Developing Successful Mental Illness Prevention Efforts on University Campuses: A Local Look Based on the CARES Program at Stanford University

Vishnu Shankar, BS, and Ronald C. Albucher, MD

Abstract

There is a well-evidenced trend that the prevalence of youth depression and anxiety is increasing, especially on college campuses. Due to finite university resources directed to student mental health and well-being, mental health prevention efforts are strongly needed to help prevent the onset of mental illness in high risk students and to manage the large numbers of students requesting services. We provide a specific example of CARES, a 3-session program that teaches graduate students practices for sustaining mental resilience and well-being along with relevant local campus resources. Preliminary results from pilot testing our program in 3 graduate departments at Stanford University show an 18% and 7% average increase in resilience and flourishing related outcomes. Our results suggest that even short-term interventions can better support graduate student mental well-being. We hope that some of the insights learned from building this program can guide the implementation of mental illness prevention efforts at other college campuses.

Introduction

We know the first emergence of mental disorders occurs most commonly between the ages of 15 and 24.[1] Studies in academic journals[2-5] and reports in the press[6] have raised concerns regarding an increase in prevalence of depression and anxiety in university students. Among graduate students, it is estimated that the risk for experiencing depression and anxiety is significantly higher compared to the general US population.[4,7] In recognition of this trend, the question arises, "What can be done to address the mental health needs graduate students, with the limited resources institutions can devote to mental health care?" The aim of this article is to provide an "on the ground" view of the practical challenges and approaches taken to enhance prevention efforts and early detection of mental illness based on an intervention that was conducted at Stanford University. This article will discuss the intervention, the evaluation of that intervention, and future directions to address university student mental health.

Background

Across college campuses, there is a need for effective mental health prevention efforts. There are barriers to implement preventive services, including that it is difficult for universities to identify the students who need preventive services or treatment for existing mental illnesses.[8] Even if you can identify those who need services, college mental health centers nationally are struggling to meet the increased demand for clinical services.[5] Therefore, effective mental illness prevention efforts ought to reach high-risk students to help prevent onset of illness, while reducing the burden on clinical services.

Part of what makes supporting the mental well-being of all students across a college campus so challenging is the sheer diversity of students and their needs. University students on many campuses live, eat, and work together for several years, thereby increasing the role that social factors tend to play in mediating mental illness risk.[9] For many students, college is the first instance of spending time away from home.[10] In this formative time, many students wrestle with great uncertainty and large changes in peer groups, academic interests, and career choices, personal identity. These factors all contribute to increased social isolation and academic stress, thereby increasing mental illness risk.[8] Risk factors for mental

illness for graduate students are not very well characterized, but it is known that the lack of a clear work-life balance and the relationship between principal investigator and trainee can have a disproportionate adverse effect on student mental well-being.[4,7]

CARES, a program piloted at Stanford University, provides an example of the planning, development, and implementation of a specific mental health prevention program. CARES directly brings mental health well-being services to graduate communities. The idea of CARES was formulated based on discussions with over 50 students, clinicians, faculty, and health professionals on Stanford's campus, along with an extensive review of published literature in PubMed and Google Scholar for "risk factors for mental illness among college students", "mental well-being among college students", and "mental health prevention programs for college students". Our discussions and research led us to the following observations:

- **Presentation of mental illness symptoms among students is extraordinarily diverse:** Students reporting symptoms of mental illness ranged from cases of dealing with childhood trauma to coping with a relationship breakup. Within this diverse range of cases, students with subthreshold psychiatric symptoms do not all require clinical mental health services.

- **Barriers for help-seeking need to be lowered:** Due to factors such as stigma and lack of knowledge regarding appropriate resources, many students do not seek early help or care for mental illness symptoms, thereby worsening symptoms. To lower the barriers for help seeking, the program was directly introduced into student communities.

- **There is a need to better support graduate students:** Graduate students are 6 times more likely to experience depression and anxiety compared to the general population, due to factors such as asymmetric work-life balance, difficulty in establishing long-term goals, and relationship with their principal investigator.[4]

- **The on-campus programs are few:** Due to the sparse mental illness prevention programs to help the graduate student community at Stanford and other universities,[4] there was a need to develop better support systems for graduate students mental well-being.

Our hypothesis was that we could educate students on personal skills to help cultivate long-term mental well-being and help identify the resources that are appropriate for student needs by teaching skills to students directly in smaller group settings. We also hypothesized that teaching this program in small group settings would create a more comfortable and effective learning experience, since students could learn the material with their social support networks.

Method

The first iteration of CARES was offered to students in 3 graduate departments (Mathematics, Sociology, Graduate School of Education) and a community center at Stanford University. Graduate students in these departments' programs expressed initial interest to participate in CARES. The program consisted of 3 to 4 interactive sessions with small groups of graduate students consisting of 10 to 12 students. A brief summary of each session has been included below.

