

# The Effectiveness of Acceptance and Commitment-Based Training on Occupational Stress in Medical Sciences Employees

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### ABSTRACT

This study aimed to investigate the effectiveness of acceptance and commitment-based training on reducing occupational stress and its components among administrative employees of Shiraz University of Medical Sciences. The research employed an applied, quantitative, semi-experimental design with a pre-test-post-test control group and a two-month follow-up. The statistical population comprised all administrative employees of Shiraz University of Medical Sciences in 2024, from which 66 participants were selected through convenience sampling and randomly assigned to experimental ( $n = 33$ ) and control ( $n = 33$ ) groups. The experimental group received eight sessions of acceptance and commitment-based training based on Steven Hayes' protocol, while the control group received no psychological intervention during the study period. Data were collected using the Occupational Stress Questionnaire developed by Turnic and Spielberger (1991), whose validity and reliability had been previously confirmed (Cronbach's  $\alpha = 0.87$ ). Data analysis was conducted using univariate and multivariate analysis of covariance (ANCOVA, MANCOVA) in SPSS 28, after verifying parametric assumptions. The results revealed that, after controlling for pre-test scores, the experimental group showed significantly lower post-test mean scores compared to the control group in total occupational stress ( $F = 99.30$ ,  $p < 0.001$ ,  $\eta^2 = 0.623$ ) and in several subcomponents, including task performance ( $F = 38.55$ ,  $p < 0.001$ ,  $\eta^2 = 0.421$ ), participation and decision-making ( $F = 14.99$ ,  $p < 0.001$ ,  $\eta^2 = 0.220$ ), responsibility ( $F = 74.22$ ,  $p < 0.001$ ,  $\eta^2 = 0.583$ ), support ( $F = 18.11$ ,  $p < 0.001$ ,  $\eta^2 = 0.255$ ), and relationships ( $F = 11.89$ ,  $p = 0.001$ ,  $\eta^2 = 0.183$ ). No significant differences were observed for work environment, competition, or promotion/reward. These effects persisted at follow-up, indicating sustained intervention benefits. Acceptance and commitment-based training effectively reduced occupational stress and improved key stress-related components in administrative healthcare employees, with effects maintained over two months.

**Keywords:** Acceptance and Commitment Therapy, Occupational Stress, Administrative Employees

## 1. Introduction

Occupational stress is a significant concern in modern organizational environments, particularly within healthcare systems where employees are constantly exposed to high job demands, emotional strain, and organizational pressures. In medical sciences universities and healthcare organizations, administrative employees play a critical role in ensuring the effective functioning of various services, yet they often operate under continuous deadlines, bureaucratic complexities, and interpersonal demands that may contribute to chronic job stress (Masoudi Hemmatabadi et al., 2022). Job stress is not only linked to physical health problems but also to reduced job performance, job dissatisfaction, and increased turnover intentions, thus making its prevention and management a critical priority for organizations (Omeje et al., 2022). In recent years, the increasing recognition of the detrimental impact of occupational stress has led researchers and practitioners to focus on effective psychological interventions that target both the reduction of stress symptoms and the improvement of coping skills (Hasani et al., 2022).

Healthcare professionals and administrative staff are particularly vulnerable to occupational stress due to their exposure to demanding workloads, the need for rapid and accurate decision-making, and frequent interactions with distressed patients and families (Farhangian et al., 2021). Evidence shows that chronic exposure to occupational stress can lead to emotional exhaustion, reduced well-being, and impaired cognitive functioning (Bamber, 2012). Moreover, the COVID-19 pandemic and the subsequent strain on healthcare systems have further highlighted the urgent need for effective, evidence-based interventions aimed at stress management among both clinical and non-clinical staff (Buselli et al., 2023). Within this context, Acceptance and Commitment Therapy (ACT) has emerged as a promising third-wave cognitive-behavioral intervention that not only addresses the symptoms of stress but also focuses on enhancing psychological flexibility, a crucial skill in navigating high-pressure work environments (Caletti et al., 2022).

