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The Impact of Virtual Reality Therapy in Managing Chronic Anxiety in Clinical Dipsychology

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ABSTRACT

Many people around the world experience chronic anxiety, which is a mental health problem. This condition is characterized by excessive and ongoing worry, often for no apparent reason, which can interfere with daily life. Virtual reality (VR) therapy is one of the innovative approaches to treating mental health conditions in recent years thanks to advances in technology. This research was conducted with the aim of finding out, such as the realism of the virtual environment, interactivity, and length of exposure, some of the elements of virtual therapy that are most helpful in reducing anxiety. In addition, to identify topics that require additional research to increase empirical evidence on the effects of virtual reality therapy, as well as encourage long-term research to evaluate the long-term impact of virtual reality therapy on chronic anxiety. The method used by researchers in researching the Impact of Virtual Reality Therapy in Managing Chronic Anxiety in Clinical Psychology is to use a quantitative method. The data obtained by researchers was obtained from the results of distributing questionnaires. The distribution of questionnaires carried out by researchers was carried out online using Google From software. The results of data acquisition will also be tested again using the SPSS application. From the research results, it can be seen that studies have shown quite positive results regarding virtual reality (VR) therapy in the treatment of chronic anxiety. It is used as part of exposure therapy, where a person is gradually exposed to anxiety-inducing stimuli in a safe and controlled virtual environment. It is excellent for treating phobias, post-traumatic stress disorder (PTSD), and other anxieties. From this study, researchers can conclude that virtual reality (VR) therapy can be an effective treatment for anxiety. A person receiving VR therapy has the opportunity to confront and manage anxiety triggers in a controlled and safe environment, which helps them develop resilience and coping skills.

Keywords: *Anxiety, Psychology, Virtual*

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INTRODUCTION

Psychology is a field of science that studies the brain and human behavior. It covers areas such as cognition, emotion, perception, motivation, and social interaction (Huffman et al., 2020). The goal of psychology is to understand how humans think, feel, and behave in various situations. Meanwhile, clinical psychologists are a special branch of psychology that concentrates on the assessment, diagnosis, treatment and prevention of mental and emotional disorders (Liu et al., 2021). To help their clients, they may use cognitive therapy, behavioral therapy, psychodynamic therapy, humanistic therapy, and virtual reality therapy (Yap et al., 2021). In summary, psychology is a broader field that studies mental processes and human behavior. In contrast, clinical psychology is a more specialized field that studies the clinical aspects of therapy and mental health (Siyothula, 2019).

A person who experiences emotional changes that can develop into a pathological condition is called an emotional mental disorder (Geerlings et al., 2018). People who have good mental health basically cannot be separated from anxiety and guilt. However, people who have good mental health will not be able to control this anxiety and guilt (Goodie et al., 2022). To be able to solve all problems and obstacles with confidence and without disturbing one's own integrity, good mental health is needed, so that a person's anxiety can be well controlled (Walsh et al., 2018). Likewise, if anxiety cannot be controlled properly, it will certainly interfere with daily activities (Izquierdo Elizo et al., 2022). Even if the anxiety is left alone, it can become chronic anxiety which is very fatal.

Anxiety is a general feeling of unclear origin and is a function of a person's ego about the possibility of a danger or bad thing coming where they experience fear, worry or apprehension (Haselau & Saville Young, 2023). Internal factors (gender, age, level of education, and experience in care) and external factors (medical condition/disease diagnosis, access to information, therapeutic communication, environment, and health facilities) are two types of factors that influence anxiety (Paltoglou et al., 2019). Other causes of anxiety, such as unpleasant thoughts, can cause a person to feel worried and anxious. Reduced self-confidence, irritability, stress, difficulty concentrating, and being withdrawn are other psychological symptoms that may appear, so they can disturb an individual who is experiencing anxiety (Roth-Rawald et al., 2020). Therefore, further action is needed in managing anxiety that occurs in an individual, so that anxiety can be managed well, and can be eliminated by carrying out special treatment (Kwok, 2019).

Chronic anxiety is a psychological condition characterized by ongoing and excessive feelings of anxiety or worry, which last for a long time (Meira E Siqueira-Campos et al., 2019). Conditions like this almost always occur and interfere with a

person's daily life and normal functioning. Chronic anxiety is often confused with acute anxiety (Karaaslan et al., 2020). However, there are two things that differentiate acute anxiety from chronic anxiety, namely duration and intensity. Acute anxiety may have no clear cause and feel like it never goes away (Yan et al., 2019). In contrast, chronic anxiety may appear during stressful or chaotic life events and then disappear soon afterward (Tripathi et al., 2019). GAD, panic disorder, and others are some examples of chronic anxiety disorders.

