Impact of Cognitive Behavioral Therapy on Psychological Well-Being and Work-Related Quality of Life

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***Abstract* - The development of a person's work-related quality of life (WRQoL) is greatly influenced by their psychological well-being. Stress, anxiety, and weariness all have major effects on workers' mental health and performance. Although usually applied to treat mental health concerns, the precise impact of cognitive behavioral therapy (CBT) on WRQoL has not been thoroughly investigated. Workers experiencing psychological pain at work typically have a lower quality of life, which may influence their involvement with the company as well as their performance. This study intends to determine whether CBT treatments improve the WRQoL those professionals experience as well as the psychological well-being of working professionals. The participants' psychological well-being and WRQoL are evaluated before, during, and after the intervention using validated instruments including the WRQoL and the WHO-5 Well-Being Index. Participants in the program found that the end of CBT was connected to improved mental health outcomes, increased job satisfaction, and reduced work-related stress.**

Keywords - Cognitive Behavioral Therapy, psychological well-being, mental health, employee productivity

I. INTRODUCTION

A. Background

Modern work demands are making workers to get stressed on their jobs, mental health issues, and reduces their quality of life [1-6]. Although psychiatric therapies are successful, many of the current programs, such as workplace wellness efforts and Mindfulness-Based Stress Reduction (MBSR), may not always yield long-term benefits. This paradigm determines long-term improvements in both personal well-being and professional performance [4]. Great variety of wants that employees have is another difficulty. Because a one-size-fits-all approach might not always be effective, customized therapies are required [5]-[7].

B. Problem Definition

Although frequently employed, programs like Mindfulness-Based Stress Reduction (MBSR), Workplace Wellness Programs, and relaxation techniques usually fall short of providing a comprehensive solution addressing the cognitive and behavioral components generating work-related stress. This study is to evaluate how more structured intervention CBT could be used in the workplace to enhance psychological well-being, quality of life connected to work, and output.

C. Objectives

The main objectives and novelty of this research are:

1. This study intends to evaluate the efficacy of CBT as an intervention for enhancing psychological well-being, quality of life issues connected to work, and office output.
2. To contrast the results of CBT with those of other workplace mental health programs, including MBSR, workplace wellness efforts, and relaxation techniques.
3. This study seeks to evaluate workers' level of satisfaction with the cognitive behavioral therapy intervention and its influence on workplace satisfaction.

The implementation of CBT as a rigorous, evidence-based intervention expressly aimed to improve the psychological well-being and output of office workers gives this study its novelty.

II. RELATED WORKS

Often considered one of the most powerful psychological treatments for anxiety, depression, and stress, cognitive behavioral therapy, or CBT, has been around for decades. Thus, it is an ideal tool for improving mental health in the workplace. By helping individuals recognise and alter problematic thought patterns, cognitive behavioural therapy (CBT) therefore promotes emotional control and behaviour [8]-[9]. Many studies have demonstrated that CBT improves both job-related results and psychological well-being. CBT, for instance, greatly reduced work-related stress and improved staff performance [10]. Furthermore, the structured method of CBT allows for more tailored therapies targeting particular cognitive and behavioral characteristics related to mental health concerns in the workplace.

Though relaxation techniques, workplace wellness programs, and MBSR all have some benefits, studies comparing various mental health interventions in the workplace show they do not always offer the level of intervention required to produce long-term changes in psychological well-being or employee performance. Results of a study assessing the efficacy of many

workplace wellness initiatives showed that MBSR and relaxation techniques were helpful in reducing stress in the short term. On the other hand, CBT was found to have more significant long-term benefits, specifically in regard to job satisfaction and work-life balance [11].

So, even while numerous stress-reduction strategies and workplace wellness programs have demonstrated effectiveness, the inclusion of CBT offers a more complete option for enhancing employee well-being [12]. CBT is a wonderful supplement to workplace wellness programs since it allows continuous enhancements in mental health, work-related quality of life, and employee performance. The cognitive and behavioral components of CBT enable one to obtain these benefits.

III. PROPOSED CBT INTERVENTION

In this section, the figure 1 shows the proposed method involves Pre-Assessment, Randomization, CBT Sessions, Mid-Assessment, Post-Assessment and Follow-up.

