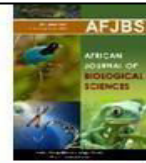


<https://doi.org/10.48047/AFJBS.6.12.2024.5946-5952>



African Journal of Biological Sciences

Journal homepage: <http://www.afjbs.com>



Research Paper

Open Access

Invest 10 (I-10): Evaluation of the Impact of 10 Minutes of Self-Care and Stress-Reducing Activities on Nursing Students at the University of Guam

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Article History

Volume 6, Issue 12, 2024

Received: 30 June 2024

Accepted: 20 July 2024

Doi:

10.48047/AFJBS.6.12.2024.5946-5952

Abstract: Nursing school, among other things, can be stressful. The COVID-19 pandemic has become another stressor. The Nursing faculty at the University of Guam (UOG) recognized the importance of mitigating stress among their students and implemented Invest-10 (I-10) in Spring 2022 in most nursing courses. About ten minutes of class time is dedicated to doing self-care and/or stress-reducing activities. Hence, the name of the intervention is Invest-10 or, I-10.

Objectives: This study aims to evaluate the effectiveness of I-10 among UOG nursing students and address the following objectives: 1) Determine which of the I-10 activities the students prefer; 2) Assess how I-10 affects the stress levels of the nursing students; and overall, 3) Describe the impact of I-10 on students.

Methods: This study used convenience sampling. Sophomore, junior, and senior nursing students (n=85) had access to an online survey on QuestionPro from April 5 to April 15, 2022. The survey is a 24-item questionnaire that includes Likert Scale, Select All That Apply, and Yes or No-type questions. **Results:** Seventy-seven nursing students completed the survey. Majority of the nursing students felt I-10 was a good use of time. Stretching, listening to music, and activities that elicit humor were among the preferred I-10 activities. Nursing students reported feeling less stressed (80.5%) and being more confident in effectively dealing with stress (72.7%). Over three-fourths of the students stated they know more self-care and stress reducing activities, and more than half of the students were found to dedicate more time outside of class to do self-care/stress-reducing activities after the introduction of I-10.

Conclusion: Spring 2022 is the first semester I-10 has been implemented in the UOG Nursing Program. Overall, nursing students find I-10 beneficial and worthwhile. Nursing students reported feeling less stressed, calmer, and more confident in effectively handling stress.

Key words: evaluation, nursing students, self-care, stress-reducing activities

INTRODUCTION

Stress is among the various health-related topics the American College Health Association (ACHA) assesses in the National College Health Assessment (NCHA) each semester in various college institutions throughout the United States. In Spring and Fall 2021, majority of the students were moderately stressed (48.2% and 49.2%, respectively) whereas only less than 1.5% had no stress [1], [2]. Among those students who were stressed, more than half in both semesters (59% and 56.4%, respectively) stated that stress was detrimental to their academic pursuits [1], [2]. Nursing students were found to experience a greater amount of stress and anxiety than their undergraduate counterparts [3]. While sources of stress can vary

per individual, stress from coursework, the amount of coursework, and the shortcomings in knowledge were main sources of stress for many nursing students [8], [14].

With the emergence of the SARS-CoV-2, the COVID-19 pandemic has become another source of stress. Nursing students and college students overall experienced more stress, anxiety, and depression during the first lockdown in 2020 [5], [7], [10]. On average, the use of transference and avoidance increased in nursing students from pre-pandemic to during pandemic times compared to problem solving and staying optimistic [5]. Studies on healthcare personnel have reported that those who were exposed to COVID-19 positives had a greater risk of developing psychosocial issues, such as insomnia and burnout, and using maladaptive coping mechanisms [15].

Stress can be debilitating. Learning to cope with stress in a healthy and sustainable way can help mitigate the effects of stress. Nursing students who were found to have greater resiliency and familial support were less susceptible in developing stress, anxiety and depression, and those with spiritual ties also had a decreased risk of developing depression [7].

Ways to effectively deal with stress can also mean adopting certain skills and mindsets. College students who showed self-leadership, i.e. taking initiative to direct oneself, perceived less stress, more so if coupled with adaptive coping mechanisms [12]. In addition, students who viewed stress as advantageous were more resistant to becoming depressed or anxious despite great levels of stress compared to those with thought stress as a negative force [6]. One's self-talk seems to be an important factor in reducing stress [9]. Developing a constructive mindset and behaviors to deal with stress early on can have long-lasting implications, especially in healthcare personnel.