> **Session 1: Resilience and Mindfulness:** There have been associations between gratitude[11] and mindfulness[12] on affective measures of well-being. In this session, students were introduced to exercises for gratitude, defining personal resilience, calming the nervous system, and guided mindfulness practice.

> **Session 2: Self-Compassion/Taming the Inner Critic:** Self-compassion is the practice of directing compassion inward,[13,14] where compassion is defined as "sensitivity to the experience of suffering, coupled with a deep desire to alleviate that suffering."[14] Students were taught techniques for cultivating self-compassion, such as affectionate breathing or writing a letter to oneself from the perspective of a kind friend.[13,14]

Session 3: Values/Mission and Resources: In other cohorts, it has been shown[15] that purpose and finding meaning from life experiences helps build resilience and predicts better recovery from difficult emotional stimuli. Students were taught to consider what values are most important for their own goals. Further, students were guided to construct a meaningful mission statement that summarizes one's aims, values, and core purpose. In this session, students were also educated on the available campus resources, including courses and programs on student wellness, counseling and psychological services, student organizations, health promotion services, etc.

To evaluate the outcomes of the workshop, 2 pre- and post-test surveys were administered based on the Brief Resilience[16] and Short Flourishing Scale.[17] The Brief Resilience Scale, which has 6 items, provides a score of how well responders perceive their ability to bounce back from adversity. The Short Flourishing Scale, which has 8 items, measures psychological well-being, by evaluating the responder's attitudes towards their own relationships, self-esteem, purpose, and optimism. Both measures provide a single score, based on aggre-gating the answers to each items in the survey. These 2 surveys were selected, since it best reflected the CARES program topics on personal well-being and resilience. Additionally, as both measurements have been validated for their reliability in diverse adolescent populations,[18,19] it was likely that these scales can appropriately capture how the CARES program affected individual student resilience and psychological well-being.

Results

Overall, we surveyed 24 participants with both scales before the first session and 16 after the last session of the program. We found 89% of participants highly recommended the program with 11% of participants possibly recommending the program. In evaluating the pre v. post-test survey results, we note an overall 18% increase from pre vs post-test on the Brief Resilience Scale and an overall 7% increase in mean scores from pre vs post test on Short Flourishing Scale. The % increase in mean scores was determined by calculating the percentage change in average participant scores before and after the program for each scale. A 2-sided Welch's t-test suggests that the increase in resilience and flourishing outcomes are both statistically significant ($p < 0.01$). Table 1 summarizes these results.

Table 1. Summary of CARES Program Outcomes Based on Brief Resilience[16] and Short Flourishing Scale[17]

Measurement Scale [Min, Max]	Pre (n)	Post (n)	Average Pre Scores	Average Post Scores	% Increase in Mean Scores	Statistical Significance
Brief Resilience Scale [1.00, 5.00]	24	16	3.05	3.60	18	*p* < 0.01
Short Flourishing Scale [8.00, 56.00]	24	16	43.58	46.56	7	*p* < 0.01

Note: *For the Brief Resilience Scale, a score of 3.00-4.30 is considered normal resilience.*

Discussion

The results from this survey suggest that a short-term program can have a positive effect in cultivating skills for self-resilience and improving overall well-being, but the work is preliminary and has several limitations. It is not clear if the effects found in this small sample size effectively generalize to other student populations due to some students only attending 1 or 2 out of 3 sessions. It was not logistically possible to carry out 6-month follow-up, so it is unclear if the positive effects from CARES pertaining to resilience and flourishing-based outcomes sustain beyond the immediate intervention. To robustly evaluate the effect of this program would require testing CARES with more students, evaluating program outcomes in diverse cohorts, and tracking students long-term. Since piloting CARES, we are already taking steps to follow-up by testing the program in different departments at Stanford and in different universities, including the University of Madrid.

Conclusion

To date, there is limited data regarding the efficacy of university-based mental health prevention programs.[20] With rising rates of mental illness and suicides among college students,[4,5] it is clear that there is a much-needed shift in the way that mental illness and health are conceptualized on university campuses. Part of this shift may come from making student well-being a central priority of every university by integrating student life with programs involved in promoting student mental health and wellbeing. Based on our CARES program, which involved collaboratively working with students, psychiatrists, and mental health professionals, we envision that considerations for student mental well-being ought to be incorporated in the graduate school curriculums. This endeavor would involve working closely with mental health professionals and child and adolescent psychiatrists to help students develop healthy mechanisms to cope with the large periods of uncertainty and stress in graduate school. When adolescent and child psychiatrists work to support student mental well-being with graduate programs, it can also help ensure that students can at least develop the mental health literacy needed to recognize symptoms of mental illness in self and peers, thereby ideally lowering the barrier for help-seeking.

As our efforts have shown, part of this effort will involve navigating difficult practical challenges, such as scheduling programs around students' busy schedule, evaluating program outcomes when no structured framework exists at the college level, and working within the bounds of university governance and cost constraints. We believe that efforts like CARES are a small step in this direction.