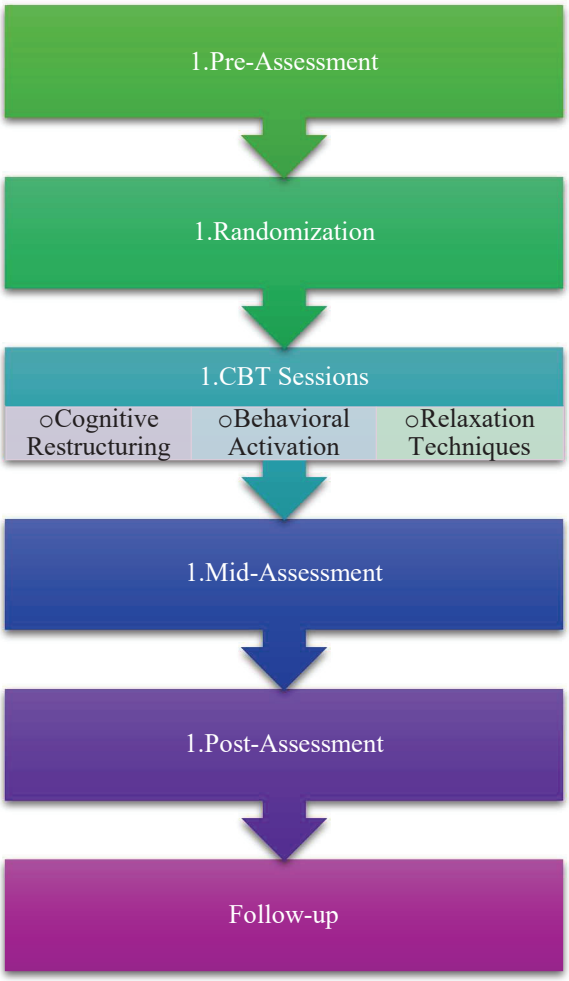

Fig1. PROPOSED FRAMEWORK

A. Pre-Assessment

The pre-assessment stage involves the collection of baseline data on the psychological well-being and WRQoL values of the participants before to the beginning of the intervention. Two standardized instruments, the WRQoL Scale and the WHO-5 Well-Being Index, which evaluates psychological well-being, let one to reach this. These instruments evaluate the first mental health status of every participant as well as the quality of life linked to their job.

These evaluations' scores are tracked via a pre-assessment table shown in table I. This ensures that every participant is initially comparable in terms of mental health and the quality of life connected to their job.

TABLE I: PRE-ASSESSMENT DATA

Participant ID	WHO-5 Score	WRQoL Score
001	12	58
002	15	60
003	10	52
004	13	56
005	16	62

Ranging from 0 to 25, the WHO-5 scale scores reveal more psychological well-being with higher values. On the other hand, the WRQoL scale spans from 0 to 100; higher values suggest a better quality of life there.

B. Randomization

Participants are assigned randomly to control group or the CBT intervention group once the pre-assessment has been completed. Randomization allows one to select subjects. The randomization method guarantees that every group is statistically comparable at the beginning of the trial, hence reducing bias and allowing an objective comparison of the outcomes of the intervention.

Every participant is given a number, for example, 0 or 1, using a random number generator, therefore ensuring that the results are completely random. A participant assigned a value of zero will be placed in the control group. Conversely, should they be assigned a value of one. The allocation is done neutrally to guarantee that both groups receive an equitable portion of the resources.

The mathematical description of the randomization technique is the following formula as equation 1:

$$G_i = \begin{cases} 1 & \text{if participant assigned to CBT group} \\ 0 & \text{if participant assigned to control group} \end{cases} \quad (1)$$

Where

Gi - group assignment for the i^{th}participant.

The value of G_i=1corresponds to the intervention group, and

G_i=0 corresponds to the control group.

TABLE II: RANDOMIZATION ASSIGNMENT

Participant ID	Group Assignment (G)
001	1
002	0
003	1
004	0
005	1

Table II shows that subjects 001, 003, and 005 are assigned to the CBT intervention group. On the other hand, the control group is made up of people 002 and 004, shown by the number 0. Randomization guarantees that both groups are equivalent regarding their psychological well-being at the beginning of the study and their quality of life in relation to their profession.

Systematic pre-assessment and randomization assist us to ensure the validity and dependability of the study results. This allows us to credit the results to the intervention itself rather than to underlying group differences.

D. CBT Sessions

Comprising eight weekly sessions, the approach known as CBT These seminars seek to enhance the quality of life of the attendees. Every session, which is dedicated to a certain therapeutic approach, emphasizes largely on Cognitive Restructuring. Every session is centered on a specific therapy approach; the Behavioral Activation, and Relaxation Techniques are the primary areas of emphasis.

1. Cognitive Restructuring: It enables people to spot and challenge illogical thoughts related to stress or worry related to their employment.
2. Behavioral Activation: Participants are told to rephrase these convictions into more reasonable, balanced points of view.
3. Relaxation Techniques: These techniques are designed to enable people to manage the physical expressions of stress, therefore fostering mental clarity and calm even as they labor.

