

Evaluation of Health and Wellness Education Components, Modalities and Timing on SRNA Self-Efficacy and Coping

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Introduction

- SRNAs are high risk for increased stress, burnout and serious psychological sequelae during their training.^{1, 2,3,4}
- Self-efficacy allows SRNAs to overcome barriers and setbacks to achieve their goals.
- SRNAs may cope in many different ways, both positive and negative.
- Health and wellness education has been presented as a means^{5,6} to prevent burnout, depression, substance use disorder,¹ attrition⁷ and suicide⁸.
- Specific components of health and wellness education are lacking evidence.
- Deficiencies in the research regarding the method of delivery, or modality.
- Ideal timing of the education implementation is not established in literature.

Materials and Methods

- Training program directors contacted via publicly available email address through the COA website.
 - Requested (twice) to disseminate link to anonymous survey and introduction letter to SRNA in their programs.
- Qualtrics survey with FOUR parts: demographics & three validated tools
 - Demographic survey- age, gender, length of time in program, experience as nurse, average daily stress, type of program (Master's or doctorate).
 - Brief COPE⁹ – coping comprised of four categories of behavior.

Active: problem solving & positive thinking. Passive: avoidance & social support.

- General Self-Efficacy tool ¹⁰ - Assesses confidence, capability, persistence. Scored 10-40 possible points, higher score indicates higher self-efficacy.
- Health and Wellness Education- developed by researchers- identified what components are being taught, how they are delivered, when SRNAs received their education, if they felt the education was adequate.
 - a) Components: SUD,¹ promotion of self-efficacy, social support,⁷ peer support,^{3,11} affordable healthcare coverage,³ family member involvement,¹² AANA wellness Curriculum,¹³ alternative stress techniques, nutrition, money management, sleep health,⁶ and burnout.¹
 - b) Skip logic drop down if answered yes to any component- identified modality: Large lecture from faculty, online learning modules,¹¹ small discussion groups with classmates,¹⁴ presentation from CRNA, other. SUD had additional options- AANA Wearing Masks videos,¹³ presentation from recovering CRNA
 - c) Timing: Frequency of education,² what year in training program, before or after matriculation,⁶ before or after clinical residency

Relation to Previous Literature

- High stress is demonstrated in SRNA population. ¹
 - This study confirmed this data with SRNA average daily stress average of 6.6
- Previous studies have used a variety of education components to meet health and wellness education demands ^{1,3,7,12,13,15}
 - This study identified which components were being delivered to

SRNA population and which modality was being used.

- Brief COPE tool has been used in previous studies to assess coping strategies of various populations. ^{2,13}
 - This study identified via Brief COPE tool, the coping strategies specifically of the SRNA population.
- Several published works identified self-efficacy as a means to reduce stress and improve success and coping skills. ^{7,8,15}
 - This study calculated SRNA self-efficacy score using the General Self-Efficacy tool.

Results and Discussion

- Final sample: 159 SRNAs who completed 7 of the 10 GSE questionnaire.
- Female, 26-30 years old, Doctorate program, 3-5 years nursing experience
- GSE and COPE
 - GSE median score: 32
 - GSE < median: Correlated with COPE avoidance (Pearson correlation=-.326, p=0.01)
 - GSE > median: Correlated with COPE positive thinking (Pearson correlation= 0.364, p=0.01)
 - GSE and Average daily stress negatively correlated (Pearson correlation -0.286, p=0.01)
 - Scores below median reflect student who does not have sufficient self-efficacy.
 - Low self-efficacy students are coping negatively by using avoidance techniques, such as using drugs or alcohol.
 - High self-efficacy students are demonstrating active coping, such as positive thinking. These students may try to see things more positively or looking for good in situations.
 - When an SRNA has high self-efficacy, they are reporting less perceived stress. They are successfully mitigating the stress associated with training.

- GSE and Components
 - SUD most common 123 (78.8%)
 - # of Components correlated with COPE problem solving score (Pearson correlation = 0.35, p=0.01)
 - # of Components correlated with COPE avoidance (Pearson correlation= -0.269, p=0.05)
 - Higher average daily stress correlated with COPE social support (Pearson correlation= 0.239 p=0.01) and COPE avoidance (Pearson correlation =0.419, p=0.01)
 - 8 components contributed to students responding "definitely" or "probably" received adequate education
 - COA mandates SUD
 - The mandate works. Consider requiring more
 - More H&W components means students using more positive coping mechanisms, and less negative coping mechanisms
 - When students are more stressed, they are using more negative coping mechanisms
 - SUD, stress reduction, burnout, family involvement, sleep health, healthcare coverage, money management, nutrition
- Modalities
 - Large lecture most frequent delivery method (126 students)
 - Of those, 32.3% received at least 3-5 components
 - 58 students received online learning modules or small discussion groups.
 - Large lecture format correlated with higher GSE score (Pearson correlation 0.215, p=0.01)
 - Large lecture format overwhelmingly most common, followed by tie between online modules and small discussion groups.
 - Students who received large lecture education had higher self-efficacy

- Timing
 - Large lecture modality is effectively increasing student self-efficacy
 - COPE problem solving scores were HIGHER in students at 6 months of training than those with 24 months of training. ($F(6,151)=2.635, p=.019$)
 - COPE avoidance scores were LOWER in students at 0-6 months of training than those with 30 months of training. ($F(6,151)= 4.505, p=.000$)
 - COPE social support scores were LOWER in students at 6 or 18 months of training than those with 24 months of training ($F(6,151)=2.914, p=.010$)
 - GSE scores were HIGHER in students receiving education 2-3 times than students receiving education only once ($F(4,152)=2.647, p=.036$)
 - COPE positive thinking scores were HIGHER in students receiving education 4-5 times than students receiving education only once ($F(4,152)=2.885, p=0.024$)
 - A majority of students, 99 (62.3%) did not receive health and wellness education before they began their nurse anesthesia training program.
 - Receiving health and wellness education before beginning a nurse anesthesia training program increased the number of health and wellness components that students received overall ($F(1,80)=0.002, p=0.004$).
 - 94 students (59.1%) only received education in their first year of training
 - No student responded that they received health and wellness education during all three years of a doctorate program.
 - Health and wellness education before clinical experiences began was the most prevalent response with 108 students

(80.6%).

- Adequacy of Education
 - Adequacy assessment was HIGH, either definitely or probably yes
 - Large lecture (Pearson correlation= -0.597, p=0.01)
 - Online modalities (Pearson correlation= -0.254, p=0.01)
 - High number of components taught (F(3,78)=14.221, p=.000)
 - Higher GSE scores (F(3,149)=6.099, p=.001)
 - Adequacy assessment was LOW, either definitely or probably not
 - Higher stress level (Pearson correlation= 0.238, p=0.01)

Application to Practice

- More health and wellness education topics should be included in curriculum.
- Increased quantity demonstrated improved active coping behaviors.
- Repeated health and wellness education throughout training
- Recommended at least 2-3 times
- Purposely timed education in first six months of programs
- Focus on problem solving, less on social support
- Nurse anesthesia training programs can utilize both the Brief COPE and GSE tools for assessments of students throughout training

Limitations

- Length of survey
- Complexity of skip logic involving modalities and timing
- Large lecture modality so heavily outweighed any other modality
- No mandatory questions within survey
- This limited our included responses related to tool validity
- Components were loosely defined

- Allowed participant to assign unknown meaning

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