Virtual reality (VR) can be defined as a technology that creates artificial environments that can be simulated by computers and can be accessed by users via special devices such as VR headsets (Huang et al., 2019). This technology allows users to have a deep and immersive experience as if they were in the real world. Virtual reality is used in clinical psychology to create scenarios that can help people face and manage their anxiety in a safe and controlled manner (Meißner et al., 2019). By confronting anxiety triggers in a controlled environment, VR can help individuals reduce their anxiety levels and teach effective coping techniques (Du et al., 2018). Additionally, VRT offers advantages in terms of flexibility and personalization of therapy, as it can be tailored to each individual's unique needs and conditions.

Chronic anxiety usually occurs in adults. Chronic anxiety disorders, such as generalized anxiety disorder, can appear in adults and can persist for months or years for no apparent reason (Wei et al., 2019). Many adults experience chronic anxiety for several reasons. One of the main causes is chronic stress that never gets a signal to return to normal functioning (Saredakis et al., 2020). Chronic stress can weaken the immune system, making people more susceptible to viral infections and frequent illnesses. In addition, chronic anxiety can also worsen symptoms of asthma and heart disease, as well as increase the risk of high blood pressure and depression (Wang et al., 2019).

Virtual reality (VR) therapy has been shown to be effective in managing chronic anxiety by diverting attention from anxiety-inducing situations to a safer, more controlled place (Makransky et al., 2021). VR can also help patients overcome psychosis, trauma, and addiction. However, you also need to pay attention to side effects such as nausea, dizziness, headaches, eye strain or fatigue (Gupta et al., 2018). In clinical psychology, VR is used to help patients with various types of mental disorders, including chronic anxiety such as using Virtual Reality Exposure therapy (Gold & Mahrer, 2018). Exposure therapy with virtual reality can help patients with height phobia face and overcome various mental conditions in a safe and controlled environment (Itani & Hollebeek, 2021). Next is post-traumatic trauma therapy, where virtual reality can help patients overcome trauma with the guidance of a therapist while they are at home, which can help them overcome logistical problems and increase compliance with therapy (Appel et al., 2020).

The type of method used in this research is a quantitative method. This method is used so that the final results of the processed data can be known clearly and precisely regarding the Impact of Virtual Reality Therapy in Managing Chronic Anxiety in

Clinical Psychology. The data collection process was obtained by the researcher from the results of the respondents' answers that the researcher had carried out (Fowler et al., 2023). Researchers created a questionnaire with 10 questions, then distributed it via Goggle from. After the data is collected, the data will be calculated into a percentage and presented in table form. In processing research data, researchers use SPSS software which aims to make it easier for researchers to process data, and the data results are more relevant. Furthermore, the researcher really hopes that the next researchers will research and study more deeply the impact of virtual reality therapy in managing chronic anxiety in clinical psychology.

RESEARCH METHOD

Research Design

This research uses a quantitative research design, which uses statistical processes to present data in the form of numbers. Researchers created twenty questions to collect information about the research to find out the results. Researchers will ask respondents to answer the questions asked, which will be presented in the form of tables and percentages (Muñoz De Las Heras et al., 2020). The purpose of processing this data with the SPSS application is to compare the results of respondents' answers. After this comparison, researchers can provide solutions to any information they get about the Impact of Virtual Reality Therapy in Managing Chronic Anxiety Clinical Psychology.

Research Procedure

In this study, researchers investigated the impact of virtual reality therapy in managing chronic anxiety in clinical psychology. The aim of the researcher is to investigate this matter so that the researcher can collect, analyze and provide understanding of the data that has been collected. In making questions, the researcher used good language that was easy for respondents to understand when filling out the questionnaire distributed by the researcher later (Ji & Liu, 2022). This aims to ensure that respondents who provide responses to questions asked by researchers can be answered quickly. That way, it will be easier for researchers to test the data being investigated regarding the impact of virtual reality therapy in managing chronic anxiety in clinical psychology.

Research Subject

In researching the Impact of Virtual Reality Therapy in Managing Chronic Anxiety in Clinical Psychology, researchers of course determine the subjects for their research. In this study, the subjects of this research were aimed at adults aged 17 years and over. Before the questionnaire was distributed by the researcher, the researcher asked the respondents for their willingness to spend their time filling out the questionnaire that the researcher would distribute (Ingram, 2019). The questionnaire each contains 10 questions about the Impact of Virtual Reality Therapy in Managing Chronic Anxiety in Clinical Psychology.