ACT is grounded in the relational frame theory and emphasizes six core processes: acceptance, cognitive defusion, being present, self-as-context, values clarification, and committed action (Toit). Unlike traditional approaches that focus solely on symptom reduction, ACT encourages individuals to accept unpleasant thoughts and feelings without attempting to control or avoid them, while

committing to value-driven behavior even in the presence of discomfort (Barrett & Stewart, 2021). This approach is particularly relevant for occupational stress, where stressors are often unavoidable, and the key to resilience lies in one's ability to respond adaptively rather than attempting to eliminate all stress (Ashoori et al., 2024). Empirical studies have demonstrated the effectiveness of ACT in reducing psychological distress and improving well-being in various populations, including healthcare workers (Navidi Poshtiri et al., 2022).

The literature provides substantial evidence supporting the application of ACT for job-related stress. For example, studies comparing ACT with cognitive-behavioral therapy (CBT) have shown that ACT can be equally or more effective in promoting psychological flexibility and reducing stress symptoms among healthcare workers (Barrett & Stewart, 2021). Similarly, research on nurses has indicated that ACT interventions can significantly reduce job burnout and enhance psychological well-being (Ashoori et al., 2024). In non-clinical contexts, ACT has been associated with improved coping strategies, increased resilience, and higher levels of occupational satisfaction (Mohammadi, 2022). These findings suggest that ACT's emphasis on acceptance, mindfulness, and value-driven behavior aligns well with the challenges faced by administrative healthcare staff, for whom many stressors are systemic and unavoidable.

The need for effective stress management interventions is further supported by research showing the negative correlation between job stress and important organizational outcomes such as job satisfaction, commitment, and performance (Chong & Yazdani, 2020). In fact, job stress has been linked to work-family conflict, emotional exhaustion, and lower morale among employees, all of which can undermine organizational functioning (Masoudi Hemmatabadi et al., 2022). Interventions that integrate mindfulness and acceptance strategies, such as ACT, have shown promise in reducing these adverse effects and fostering greater resilience (Zarei & Arshad Hosseini, 2018). In this regard, ACT's structured focus on personal values offers a unique advantage by helping individuals align their daily tasks with deeply held life goals, thus fostering a sense of purpose and meaning even under stressful conditions (Taghilo et al., 2023).

The effectiveness of ACT in addressing occupational stress is also evident when compared with other therapeutic approaches. For example, studies comparing ACT with schema therapy have reported significant improvements in

stress-related outcomes for ACT participants (Salehi, 2020). Similarly, when contrasted with metacognitive therapy or resilience training programs, ACT has demonstrated robust effects on job stress reduction, particularly in nursing and healthcare settings (Hasani et al., 2022). Moreover, interventions that combine ACT principles with other modalities, such as mindfulness-based cognitive therapy, have yielded positive outcomes in reducing work-family conflict and increasing life satisfaction among employees (Goudarzi et al., 2022).

The relevance of ACT to occupational stress also extends to its adaptability across cultural contexts and occupational roles. Studies have shown that ACT-based programs can be effectively delivered in both face-to-face and online formats, making them accessible to a wide range of participants regardless of their schedules or physical locations (Barrett & Stewart, 2021). This flexibility is particularly important for healthcare administrative staff, who may have irregular working hours and limited opportunities to participate in lengthy in-person sessions (Buselli et al., 2023). Additionally, ACT's focus on experiential learning and practical exercises ensures that participants can apply the skills learned in therapy to their daily work routines, thereby enhancing long-term effectiveness (Caletti et al., 2022).

While occupational stress interventions often aim to eliminate stressors, ACT takes a different approach by helping individuals accept what cannot be changed while focusing on meaningful engagement with life. This shift from control to acceptance is supported by research showing that attempts to suppress or avoid stressful thoughts can paradoxically increase distress and reduce coping capacity (Omeje et al., 2022). By fostering acceptance and psychological flexibility, ACT enables employees to function effectively even in high-stress environments, thereby promoting both individual well-being and organizational efficiency (Navidi Poshtiri et al., 2022).

Furthermore, the integration of ACT into workplace mental health programs has broader implications for organizational culture. By encouraging employees to openly acknowledge and address their stress without stigma, ACT interventions can contribute to creating a more supportive and resilient work environment (Ahmadi & Valizadeh, 2021). The focus on values also aligns well with organizational development strategies that emphasize employee engagement, ethical behavior, and commitment to shared goals (Chong & Yazdani, 2020). In the long term, such cultural shifts can enhance not only individual mental

health but also team cohesion and overall organizational performance (Ataie, 2020).

