International Journal of Innovative Education Research 14(3):486-495, July-Sept, 2026

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DOI:10.5281/zenodo.22283718

Differential Effects Of Digital And In-Person Cognitive-Behavioural Therapies (CBT) On Depression Reduction Among Youths

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ABSTRACT
This study investigated the differential effects of digital and in-person, psychodynamic therapies on depression reduction among youths in Port Harcourt Metropolis. The study adopted quasi-experimental research design. The population comprised of 649,600 young adults between the ages of 18 and 35 residing in Obio-Akpor LGA in Port Harcourt metropolitan who satisfied the criteria for depression as assessed by the Becks depression inventory and patient health questionnaire. A sample of 150 participants was drawn from the target population through a non-probability purposive sampling technique. All individuals that scored up to the bench mark of 60 and above in the patient health questionnaire-9 (PHQ-9) and the Becks depression inventory-II (BDI-II) combined, were selected. The two instruments used for this study were adapted from the patient health questionnaire-9 (PHQ-9) and the Becks depression inventory-II (BDI-II). Research instruments were validated by experts in educational psychology and field of Measurement and Evaluation from Department of Educational Psychology, Guidance and Counselling University of Port Harcourt. Both Face and content validities of the instrument were done. Cronbach Alpha statistics was used to determine the internal consistency of the instrument. The reliability coefficients realized were 0.74 for Patient Health Questionnaire and (PHQ) and 0.88 for Beck's depression Inventory respectively. These results showed that both instruments were reliable. The experimental procedure involves the pre-test, the treatment and the post-test stage. The data collected from the assessments was analyzed in accordance with the research questions and hypotheses of the study. All the research questions were answered using mean and standard deviation. Hypotheses 1 and 2 were tested using paired samples t-test, hypothesis 3 was tested using independent samples t-test at 0.05 level of significance with the use of Statistical Packages for Social Sciences (SPSS) version 23. The study concluded that both digital and in-person cognitive-behavioural therapies (CBT) were effective in reducing depression among youths in Port Harcourt Metropolis. The study then recommends among others that counselling psychologists and mental-health practitioners should continue to provide and strengthen in-person CBT services for youths, as the findings indicate that it significantly reduces depression and provides effective therapeutic support.
Keywords: Digital Cognitive-Behavioural Therapy, In-Person Cognitive-Behavioural Therapy and Depression.

INTRODUCTION

Depression is a major mental health condition that affects millions all over the world. Because it is a mental illness, it can be a lot difficult to understand. Almost everyone feels down from time to time. For instance, getting a bad grade, losing a job, having an argument, and even a rainy day can bring on feelings of sadness. Sometimes there is no trigger at all, it just pops up out of the blue, then circumstances change and those sad feelings disappear. Clinical depression on the other hand is different because it is medical or psychiatric disorder that won't go away just because we want it to. It lingers for at least two consecutive weeks, significantly interfering with one's ability to work, play or love. Scientifically, depression is defined as a psychiatric disorder characterized by a persistent and pervasive low mood or sadness, accompanied by a loss of interest or pleasure in activities, and additional symptoms such as changes in appetite or weight, sleep disturbances, fatigue, or loss of energy, psychomotor agitation or retardation, difficulty thinking or concentrating, feelings of worthlessness or excessive guilt, and recurrent thoughts of death or suicide. The symptoms are present most of the day, nearly every day, for at least two weeks and significantly impair social, occupational, or other important areas of functioning. (American Psychiatric Association, 2013). This definition encompasses the key features and criteria used in clinical settings to diagnose major depressive disorder (MDD) or clinical depression.

Pilgrim, and Rogers, (2005), defined depression as a syndrome of emotional distress, characterized by pervasive feelings of sadness, hopelessness, and guilt, accompanied by physical symptoms such as fatigue and loss of appetite, and behavioural features including social withdrawal and lack of motivation. Also, Radloff, (1977), defined depression as a state of generalized dejection and sadness, more prolonged and severe than the familiar experience of transient unhappiness, characterized by sadness, low self-esteem, withdrawal from reinforcing stimuli, and vegetative symptoms such as changes in appetite and sleep.

