

Addressing Students' Stress in Higher Education through an Online Mindfulness Training Course

Anum Sarfraz and Salma Siddiqui

Abstract— Mental health difficulties experienced by students in higher education is a global concern, especially in low-and-middle-income countries, like Pakistan. This concern has been heightened by the impact of COVID-19 on students' mental health. It has become imperative, to make transition of young adults into adulthood, meaningful and productive, while addressing the uncertainty brought by the pandemic. There is an increase in empirical evidence of Mindfulness courses in improving students' mental health and ability to deal with uncertainty. This study aimed to investigate the change in students' level of stress and mindfulness after taking an online 8-week mindfulness training course. In a pre-post study design 10 university students were enrolled in the adapted Mindfulness Training Course. The results showed improvement in levels of mindfulness and stress. Further subscale analysis for both stress and mindfulness were conducted. The study shows promise for randomized controlled trial and the possible effectiveness of the adapted mindfulness training course for Urdu-speaking university students.

Keywords— Education, Mental health, Mindfulness, Stress, Students.

I. INTRODUCTION

Higher education itself, poses stress with increased academic competition enhanced by the transitory phase of university students into adulthood. In low-and-middle-income countries, including Pakistan the statistics of university students experiencing mental health issues like stress, depression and anxiety [1], [2] are troublesome with young adults constituting 63.3% of the total population [3] and 1.8 million enrolled in 161 universities, across the country [4]. Most of the issues faced by university students have been studied to be stemming from stress experienced by them acting as a predictor of anxiety, depression, suicide, lowered academic performance, lack of occupational preparedness, diminished productivity of life, employment issues, lack of purpose in life, autonomy, and identity concerns [5]-[7]. In

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developing countries like Pakistan, these challenges include academic as well as psychosocial concerns; high parental expectations, frequency of exams, sleeping difficulties, struggle with identity, loneliness, worrying about the future and performance [8]. An existing stressful trajectory has been intensified by the emergence of COVID-19 and the consequent restrictions and lockdown [9]. Therefore, this current situation indicates the need for an intervention that helps students connect with themselves and help them be self-resourceful when dealing with stress.

Mindfulness is an approach that cultivates the ability to bring moment by moment awareness with acceptance, non-criticism and non-judgment marked by an open, curious, and kind attitude [10]. The empirical evidence for mindfulness-based interventions (MBIs) has reached a level of significance in the West, where it has now been included at the policy level to become a part of curriculum for students [11]. MBIs have been shown to have benefits beyond temporary relief from present psychological problems [12], [13] in different cultures [14], [15] indicating their implementation benefits for young adults of Pakistan and cultures like Pakistan. The nature of mindfulness interventions aligns with the nature of students' developmental and social dilemmas where they require a space to connect to themselves and the fast-paced world around them, bringing a gentle acceptance and acknowledgement of themselves and their environments [16], [17]. MBIs have been empirically evidenced to have the effects of inculcating life skills of resilience, reducing stress, enhancing psychological wellbeing, that are not restricted to educational life but propel to social and personal domains as well [18]. Having limited evidence base in Pakistan for MBI, the study is conceptualized in the framework of a pre-post study design, to study the change in levels of stress and mindfulness among university students after completing an adapted 8-week online Mindfulness Training Course. The study hypothesizes an increase in mindfulness levels and decrease in stress levels of students after completing the mindfulness training course. It further aims to study the change in domains of stress and mindfulness through subscale analysis.

II. METHODOLOGY

The present study employed a single group pre-post study design using quantitative measures with descriptive and statistical analysis.