Given the strong empirical support for ACT's effectiveness across diverse occupational settings, as well as its theoretical fit with the demands of healthcare administration, there is a compelling rationale for applying this approach to manage job stress among administrative employees in medical sciences universities. These employees, though not directly involved in clinical care, face unique stressors related to administrative coordination, resource management, and policy implementation, which can be equally taxing as clinical duties (Masoudi Hemmatabadi et al., 2022). Addressing their occupational stress through ACT not only benefits their personal well-being but also indirectly supports the broader healthcare system by ensuring smoother administrative operations and better support for clinical staff (Mohammadi, 2022).

In sum, the present study builds upon the growing body of evidence demonstrating the efficacy of ACT in managing occupational stress and enhancing psychological resilience among healthcare workers and administrative personnel.

## 2. Methods and Materials

### 2.1. Study Design and Participants

In the present study, which was applied in purpose and quantitative in nature, a semi-experimental design with a pre-test–post-test control group and a two-month follow-up was employed. The statistical population consisted of all administrative employees working in the Shiraz University of Medical Sciences in 2024. Using a convenience sampling method, a total of 66 employees were selected from among the accessible population. The sample size was determined based on G\*Power software calculations with a statistical power of 80% and an alpha level of less than 0.05, resulting in a required number of 60 participants. To account for an anticipated 10% attrition rate, the sample size was increased to 66. Participants were then randomly assigned to either the experimental group (33 individuals) or the control group (33 individuals) through a lottery method. The experimental group received the acceptance and commitment-based training intervention, while the control group did not receive any form of psychological training during the research period.

## 2.2. Measure

The data collection instrument was the Occupational Stress Questionnaire developed by Turnic and Spielberger (1991), designed to measure the frequency of occupational stress experiences among employees. This questionnaire assesses eight core components: task performance, participation and decision-making, responsibility, work environment, support, competition, relationships, and promotion and reward. It consists of 30 close-ended items, each rated on a nine-point Likert-type scale ranging from 1 (minimum stress) to 9 (maximum stress), with 5 indicating a moderate stress level. The minimum possible score is 30 and the maximum is 270. Scores between 30 and 120 indicate low occupational stress, scores between 120 and 150 indicate moderate occupational stress, and scores above this range suggest high occupational stress. Previous studies, including Asadi (2020), have reported satisfactory content, face, and criterion validity for this instrument, with Cronbach's alpha coefficients exceeding 0.70, indicating strong reliability. In the same study, the overall Cronbach's alpha for the occupational stress questionnaire was reported as 0.87, confirming its internal consistency for research purposes.

## 2.3. Intervention

The intervention was conducted using the Acceptance and Commitment Therapy (ACT) protocol developed by Steven Hayes and colleagues, delivered over eight structured group sessions. The first session focused on introducing participants to one another, establishing a therapeutic alliance, conducting a general assessment, evaluating control strategies, fostering creative hopelessness, and completing baseline questionnaires. The second session explored the inner and outer world from an ACT perspective, emphasizing that control is the problem rather than the solution, and introducing willingness as an alternative approach. The third session centered on identifying participants' personal values, clarifying values, setting goals, specifying actions, and recognizing potential barriers. The fourth session deepened the exploration of each participant's values, reinforcing and expanding on the concepts from the previous session. The fifth session introduced the concepts of cognitive fusion and defusion, with experiential exercises designed to facilitate defusion. The sixth session expanded on cognitive fusion related to the conceptualized self and trained participants in strategies for defusing from it. The seventh session emphasized

mindfulness practices and cultivating the ability to stay present in the moment. The final session involved a review of the participants' life narratives, connecting these stories to their identified values, and promoting committed action in line with those values.

## 2.4. Data Analysis

For data analysis, both descriptive and inferential statistics were applied. Descriptive statistics were used to summarize demographic variables and to present the mean and standard deviation of the main study variables. The homogeneity of demographic characteristics between groups was assessed using Chi-square, Fisher's exact test, and independent t-tests. For hypothesis testing and between-group comparisons, univariate analysis of covariance (ANCOVA) and multivariate analysis of covariance (MANCOVA) were employed. Assumptions of parametric covariance analysis—including absence of outliers, normality of variable distributions, homogeneity of variances, homogeneity of regression slopes, and equality of variance-covariance matrices—were examined prior to conducting analyses. Given that the dependent variables were measured at three time points and the pre-test scores served as covariates, ANCOVA was used to compare post-test scores between groups (to assess intervention effectiveness) and follow-up scores between groups (to evaluate the persistence of effects). Repeated measures analysis was not applied due to its limitations in controlling pre-test scores in intervention designs. All analyses were conducted using SPSS version 28, with statistical significance set at  $p < 0.05$ .