Healthcare personnel who are unable to manage stress may ultimately develop burnout [11]. Burnout inadvertently affects job performance and satisfaction, and may result in turnover [11]. Prevention of burnout in registered nurses can start with promoting mental health in nursing students [4]. Equipping nursing students with self-care/stress-reducing activities may enable them to manage future work-related stress and increase job satisfaction [3].

IMPLEMENTATION OF INVEST 10 (I-10)

In recognition of the stress that can arise from the COVID-19 pandemic and from obtaining an undergraduate degree overall, Nursing faculty at the University of Guam implemented Invest 10 (I-10) in Spring 2022 in the nursing courses. I-10 is an innovative intervention wherein 10 minutes of class time is dedicated to doing self-care and stress-reducing activities, such as stretching exercises, meditation, and music therapy, to name a few. In other words, students are encouraged to invest their time for their well-being. Hence, the name of this intervention is Invest 10, or I-10. This study proposes to evaluate the impact of I-10 on the sophomore, junior, and senior UOG nursing students and answer the following research question: How effective is the implementation of Invest 10 (I-10) among nursing students? The objectives of the study are to: 1) Determine which of the I-10 activities the students prefer; 2) Assess how I-10 affects the stress levels of the nursing students; and 3) Describe the overall impact of I-10 on students.

METHODOLOGY

To address the study's objectives, a quantitative, nonexperimental research design was used. Data was collected through an online survey using QuestionPro. The survey was anonymous, and no participant identifiers were collected. The survey consisted of a demographic portion and a 2-part questionnaire that first asked about stress then about I-10. This survey had 24 items, which included Likert Scale, Select All That Apply, and Yes or No-type questions. Questions generated reflect the objectives of the study. This study used convenience sampling. The sample size was 85 nursing students (35 sophomores, 18 juniors, and 32 seniors) enrolled in the Bachelor of Science in Nursing (BSN) Program in Spring 2022. Nursing cohorts were informed about the study in person. The survey was open from April 5 to April 15, 2022. A survey link was sent to their respective class representatives who then forwarded the link to their class' Whatsapp group chat.

The UOG Institutional Review Board approved this study. Informed consent was obtained from the participants before the start of the survey. In the rare event of psychological distress, the principal

investigator, a registered nurse who specializes in psychiatric and mental health nursing, was available for consultation throughout the study.

RESULTS

Participant Characteristics

All 85 students enrolled in the BSN program attempted the survey. However, 8 responses were excluded due to being incomplete, i.e. there was no attempt to answer the questions about I-10, leaving a response rate of 90.6% (n=77). A total of 31 sophomores, 17 juniors, and 28 seniors completed the survey. One student preferred to omit his/her grade level, age, and gender assigned at birth, but his/her response was still considered for data analysis since s/he answered the rest of the survey. Of the 76 participants, 77.6% (n=59) are female and 22.4% (n=17) are male with 76.3% (n=58) being between the ages of 20-24 years old. Asians (Filipino, Chinese, Japanese, Korean, and Vietnamese) represented the largest ethnic body in the BSN Program (81.2% or n=62) followed by those who were multiracial then by Pacific Islanders (Chamorro and Pohnepian) and finally by Whites/Caucasians.

Stress

In terms of how often the participants were stressed in the previous semester (Fall 2021), 42.9% (n=33) were often stressed, 31.2% (n=24) were always stressed, 14.3% (n=11) were sometimes stressed, 10.4% (8) were rarely stressed, and one student was never stressed. When asked if they were able to effectively cope with stress last semester, 39.0% (n=30) somewhat agreed whereas 22.1% (n=17) somewhat disagreed and 16.9% (n=13) neither agreed nor disagreed.