A. Sample and Procedure

The 10 voluntary students, aged between 20 and 24 years ($M = 22.7$ years, $SD = 1.15$) from two universities (one in government sector and one in private sector) in Pakistan, were recruited through advertisement. After initial registration, they were screened through a registration form and an initial interview, based on the *inclusion Criteria*: i) aged 18 or above ii) currently enrolled in a university, any program and *exclusion Criteria*: i) not having any diagnosed physical condition (such as chronic pain) or psychological condition (such as depression, anxiety, etc.) and ii) not currently undergoing any form of psychotherapy. After screening, the eligible students were asked to complete pre-assessment survey through online link. Of the 10 students, 2 (20%) were male and 8(80%) were female, 3 (30%) were employed whereas 7 (70%) were unemployed, 5 (50%) were enrolled in Bachelors and 5(50%) were enrolled in Master's degree program, with 2(20%) majoring in psychology, 2(20%) majoring in physics, 2(20%) majoring in mass communication, 3(30%) majoring in Govt and public policy and 1(10%) majoring in engineering. The adapted 8-week online Mindfulness Training Course for students was then delivered through Zoom videoconferencing. Once the course was completed the participants were once again asked to complete the same questionnaires as post-assessment survey.

B. Intervention

The online Mindfulness Training course was adapted from the original book "Finding Peace in a Frantic World" [19]. The first session was for 90 minutes whereas the remaining 7 sessions constituted 60 minutes duration. The eight weekly sessions covered the eight themes outlined in the course. The course themes gradually guided students from building the foundational skills of recognizing their autopilot, keeping body in mind to seeing mind's constant chatter as a rumor mill, and cultivating an altered relationship to thoughts and worries in the first four weeks. In the last four weeks the course themes moved towards more intense aspects of turning towards difficulties, practicing kindness, reflecting on choices and whether they support their wellbeing and in the last session, planning how students could include mindfulness in their life after course completion. The course facilitator was a clinical psychologist with 4 years of mindfulness practice experience.

C. Measures

The study employed the following outcome measures:

Demographics Questionnaire: The questionnaire was developed for this study to get a description of the sample about the age, gender, degree of enrollment, subject major and job employment.

Five Facet Mindfulness Questionnaire (FFMQ) [20]: The 39-item Five-Facet Mindfulness Questionnaire was designed to assess five aspects of mindfulness; non-reactivity to inner experience (7 items), observing (8 items), acting with awareness (8 items), describing (8 items) and non-judging of experience (8 items). Each item is rated on a 5-point Likert scale ranging from 1 (never or very rarely true) to 5 (very often or always true). The questionnaire is scored by reversing

some items and then summing up the scores for each of the five facets. The FFMQ has been found to have good psychometric properties [20]. Urdu translation of FFMQ was used [21], with good internal consistency for this study ($\alpha=0.81$).

Clinical Outcomes Routine Evaluation-Outcome Measure (CORE-OM) [22]: The CORE-OM is a 34- item scale used to assess an overall level of psychological distress. In the present study it will be used as an indicator of reduction in stress. It provides assessment of psychological and physical stress. CORE-OM is a concise tool that covers three dimensions; subjective well-being (4 items), commonly experienced problems/symptoms (12 items), life/social functioning (12 items). In addition, it contains items on risk to self and to others (6 items). These items should be used as indicators of the client being 'at risk' to themselves or others. Each item of CORE-OM is rated on 5-point Likert scale ranging from 0 (Not at all) to 4 (Mostly or all the time). The approved version of Urdu translation of CORE-OM was used in this study [23], with good internal consistency for this study ($\alpha=0.87$).

D. Statistical Analysis

SPSS was used to perform statistical analysis. For demographic characteristics descriptive statistics were used. For the pre and post assessment changes descriptive statistics of the outcome measure scores along with paired sample t-test and Cohen's d to estimate the effect size of mean difference were used.

III. RESULTS AND DISCUSSION

The present study attempted to establish the potential effectiveness of an adapted online Mindfulness training course in reducing student's overall stress. It further studied the change in their subjective wellbeing, life functioning, psychological and physical health and risk of harm by analyzing the subscales of CORE-OM. The change in students' Mindfulness skills of describing, observing, acting with awareness, non-judgment and non-reactivity were also explored by analyzing the subscales of FFMQ.