## 3. Findings and Results

In the experimental group receiving acceptance and commitment-based training, 54.8% of participants were female and 45.2% were male, while in the control group, 62.5% were female and 37.5% were male, with no statistically significant difference between groups in terms of gender distribution ( $p = 0.613$ ). Regarding marital status, 67.7% of the experimental group and 75% of the control group were married, while 32.3% and 25% were single, respectively, showing no significant difference ( $p = 0.585$ ). In terms of educational attainment, the experimental group comprised 6.5% associate degree holders, 48.4% bachelor's degree holders, 25.8% master's degree holders, and 19.4% doctoral degree holders, whereas the control group included 6.3% associate degree holders, 43.8% bachelor's degree

holders, 43.8% master's degree holders, and 6.3% doctoral degree holders; these differences were not statistically significant ( $p = 0.301$ ).

**Table 1**

*Descriptive statistics of occupational stress by group and time*

Variable	Time	Acceptance and Commitment-Based Training		Control	
		Mean	SD	Mean	SD
Task performance	Pre-test	24.55	5.47	25.81	6.66
	Post-test	21.16	4.58	25.56	5.99
	Follow-up	20.97	4.39	25.31	5.63
Participation and decision-making	Pre-test	11.71	4.76	10.31	3.33
	Post-test	10.45	4.86	10.19	2.86
	Follow-up	10.48	4.86	10.50	2.71
Responsibility	Pre-test	12.74	4.16	13.19	4.15
	Post-test	11.23	3.39	13.25	3.84
	Follow-up	10.94	3.20	13.39	3.52
Work environment	Pre-test	17.45	5.17	16.00	6.34
	Post-test	17.16	4.47	16.19	6.20
	Follow-up	17.32	4.15	16.00	6.08
Support	Pre-test	9.10	4.34	9.56	3.77
	Post-test	7.77	3.68	9.44	3.11
	Follow-up	8.13	4.05	9.38	3.07
Competition	Pre-test	5.65	2.37	4.88	2.06
	Post-test	4.77	1.67	4.56	1.93
	Follow-up	4.77	1.56	4.81	2.16
Relationships	Pre-test	9.55	3.73	9.00	3.44
	Post-test	8.84	3.26	9.19	3.67
	Follow-up	8.81	3.30	9.06	3.60
Promotion and reward	Pre-test	9.42	3.53	9.94	2.60
	Post-test	9.03	3.39	9.50	2.49
	Follow-up	9.39	3.56	9.69	2.18
Total occupational stress	Pre-test	100.16	9.60	98.69	6.71
	Post-test	90.42	8.16	97.88	5.48
	Follow-up	90.81	8.50	98.13	4.84

The descriptive results indicated that the experimental group receiving acceptance and commitment-based training showed a reduction in occupational stress scores from pre-test ( $M = 100.16$ ,  $SD = 9.60$ ) to post-test ( $M = 90.42$ ,  $SD = 8.16$ ), with the effect largely maintained at follow-up ( $M = 90.81$ ,  $SD = 8.50$ ). In contrast, the control group's total occupational stress scores remained relatively stable across the three measurement points, ranging from 98.69 ( $SD = 6.71$ ) at pre-test to 97.88 ( $SD = 5.48$ ) at post-test and 98.13 ( $SD = 4.84$ ) at follow-up. Across most subscales, the experimental group demonstrated declines from pre-test to post-test, such as in task performance, responsibility, and support, whereas the control group's scores generally fluctuated minimally or increased slightly over time. These patterns suggest a potential positive impact of the intervention on reducing occupational stress and its

components, with a degree of sustainability over the two-month follow-up period.