Research Ethics

After the researcher carried out several stages as previously explained, in conducting research, the researcher also paid close attention to ethics and manners in research. Researchers believe that ethics needs to be considered whenever and wherever, including in the research being conducted (Lackritz & Horowitz, 2021). This aims to gain trust and readiness from the respondents or those who are the objects of this research. Furthermore, in this research, the researcher also explains information related to the research, one of which is information in filling out the questionnaire. This information was explained by the researcher so that the respondents were ready and willing to voluntarily provide responses and answers to the questions asked by the researcher.

Data Collection and Analysis

Data collected by researchers in researching the Impact of Virtual Reality Therapy in Managing Chronic Anxiety in Clinical Psychology, will be processed into the SPSS application. Then the data that has been obtained will be presented by researchers in the form of tables and diagrams. The purpose of presenting it in table and diagram form is to be able to see a comparison of the results of research conducted by researchers regarding the Impact of Virtual Reality Therapy in Managing Chronic Anxiety Clinical Psychology (Yang et al., 2022). Next, the obtained data results are converted into percentages or averages. Then the data results will be tested again using the T-test.

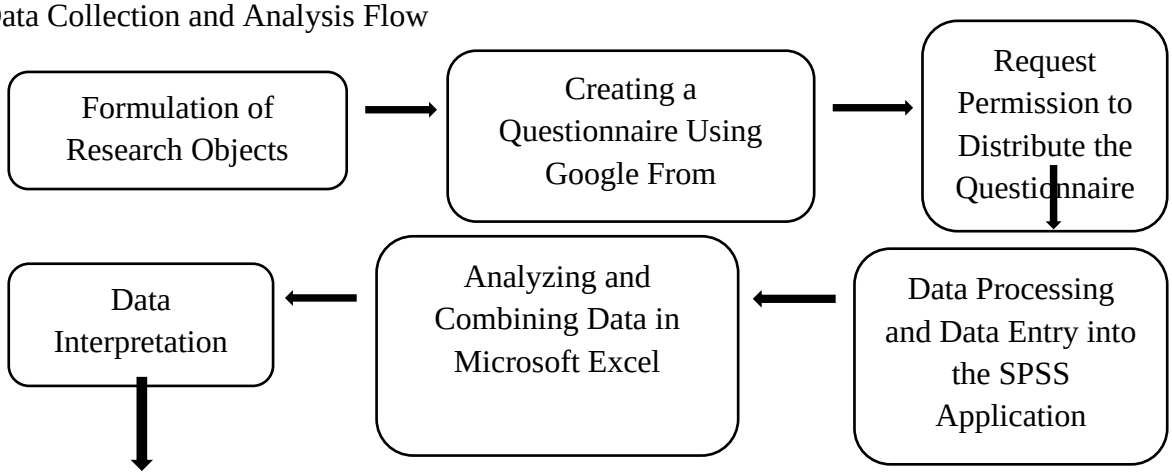
Table 1

Category Impact of Virtual Reality Therapy in Managing Chronic Anxiety Clinical Psychology

no	Earning Category	Value interval
1	Agree	35-65%
2	Strongly agree	>90%
3	Don't agree	25%-50%
4	Don't agree	0-25%%
Total		100%

Figure 1

Data Collection and Analysis Flow



Drawing Conclusions

Figure 1 above shows how researchers collect and analyze research data. The results of data acquisition came from respondents' answers to the researcher's questions. Furthermore, in the quantitative research method, the researcher will also test again using the T-test which will be used to enter research data into the SPPS application. The number of questions asked by the researcher was 20 questions, where each question was divided into ten questions with different questions. Only after the questionnaire is distributed can researchers formulate and draw conclusions from the research object.

RESULTS

In the field of clinical psychology, virtual reality therapy has emerged as a promising method for treating chronic anxiety. This method offers an innovative solution to the problems of traditional treatments. Virtual reality works because it can create a safe and controlled environment where patients can gradually confront the cause of their anxiety. This allows therapists to adjust the intensity of exposure according to each patient's needs, which results in more personalization of treatment. In addition, the immersive nature of virtual reality enhances patient engagement in therapy. Compared to conventional approaches, the interactive experience that virtual reality offers tends to be more engaging, which can increase patients' motivation and their adherence to the treatment program. Furthermore, virtual reality makes therapy more accessible, allowing patients to participate in sessions from the comfort of their own homes, which is especially beneficial for patients who may have difficulty gaining access to therapy.