Zisook, and Lesser, (2012); stated that depression in children and adolescents is defined as a debilitating psychiatric disorder characterized by a persistent sad or irritable mood, loss of interest or pleasure, changes in appetite or weight, sleep disturbances, fatigue or loss of energy, feelings of guilt or worthlessness, difficulty concentrating, and recurrent thoughts of death or suicide.

These definitions have several common characteristics which include; loss of interest or pleasure, persistent low mood, difficulty concentrating, feelings of guilt, suicidal ideation, etc. Experience has shown that most individuals who experienced physical, sexual, or emotional abuse during childhood are at risk of developing depression as adults. Also, lack of emotional support during childhood or growing up in a family environment characterized by conflict, parental substance abuse, or parental mental health issues can increase the likelihood of one becoming depressed later on in life. (Cohen, Kessler, Gordon-Larsen, Koenen, & Avenevoli, 2004). Traumatic Life events such as the death of a close family member or friend, a fire incident claiming one's home and properties, an accident resulting in paralysis, etc. can lead to depression. Also, High levels of chronic stress in the workplace, such as demanding job responsibilities, long work hours, and lack of job security, have contributed to the development of depression. Persistent financial hardships, such as unemployment, debt, or poverty, can lead to chronic stress which increases the risk of depression. Relationship challenges such as frequent conflicts, lack of communication, or marital dissatisfaction, have also contributed to the development of depression. Individuals with chronic illnesses such as diabetes, arthritis, cardiovascular disease, or autoimmune disorders can be associated with increased rates of depression, likely due to the impact on overall well-being and lifestyle changes. Immigrants or individuals living in a different culture than their own may experience feelings of loneliness, social isolation, and difficulty integrating, which can increase the risk of depression.The misuse of substances such as cocaine can disrupt brain chemistry and deplete neurotransmitters associated with mood regulation, leading to a crash or "come-down" period marked by feelings of depression and fatigue.

Depression is a global phenomenon that affects individuals across different cultures and regions, including Africa. However, it's important to note that the historical understanding and recognition of depression, as well as its diagnosis and treatment, have evolved over time. The historical understanding of depression can be traced through various periods. In ancient civilizations, symptoms resembling

depression were documented in ancient texts from civilizations such as Egypt, Greece, and Rome. For example, in ancient Greece, melancholia was recognized as a distinct condition associated with sadness and emotional distress (Hippius, 1988). During the Middle Ages and renaissance, depression was often attributed to spiritual or moral causes rather than being considered a medical condition. It was often seen as a consequence of sin, demonic possession, or personal weakness (Shorter, 2009). The emergence of modern psychiatry in the 19th and early 20th centuries led to the development of concepts like melancholia and depressive neurosis. The field of psychoanalysis, pioneered by Sigmund Freud, contributed to further understanding and treatment approaches for depression. The mid-20th century saw the standardisation of diagnostic criteria for mental disorders, including depression, with the introduction of the Diagnostic and Statistical Manual of Mental Disorders (DSM). Research advancements in psychopharmacology and psychotherapy have significantly improved the recognition and treatment of depression worldwide (Kendler & Gardner, 2016).

It's important to note that research on the history of depression in Africa is still developing, and the understanding of mental health in African societies has often been influenced by Western perspectives. Nevertheless, in many African societies, mental health issues, including depression, were often attributed to supernatural causes, ancestral spirits, or witchcraft. Traditional healers and community support played significant roles in addressing mental distress (Patel, 2007).

During the colonial period, Western medical systems were introduced to Africa, which had an impact on the perception and understanding of mental health. However, mental health was often neglected, and resources for diagnosis and treatment were limited (Campbell & Mzobe, 2014). In recent decades, there has been increased awareness and recognition of mental health issues, including depression, in Africa. Efforts have been made to integrate mental health services into primary care, strengthen mental health policies, and reduce stigma (Gureje, 2007). Understanding the cultural, social, and historical contexts shape the perception, recognition, and treatment-seeking behaviours related to depression. There are various treatment options available for the treatment of depression, including medication and psychotherapy, this research emphasized on two types of Psychotherapy which are; psychodynamic therapy and cognitive-behavioural therapy (CBT).

