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Evaluation of Stress, Anxiety, and Relaxation Techniques in First Semester Pharmacy Students

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Abstract

- The Accreditation Council for Pharmacy Education mandated measurement of perceived stress in Student Pharmacists as related to its impact on professional and academic performance.

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In 2015, Burgess et al. found a significant effect of power posing (P < 0.01) as a physiological indicator of mental empowerment; testosterone decreased after female students conducted low power poses and increased following the high power poses.

This study expanded upon the potential... Read More

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Evaluation of Stress, Anxiety, and Relaxation Techniques in First Semester Pharmacy Students

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Background

- The Accreditation Council for Pharmacy Education mandated measurement of perceived stress in Student Pharmacists as related to its impact on professional and academic performance.
- In 2015, Burgess et al. found a significant effect of power posing (P < 0.01) as a physiological indicator of mental empowerment; testosterone decreased after female students conducted low power poses and increased following the high power poses.
- This study expanded upon the potential of using physical poses to impact mental status, by introducing Student Pharmacists to power posing and relaxation techniques to reduce levels of stress and anxiety over the course of a semester.

Objectives

- Primary outcomes: To compare the effects of power posing and relaxation techniques over the course of a semester on perceived stress and anxiety.
- Secondary outcomes: To evaluate Student Pharmacist opinions of the usefulness, ease, likeability, and longevity of conducting power posing and relaxation techniques.

Methods

- Population: 41 Student Pharmacists (22 females and 19 males) were recruited from students entering into the first year/first semester of pharmacy school.
- Treatments used to measure primary and secondary outcomes:
  - Power Posing (initial n = 10) – Holding an open pose
  - Three relaxation techniques:
    - Body Scan Meditation (n = 10) – Systematically relaxing muscles
    - Mindfulness Meditation (n = 11) – Focusing on the sound of a bell
    - 4 x 4 Meditation (n = 10) – Counting breaths

Protocol:

- Pre-Treatment
  - Days 0 (September 13, 2015)
  - Survey perceived and stress anxiety, plus sources of stress
  - Collect saliva sample

- Days 0 to 23 (September 16 to October 9, 2015)
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  - Days 24 to 58 (October 10 to November 13, 2015)
  - Days 24 to 58 (October 10 to November 13, 2015)
  - Days 59 – 79 (November 14 to December 4, 2015)
  - Days 59 – 79 (November 14 to December 4, 2015)
  - Days 80 to 83 (December 5, 2015)
  - Days 80 to 83 (December 5, 2015)
  - Days 84 to 86 (December 7, 2015)
  - Days 84 to 86 (December 7, 2015)

- Post-Treatment
  - Survey perceived stress and anxiety
  - Survey perceived stress and anxiety
  - Collect saliva sample
  - Collect saliva sample

Analysis:

- Preliminary data analysis were conducted utilizing descriptive statistics, dependent t-tests, and ANOVA of treatment means at each date utilizing Microsoft Excel.
- Overall, stress motivated 39 Student Pharmacists (95.12%) to conduct their treatments, but lack of time (24.58%) and remembering to do it (12.92%) most prevented them from doing so.

Results

- Stress and anxiety in Student Pharmacists since starting pharmacy school:
  - Days 0 to 23 (September 16 to October 9, 2015)
  - Days 24 to 58 (October 10 to November 13, 2015)
  - Days 59 – 79 (November 14 to December 4, 2015)

- Survey results at the end of Phase I:
  - Table 1. Comparison of Mean Ratings for Survey Responses by Student Pharmacists.

Conclusions & Future Directions

- Although Student Pharmacists did not rate effectiveness and likability of the three relaxation techniques to be better than Power Posing, their involvement in this study introduced them to alternative means of stress reduction and seemed to result in a favorable perception of relaxation techniques.
- Saliva samples will be analyzed for levels of cortisol and alpha-amylase (indicators of stress), and testosterone (indicator of empowerment).
- This research will be repeated in Fall 2016, with protocol changes to promote Student Pharmacists to try the other techniques and to improve compliance.