World Journal of Clinical Cases

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World J Clin Cases 2024 January 16; 12(2): 322-334

DOI: 10.12998/wjcc.v12.i2.322

ISSN 2307-8960 (online)

ORIGINAL ARTICLE

Randomized Controlled Trial

Use of cognitive-behavioral career coaching to reduce work anxiety and depression in public employees

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Specialty type: Psychology

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's scientific quality classification

Grade A (Excellent): 0
Grade B (Very good): B
Grade C (Good): C
Grade D (Fair): 0
Grade E (Poor): 0

P-Reviewer: Garcia-Campayo J, Spain

Received: November 2, 2023
Peer-review started: November 2, 2023
First decision: November 28, 2023
Revised: December 4, 2023
Accepted: December 25, 2023
Article in press: December 25, 2023
Published online: January 16, 2024

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Abstract

BACKGROUND

Public employees worldwide are increasingly concerned about work anxiety and depression. Cognitive-behavioral career coaching has emerged as a promising strategy for addressing these mental health disorders, which can negatively impact on a person's overall well-being and performance.

AIM

To examine whether cognitive-behavioral career coaching reduces work anxiety and depression among Nigerian public employees.

METHODS

A total of 120 public employees (n = 60) suffering from severe anxiety and depression were randomly assigned to the treatment or control groups in this study. Cognitive behavioral coaching was provided twice a week to those in the treatment group, whereas no treatment was given to those in the control group. As part of the study, the Hamilton Anxiety Rating Scales and Beck Depression Inventory were used to collect data.

RESULTS

Analysis of covariance of the data from participants indicates a significant effect of cognitive-behavioral career coaching on work anxiety and depression.

CONCLUSION

Insights into the underlying mechanisms by which cognitive behavior career coaching exerts its effects have been gained from this study. Also, the study has gathered valuable data that can inform future practice and guide the development of strategies for supporting mental health at work.

Key Words: Cognitive-behavioral career coaching; Work anxiety; Depression; Public employees; North Central Nigeria

Core Tip: This study examined whether cognitive-behavioral career coaching (CBCC) could reduce work anxiety and depression among 120 public employees in North Central Nigeria. The treatment group received a twice-a-week CBCC, while the control group received a no treatment. The study found that CBCC is effective in reducing work anxiety and depression among public employees. The study recommends integrating the CBCC program into Public Service Commission's welfare program.

Citation: Otu MS, Sefotho MM. Use of cognitive-behavioral career coaching to reduce work anxiety and depression in public employees. *World J Clin Cases* 2024; 12(2): 322-334
URL: https://www.wjgnet.com/2307-8960/full/v12/i2/322.htm
DOI: https://dx.doi.org/10.12998/wjcc.v12.i2.322

INTRODUCTION

Public employees have become concerned about career anxiety, which is characterized by feelings of concern, worry, unease, and uncertainty[1]. These emotions can cause workers to doubt their abilities on the job, experience excessive thinking, and result in stress and depression[2,3]. There is a strong connection between career anxiety and depression, as developing career anxiety can lead to depressive thoughts[4]. In the workplace, anxiety and depression can be caused by a variety of factors, such as long hours[5], excessive workload, workplace bullying, conflicts with colleagues or superiors, and job insecurity[6]. Depressive states can be caused by a number of factors[7]. In addition to unwarranted pressure and deadlines, unclear expectations, low self-esteem, and feelings of unworthiness, workers may also experience these factors [8-10]. Employees can experience workplace anxiety and depression if they lack autonomy to manage their jobs and support from their superiors. Additionally, conflicting demands between work and personal/family responsibilities can also contribute to these issues[11-14]. Recognizing these factors and providing support for employees can help reduce workplace anxiety and depression.

Anxiety and depression at work appear to have a negative impact on the civil service's growth and efficiency, no secret. These conditions can affect how workers feel, think, and behave on the job, resulting in emotional, health, and physical problems[15]. Public employees can also experience anxiety and depression at home and at work[16-18]. Anxiety and depression can be perceived to negatively impact on productivity. In addition to avoiding others, struggling to perform at their best, and becoming easily irritated with office matters[19,20], workers who struggle with these issues may avoid others. In addition to causing unnecessary anger and frustration over minor issues, these conditions can potentially lead to burnout, headaches, hypertension, a lack of enthusiasm, poor recall, a lack of concentration, indecisiveness, and dissatisfaction at work[21]. Employees may experience insomnia, fatigue, loss of appetite, and memory loss, which may lead to drug abuse[22,23]. Low self-esteem can also result from workplace anxiety and depression, causing workers to behave inappropriately or communicate inappropriately with coworkers[24-26].