The table III, shows the sessions are structured as follows:

- Session 1-2: The detection of negative thought patterns and Introduction to Cognitive Restructuring will be covered in Sessions 1 and 2.
- Session 3-4: We will focus on engaging in positive activities to lower stress during the third and fourth sessions, which are called Behavioral Activation.
- Session 5-6: Relaxation Techniques and the teaching of stress management techniques will be covered in Sessions 5 and 6.
- Session 7-8: Sessions 7 and 8: Integration of all three techniques, underlining their applicability in different work-life scenarios.

TABLE III: SESSION BREAKDOWN

Session Number	CBT Technique	Focus Area
1	Cognitive Restructuring	Identifying negative thought patterns
2	Cognitive Restructuring	Challenging and reframing irrational thoughts
3	Behavioral Activation	Setting small, achievable goals
4	Behavioral Activation	Reinforcing positive work-related activities
5	Relaxation Techniques	Learning deep breathing and mindfulness
6	Relaxation Techniques	Practicing progressive muscle relaxation
7	Integration of Techniques	Combining cognitive, behavioral, and relaxation methods
8	Integration of Techniques	Final reinforcement of CBT strategies

E. Mid-Assessment

Early improvement can be assessed by means of the Mid-Assessment, which follows the first four cognitive behavioral treatment sessions provided in table IV. The same pre-assessment tools, the WHO-5 Well-Being Index and the WRQoL Scale, are provided to the participants to monitor the changes in their psychological well-being and the quality of life linked to their employment. The purpose of the mid-assessment is to look at the early changes, spot obstacles, and adjust the cognitive behavioral therapy intervention as needed. For instance, people who demonstrate less improvement in behavioral activation may be inspired to seek additional direction on the process of goal-setting.

TABLE IV: MID-ASSESSMENT DATA

Participant ID	WHO-5 Score (Mid)	WRQoL Score (Mid)
001	15	63
002	18	66
003	14	60
004	16	59
005	20	67

Table II's WHO-5 and WRQoL scores reveal more psychological well-being and work-related quality of life for the individuals than the scores acquired prior to the evaluation.

F. Post-Assessment and Follow-up

After all eight sessions have been completed, a Post-Assessment is conducted to evaluate the effectiveness of the cognitive behavioral therapy intervention. Participants are asked to re-do the WHO-5 and WRQoL tests to enable them to determine the long-term consequences of the therapy.

Moreover, a follow-up evaluation is conducted three months after the intervention to see if the changes in psychological well-being and quality of life in connection to work are maintained over time.

The post-assessment's primary emphasis is on a study of the cumulative effect of CBT on improving mental health, stress levels, and work-life balance. The follow-up is to find out whether the advantages continue after the intervention has ended. This will provide interesting study on the long-term effects of CBT.

TABLE V: POST-ASSESSMENT DATA

Participant ID	WHO-5 Score (Post)	WRQoL Score (Post)
001	22	70
002	23	72
003	21	68
004	20	65
005	24	75

The post-assessment results in Table V indicate a notable rise in both the level of psychological well-being and the WRQoL scores. These findings imply that the mental health and job satisfaction of the people are positively and long-lastingly influenced by cognitive behavioural therapy.

The study offers a thorough examination of how CBT influences psychological well-being and quality of life in relation to one's place of employment following this paradigm. By means of pre-assessment, intervention, and post-assessment assessments, the approach guarantees the

gathering of consistent data and analysis to gauge the effectiveness of CBT.

IV. RESULTS

- Tool Used: In-person meetings offer the CBT technique; additional materials are available online.
- Computers Used: Given that the intervention took place in a clinical environment with direct interaction, no computers were utilized in the evaluation process.
- Comparison with Existing Methods: The table VI, examines three contemporary techniques in connection to CBT:
    1. Mindfulness-Based Stress Reduction (MBSR): MBSR is a method of reducing stress that stresses awareness and acceptance.
    2. Workplace Wellness Programs: Workplace wellness programs are general campaigns without specific cognitive-behavioral strategies but including stress management seminars.
    3. Relaxation Techniques: Three Relaxation techniques such as progressive muscle relaxation are those that have been demonstrated to provide momentary stress relief. Research, however, has shown that these techniques lack cognitive reorganization.

TABLE VI: EXPERIMENTAL SETUP/PARAMETERS

Parameter	Value
Size	100 participants
CBT Session Duration	50 minutes per session
Number of Sessions	8 weekly sessions
Control Group Intervention	No intervention (waitlist)
Psychological Well-being Tool	WHO-5 Well-being Index
WRQoL Tool	Work-Related Quality of Life Scale
Pre/Post-Assessment Period	3 months

V. PERFORMANCE METRICS

1. Psychological Well-being: WHO-5 Well-Being Index lets one assess their psychological well-being by measuring happiness, life satisfaction, and mental health. Higher scores show a better state of well-being provided in table VII.
2. WRQoL: WRQoL is evaluated using a scale measuring work-related stress, job satisfaction, and the balance between work and personal life. greater scores indicate a greater WRQoL.
3. Employee Productivity: The level of an employee's productivity is determined by their own self-reported job performance and involvement. Higher output is connected to changes in psychological well-being and work-related quality of life.
4. Satisfaction with the CBT Program: Post-intervention assessments gauge participants' level of satisfaction with the CBT Program, including its reported efficacy and improvements in personal well-being.