Table 1 shows the mean scores on outcome measures at pre and post assessments. The mean scores indicate a relative decrease in levels of psychological distress (reduction in stress), as measured through the CORE-OM. It also indicates an increase in levels of mindfulness as measured through FFMQ. The Table 1 also indicates that the preliminary difference between the pre and post scores is significant. Though the sample size is small, however, to build the foundation for future pilot and definitive RCTs, effect sizes were calculated using mean differences (Cohen's d). The paired samples t-test indicates that the scores were significantly lowered on the CORE-OM scale after the Mindfulness Training Course ($M=44$, $SD=8.90$), as compared to the scores before the training ($M=63$, $SD=5.61$), $d= 2.81$. The paired samples t-test indicates that the scores were significantly higher on the FFMQ after the Mindfulness Training Course ($M=124$, $SD=9.64$), as compared to the scores before the training ($M=109$, $SD=12.68$), $d= 1.58$. These

relative changes in the pre and post mean scores and the preliminary large effect sizes for mindfulness, and stress suggest that the adapted Mindfulness Training Course has the potential of improving stress in university students. Hence indicating that the adapted course might be viable to further conduct pilot and definitive RCTs.

TABLE I
STATISTICS FOR PRE AND POST ASSESSMENT OUTCOME MEASURES FOR ADAPTED MINDFULNESS TRAINING COURSE

Outcome Measures	Pre		Post		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
CORE-OM	63	5.61	44	6.55	8.90****	2.81
Subjective Wellbeing	8.2	1.22	5.3	1.63	4.79**	
Problems	28	5.52	16	3.66	7.37****	
Life Functioning	23	2.25	16	3.34	6.85****	
Risk of Harm	3	2.36	2	2.33	0.66	
FFMQ	109	12.68	124	9.64	-5.00**	1.58
Observing	29	2.76	34	2.40	-3.78**	
Describing	22	3.62	27	3.24	-4.45**	
Act with awareness	20	4.98	24	3.36	-1.71	
Non-judgment	14	1.87	18	5.63	-2.04	
Non-reactivity	22	2.49	20	1.50	1.36	

N=10, **p<0.01, ****p<0.0001

The subscale analysis of CORE-OM indicates a relative decrease across all domains of stress, except the risk of harm, which can be understood by the non-clinical nature of the target population. This difference has also been indicated in a study conducted on a Norwegian student sample [24].

The subscale analysis of FFMQ shows a relative increase across all domains of observing, describing, non-reactivity, acting with awareness and non-judgment, whereas the mean difference for acting with awareness, non-reactivity and non-judgment could not reach statistical significance. The two facets of mindfulness (acting with awareness and non-reactivity) are interrelated and require more experience and practice, given the newness of mindfulness experience for students, it is imperative to keep in view their overt skill development might take more time as compared to internally becoming aware of present moment experiences. It has been argued that habits of behavior developed through life take time to change [19]. There are also levels of being mindful, where being aware of one's actions after doing them is the first step (usually experienced by novice practitioners) and being aware of one's actions before responding is the highest level of mindfulness, achieved over time [25]. Being judgmental is a trait inherent in cultures, especially eastern, and relatively difficult to decenter from [19]. It can be suggested, however that like other mindful skills, non-judgment may take more time to indicate a level of significance, which might be studied in follow-up studies. The current study provides a baseline to

conduct large scale researches exploring the relationships between different domains of psychological distress and mindfulness skills using the subscales interactions.

The present study provides a baseline to design pilot and definitive randomized controlled trials to study effectiveness of the adapted Mindfulness Training Course, which being an online course is cost-effective and has the potential of reaching out to more Urdu-speaking students internationally. The future studies could also use mixed method approach to incorporate students' experience of the course which would make the statistical results more meaningful. The study further highlights the theoretical conceptualization that cultivation of mindful skills in overt expression comes with time, which could be studied in a longitudinal or a follow-up study. Though this study imparts important findings to the fields of mindfulness and education for improving student mental health and reducing stress, however it is not without limitations. First, the sample size is small, second a single group pre-post study design provides a starting point of an intervention being viable. A stronger research design employing randomized controlled trial with mixed methods approach and a larger sample could add more power, credibility and meaning to the results.

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