The recent recession that has affected Nigeria's economy, particularly the conditions of work for public employees, has led to high levels of stress, anxiety, and depression among employees[27,28]. A sense of hopelessness and sadness can result from these feelings. In addition to the demands of some jobs, balancing work and family life can create anxiety and depression in public employees[29,30]. The productivity of workers suffers when anxiety and depression levels are high, and their career efficiency suffers[31]. In addition to oppressive managers, unkind colleagues, poor working conditions, and exclusion from decision-making, workplace anxiety and depression can reduce the effectiveness of workers[32-35].

An interventional program is considered necessary to alleviate the negative effects of anxiety and depression on the efficiency of public employees in the civil service. Due to its successful treatment of human behavioral, emotional, and health-related problems over the years[36,37], cognitive behavioral career coaching (CBCC) was deemed appropriate. As a psychologically based treatment, cognitive-behavioral career coaching (CBCC) has been proven effective in addressing a number of emotional challenges, including anxiety, depression, worries, drug-related problems, relationship problems, and a host of other psychological problems, all of which are caused by unhelpful behaviors and flawed thinking[38-40].

A person suffering from experiencing psychological problems can benefit from CBCC if they are assisted to unlearn their negative attitudes and adopt better ways of living[41,42]. A person's thinking patterns are usually affected by negative attitudes to life, such as depression and anxiety[43]. Through CBCC, individuals can reduce the symptoms of unhelpful lifestyles. In other words, CBCC treatment helps individuals identify distortions causing problems in their thinking, makes them realize how those thoughts are faulty, and helps them correct those thoughts[44]. In addition, CBCC helps individuals develop a superior sense of confidence and face their fears rather than avoid them by cultivating a superior sense of confidence in their abilities. As a result, CBCC intervention helps to reduce mental, physical, and relationship problems among workers in the public sector. Against this background, therefore, and bearing in mind all the benefits of CBCC to workers' health in the workplace, this experiment aims to find out whether the CBCC interventional program is useful for reducing work anxiety and depression among public employees in North-Central Nigeria.

MATERIALS AND METHODS

Ethical approval

It is important to note that the researchers complied with the standards set by the faculty of education, University of Nigeria, Nsukka's committee of research and ethics. The ethical approval number is REC/UNN/FE/2019/000039. Furthermore, the researchers followed the ethical standards for human subjects research set forth in the Declaration of Helsinki, the World Medical Association, and the World Medical Association.

Study area

This study was conducted in Jos, Plateau State, Nigeria. Jos is the capital city of Plateau State, a city that is known for its vibrant economy and presence of many government establishments and structures. Moreover, Jos is the state capital of Plateau State and is home to various government agencies and departments, which contribute to the development and governance of the state.

This city, known for its rich cultural heritage and tourist attractions, as well as its role as an administrative and political hub, hosts a variety of festivals and cultural events throughout the year. Jos offers a unique research environment, thanks to its central location, diverse cultural heritage, government institutions, and infrastructure. The city's diverse population, government institutions, and existing infrastructure make it a desirable place to conduct research. As a result of the study conducted in Jos, Plateau State, Nigeria, valuable insights were gained into Jos' political landscape, its economy, and its cultural heritage. Jos, the capital of Nigeria's North Central region, is ideal for conducting research studies because it has numerous government establishments and structures, as well as a significant population of public employees.

Design of the Study

A group-randomized trial (GRT) research design was used in this study. In accordance with[45], a GRT is a group-related research design that examines the observable characteristics of a group of individuals[46-49]. This study used GRT to assess the effects of CBCC interventional program on reducing work anxiety and depression among public employees in North-Central Nigeria. GRT is a common design in schools, workplaces, or communities where people are understudied and randomly assigned to experimental or control treatments in groups. By randomizing the experimental process, every factor that could impede or thwart its successful conduct is adequately contained. In this study, the GRT design places a high value on group engagement, a principle that is crucial for the success of the study.

Participants of the study

The study involved one hundred and twenty (120) public employees within the study area who were experiencing varying degrees of work anxiety and depression. In order to obtain these numbers, the researchers used a multistage sampling method. After publicizing the study through announcements, advertisements, and posters, 350 public employees volunteered to take part. To determine whether the 350 volunteer-public employees were suitable for the study, the researchers conducted various eligibility tests. To begin with, each volunteer was asked to obtain a medical report describing the severity of their anxiety and depression. A second method used by the researchers was to assess the eligibility of the participants using Beck Depression Inventory-II (BDI-II), and Hamilton Depression Rating Scale (HAM-D). At this stage, baseline data were collected from the participants. Participants were required to complete an informed consent form, to have mild, moderate, or severe depression (BDI-II items 29–63, HAM-D items 19–22); to have no history of ongoing psychotherapy, to be a public employee, and to read and understand English well. The exclusion criteria included bipolar disorder, anxiety disorder, substance abuse records, schizophrenia, brain damage, mental derangement, or any sign of psychosis. Using a purposive sampling method, the researchers selected 120 public employees who met the eligibility criteria, and the participants were randomly assigned either to the treatment or control groups based on their responses to the eligibility tests[50,51]. The treatment group was subjected to a CBCC interventional program, while the control group received no treatment.