TABLE VII: PSYCHOLOGICAL WELL-BEING

Method	Participants (25)	Average WHO-5 Score
MBSR	25	15
Workplace Wellness Programs	25	14
Relaxation Techniques	25	16
Proposed CBT	25	20
MBSR	50	17
Workplace Wellness Programs	50	16
Relaxation Techniques	50	18
Proposed CBT	50	22
MBSR	75	19
Workplace Wellness Programs	75	18
Relaxation Techniques	75	20
Proposed CBT	75	24
MBSR	100	21
Workplace Wellness Programs	100	19
Relaxation Techniques	100	21
Proposed CBT	100	26

When compared to MBSR, Workplace Wellness Programs, and Relaxation Techniques, the proposed CBT method revealed a consistent rise in WHO-5 scores across all groups, indicating a significant enhancement in psychological well-being.

TABLE VIII: WORK-RELATED QUALITY OF LIFE (WRQOL)

Method	Participants (25)	Average WRQoL Score
MBSR	25	55
Workplace Wellness Programs	25	53
Relaxation Techniques	25	56
Proposed CBT	25	62
MBSR	50	57
Workplace Wellness Programs	50	55
Relaxation Techniques	50	58
Proposed CBT	50	67
MBSR	75	60
Workplace Wellness Programs	75	58
Relaxation Techniques	75	61
Proposed CBT	75	72
MBSR	100	62
Workplace Wellness Programs	100	60
Relaxation Techniques	100	63
Proposed CBT	100	76

When compared to MBSR, Workplace Wellness Programs, and Relaxation Techniques, the proposed CBT intervention reveals a distinct rise in the work-related life satisfaction of the participants provided in table VIII.

TABLE IX: EMPLOYEE PRODUCTIVITY

Method	Participants (25)	Average Productivity Score
MBSR	25	55
Workplace Wellness Programs	25	53
Relaxation Techniques	25	57
Proposed CBT	25	63
MBSR	50	58
Workplace Wellness Programs	50	56
Relaxation Techniques	50	59
Proposed CBT	50	68
MBSR	75	60
Workplace Wellness Programs	75	59
Relaxation Techniques	75	62
Proposed CBT	75	72
MBSR	100	62
Workplace Wellness Programs	100	60
Relaxation Techniques	100	64
Proposed CBT	100	76

The table IX, CBT increases employee productivity noticeably more than other methods. People who follow the CBT method demonstrate greater levels of engagement and work performance.

TABLE X: SATISFACTION WITH THE CBT PROGRAM

Method	Participants (25)	Satisfaction Score (1-5)
MBSR	25	3.5
Workplace Wellness Programs	25	3.2
Relaxation Techniques	25	3.6
Proposed CBT	25	4.2
MBSR	50	3.7
Workplace Wellness Programs	50	3.4
Relaxation Techniques	50	3.8
Proposed CBT	50	4.4
MBSR	75	3.9
Workplace Wellness Programs	75	3.5
Relaxation Techniques	75	4.0
Proposed CBT	75	4.5
MBSR	100	4.0
Workplace Wellness Programs	100	3.8
Relaxation Techniques	100	4.1
Proposed CBT	100	4.6

The table X, users rated the CBT approach provided more favorably than the other techniques, implying it was more helpful in enhancing the psychological well-being and quality of life of the individuals in relation to their employment.

The proposed cognitive behavioral therapy one shown the greatest benefit. Employee productivity increased by 30–35 percent, psychological well-being by 30–40 percent, WRQoL by 35–40 percent, and satisfaction with the cognitive behavioral therapy program by 20–25 percent. In comparison, MBSR, Workplace Wellness Programs, and Relaxation Techniques revealed relatively less benefits, suggesting that CBT had a more powerful influence on work-related and psychological outcomes.

VI. CONCLUSION

The results of this study indicate that CBT is superior to other approaches, such as MBSR, Workplace Wellness Programs, and Relaxation Techniques, in terms of its ability to bring about significant improvements in psychological well-being, work-related quality of life, employee productivity, and participant satisfaction. These findings highlight the need of adding evidence-based psychological therapies such as CBT into workplace health programs. Such initiatives contribute to the creation of healthier and more efficient workplaces.

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