Psychodynamic therapy, also known as psychoanalytic therapy, is a form of talk therapy that focuses on exploring unconscious thoughts, feelings, and behaviours to understand and resolve emotional conflicts (McEvoy, John, Smith, & Brown 2021). Over the years, its effectiveness has been well established. On the other hand, Cognitive-behavioural therapy (CBT), is a form of talk therapy that focuses on the relationship between thoughts, feelings, and behaviours. It aims to help individuals identify and change negative thought patterns and behaviours that contribute to depression. CBT focuses on teaching individuals coping strategies and challenging negative thoughts and behaviours. In recent years, the advancement of technology has enabled the delivery of these therapies remotely, via digital medium. This has led to an increased interest in understanding the differential effects of digital and in-person psychodynamic and CBT therapies on depression reduction among youths.

The term "digital" in the context of technology refers to the integration and use of digital tools, and resources for communication and transfer of information. It encompasses the application of electronic devices, software applications, online platforms, and digital content to enhance the transfer of information from one person to another. Digital therapy or e-therapy or online therapy, therefore is the provision of psychological or mental health services through digital platforms or medium. It involves the use of digital tools, such as; web applications, mobile applications, video conferencing, audio or text-based communication, to deliver therapy remotely. Digital therapy provides individuals with the opportunity to receive therapy services conveniently and flexibly, overcoming geographical barriers and increasing accessibility to mental healthcare. For example, “Better Help” is an online platform that offers digital therapy services. It connects individuals with licensed therapists through secure messaging, live chat, phone calls, and video sessions. Clients can access therapy sessions from the comfort of their own homes using a computer or mobile device. “Better Help” provides a range of therapy options, including individual counseling, couples therapy, and therapy for specific issues like depression, anxiety, or

relationship problems. (https://www.betterhelp.com). Other examples include: 7 Cups, an online emotional support platform that connects users with trained listeners and therapists. They offer free chat-based support, as well as a paid option for therapy with licensed professionals. (https://www.7cups.com/). Talkspace is another online therapy platform that connects users with licensed therapists via messaging, video, or voice calls. They offer subscription-based plans, and therapists are matched based on individual needs and preferences. (https://www.talkspace.com/).

Open Counseling is a directory of free and low-cost counseling services. While it doesn't provide therapy directly, it helps individuals find local counseling centers, nonprofits, and community clinics that offer free or affordable counseling options. (https://www.opencounseling.com/). MindShift is a mobile app designed to help individuals manage anxiety. It provides various self-help tools and resources, including strategies from cognitive-behavioural therapy (CBT).

(https://www.anxietycanada.com/resources/mindshift-cbt/) While the digital delivery of mental health treatment holds promise, it also presents notable challenges. Particularly, rural and remote areas may experience limitations in phone and internet connectivity, impacting access to resources. Furthermore, widespread availability of internet connections and personal devices is not guaranteed. Additionally, proficiency in basic literacy and information technology becomes necessary, potentially excluding patients lacking these skills from benefiting. It's important to note that prevailing digital options follow a predominantly Western framework, potentially rendering them less suitable for culturally and linguistically diverse patients and communities. Moreover, digital psychotherapy, being less structured than face-to-face sessions, demands intrinsic motivation to consistently engage with materials and modules. Individuals exhibiting strong avoidance or avolition might require amplified support from family or clinicians to maintain their involvement (Smith et al., 2021).

In-person, on the other hand, refers to an activity or interaction that takes place physically or face-to-face, typically involving direct personal presence and communication between individuals in a shared physical space. According to the Merriam-Webster Dictionary: "In-person (adjective) means occurring in the presence of one another; specifically: being together in one place". Therefore, in-person therapy, also known as traditional therapy or face-to-face therapy, involves individuals meeting with a therapist or mental health professional in a physical location (the therapist office). This traditional form of therapy has been widely practiced for decades and typically occurs in a therapist's office, clinic, or hospital setting. In-person therapy allows for direct interaction and nonverbal cues between the therapist and the client, creating a personal and intimate therapeutic relationship.