Additionally, the researchers assigned participants to the treatment and control groups using Random Allocation software (RA), Version 1.0. RA is a software package that produces random lists. The researchers in this study utilized the G*Power 3.1.1 statistical package to validate the accuracy of their data and sampling techniques, in accordance with scholars' recommendations for establishing precision through statistical tools[52]. The G*Power 3.1.1 package calculates the values of sample size based on the level of significance, statistical power, and population size[53]. As a result of using this computer software, the 120-sample size of the study was found to have a statistically significant power of 0.95 at a 0.05 Level of significance, with a sample size effect of 0.47. Interestingly, this method of randomization has been employed in previous studies conducted in Nigeria[54,55]. To generate random lists of participants in the treatment and control groups, RA Software version 1.0, was used. By using this software, participants were randomly assigned to a treatment or control group, minimizing the possibility of bias or selection errors. The Table 1 displays the demographic statistics of the public employees involved in the study (Figure 1).

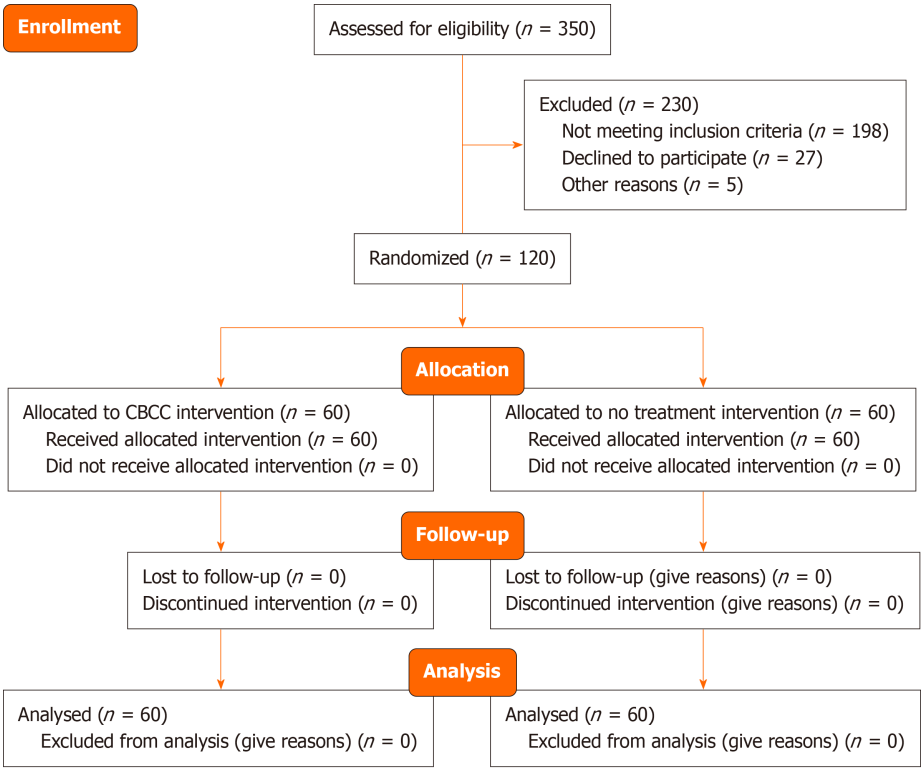
Tools for data collection

Hamilton Anxiety Rating Scale: A Hamilton Anxiety Rating Scale (HAM-A), developed by Hamilton in 1959[56], helps individuals assess the severity of anxiety symptoms[57,58]. It is one of the most widely used anxiety scales for assessing anxiety symptoms and severity. There are 14 items on the HAM-A, which measure both emotional and physical anxiety symptoms. Each item is rated on a five-point scale ranging from 0 (not present) to 4 (extreme). The collective scores of HAM-A spread across 0 to 56, grouped according to the severity of anxiety symptoms among people as No anxiety (0-9), Mild anxiety (10-17), Moderate anxiety (18-24), Severe anxiety (25-34), and Extreme anxiety (35-56). Among the many

Table 1 Participants' demography

Characteristics	Treatment group	Control group[1]
Age of participants	52.22 ± 22.47[1]	52.75 ± 42.45[2]
Gender, *n* (%)		
Male	28 (23.33)	34 (28.33)
Female	32 (26.67)	26 (21.67)
Total, *n* (%)	60 (50)	60 (50)

[1]η^2 = eta squared (effect size).
[2]Mean age ± SD of participants by groups.