Before conducting the main analyses, the assumptions underlying parametric covariance analysis were examined and met. Data were screened for outliers, and no extreme values were identified. The normality of score distributions for all variables at each measurement point was confirmed using skewness and kurtosis indices within acceptable ranges. Homogeneity of variances was verified through Levene's test, and the equality of variance-covariance matrices was supported by Box's M test results. The homogeneity of regression slopes assumption was also examined and found to be satisfactory, indicating no significant interaction between the covariate and the independent variable. Collectively, these results confirmed that the data met the statistical assumptions required for conducting ANCOVA and MANCOVA, allowing the



analyses to proceed without violation of the underlying model conditions.

**Table 2**

*ANCOVA results for the effect of acceptance and commitment-based training on occupational stress and its components at post-test*

Time	Source	Dependent Variable	Sum of Squares	df	Mean Square	F	p	Effect Size
Post-test	Group	Task performance	152.06	1	152.06	38.55	< 0.001	0.421
		Participation & decision-making	15.31	1	15.31	14.99	< 0.001	0.220
		Responsibility	45.49	1	45.49	74.22	< 0.001	0.583
		Work environment	5.60	1	5.60	3.98	0.051	0.070
		Support	20.23	1	20.23	18.11	< 0.001	0.255
		Competition	2.23	1	2.23	2.12	0.152	0.038
		Relationships	18.53	1	18.53	11.89	0.001	0.183
		Promotion & reward	0.326	1	0.326	0.136	0.714	0.003
		Total occupational stress	1138.54	1	1138.54	99.30	< 0.001	0.623

The ANCOVA results in Table 2 indicate that, after controlling for pre-test scores, the intervention had a statistically significant effect on most components of occupational stress as well as the total score. Significant reductions were observed in task performance, participation and decision-making, responsibility, support, relationships, and the overall occupational stress score ( $p < 0.001$  in all cases), with moderate to large effect sizes ranging from

0.183 to 0.623. The effect on the work environment component approached significance ( $p = 0.051$ ) with a small effect size, while no significant effects were found for the competition and promotion/reward components. These results suggest that the acceptance and commitment-based training was effective in reducing several critical dimensions of occupational stress among participants.

**Table 3**

*Adjusted post-test means for occupational stress and its components by group*

Test Stage	Variable	Group	Adjusted Mean	SE	Lower Bound	Upper Bound	Mean Difference
Post-test	Task performance	ACT training	21.69	0.372	20.94	22.44	3.36
		Control	25.05	0.365	24.32	25.78	
	Participation & decision-making	ACT training	9.78	0.189	9.40	10.16	1.07
		Control	10.84	0.186	10.47	11.22	
	Responsibility	ACT training	11.32	0.147	11.03	11.61	1.84
		Control	13.16	0.144	12.87	13.45	
	Work environment	ACT training	16.34	0.222	15.89	16.78	0.645
		Control	16.98	0.218	16.55	17.42	
	Support	ACT training	8.00	0.198	7.60	8.39	1.23
		Control	9.22	0.194	8.83	9.61	
	Competition	ACT training	4.46	0.192	4.08	4.84	0.407
		Control	4.87	0.189	4.49	5.24	
	Relationships	ACT training	8.42	0.234	7.95	8.89	1.17
		Control	9.59	0.230	9.13	10.05	
	Promotion & reward	ACT training	9.35	0.289	8.77	9.93	0.156
		Control	9.19	0.284	8.62	9.76	
	Total occupational stress	ACT training	89.87	0.609	88.65	91.09	8.54
		Control	98.41	0.600	97.21	99.61	

As shown in Table 3, the adjusted post-test means reveal that the experimental group had lower scores than the control group on most occupational stress components and on the total score, after controlling for pre-test values. The largest adjusted mean differences in favor of the intervention were

observed in total occupational stress (8.54 points lower), task performance (3.36 points lower), and responsibility (1.84 points lower). Notable reductions were also seen in support, relationships, and participation and decision-making. Smaller mean differences were found for work environment,

competition, and promotion/reward, which is consistent with the non-significant ANCOVA results for these components. Overall, these findings demonstrate that the acceptance and commitment-based training led to meaningful and targeted reductions in key dimensions of occupational stress.

