cancer is 5.4 cases per 100,000 males. Testicular self examination provides the technique for early detection. Early detection is a key to surviving testicular cancer.

The American College Health Association’s National College Health Assessment (ACHA-NCHA) has been conducted for 14 years. The ACHA-NCHA gathers data on college student’s behaviors, including breast self examination (BSE) and testicular self examination (TSE) health behaviors. This survey has been asking BSE and TSE questions since the initial survey in 2000 (ACHA-NCHA I) and continues to ask BSE and TSE health questions in the current survey (ACHA-NCHA II). These questions have never been analyzed in the history of the ACHA-NCHA. We will be analyzing the comprehensive results from the ACHA-NCHA and presenting the results in this paper. The purpose of this study is to determine the breast and testicular self examination practices of US college students from 2000-2013.

**Methodology**

The ACHA-NCHA survey has been conducted since 2000. The initial ACHA-NCHA survey was used from 2000-2008. It is known as the ACHA-NCHA I. The survey was revised and the ACHA-NCHA II was developed. It began being used in 2009 and continues to be used in 2014. For the purpose of this research study, the data from both the ACHA-NCHA I and the ACHA-NCHA were requested from the ACHA-NCHA office in November 2013. The data was secured from both surveys when the data disk was received in late February of 2014.

 The data spans 2000-2013 and this data was used for analysis in this study. The data requested the demographic questions and the BSE and TSE questions from both the ACHA-NCHA I and II. The data was analyzed using SPSS version 20. This is a secondary analysis of the ACHA-NCHA data. Demographic data was analyzed with means. The BSE and TSE health questions were analyzed with chi square, crosstabs, and also means.

 The subjects were college students on campuses who administer the ACHA-NCHA survey on their campuses. The students include undergraduate and graduate students.

**Findings**

 Six hundred and twenty-four unique colleges and universities have administered the survey on their campuses. The male and female students include undergraduate and graduate students. There were 552,192 subjects in the ACHA-NCHA I survey and 534,661 subjects in the ACHA-NCHA II survey.

Breast Self-Examination

 Thirty-seven percent of female college students perform breast self-examination (BSE) in a 30 day period of time. Only 26% of transgendered females performed BSE in a 30 day time period. See table 1. Breast self-examination practices improved as females became upper-class students. See table 2. BSE was performed by 36.9% of females who were full-time students at their universities. See table 3. Females who identified as Asian/Pacific Islanders perform BSE the least (27.22%) while 46.52% of Black females report performing BSE the most. See table 4. Female students who were from other countries reported performing BSE only 30.88%. See table 5. Females from public universities perform BSE more (40.26%) than females who are attending a private university (39.81%). See table 6. Females at 2 year colleges reported performing BSE more (42.23%) than females attending 4 year colleges (39.81%). See table 7. The 14 years of the ACHA-NCHA survey have shown that college females have been declining in their performing of BSE in every year of the study. See table 8. In a literature review of studies of college female students in other countries and their performance of BSE, the US students would rank 4th with the 37.67% found in this study.

Testicular Cancer

Thirty-eight percent of male college students perform testicular self-examination (TSE) in a 30 day period of time. Only 22% of transgendered males performed TSE in a 30 day time period. See table 10. Testicular self-examination practices did not improve, but did remain stable as males became upper-class students. See table 11. TSE was performed by 37.93% of males who were full-time students at their universities. See table 12. Males who identified as Asian/Pacific Islanders perform TSE the least (21.24%) while 40.97% of White males report performing TSE the most. See table 13. Male students who were from other countries reported performing TSE only 19.82%. See table 14. Males from public universities perform TSE less (35.57%) than males who are attending a private university (36.4%). See table 15. Males at 2 year colleges reported performing TSE less (31.5%) than males attending 4 year colleges (37.95%). See table 16. The 14 years of the ACHA-NCHA survey have shown that college males had increased their performing of TSE in the first 5 years of the data, plateaued from 2005-2007, but then began declining in their performing of TSE in remaining 6 years. See table 17. In a literature review of studies of college male students in other countries and their performance of TSE, the US students would rank 1st with the 38.02% found in this study.

**Conclusions**

Breast self examination

 More college females do not perform BSE than do perform BSE. Females gradually increase performing BSE as they move from freshmen to seniors in college. Only 1/3rd of females perform BSE in any 30 day period of time. There is very little difference in BSE by ethnicity of the females. International female students do not perform BSE and are no different than any other female student. Females attending public universities perform BSE a little more than females attending private universities. There is very little difference between females at 2 year verses 4 year colleges. BSE has been slowly declining in frequency the last 14 years.

Testicular Self Examination

 More males do not perform TSE than do perform TSE. There is almost no difference in TSE from freshman to senior college males. Only 37% of college males perform TSE. There is quite the difference in TSE by various ethnicities. International male students are well below their male student counterparts in performing TSE. There is no difference between males who attend a private verse public university. Males at 4 year colleges perform TSE slightly more than those from 2 year colleges. Males had increased their performing of TSE from 2000-2007, but have steadily been performing TSE less and less with each year from 2008-2013.

**Recommendations**

High school health educators must do a better job educating their students about BSE and TSE so they perform BSE and TSE beginning in high school which will improve BSE and TSE in college students.Pediatricians need to educate their adolescent patients about TSE. College health educators must do a better job educating their students about BSE and TSE so the students, who did not learn it in high school, do learn how to perform it in college, and then BSE and TSE can become regular health habits. Health education programs tailored to specific ethnicities may also be helpful in reversing the low percentages of students who perform BSE and TSE. Health education programs specific to international students are needed because they are performing BSE and TSE significantly less than their college student colleagues. Peer educators can also be used to deliver BSE and TSE education to their fellow college students. Other research has repeatedly found peer educators to be a valuable delivery method for health information to college students. Health education faculty need to discuss the topics of BSE and TSE in their classrooms. Teaching BSE and TSE in the general health education course must be mandatory. Health educators need to develop BSE and TSE programs to reverse the declining trends of BSE and TSE in college students.

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