DOI: 10.12998/wjcc.v12.i2.322

Figure 1 Flow chart.

stressors covered by the scale are moods, tension, phobias, sleeplessness, memory problems, and physical symptoms such as pain and twitching. Researchers have found the HAM-A highly reliable among individuals with anxiety with a reliable test-retest and internal consistency of Y alpha = 0.77 to 0.92[59,60]. This study chose the HAM-A because it examines not only the physical symptoms of anxiety, but also its psychological causes, which are essential for reducing anxiety among Nigerian employees. HAM-A has been used to measure depression among Nigerian subjects[61,62].

BDI-II: The BDI-II is a valuable tool used to measure depression among people designed by a cognitive therapist, Aaron Beck, in 1961[63,64]. There is high reliability in the BDI-II and it distinguishes between people with and without depression. A BDI-II has an internal consistency of 0.90 and a test-retest reliability of 0.73 to 0.96, indicating that all of the items measure the same construct and are interrelated[65]. The BDI highlights twenty-one statements corresponding to different symptoms of depression. The cumulative scores ranged from 0 (lowest) to 63 (highest). Each statement contains multiple responses (0 to 3). For a score of 0 or 63, an individual must choose 0 or 3. In addition to guilt, dejection, negativism, loss of interest in activities, difficulty concentrating, and fatigue, the statements emphasize depressive emotions. There are specific scores for different levels of depression on the four-point scale. A normal condition is graded 0 to 10, mild depression records 11 to 16, moderate depression scores 17 to 31, severe depression scores 32 to 44, and severe depression scores 45 to 63[66,67]. In this study, we are interested in BDI-II since it has been used in a recent study in Nigeria and has been described as effective for reducing depression symptoms[66].

Procedure

Following ethical research standards, the researchers invited workers to participate by making public announcements, advertising, and posting posters. A total of 355 public employees suffering from anxiety and depression signed up for the program. Furthermore, the researchers made sure all participants signed informed consent forms when they registered and clarified the purpose of the study.

In addition, the researchers requested a medical report from each volunteer as a third step. In order to determine whether participants were eligible, the HAM-D and BDI-II both served as useful eligibility tests. Each group was assigned 120 public employees (civil servants) with high work anxiety and severe depression scores. The intervention group had 60 participants and the control group had 60 participants. The experimental group received the CBCC program as an intervention, whereas the control group did not undergo any treatment. Participants in counselling sessions receive personalized attention in the no-treatment group[68]. No treatment has been utilized in randomized studies in Nigeria [54].

As part of the intervention, public civil employees received cognitive-behavioral career coaching four weeks (each consisting of eight sessions). Cognitive-behavioral career coaching was designed to reduce anxiety and depression severity. The researchers was assisted by two career coaches in guidance and counselling during the delivery of the intervention and data collection. They had doctorates in career counseling and research interests in the application of CBCC. In preparation for the study, the coaches attended two weeks of briefings and training to learn and master CBCC for treating work anxiety and depression.

Participants in the experiment participated in a post-treatment activity during the last week of the experiment. Two months after the experiment, participants attended follow-up sessions twice weekly for two weeks. The two-week follow-up program was designed to provide the researchers with the data needed to interpret the work anxiety and depression levels of the participants following the experiment[69]. As a result, CBCC's efficacy could be further confirmed. As a final step, specialists who had no knowledge of the study or its processes analyzed the data collected from the participants. In addition to pre-treatment data (gathered before the research began), post-treatment data, and follow-up data, a flowchart was used to demonstrate the progress of the study from start to finish. Flowcharts are rich, illustrative reports of randomized studies[54,66,70].

Intervention

The cognitive-behavioral career coaching intervention combined cognitive and behavioral techniques to help public employees reduce work anxiety and depression[71-73]. The focus was to help the public employees to develop effective coping strategies, identify and challenge negative thought patterns and behaviors, and enhance their overall satisfaction with their careers using evidence-based strategies found in previous studies[54,55,66,74]. The CBCC was conducted in eight sessions.

Session 1: Understanding Career Anxiety and Depression. This session introduced the concept of career anxiety and depression, its symptoms, and potential triggers, as well as discuss the nature and impact of these mental health challenges within the public sector.

Session 2: Recognizing negative career beliefs and thoughts. In session 2, the focus was to examine and identify the negative beliefs and thoughts that contribute to career anxiety and depression.

Session 3: Overcoming negative career beliefs and thoughts. Through cognitive restructuring techniques, participants were empowered to challenge and reframe their negative thoughts and beliefs, thereby promoting a more balanced and realistic outlook. In order words, CBCC assists individuals replace these thoughts with more realistic and adaptive beliefs.