The term “youth” refers to the period in a person's life between childhood and adulthood, typically characterized by physical, cognitive, emotional, and social changes as individuals transition from dependency to greater autonomy and responsibility. It is essential to recognize that the concept of youth is fluid and can be influenced by cultural, societal, and historical factors. Different organizations, governments, and researchers may define youth differently based on the context and purpose of their work. The National Youth Policy of Nigeria defines "youth" as individuals between the ages of 18 and 35. This age range is widely accepted and used by various government agencies, organizations, and institutions in Nigeria. (Federal Ministry of Youth Development, Nigeria. 2009)

The availability of digital platforms has made it possible to deliver psychodynamic and CBT therapies remotely. This has led to an increased interest in understanding the differential effects of digital and in-person psychodynamic and CBT therapies on depression reduction among youths. Several studies have been conducted to compare the efficacy of digital and in-person psychodynamic and CBT therapies in reducing symptoms of depression among youths, with mixed results (McEvoy, John, Smith, & Brown, 2021; John, Smith, Brown, & McEvoy, 2022).

For example, a study conducted by Lee, and Kim, (2021) found that both in-person and digital CBT were effective in reducing symptoms of depression among youth. However, the study also found that digital CBT was associated with higher levels of engagement and satisfaction among participants, which may be particularly beneficial for youth who face barriers to accessing in-person treatment, such as transportation or stigma. Similarly, another study by Alexander, Herbert, and Gaudiano, (2020) compared the

effectiveness of in-person and digital psychodynamic therapy for the treatment of depression and the results of the study showed that both formats of therapy were effective, but that in-person therapy was associated with higher levels of satisfaction and therapeutic alliance, while digital therapy was associated with increased convenience and accessibility.

This study is supported by Psychodynamic theory by Sigmund Freud (1895), the theory **is** relevant to the study because it explains depression as potentially arising from unresolved unconscious conflicts, early-life experiences, suppressed emotions, and problematic interpersonal relationships. The theory provides a basis for psychodynamic therapy, which helps youths explore underlying emotional difficulties, defense mechanisms, and relationship patterns contributing to depressive symptoms. It is also relevant to comparing digital and in-person therapy because the therapeutic relationship, emotional expression, trust, and communication may differ across delivery modes and influence treatment outcomes. Thus, the theory helps explain how psychodynamic therapy may reduce depression among youths and provides a framework for examining whether its effectiveness differs when delivered digitally or face-to-face.

The aim of this project is to conduct quasi-experimental research to ascertain the differential effects of digital and in-person psychodynamic and CBT therapies on depression reduction among Youths in Port Harcourt metropolis. This will be achieved by assigning the participants into six groups of both treatment and control groups, and then, analyze, compare and synthesize the results to provide a clear understanding of the differential effects of these therapies. The researcher observed that there is a significant prevalence of depression among young individuals, which can have profound negative impacts on their physical, mental, emotional, psychological and overall well-being. For example, research has shown that young person's experiencing academic stress, work related stress, social isolation, family conflicts, relationship challenges, loss (either of a loved one or personal belongings), health challenges, financial difficulties are at higher risk of developing depression. Depression has also pushed a lot of young persons into harmful habits such as, alcohol abuse, drug abuse, violent behaviour etc., which has led to a high increase in societal problems such as, theft, unwanted pregnancies, abortions, suicide and even murder-suicide. During the 2022 world suicide prevention day (WSPD), the world health organization estimated that about 703,000 persons commit suicide yearly all over the world (World Health Organization, 2022). The suicide rate in Nigeria is a matter of concern, as it is one of the highest in Africa. Dr. Titilayo Tade from the Lagos University Teaching Hospital highlights that the suicide rate in Nigeria was 6.9% per 100,000 in 2019, surpassing the rate of 6.5% in 2012, which is likely under-reported. Nigeria has the highest rate of suicide and depression in Africa, with the current rate of 9.50% per 100,000 people.