Take Home Summary

With rising rates of mental illness among college students, we developed and tested the CARES program at Stanford University, which teaches students skills for building emotional resilience. Our initial results suggest that CARES may help in lowering student risk for mental illness.

References

1. Kessler R, Berglund P, Demler O, *et al*. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62:593–602. https://doi.org/10.1001/archpsyc.62.6.593.

2. Gallagher, R. National Survey of Counseling Center Directors. Monograph Series No. 8P. International Association of Counseling Services, Inc. 2007.

3. Olfson M, Blanco C, Wang S, Laje G, Correll CU. National Trends in the Mental Health Care of Children, Adolescents, and Adults by Office-Based Physicians. *JAMA*. 2017;10032(1):81–90. http://doi.org/10.1001/jamapsychiatry.2013.3074.

4. Evans TM, Bira L, Gastelum JB, Weiss LT, Vanderford NL. Evidence for a mental health crisis in graduate education. *Nature*. (2018); 36(3), 282–284. http://doi.org/10.1038/nbt.4089.

5. Balon R, Beresin EV, Coverdale JH, *et al*. College mental health: a vulnerable population in an environment with systemic deficiencies. A*cademic Psychiatry*. (2015);495–497. http://doi.org/10.1007/s40596-015-0390-1.

6. Gabriel T. Mental health needs seen growing at colleges. *The New York Times*. March 25, 2010. https://www.nytimes.com/2010/12/20/health/20campus.html. Accessed March 30, 2017.

7. Levecque K, Anseel F, De Beuckelaer A, Van der Heyden J, Gisle L. Work organization and mental health problems in PhD students. *Research Policy*. 2017;46(4):868–879. http://doi.org/10.1016/j.respol.2017.02.008.

8. Auerbach RP, Mortier P, Bruffaerts R, *et al*. WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders. *Journal of Abnormal Psychology*. 2018;127:623-638. http://doi.org/10.1037/abn0000362.

9. Hayton MM, Weiss L. Links between occupational activities and depressive mood in young adult populations. *Journal of Psychiatric Research*. 2014;49:10–17. http://doi.org/10.1016/j.jpsychires.2013.10.002

10. Walton GM, Cohen GL. A Brief Social-Belonging Intervention. *Science*. 2011;331:1447–1451. http://doi.org/10.1126/science.1198364.

11. Toussaint L, Friedman P. Forgiveness, gratitude, and well-being: The mediating role of affect and beliefs. *Journal of Happiness Studies*. 2009;10(6):635–654. http://doi.org/10.1007/s10902-008-9111-8.

12. Brown KW, Ryan RM. The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*. 2003;84:822–848. http://doi.org/10.1037/0022-3514.84.4.822.

13. Neff KD, Germer CK. A pilot study and randomized controlled trial of the Mindful Self-Compassion program. *Journal of Clinical Psychology*. 2013;69(1):28–44. http://doi.org/10.1002/jclp.21923.

14. Neff KD, Germer C. Self-compassion and psychological wellbeing. In J. Doty (Ed.), Oxford handbook of compassion science (pp. 371–386). New York, NY: Oxford University Press. 2017.

15. Schaefer SM, Boylan JM, Van Reekum CM, *et al*. Purpose in life predicts better emotional recovery from negative stimuli. *PLoS One*. 2013;8:1–9. http://doi.org/10.1371/journal.pone.0080329.

16. Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The Brief Resilience Scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*. 2008;15(3):194-200. http://doi.org/10.1080/10705500802222972.

17. Diener E, Wirtz D, Tov W, *et al*. New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*. 2010;97(2):143-156. http://doi.org/10.1007/sll205-009-9493-y.

18. Neff KD, Bluth K, Tóth-Király I, *et al*. Development and validation of the Self-Compassion Scale for Youth. *Journal of Personality Assessment*. (In Press, Accepted: 12 January 2020). http://doi.org/10.1080/00223891.2020.1729774.

19. Howell AJ, Buro K. Measuring and predicting student well-being: Further evidence in support of the Flourishing Scale and the Scale of Positive and Negative Experiences. *Social Indicators Research.* 2015;121:903-915. http://doi.org/10.1007/s11205-014-0663-1.

20. Wei Y, Hayden JA, Kutcher S, Zygmunt A, Mcgrath P. The effectiveness of school mental health literacy programs to address knowledge, attitudes and help seeking among youth. *Early Intervention In Psychiatry*. 2013;109–121. http://doi.org/10.1111/eip.12010.

About the Authors

Vishnu Shankar, MS, is a master's student at Stanford University, California, studying computer science. Based on his strong interests in promoting student mental wellbeing, he proposed and founded the CARES program (https://sites.google.com/view/caresforwellbeing/home) involving mindfulness practices, education on availability of campus resources, and student storytelling.

Ronald C. Albucher, MD, is a Clinical Associate Professor of Psychiatry and Behavioral Sciences at Stanford University, California. From 2008–2017, he was the Director of Counseling and Psychological Services at Vaden Health Center.