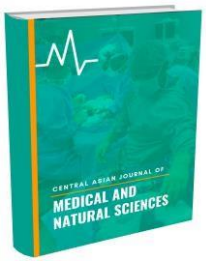

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Article

Effects of a Mindfulness-Based Intervention on Anxiety, De-pression, and Stress in University Students

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Abstract: The study explores the impact of a mindfulness-based intervention on anxiety, depression, and stress among university students in Iraq. Despite extensive research on mindfulness, there remains a knowledge gap in its specific effects on these mental health parameters within the Iraqi student population. The method involved a year-long study with 29 students, utilizing the Dass-21 and Five Facet Mindfulness Questionnaire (FFMQ) for data collection. Findings indicated significant reductions in anxiety, depression, and stress scores post-intervention, with mindfulness proving effective across genders. The results imply that incorporating mindfulness practices in university curricula could enhance students' mental health and academic performance, promoting a more supportive educational environment.

Keywords: FFMQ, SPSS, Stress, Meditation, Participants, Dass-21, Anxiety, Depression

1. Introduction

Students experience a reduction in stress and anxiety as a result of mindfulness meditation interventions. Studies conducted with nursing and medical students have demonstrated that mindfulness programs result in significantly reduced stress levels [1,2]. Further research indicates that university students with high-stress levels value how well they cope through Mindfulness-Based Stress Reduction (MBSR), which also strengthens their resilience [3,4].

It has been demonstrated that mindfulness meditation has the capacity to reduce stress levels while simultaneously enhancing mental health, emotional intelligence, coping mechanisms, and focus, among other benefits. Reach Healthy offers collaborative opportunities to eliminate obstacles that prevent part-time students from accessing external opportunities for professional development [5,6,7].

Mindfulness meditation interventions have been demonstrated to be an effective means of reducing student stress and anxiety levels, with promising long-term effect [8,9,10]. There is evidence that mindfulness-based interventions have the potential to alleviate stress among student populations experiencing high levels of susceptibility to stress. Furthermore, the integration of mindfulness exercises within university lessons has been shown to result in reduced anxiety levels for college students. Self-regulating processes are crucial factors in this regard [11,12,13,15].

Mindfulness meditation interventions assist students with immediate stress reduction while simultaneously enhancing their capacity to cope with stress in the long term. They also facilitate the development of a more positive outlook and enhance cognitive

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functioning [15]. These benefits may contribute to improved academic performance. School systems that recognize the clinical benefits of mindfulness meditation may be better positioned to educate students on effective stress management strategies [16].

Previous studies published in the journal Social Cognition and Effective Neuroscience indicate that the sample included 15 participants who exhibited normal levels of daily stress and had no previous experience in practicing meditation. Subsequently [17], the participants underwent training in mindfulness meditation, which involves focusing on the sensations of the body and the act of breathing [18].

Following the examination of the brain in special ways to determine its effectiveness, in addition to the assessment of the level of stress among the participants before and after the meditation sessions, the majority of the participants reported feelings of comfort and relaxation following the meditation sessions. The researchers estimated that the stress levels of the participants had decreased by an average of 40% [19].

With regard to the efficacy of the brain, the study indicated that the sense of comfort experienced subsequent to mental meditation is linked to the functionality of the cerebral regions responsible for regulating anxiety and tension, particularly in the inner cortex of the frontal lobe. Moreover, it was observed that these regions are situated in the same areas of the brain that are associated with attention and perception [20].

In addition to the effects of meditation in reducing stress levels in ordinary people, researchers in other centers have found that meditation has a positive effect on stress reduction in people who suffer from stress-related disorders or depression [21].

2. Materials and Methods

The methodology of this study involved a comprehensive approach to ascertain the effects of mindfulness meditation on stress, anxiety, and depression among university students in Iraq. The study recruited 29 participants, ranging from 19 to 47 years old, from various universities. Data collection spanned a full year, beginning on February 1, 2023, and concluding on February 2, 2024. Participants were divided into gender groups, with 18 females and 11 males. They attended weekly 40-minute sessions of mindfulness meditation, supplemented by 30-minute guided meditation classes conducted by medical school staff. Participants were encouraged to bring their own mats, though additional mats were provided as needed. The effectiveness of the intervention was measured using pre- and post-intervention surveys administered via Google Forms, utilizing two validated self-report inventories: the Depression Anxiety Stress Scales (Dass-21) and the Five Facet Mindfulness Questionnaire (FFMQ).