Suicide remains a taboo topic in Nigeria, but the alarming rate necessitates attention. One of the major causes of suicide is depression, which has increased due to harsh economic realities and loss of livelihood. In recent years, the use of the pesticide sniper as a method of suicide has gained popularity among individuals who feel they have lost all hope. This method is commonly chosen by young men and women who have experienced failed marriages, relationships, financial indebtedness, or business failures. Jumping into rivers from bridges has also become a means of suicide among Nigerians. This act occurs both during daylight and under the cover of darkness. It is not limited to individuals from low socioeconomic backgrounds but also affects professionals. Depression and the loss of livelihood are significant factors contributing to individuals resorting to this form of suicide. Other methods of suicide in Nigeria include hanging from ceilings or fans, jumping from high-rise buildings, and ingesting poisonous substances. These tragic acts reflect the impact of mental health challenges and the desperation individuals may feel when facing overwhelming circumstances. It is crucial to address the underlying factors contributing to depression and suicide in Nigeria, including improving access to mental health services, raising awareness, and implementing measures to alleviate the economic and social pressures that contribute to this alarming trend.

The researcher also observed that accessing mental health support can sometimes be challenging to young people seeking help due to barriers such as; distance, transportation, limited-service availability, long wait hours, stigma surrounding mental health, dependence on parents or caregivers to attend appointments, lack of confidence in seeking support, and concerns about confidentiality. The emergence of digital

therapy has brought about a potential solution to complement traditional face-to-face mental health services and address some of these barriers. One of the major advantages of digital therapy is improved accessibility for individuals seeking help. Young persons can access treatment from anywhere, at any time, which is particularly beneficial for those in remote areas. Digital therapy also helps overcome barriers related to stigma and confidentiality since individuals can access treatment using their laptops, tablets or smart phones without necessarily disclosing their difficulties to others, including parents or caregivers, and sometimes even anonymously. Moreover, it is cost-effective as therapists typically spend less time with each client compared to face-to-face therapy. Lastly, during the COVID-19 pandemic when face-to-face appointments were limited to reduce the risk of viral transmission, digital interventions, allowed therapy to continue remotely, even while adhering to social distancing requirements. The researcher also discovered that there is little research comparing the effect of digital and in-person psychotherapy, specifically a blend of psychodynamic and cognitive-behavioural therapies (CBT), for the treatment of depression. This is a significant gap in the literature as the use of digital technology in mental health treatment has increased in recent years and it is important to understand the relative effects of these modalities. Additionally, understanding the effect of a blend of psychodynamic and CBT approaches in both digital and in-person settings may provide valuable information for clinicians and patients in choosing the most appropriate treatment for depression. The following research questions were asked to guide the conduct of the study. The following research questions were asked to guide the conduct of the study.

1. What is the effect of digital cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores.
2. What is the effect of in-person cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores.
3. What is the difference in the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths as compared between their posttest scores.

The following hypotheses tested at 0.05 level of significance guided the study.

1. There is no significant effect of digital cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores.
2. There is no significant effect of in-person cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores.
3. There is no significant difference in the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths as compared between their posttest scores.
4. There is no significant effect of digital & in-person psychodynamic therapies, and digital & in-person CBT therapies combined in depression reduction among youths?

METHODOLOGY

The study adopted quasi-experimental research design. The population of 649,600 young adults between the ages of 18 and 35 residing in Obio-Akpor LGA in Port Harcourt metropolitan who satisfied the criteria for depression as assessed by the Becks depression inventory and patient health questionnaire. A sample of 150 participants was drawn from the target population through a non-probability purposive sampling technique. All individuals that scored up to the bench mark of 60 and above in the patient health questionnaire-9 (PHQ-9) and the Becks depression inventory-II (BDI-II) combined, were selected. The two instruments used for this study were adapted from the patient health questionnaire-9 (PHQ-9) and the Becks depression inventory-II (BDI-II). Research instruments were validated by experts in educational psychology and field of Measurement and Evaluation from Department of Educational Psychology, Guidance and Counselling University of Port Harcourt. Both Face and content validities of the instrument were done. Cronbach Alpha statistics was used to determine the internal consistency of the instrument. The reliability coefficients realized were 0.74 for Patient Health Questionnaire and (PHQ) and 0.88 for Beck's depression Inventory respectively. These results showed that both instruments were reliable.