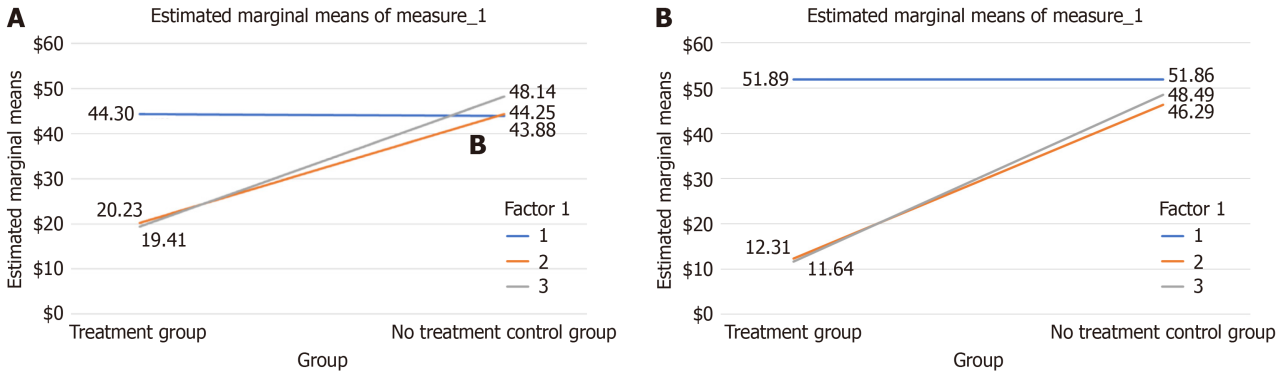
Session 4: As part of this session, the focus was to logically find and cultivate healthy ideas that support functional beliefs in order to build new career beliefs and thoughts.

Session 5: Establishing realistic goals. In session 3, participants worked together with a career coach to set realistic and measurable career goals aligned with their values and aspirations. By setting clear and measurable goals, participants can feel a sense of purpose and gain direction, reducing their career anxiety.

Session 6: Coping Strategies. In this session, the CBCC helped the participants to develop a variety of coping strategies to help them manage work anxiety and depression. The strategies were relaxation techniques, stress management strategies, and communication skills. The participants were taught how to deal with work-related challenges more effectively using these strategies.

Session 7: Developing Self-Awareness and Self-Efficacy. In this session, the CBCC helped the participants to discover their strengths, skills, and preferences. Being self-aware can increase motivation and resilience when facing work-related stress, which can result in greater levels of self-confidence and self-efficacy.

Session 8: Promoting Job Satisfaction. In this session, the participants were taught CBCC seeks to assist individuals in finding and pursuing careers that align with their values and interests. An individual's job satisfaction and anxiety can be increased if their work is aligned with their goals and aspirations. Moreover, the participants developed a network of friends, colleagues, and mentors who can offer guidance and encouragement whenever necessary.



DOI: 10.12998/wjcc.v12.i2.322

Figure 2 Graphical representation of the effect of cognitive behavioral career coaching on work anxiety and depression among public employees. A: Work anxiety; B: Depression.

Data analysis

The data were analyzed using an ANCOVA (Analysis of Covariance), controlling for age, gender, and job tenure as potential confounding variables. ANOVA allows for comparison of outcomes between treatment groups and control groups while controlling for baseline differences. In addition, the researchers utilized the Eta Squared to visualize the population's effect size. A recent study in Nigeria used Eta Squared to determine the effect size of a population[54,69].

RESULTS

Table 1 shows the demographic characteristics of the participants. Table 2 summarizes the effects of CBCC on public employees suffering from work anxiety. According to the table, there was no significant difference between public employees exposed to the CBCC intervention and those not exposed to the intervention, 44.29 ± 5.46 and 43.88 ± 5.27, respectively, with effect size of .002. There is a high level of work anxiety among public employees, as indicated by the high mean scores between the two groups. The effect size of 0.804 was found between the treatment and no-treatment groups at the post-test, the mean scores and standard deviations in each being 20.22 ± 6.18 and 44.25 ± 5.74, respectively. Results showed low mean scores among public employees exposed to CBCC treatment and high mean scores among those not exposed to treatment. As a result, CBCC was effective in reducing anxiety at work. Lastly, CBCC exposed employees and control employees had a mean score of 19.40 ± 6.90 ± 9.41, respectively, with an effect size of 0.756 at the follow-up stage. Accordingly, CBCC appears to be effective in reducing work anxiety among public employees at the follow-up stage, because it results in low mean scores for the group treated with CBCC, but a high mean score for the group not treated with CBCC, and a high effect size.

Hypothesis 1

Effect of cognitive behavioral career coaching on work anxiety among public employees is not significant. Data presented in Table 3 indicate that cognitive behavioral career coaching has a significant effect on work anxiety among public employees at post-test [F (1, 118) = 484.739, P = 0.000] and follow-up [F (1, 118) = 365.051, P = 0.000]. The study therefore rejected hypothesis 1. Consequently, public employees exposed to the CBCC treatment experienced significantly lower levels of work anxiety than those exposed to no treatment. The following chart shows the: (1) Pretest; (2) post-test; and (3) follow-up results of the treatment group *vs* the no-treatment group (Figure 2A).