The Beck Anxiety Inventory (BAI) was also employed to assess generalized anxiety symptoms. Statistical analysis was performed using IBM SPSS 22, with figures generated through Microsoft Excel 2013. The demographic information, including age, marital status, socioeconomic status, and prior experience with mindfulness meditation, was recorded. Participants' study hours per day and secondary outcomes related to mindfulness were also documented. Correlation analyses were conducted to examine the relationships between age, sex, and mental health outcomes. The methodology was designed to ensure a thorough assessment of the intervention's impact, with an emphasis on statistical rigor and comprehensive data collection to validate the findings.

3. Results

Table 1. Distribution of patients according to age

Statistics		
age		
N	Valid	29
	Missing	0
Mean		24.3750
Median		21.0000
Std. Deviation		8.11480
Range		28.00
Minimum		19.00
Maximum		47.00

Table 2. The general demographic of results patients

Age		
Mean ±Sd	24.3750	8.11480
Marital Status		
Married	6	20.6
Single	23	79.3
Total	29	100.0
Socioeconomic status		
High	6	20.6
Low	2	6.8
Middle	22	75.8
Total	29	100.0
Do you have a job other than study?		
NO	18	62.05
Yes	11	37.95
Total	29	100.0

Do you have previous experience about mindfulness meditation?		
NO	21	72.4
Yes	8	27.5
Total	29	100.0

Table 3. Distribution of patients according to how many hours do you study per day

hours					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Hr	6	20.7	20.7	20.7
	1/2 Hr	6	20.7	20.7	41.4
	2 Hr	7	24.1	24.1	65.5
	3 1/2 Hr	1	3.4	3.4	69.0
	3 Hr	2	6.9	6.9	75.9
	4 Hr	2	6.9	6.9	82.8
	5 Hr	2	6.9	6.9	89.7
	JUST ON EXAM	2	6.9	6.9	96.6
	ON EXAM ONLY	1	3.4	3.4	100.0
	Total	29	100.0	100.0	

Table 4. Assessment outcomes according to (MEAN and STD of Stress, Anxiety, Depression)

Statistics				
		Stress	Anxiety	Depression
N	Valid	29	29	29
	Missing	0	0	0
Mean		15.0938	12.6250	10.0000
Std. Error of Mean		1.48063	1.56946	1.34704
Median		14.0000	11.0000	8.0000
Std. Deviation		8.37569	8.87821	7.62001
Variance		70.152	78.823	58.065
Range		40.00	40.00	26.00
Minimum		.00	.00	.00
Maximum		40.00	40.00	26.00

Table 5. Assessment outcomes according to the description of the case

	f	P%
Stress		
extreme sever	1	3.45
Mild	5	17.24
Moderate	4	13.79
Normal	19	65.52
Sever	3	10.34
Anxiety		
extreme sever	8	27.59
Mild	4	13.79
Moderate	8	27.59
Normal	8	27.59
Depression		
Mild	3	10.34
Moderate	6	20.69
Normal	18	62.07
Sever	5	17.24

Table 6. Secondary outcomes according to the Five Facet Mindfulness Questionnaire (FFMQ)

Statistics						
		Observation	Description	Acting with Awareness	Non Judgmental	Non Reactivity
N	Valid	29	29	29	29	29
	Missing	0	0	0	0	0
Mean		9.7188	7.7813	7.0000	7.1563	8.7500
Std. Error of Mean		.37897	.58153	.61402	.50822	.45348
Median		10.0000	7.5000	6.5000	8.0000	9.0000
Std. Deviation		2.14377	3.28962	3.47340	2.87491	2.56528
Variance		4.596	10.822	12.065	8.265	6.581
Range		9.00	14.00	12.00	12.00	10.00
Minimum		6.00	1.00	2.00	.00	2.00

Maximum	15.00	15.00	14.00	12.00	12.00

Table 7. Correlation between age with Stress, Anxiety, and Depression

Correlations

			age	Stress	Anxiety	Depression
Spearman's rho	age	Correlation Coefficient	1.000	.111	.073	.049
		Sig. (2-tailed)	.	0.03	0.07	0.00
		N	16	16	16	16
	Stress	Correlation Coefficient	.111	1.000	.775**	.559**
		Sig. (2-tailed)	0.03	.	.000	.001
		N	16	29	29	29
	Anxiety	Correlation Coefficient	-.073	.775**	1.000	.533**
		Sig. (2-tailed)	0.07	.000	.	.002
		N	16	29	29	29
	Depression	Correlation Coefficient	.049	.559**	.533**	1.000
		Sig. (2-tailed)	0.00	.001	.002	.
		N	16	29	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8. Correlation between sex with Stress, Anxiety, and Depression