More students experienced more stress in Spring 2022 with 44.2% (n=34) stating that they often felt stressed, 40.3% (n=31) stating they always felt stressed, 15.6% (n=12) stating they sometimes felt stressed, and no student stating they rarely or never felt stressed. The top five stressors students reported were academic demands related to nursing theory (96.1%), academic demands related to clinical practicum (90.9%), bills and finances (54.5%), self-image/self-esteem (53.2%), and challenges brought by COVID-19 (50.6%). Most students coped with their stress by sleeping (76.6%), talking to someone (75.3%), listening to music (66.2%), eating (57.1%), and/or using social media (55.8%). There were some students who resorted to drinking (23.4%), vaping (3.9%), and using recreational drugs (2.6%).

In terms of feeling healthy when stressed because of being able to effectively cope with stress, 28 students (36.4%) somewhat agreed whereas 18 students (23.4%) somewhat disagreed and 21 students (27.3%) neither agreed nor disagreed with that statement. When it came to viewing stress as more helpful than debilitating, 18 students (23.4%) somewhat agreed in feeling healthy despite being stressed because of this mindset whereas 24 students (31.2%) somewhat disagreed and another 24 neither agreed nor disagreed.

Perceptions in Doing I-10

Overall, 76.6% of the participants (n=31 strongly agreed and n=28 somewhat agreed) looked forward to doing I-10 whereas 11.7% (n=9) remained neutral. Despite another 11.7% not looking forward to I-10, 81.8% (n=37 strongly agreed and n=26 somewhat agreed) found I-10 to be a good use of class time with 10.4% (n=8) saying otherwise and 7.8% (n=6) staying neutral. Overall, 74.0% (n=57) of the participants agreed when asked if they felt proactive in reducing one's stress by participating in I-10 whereas 10.4% (n=8) disagreed and 15.6% (n=12) remained neutral.

Student Preferences

Table 1 shows a list of activities that were or could be done in the nursing courses for I-10. Incorporating humor, stretching, listening to music, maintaining silence, and dancing were among the activities many preferred.

Table 1 Activities Students Prefer Doing in I-10

I-10 Activity	n (%^a)
Humor	51 (66.2)
Stretching	49 (63.6)
Music therapy	46 (59.7)
Silence	40 (51.9)
Dance therapy	37 (48.1)
Breathing exercises	35 (45.5)
Meditation	34 (44.2)
Positive self-talk	21 (27.3)
Mindfulness	18 (23.4)
Yoga	16 (20.8)
Aroma therapy	15 (19.5)
Guided imagery	15 (19.5)
Coloring	14 (18.2)
Journaling	13 (16.9)
Other ^b	3 (3.9)

^a Percentage of responses per activity was calculated using total number of participants (n=77).

^b Drawing, playing games, watching videos (e.g. cute animals/pet videos, motivational videos)

Impact of I-10

After doing an I-10 activity, 24.7% (n=19) of the participants strongly agreed and 55.8% (n=43) somewhat agreed whereas 14.3% (n=11) disagreed having their stress levels decreased. In addition to feeling less stressed, students overall felt calmer, happier, energetic, and/or in control of their emotions after doing an I-10 activity (See Table 2). There were some students who felt the same, more tired and/or sleepy. Despite feeling more tired, sleepy, and/or less productive, these students reported at least one self-care and self-activity they like doing in class.

Table 2 How Students Feel After Doing I-10 Activities

Possible Responses	n (%^a)
Calmer	49 (63.6)
Less Stressed	41 (53.2)
Happier	32 (41.6)
Energetic	29 (37.7)
Sleepy	27 (35.1)
In control of my emotions	25 (32.5)
More motivated	20 (26.0)
The same/no changes	16 (20.8)
More productive	11 (14.3)
More tired	11 (14.3)
More confident	9 (11.7)
Less productive	5 (6.5)
More impatient	4 (5.2)
More stressed	2 (2.6)
Less motivated	2 (2.6)
More frustrated	0
Less confident	0

^a Percentage of responses per activity was calculated using total number of participants (n=77).

Because of doing I-10 activities in the classroom, 76.6% (n=59) students reported learning more self-care and self-reducing activities. When asked if the participants would dedicate more time outside of class to do self-care and stress-relieving activities, 45.5% (n=35) somewhat agreed and 15.6% (n=12) strongly agreed whereas 23.4% (n=18) remained neutral and 11.7% (n=9) somewhat disagreed. More students felt more confident in effectively coping with stress after the implementation of I-10 with 72.7% (n=56) agreeing overall. Table 3 shows a side-by-side breakdown of this data with the responses from the question that asked participants if they were able to effectively cope with stress from the previous semester (Fall 2021).