The effects of CBCC on public employees suffering from depression are summarized in Table 4. At the pretest, there was no significant difference between employees exposed to the CBCC intervention and those not exposed to the intervention, 51.88 ± 6.73 and 51.86 ± 6.88, respectively, with effect size of 0.000. According to the high mean scores between the two groups, public employees experience a high level of depression. At the post-test, the treatment and no-treatment groups had a 0.810 effect size, with mean scores and standard deviations of 12.31 ± 8.09 and 46.28 ± 8.50, respectively. The results showed that public employees who were exposed to CBCC treatment scored lower than employees who were not exposed to it. Therefore, CBCC reduced depression at work effectively. At the follow-up stage, CBCC exposed employees and control employees had mean scores of 11.63 and 8.82, respectively, with an effect size of 0.840. Accordingly, CBCC appears effective at reducing depression among public employees at the follow-up stage, since it results in low mean scores for the group treated with CBCC and high mean scores for the group not treated with CBCC.

Hypothesis 2

Effect of cognitive behavioral career coaching on depression among public employees is not significant. Table 5 shows a significant effect of cognitive behavioral career coaching on depression among public employees, both at post-test [F (1, 118) = 502.447, P = 0.000] and at follow-up [F (1, 118) = 617.709, P = 0.000]. Hypothesis 2 was therefore rejected in the study. Therefore, CBCC treatment significantly reduced depression levels among public employees compared to those not treated. A comparison of the results of the treatment group *vs* the no-treatment group is shown in the following chart

Table 2 The results of descriptive analysis indicating the effect of cognitive behavioral career coaching on work anxiety among public employees

		n	Mean	SD	SE	95% confidence interval for mean		[1]η²
						Lower bound	Upper bound	
HAM-A pretest	Treatment group	61	44.29	5.46	0.69	42.89	45.69	0.002
	No-treatment control group	59	43.88	5.27	0.68	42.50	45.25	
	Total	120	44.09	5.35	0.48	43.12	45.05	0.804
HAM-A post-test	Treatment group	61	20.22	6.18	0.79	18.64	21.81	
	No-treatment control group	59	44.25	5.74	0.74	42.75	45.75	
	Total	120	32.04	13.44	1.22	29.61	34.47	0.756
HAM-A follow-up	Treatment group	61	19.40	6.90	0.88	17.64	21.17	
	No-treatment control group	59	48.13	9.41	1.22	45.68	50.58	
	Total	120	33.53	16.58	1.51	30.53	36.53	

[1]η^2 = eta squared (effect size).
HAM-A: Hamilton anxiety rating scale.

Table 3 Results of analysis of covariance for the effect of cognitive behavioral career coaching on work anxiety among public employees

		Sum of squares	Df	Mean square	*F* value	Sig.
HAM-A pretest	Between groups	5.134	1	5.134	0.178	0.674
	Within groups	3406.858	118	28.872		
	Total	3411.992	119			
HAMA post-test	Between groups	17310.818	1	17310.818	484.739	0.000
	Within groups	4213.973	118	35.712		
	Total	21524.792	119			
HAMA follow-up	Between groups	24748.197	1	24748.197	365.051	0.000
	Within groups	7999.669	118	67.794		
	Total	32747.867	119			

Sig.: Significant; HAM-A: Hamilton anxiety rating scale.

(Figure 2B).

DISCUSSION

An investigation of the levels of work anxiety and depression among public employees who were either exposed to CBCC or the no treatment revealed a significant difference in outcomes at both the post-test and follow-up tests. Participants were randomly assigned to either the CCBC treatment group or the no treatment group in an attempt to assess CBCC's effectiveness in treating work anxiety and depression among public employees. It is clear from the post-test results that participant who received the CCBC intervention displayed significantly lower levels of anxiety and depression than participants receiving the no treatment. In addition, in a follow-up exercise, participants who continued receiving the CBCC treatment maintained the reduced levels of work anxiety and depression compared to those who returned to their usual treatment. According to these results, the CCBC treatment reduced participants' levels of work anxiety and depression for a long time. Overall, the findings of the study provide compelling evidence that CBCC is an effective treatment for reducing work anxiety and depression among public employees. CBCC is an intervention that has proven to be effective in supporting and promoting the psychological well-being of public employees, as both the post-test and follow-up exercises revealed differences in work anxiety and depression levels.