#### 4. Discussion and Conclusion

The findings of the present study indicated that the acceptance and commitment-based training program led to significant reductions in the total occupational stress score as well as in several key subcomponents, including task performance, participation and decision-making, responsibility, support, and relationships. These effects were observed at post-test after controlling for baseline levels and were maintained at follow-up, suggesting that the intervention had both immediate and sustained benefits for the administrative employees of Shiraz University of Medical Sciences. The adjusted mean differences between the experimental and control groups were particularly notable for the overall occupational stress score, task performance, and responsibility, indicating that ACT had its most pronounced impact on domains directly related to perceived workload, personal accountability, and functional relationships at work. The components of work environment, competition, and promotion/reward, however, did not show statistically significant changes, implying that some aspects of occupational stress may be less responsive to ACT or may require complementary organizational-level interventions to be effectively addressed.

The observed reduction in occupational stress aligns with the theoretical underpinnings of Acceptance and Commitment Therapy, which emphasizes psychological flexibility as a central mechanism of change (Caletti et al., 2022; Toit). By fostering an attitude of openness toward internal experiences and promoting value-based action, ACT enables individuals to navigate workplace stressors without becoming entangled in maladaptive control strategies. The significant decrease in responsibility-related stress is particularly consistent with ACT's focus on clarifying personal values and distinguishing between controllable and uncontrollable factors, thereby reducing the burden of perceived over-responsibility (Ashoori et al., 2024). Similarly, the decline in stress associated with participation and decision-making reflects the intervention's capacity to help individuals tolerate uncertainty and make choices in line with their values, even under pressure (Navidi Poshtiri et al., 2022).

These findings are supported by previous research demonstrating the effectiveness of ACT in reducing occupational stress among healthcare workers and other high-pressure occupational groups. For example, Barrett and Stewart (Barrett & Stewart, 2021) found that ACT-based stress management interventions were as effective as CBT in improving stress-related outcomes in social and healthcare workers, with additional benefits for psychological flexibility. Similarly, Mohammadi (Mohammadi, 2022) reported that ACT significantly improved mental health and job satisfaction among intensive care unit nurses, a population with considerable stress exposure. The results of the current study extend these findings to administrative staff in the medical sciences sector, suggesting that the benefits of ACT are not limited to direct patient care roles but also apply to employees who face stressors rooted in organizational, bureaucratic, and interpersonal demands.

The improvements observed in support and relationship-related stress dimensions further reinforce the applicability of ACT in occupational settings. ACT's mindfulness and defusion components may reduce interpersonal reactivity and foster more adaptive communication patterns, thereby enhancing perceptions of social support and improving relationships at work (Taghilo et al., 2023). This is in line with the work of Zarei and Arshad Hosseini (Zarei & Arshad Hosseini, 2018), who found that mindfulness-based interventions significantly reduced occupational stress and improved occupational self-efficacy among coaches, suggesting that enhancing present-moment awareness and non-judgmental acceptance can have cross-domain benefits for professional functioning.

It is also noteworthy that the components of work environment, competition, and promotion/reward did not show significant changes. This outcome is consistent with prior findings that certain stressors, particularly those linked to organizational policies, resource allocation, and structural incentives, may lie beyond the scope of individual-level interventions (Masoudi Hemmatabadi et al., 2022). While ACT equips individuals with tools to cope more effectively with these stressors, substantial change in such domains may require systemic interventions, such as policy reforms, workload redistribution, or changes in promotion criteria (Omeje et al., 2022). This underscores the importance of integrating individual-focused interventions like ACT with broader organizational development strategies.

The persistence of positive effects at follow-up demonstrates the durability of ACT's benefits, which may

be attributed to its emphasis on skill acquisition rather than symptom suppression. Participants are taught to apply acceptance, mindfulness, and values-based strategies in real-time workplace scenarios, enabling them to sustain improvements without ongoing therapist contact (Ahmadi & Valizadeh, 2021). The enduring nature of these benefits aligns with the conclusions of Goudarzi et al. (Goudarzi et al., 2022), who observed lasting improvements in life satisfaction and reduced work-family conflict following mindfulness-based stress management programs in employed retirees. These findings suggest that ACT fosters self-sustaining behavioral and cognitive changes that continue to protect against stress over time.

In terms of broader applicability, the present study contributes to a growing body of literature supporting ACT's effectiveness across diverse occupational contexts and cultural settings. The intervention's adaptability to different delivery formats, such as group-based sessions, online modules, and blended approaches, has been noted in earlier research (Barrett & Stewart, 2021; Buselli et al., 2023), and the current findings indicate that even in face-to-face group settings with non-clinical healthcare staff, ACT can produce substantial improvements in stress outcomes. This flexibility enhances ACT's potential as a scalable intervention for workplace mental health promotion.