The procedure began with the grouping of participants into the experimental as well as the control groups. The researcher divided the participants into three distinct groups consisting the Digital psychodynamic, in-person psychodynamic, as well as digital and in-person control groups respectively. The researcher gave a pretest, where all participants completed the standardized measures to assess baseline levels of depression symptoms. In this case, the Becks depression inventory and the patient health questionnaire (PHQ-9) was used. These pretest results established the initial depression level of the groups, allowing for later comparisons of change. Participants then went through 12 weeks of therapy, with weekly 60-minute sessions tailored to each group. Digital CBT and In-Person CBT focused on structured techniques such as cognitive restructuring and behavioural activation, while Digital Psychodynamic therapy and In-Person Psychodynamic therapy emphasized exploring unconscious patterns, transference, and emotional conflicts. In the digital therapy groups, secure online platforms like WhatsApp and google meet were used for session delivery. After haven received intervention for a period of 12-weeks, participants completed a posttest assessment whereby reshuffled set of same instruments were administered. This enabled the researcher to measure the effect size of changes in depression outcomes. The pretest phase helped to control for baseline differences, while the inclusion of both experimental and control groups allowed for meaningful comparisons. The pretest-posttest control group design provided a structured approach that evaluated the effect of digital and in-person psychodynamic and CBT therapies. The insights gained can inform clinical practices and guide future research on therapy delivery modalities. The data collected from the assessments was analyzed in accordance with the research questions and hypotheses of the study. All the research questions were answered using mean and standard deviation. Hypotheses 1 and 2 were tested using paired samples t-test, hypothesis 3 was tested using independent samples t-test.

RESULTS

Research Question One: *What is the effect of digital cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores?*

Hypotheses One: There is no significant effect of digital cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores

To answer research question one and hypotheses one, paired sample test analysis, mean and standard deviation were employed. The results obtained are as presented in table 4.4 below:

Table 1: Paired sample t-test analysis showing the effect of digital CBT on depression reduction for youths receiving Digital CBT.

	N	Mean	Std. D.	Mean Diff.	T	Df	Sig	Result
Digital CBT Pretest Scores	22	73.55	8.99	23.05	10.66	21	0.00	Significant
Digital CBT Posttest Scores	22	50.50	6.35					

From the analysis in table 1 above, the pretest and posttest mean scores for youths receiving digital CBT are 73.55 and50.50 respectively, the standard deviation scores are 8.99 and 6.35 respectively. A critical look at the above table shows the posttest mean score to be lower than the pretest mean score. This indicates that digital CBT was effective in reducing depression in youths. Table 4.4 also reveals the mean difference to be 23.05, t-value to be 10.66 at degree of freedom of 21 and at 0.000 level of significance. Since the sig. 0.000 is less than the alpha 0.05, the null hypothesis of no significant effect is rejected. Therefore, there is a significant effect of digital CBT on the reduction of depression in youths in Port Harcourt Metropolis.

Research Question Two: *What is the effect of in-person cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores?*

Hypotheses Two: There is no significant effect of in-person cognitive behavioural therapy (CBT) on the reduction of depression in youths as compared between their pretest and posttest scores?

To answer research question two and hypotheses two, paired sample test analysis, mean and standard deviation were employed. The results obtained are as presented in table 4.5 below:

Table 2: Paired sample t-test analysis showing the effect of in-person cognitive behavioural therapy (CBT) on the reduction of depression in youths receiving in-person CBT.

	N	Mean	Std. D.	Mean Diff.	T	Df	Sig	Result
In-Person CBT Pretest Scores	23	75.26	9.76	30.96	17.09	22	0.00	Significant
In-Person CBT Posttest Scores	23	44.30	4.48					

From the analysis in table 2 above, the pretest and posttest mean scores for youths receiving in-person CBT are 75.26 and44.30 with a mean difference of 30.96 respectively, the standard deviation scores are 9.76 and 4.48 respectively. A critical look at the above table shows the posttest mean score to be lower than the pretest mean score. This indicates that in-person CBT was effective in reducing depression in youths. Table 4.5 also reveals the t-value to be 17.09 at degree of freedom of 22 and at 0.000 level of significance. Since the sig. 0.000 is less than the alpha 0.05, the null hypothesis of no significant effect is rejected. Therefore, there is a significant effect of in-person CBT on the reduction of depression in youths in Port Harcourt Metropolis.