Correlations

			sex	Anxiety	Depression	Observation
Spearman's rho	Stress	Correlation Coefficient	1.000	.775**	.559**	-.042
		Sig. (2-tailed)	.	.000	.001	.822
		N	29	29	29	29
	Anxiety	Correlation Coefficient	.775**	1.000	.533**	-.083
		Sig. (2-tailed)	.000	.	.002	.651
		N	29	29	29	29
	Depression	Correlation Coefficient	.559**	.533**	1.000	-.369*
		Sig. (2-tailed)	.001	.002	.	.038
		N	29	29	29	29
	Observation	Correlation Coefficient	-.042	-.083	-.369*	1.000
		Sig. (2-tailed)	.822	.651	.038	.
		N	29	29	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4. Discussion

The rationale behind the experimental program was to ascertain the efficacy of the intervention in reducing the way university students perceive stress, their degree of fear, and their mindfulness level [22]. Given the high prevalence of college students experiencing stress, the objective was to provide assistance in enabling them to adopt positive coping strategies or to navigate their academic and other related stressors [23].

From a broader perspective, these mindful abilities may assist students in reducing their anxiety levels and stress, thereby enabling them to perform better academically, avoid becoming overly exhausted by their work, and cultivate greater empathy for patients [24].

The mean and standard deviation were calculated for each variable within each group. Age groupings and religious inclinations were found to impact the success of an intervention, according to the findings. There are several patterns of age dependency regarding how significantly religious groups have affected successful initiatives. For one of the groups affected, P-values are also included [25]. Upon examination of the test results, no variation was identified in scores for tension, nervousness, and gloominess before or after the test in questions based on age differences between the control group and treated groups [26].

The results of the initial hypothesis, which postulates a statistically significant correlation between mindfulness and anxiety, were obtained. In this study, a direct statistical relationship was identified between a lack of anxiety and mental meditation, as evidenced by the results of quality-of-life measures in the samples [27].

The researcher attributes this result to the meanings and indicators contained in these dimensions. These include the following: the more the individual distances himself from thinking in a bad or unusual way, blaming himself for thinking in a certain way, thinking and imagining sad feelings, stopping immediate reactions, and staying away from bad or inappropriate emotions. Furthermore, the capacity to refrain from self-judgment based on the content of sad thoughts or fantasies is associated with an increase in self-confidence, including the ability to achieve one's goals and the capacity to learn and direct one's energies towards the achievement of these goals [28].

In Iraq, the prevalence of academic stress in the moderate category among students in the samples used in various studies is 67%. The most recent study (conducted in 2019) indicates that 98% of students in health-related professions are affected by stress. Some research indicates that the causes of stress can be attributed to a number of factors, including the nature of the evaluation process (such as general examinations and interventions), the presence of excessive demands on work, and methodological shortcomings. The results indicate that 34% of nursing students experience moderate levels of stress.

Current research has proved that mindfulness practice effectively reduces both depression and anxiety levels among males and females. Studies have shown that lower anxiety and depression levels are related to mindfulness. Moreover, mindfulness-based interventions (MBIs) such as Mindfulness-Based Stress Reduction (MBSR) are."

Studies have demonstrated that Mindfulness-Based Cognitive Therapy (MBCT) is more effective than inactive controls in the treatment of depression and anxiety [3]. Besides this, it has been confirmed that interventions that incorporate mindfulness can help relieve symptoms related to anxiety disorders amongst patients suffering from sleep disorders; these include noticeable decreases according to (Dass-21).

These results recommend that mindfulness treatments may be an important element in treatment plans for anxiety and depression in any gender, showing the effectiveness of mindfulness in addressing mental health problems.

Mae (et al. 2019) argue that our findings suggest that mindfulness is a powerful tool for managing anxiety, stress & depression among different age brackets. Kallapiran et al. (2015) found that mindfulness-based stress reduction (MBSR) courses were able to reduce anxiety symptoms and foster emotional health among children.

Early intervention is important because of this mindfulness programs decrease symptoms of depression and anxiety in adolescents. Another point is that mindfulness practices among adults are linked to lower somatic symptoms as well as risk for anxiety and depression.

5. Conclusion

The study's findings revealed that mindfulness meditation significantly reduced anxiety, depression, and stress levels among Iraqi university students. This highlights the potential of mindfulness practices in enhancing mental health and emotional well-being in an academic setting. The results underscore the importance of integrating mindfulness techniques into university programs to promote better mental health outcomes and improve students' academic performance. Given these promising results, further research should investigate the long-term effects of mindfulness interventions and explore their efficacy across different student populations and educational contexts to validate and expand upon these findings.

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