Table 4 The results of descriptive analysis indicating the effect of cognitive behavioral career coaching on depression among public employees

		n	Mean	SD	SE	95% confidence interval for mean		$\eta^{2[1]}$
						Lower bound	Upper bound	
BDI pretest	Treatment group	61	51.88	6.73	0.86	50.15	53.61	0.000
	No-treatment control group	59	51.86	6.88	0.89	50.07	53.65	
	Total	120	51.87	6.78	0.61	50.64	53.10	0.810
BDI post-test	Treatment group	61	12.31	8.09	1.03	10.23	14.38	
	No-treatment control group	59	46.28	8.50	1.10	44.07	48.50	
	Total	120	29.01	18.95	1.73	25.59	32.44	0.840
BDI follow-up	Treatment group	61	11.63	8.82	1.13	9.37	13.90	
	No-treatment control group	59	48.49	7.31	0.95	46.58	50.39	
	Total	120	29.75	20.19	1.84	26.10	33.40	

[1]η^2 = eta squared (effect size).
BDI: Beck depression inventory.

Table 5 Results of analysis of covariance for the effect of cognitive behavioral career coaching on depression among public employees

		Sum of squares	Df	Mean square	*F* value	Sig.
BDI pretest	Between groups	0.013	1	0.013	0.000	0.987
	Within groups	5473.112	118	46.382		
	Total	5473.125	119			
BD post-test	Between groups	34622.783	1	34622.783	502.447	0.000
	Within groups	8131.184	118	68.908		
	Total	42753.967	119			
BDI follow-up	Between groups	40731.180	1	40731.180	617.709	0.000
	Within groups	7780.811	118	65.939		
	Total	48511.992	119			

Sig.: Significant; BDI: Beck depression inventory.

It supports Ellis' theory that cognitive behavior strategies can reduce irrational emotional thought patterns that contribute to work anxiety and depression[71]. According to Ellis, irrational emotional thought patterns, such as exaggerated or distorted perceptions of situations, contribute to emotional distress as well as hinder effective problem-solving. In CBCC interventions such, these irrational thought patterns are identified and modified. The findings of this study also support Nakao *et al*'s finding that cognitive behavioral interventions were found to reduce irrational thought patterns and improve workers' overall well-being after participating in these interventions[72]. Employees were able to challenge and modify those beliefs and thoughts that were causing distress by becoming more aware of them. That will increase their job satisfaction and performance. This supports the notion that CBCC can improve job satisfaction and work performance[73]. By addressing irrational thought patterns, workers were able to better cope with work-related stressors and develop more productive coping mechanisms. As a result, work anxiety and depression decreased and job performance improved.

According to the findings of this study, cognitive behavior approaches, specifically CBCC, can effectively manage and reduce irrational emotive thought patterns that contribute to work anxiety and depression. CBCC interventions enable workers to challenge and modify their mental processes and thought patterns by helping them become aware of their mental processes and thought patterns. Consequently, mental health improves, job satisfaction rises, and performance at work improves. The findings also agree with the findings of various previous works which support the effectiveness of CBCC in managing and reducing several psychological problems such as depression, anxiety, and stress, as well as increasing the health status of individuals[66,74]. The findings of the study also corresponded with the findings of a similar study conducted by Graham *et al*[44] which showed that cognitive behavioral approaches are effective in making workers change their dysfunctional thoughts that cause anxiety and depression and manage these situations effectively. It

further supports previous studies that found cognitive behavioral therapy reduces the symptoms of unhelpful lifestyles by making individuals think and behave positively[43]. It is therefore imperative to expose public employees to the essentials of the CBCC intervention as a means of managing and reducing work anxiety and depression among them.

CONCLUSION

It was demonstrated that CBCC treatment resulted in significantly lower anxiety and depression levels among public employees in comparison to those receiving no treatment. Over time, the CBCC intervention reduced work anxiety and depressive symptoms effectively. Public employees' mental health and work well-being can be improved by CBCC, according to the study. Accordingly, it is recommended that efforts be made to implement the CBCC approach across Nigeria's public civil service. The use of CBCC practices in the civil service will decrease work anxiety and depression among public employees, increasing their productivity and maintaining their psychological, social, and professional health.

ARTICLE HIGHLIGHTS

Research background

It is common for employees in the public sector to experience anxiety and depression. These conditions can negatively impact an individual's overall well-being and performance at work. As a promising approach to reducing anxiety and depression among public employees, cognitive-behavioral career coaching has emerged in recent years. Providing cognitive-behavioral career coaching to public employees is a valuable way to reduce work anxiety and depression. In addition to providing individual support, cognitive-behavioral career coaching helps public employees overcome mental health challenges and improve their work performance and well-being by developing skills, behavioral strategies, and self-awareness. It is possible for public employers to foster a culture that prioritizes the mental health of its employees by investing in training programs, employee assistance programs, dedicated coaches, and organizational support. Public institutions can contribute to the health and productivity of their workforce by implementing these strategies.

Research motivation

Public employees are often stressed, anxious, and depressed because of today's fast-paced, high-pressure work environment. Individuals with mental health issues can suffer significant adverse effects on their professional performance and overall well-being. The cognitive-behavioral career coaching approach has emerged as a promising method of coping with and reducing work-related anxiety and depression among public employees in recent years. Using cognitive-behavioral career coaching to achieve this goal was the aim of this study.