The results also resonate with comparative studies of ACT and other therapeutic approaches. For instance, Farhangian et al. (Farhangian et al., 2021) demonstrated that emotion regulation-based therapy and CBT both reduced occupational stress among nurses, yet ACT offers the added advantage of directly targeting experiential avoidance and cognitive fusion, which are often central to stress maintenance. Likewise, the findings of Ataie (Ataie, 2020) highlight CBT's utility in reducing job stress, yet the present results suggest that ACT can achieve comparable outcomes while fostering broader psychological flexibility that may protect against future stressors.

Another noteworthy implication of this study is its relevance for organizational performance. High occupational stress among administrative staff can indirectly impact healthcare service delivery by contributing to communication breakdowns, delays in administrative processes, and reduced support for clinical teams (Chong & Yazdani, 2020). By reducing stress and enhancing coping strategies, ACT-based programs can potentially improve overall organizational efficiency, employee satisfaction, and retention rates. Salehi (Salehi, 2020) emphasized that ACT interventions not only reduce burnout but can also strengthen

marital and family resilience, suggesting a spillover effect that extends beyond the workplace to other life domains.

Finally, the present study adds to the emerging literature comparing ACT with newer interventions such as Paradoxical Timetable Therapy (PTC) in occupational contexts. Taghilo et al. (Taghilo et al., 2023) reported that both ACT and PTC improved psychological well-being among nurses, highlighting ACT's versatility and comparability with innovative therapeutic models. These converging lines of evidence support the inclusion of ACT in the repertoire of empirically supported interventions for occupational stress management, especially in high-demand sectors like healthcare administration.

While the findings of this study are promising, several limitations should be acknowledged. First, the study relied on a convenience sample of administrative employees from a single medical sciences university, which may limit the generalizability of the results to other occupational groups or healthcare settings. Second, the reliance on self-report measures for assessing occupational stress introduces the possibility of response bias, such as social desirability effects or inaccurate self-assessment. Third, although a two-month follow-up was included, longer-term follow-up assessments would provide more robust evidence of the sustainability of intervention effects over time. Fourth, the absence of an active control condition, such as another established stress management program, limits the ability to attribute changes specifically to ACT processes rather than nonspecific intervention effects. Lastly, while several subcomponents of occupational stress improved significantly, other domains such as work environment and promotion/reward did not, suggesting that additional or complementary interventions may be necessary to address the full spectrum of workplace stressors.

Future research should aim to replicate these findings in larger and more diverse samples, including participants from various sectors and cultural contexts, to enhance the generalizability of results. Comparative studies evaluating ACT against other established stress management interventions, such as CBT, mindfulness-based stress reduction, or resilience training, would help clarify ACT's relative advantages and mechanisms of action. Incorporating objective measures of workplace performance, absenteeism, and healthcare service delivery could provide a more comprehensive understanding of the intervention's organizational impact. Longitudinal studies with extended follow-up periods are also warranted to examine the durability of ACT's effects over one year or more.



Furthermore, qualitative research exploring participants' subjective experiences of ACT may yield valuable insights into the processes and components they find most beneficial, informing future refinements of the program. Finally, integrating ACT with organizational-level interventions, such as workload adjustments or leadership training, could be explored to address stressors that may not be modifiable through individual-level interventions alone.

From a practical standpoint, the results of this study support the inclusion of ACT-based programs as part of comprehensive workplace mental health strategies in healthcare organizations. Human resource departments and occupational health units can consider implementing group-based ACT workshops for administrative employees, either as standalone programs or integrated into broader wellness initiatives. Given ACT's focus on psychological flexibility and value-based action, such interventions can complement organizational efforts to promote resilience, job satisfaction, and employee engagement. Training internal staff or occupational psychologists in ACT delivery could facilitate sustainable program implementation, reducing reliance on external trainers. Additionally, offering ACT in flexible formats, including online modules, may increase accessibility for employees with demanding schedules. Finally, aligning ACT-based interventions with organizational values and goals can enhance both participation rates and the perceived relevance of the program, fostering a supportive work culture that prioritizes mental health and well-being.

### Authors' Contributions

Authors contributed equally to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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