Research Question Three: *What is the difference between the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths as compared between their posttest scores?*

Hypotheses Three: There is no significant difference between the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths as compared between their posttest scores.

In order to answer research question three and hypotheses three, independent sample test analysis, mean and standard deviation were employed. The results obtained are presented in table 4.6 below.

Table 3: **Independent sample t-test analysis showing the difference between the effect of digital CBT and in-person CBT on depression reduction in youths as compared between their posttest scores.**

Groups	N	Mean	Std. D.	Mean Diff.	T	Df	Sig	Result
Digital CBT	22	50.50	6.35	6.19	3.79	43	.000	Significant
In-Person CBT	23	44.30	4.48					

In table 3, The mean scores for digital and in-person CBT are 50.50 and 44.30 with a mean difference of 6.19 respectively, while the standard deviation scores are; 6.35 and 4.48 respectively. with in-person CBT having a lower mean score. This indicates that in-person CBT was more effective in reducing depression in youths. Also, the analysis in table 4.6, shows the t-value to be 3.79, with degree of freedom of 43 and at 0.000 level of significance. Since the sig. 0.000 is less than the alpha 0.05, the null hypothesis of no

significant effect is rejected. Therefore, there is a significant difference in the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths in Port Harcourt Metropolis.

DISCUSSION OF FINDINGS

Effect of Digital Cognitive Behavioural Therapy (CBT) nn Depression Reduction in Youths

Research finding one, revealed that, there is a significant effect of digital cognitive behavioural therapy (CBT) on depression reduction in youths in Port Harcourt Metropolis. This finding means that, youths who received digital cognitive behavioural therapy experienced positive improvement and meaningful reduction in their depressive symptoms. This finding, also implies that, cognitive behavioural therapy, delivered through online or digital means, such as internet-based platforms or mobile and web applications, would yield positive results when administered to young individuals diagnosed with depression. This finding may come because the participant may be fully abrased with digital cognitive behavioural therapy (CBT). This research finding therefore agrees with the naturalistic feasibility studies stated in findings one above.

Effect of In-Person CBT on the Reduction of Depression in Youths

Research finding two, revealed that, there is a significant effect of in-person CBT on the reduction of depression in youths in Port Harcourt Metropolis. This finding implied that youths who received in-person or face to face CBT showed positive improvement and meaningful reduction in their depressive symptoms. This simply means that CBT therapy delivered face to face in the therapist office through meaningful communication between the therapist and the client, would indeed yield positive outcomes.

Effect of Digital Cognitive Behavioural Therapy (CBT) and In-Person CBT on the Reduction of Depression in Youths

Research finding six revealed that, there is a significant difference in the effect of digital cognitive behavioural therapy (CBT) and in-person CBT on the reduction of depression in youths in Port Harcourt Metropolis. This means that the effects of these two types of therapy, one delivered digitally and the other face-to-face, differs significantly when it comes to helping youths in Port Harcourt cope with and decrease their levels of depression. In simpler terms, the way therapy is delivered, whether through digital means or in-person sessions, has a notable impact on alleviating depression in the youth population of Port Harcourt.

CONCLUSION

Based on the findings of the study, it can be concluded that both digital and in-person cognitive-behavioural therapies (CBT) were effective in reducing depression among youths in Port Harcourt Metropolis. The findings showed that youths who received digital CBT experienced a substantial reduction in depression following the intervention, indicating that CBT delivered through digital platforms can provide meaningful therapeutic benefits for young people.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

1. Mental-health practitioners should integrate digital cognitive-behavioural therapy (CBT) into youth mental-health services because it was found to significantly reduce depression. Digital platforms should be made accessible, user-friendly, and supported by qualified therapists.
2. Counselling psychologists and mental-health practitioners should continue to provide and strengthen in-person CBT services for youths, as the findings indicate that it significantly reduces depression and provides effective therapeutic support.
3. Mental-health service providers should prioritise in-person CBT where feasible, since it was found to be more effective than digital CBT, while using digital CBT as an alternative for youths who face barriers to attending face-to-face therapy.

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