Research objectives

The objective of this research is to find out whether the cognitive behavioral coaching (CBCC) interventional program is useful for reducing work anxiety and depression among public employees in North-Central, Nigeria.

Research methods

This was a group randomized trial designed to examine the effectiveness of cognitive Behavior career coaching for employees with severe anxiety and depression in the workplace. There were 120 public employees recruited for this study, who were randomly assigned to either the treatment group or the control group based on a random number generator. In contrast to the control group, which did not receive any intervention, the treatment group was provided with eight sessions of CBCC. The Hamilton Anxiety Rating Scale and Beck Depression Inventory were administered at the beginning and end of the study for the purpose of collecting data.

Research results

It is clear from the post-test results that participant who received the CCBC intervention displayed significantly lower levels of anxiety and depression than participants receiving the no treatment. In addition, in a follow-up exercise, participants who continued receiving the CBCC treatment maintained the reduced levels of work anxiety and depression compared to those who returned to their usual treatment. According to these results, the CCBC treatment reduced participants' levels of work anxiety and depression for a long time. Overall, the findings of the study provide compelling evidence that CBCC is an effective treatment for reducing work anxiety and depression among public employees.

Research conclusions

It was demonstrated that cognitive CBCC treatment resulted in significantly lower anxiety and depression levels among public employees in comparison to those receiving no treatment. Over time, the CBCC intervention reduced work anxiety and depressive symptoms effectively. Public employees' mental health and work well-being can be improved by CBCC, according to the study. Accordingly, it is recommended that efforts be made to implement the CBCC approach across Nigeria's public civil service. The use of CBCC practices in the civil service will decrease work anxiety and depression among public employees, increasing their productivity and maintaining their psychological, social, and professional

health.

Research perspectives

The existing research has provided promising results, but further refinement and improvement of cognitive-behavioral career coaching in mitigating work anxiety and depression in public employees can be explored in the future. Research can be conducted in the following areas: (1) Individual differences should be examined in order to understand how cognitive-behavioral career coaching reduces anxiety and depression at work because of differences in personality traits, coping styles, and social support; (2) A combination of face-to-face sessions and online programs, or both, can be effective delivery mechanisms for cognitive-behavioral career coaching; (3) In order to develop sustainable interventions, it is crucial to understand the long-term effects of cognitive-behavioral career coaching; (4) It is important to compare cognitive-behavioral career coaching with traditional intervention strategies to determine if it is more cost-effective; (5) Evaluation of the effectiveness of cultural adaptation in cognitive-behavioral career coaching to ensure inclusivity and effectiveness across racial and ethnic groups; and (6) Addressing these future directions will allow our understanding of cognitive-behavioral career coaching in reducing work anxiety and depression to advance.

ACKNOWLEDGEMENTS

We are deeply grateful for the contributions and support of many individuals involved in this study. We are especially grateful to the public employees who participated in this study and shared their stories and experiences. We greatly appreciate their willingness to participate and contribute to the advancement of scientific knowledge. Additionally, We would like to thank the supervisors and managers who provided invaluable guidance and support throughout the research process, as well as their cooperation in facilitating recruitment and data collection. The University of Nigeria Nsukka's research ethics committee and institutional review board also provided guidance and support for us. In addition, we are grateful to the Department of Educational Psychology at the University of Johannesburg for providing general supervision and support for this research. As a result of their meticulous review of the research protocol and procedures, all relevant regulations and ethical standards were met during the study.

FOOTNOTES

Author contributions: Otu MS contributed significantly to every part of the manuscript. Specifically, he handled conceptualisation, visualisation, drafting, Writing, investigation, data analysis, data collection and project administration; Sefotho MM was responsible for sourcing for funding, proofreading, responding to reviewer's/editors' comments, reviewing of the manuscript before submission, English and technical editing, and general project supervision.

Institutional review board statement: In compliance with research ethics, the researchers complied with the standards set by the committee of research and ethics in the faculty of education, University of Nigeria, Nsukka. The researchers also conformed with the research principles specified in the Declaration of Helsinki, the World Medical Association, and the ethical standards for research with human subjects. The approval number for the study is REC/UNN/FE/2019/000039.

Clinical trial registration statement: This study was registered at Open Science Framework (OSF) registries (https://osf.io/5qfaw). The registration identification number is https://doi.org/10.17605/OSF.IO/5QFAW.

Informed consent statement: All the participants signed informed consent form.

Conflict-of-interest statement: There is no conflict of interest in this study.

Data sharing statement: Data used in this study is available on request.

CONSORT 2010 statement: The authors have read the CONSORT 2010 statement, and the manuscript was prepared and revised according to the CONSORT 2010 statement.

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S-Editor: Lin C
L-Editor: A
P-Editor: Xu ZH

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