Table 3 Student Responses on Ability to Effectively Cope with Stress

Scale	Fall 2021	Spring 2022 ^a
	n (%)	n (%)
Strongly agree	12 (15.6)	8 (10.4)
Somewhat agree	30 (39.0)	48 (62.3)
Neither agree nor disagree	13 (16.9)	14 (18.2)
Somewhat disagree	17 (22.1)	6 (7.8)
Strongly disagree	5 (6.5)	1 (1.3)
Total	77	77

^a Participants were asked if they were more confident in effectively dealing with stress because of doing I-10 activities in the classroom.

DISCUSSION

Majority of the participants reported experiencing stress often followed by those who reported always experiencing stress in both Fall 2021 and Spring 2022 semesters. This trend is similar to responses from other nursing students and undergraduates overall [1], [2], [3]. Stress was found to hinder many undergraduate students in their studies, especially nursing students [1], [2], [3]. Students pursuing nursing are known to experience more stress than those in other majors [3]. Stress can result from various stressors. About half of the participants identified challenges brought by COVID-19 to be a stressor among others. Almost all of the participants in this study identified Nursing theory and practicum to be sources of their stress for Spring 2022. These results support the UOG Nursing faculty's assumptions that Nursing students are stressed from the pandemic and from their pursuit in attaining a BSN degree and why Invest 10 (I-10) has been implemented in Spring 2022.

I-10 has been implemented in the nursing courses across all grade levels. The basis of I-10 is to provide students with the time and tools to promote their mental health and, in the long run, enable them to effectively manage stressful situations, such as those found in the workplace. I-10 exposes students with various ways to manage stress. Students preferred self-care and stress-reducing activities with humor the most. This finding is surprising since there were no records of students doing humor-based activities for I-10 for any class throughout the semester. On the other hand, there were various instances in which an activity such as dancing elicited laughter amongst the students and facilitated bonding. This kind of humor that fosters relationships is depicted as affiliative humor [13]. A recent study suggests that affiliative humor is associated with a positive impact among nurses' mental health [13]. For that matter, dancing may be more highly preferred than reported.

With reference to Fall 2021, more students in Spring 2022 were able to feel more empowered to effectively deal with stress after the implementation of I-10. Despite there being 14.3% (n=11) who disagreed or 5.2% (n=4) who remained neutral in experiencing less stress and still others who felt less productive, more impatient, and/or less motivated after an I-10 activity, each of these students noted at least one activity they like to do in I-10, suggesting that they may experience positive feelings when these particular activities are done. Overall, majority of the students felt calmer and less stressed after doing

I-10. Additionally, more students became more knowledgeable of self-care and stress-reducing activities and allocated more time outside of class to do these activities.

Limitations

This study used a small sample size so the findings may not be readily generalizable. In addition, the self-reporting nature of this study opens up possibilities of distortion. Since time elapsed from Fall 2021 and the implementation of I-10 in Spring 2022, answers to questions about last semester and stress may be under and/or over reported. In addition, this study did not use any statistical analysis of the data so the significance and non-significance of the results cannot be determined.

CONCLUSION

Invest 10 (I-10) is an innovative intervention recently implemented in the UOG BSN Program. Nursing students spend 10 minutes of class time doing self-care and stress-reducing activities. The basis of I-10 is to provide students with the time and tools to promote their current and future well-being. This study shows that I-10 has positively impacted the Nursing students' emotions and behaviors even in its first implementation in Spring 2022. Another study that also incorporates gathering qualitative data, i.e. a mixed study, will be beneficial in capturing the impact of I-10 more wholly. Furthermore, future research on the lasting implications of I-10 may provide better understanding of the long-term effects of I-10 on the mental health of students and its impact in preventing manifestations of stress, such as burnout. Nevertheless, other majors may benefit in implementing I-10 in their classes. Overall, I-10 has had a positive impact among the nursing students who are considered to experience more stress than their undergraduate counterparts.

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