Table 2

Recap of Percentage Results from Respondents' Answers

No.	Question	strongly agree	Agree	Disagree	Don't Agree
1	Virtually reality therapy can provide a safe and controlled environment for patients to confront their anxiety triggers.	56%	30%	14%	0%
2	Virtual reality allows simulation of difficult or frightening situations without any real risk, helping patients to learn to cope with anxiety.	59%	35%	6%	0%
3	Studies show that virtual reality therapy is effective in reducing symptoms of chronic anxiety.	30%	40%	19%	11%

4	Virtual reality therapy can be adapted to suit individual needs, providing a more personalized approach to anxiety management.	32%	43%	20%	5%
5	Patients often report a reduction in anxiety levels after a few virtual reality therapy sessions.	35%	30%	25%	10%
6	Virtual reality therapy can help patients develop better coping skills in dealing with real situations.	45%	35%	15%	5%
7	Virtual reality allows gradual exposure to anxiety-inducing situations, helping patients to gradually reduce their emotional reactions.	25%	30%	35%	10%
8	With virtual reality, patients can practice relaxation and breathing techniques in a calming virtual environment.	43%	32%	23%	2%
9	Virtual reality therapy is often more appealing to young patients who are used to technology, increasing their participation in therapy.	55%	30%	10%	5%
10	Virtual reality can help identify and treat the root causes of anxiety more effectively.	20%	25%	40%	15%

Table 2 above shows the distribution of questionnaires that have been conducted by researchers. This questionnaire contains ten questions about the impact of virtual reality therapy in managing chronic anxiety in clinical psychology. In addition, during the distribution of the questionnaire, the researcher has percented each response from the respondents. Therefore, respondents can choose to answer the researcher's questions by providing options such as strongly agree, agree, disagree, or disagree. And it can also be seen from the first question asked by researchers regarding virtual reality therapy can provide a safe and controlled environment for patients to deal with their anxiety triggers, getting the highest score of 56% in the strongly agree option. The second question about virtual reality allows simulation of difficult or frightening situations without real risk, helping patients to learn to overcome anxiety, obtained a percentage result of 59% in the strongly agree option.

The third question about the study shows that virtual reality therapy is effective in reducing symptoms of chronic anxiety, obtaining a percentage result of 40% in the agree category. The fourth question about virtual reality therapy can be adapted to individual needs, providing a more personalized approach to anxiety management, obtained a percentage of 43% in the agree category. Next, the fifth question, Patients often report a decrease in anxiety levels after several virtual reality therapy sessions, getting a percentage of 35% in the option choice strongly agree. The sixth question

virtual reality therapy can help patients develop better coping skills in dealing with real situations, getting a percentage of 45% who strongly agree.

Exposure to anxiety-inducing situations, helping patients reduce their emotional reactions gradually, getting a percentage result of 35% for the option choice of less agree. In the eighth question regarding virtual reality, patients can practice relaxation and breathing techniques in a soothing virtual environment, obtaining a percentage of 43% in the strongly agree category. The ninth question about virtual reality therapy is often more interesting for young patients who are familiar with technology, increasing their participation in therapy, getting a percentage result of 55% in the strongly agree category. For the last question regarding virtual reality can help identify and treat the root causes of anxiety more effectively, getting a percentage of 40% in the option choice of less agree.

Table 3

Recap of Percentage Results from Respondents' Answers

No.	Question	strongly agree	Agree	Disagree	Don't Agree
1	Virtual reality therapy can be integrated with other therapeutic methods, such as CBT (Cognitive Behavioral Therapy), for more comprehensive results.	20%	30%	35%	15%
2	Patients using virtual reality therapy often report improved overall quality of life	26%	38%	25%	11%
3	Virtual reality therapy can help reduce Patients using virtual reality therapy often report improved overall quality of lifedependence on medications to manage anxiety	60%	20%	20%	0%
4	The effectiveness of virtual reality therapy in managing chronic anxiety is supported by numerous clinical studies	35%	40%	28%	3%
5	Virtual reality therapy allows for unlimited repetition of exposure exercises, helping to reinforce learned skills	57%	33%	8%	2%
6	Virtual reality can be used to explore scenarios that are difficult to access in real life, such as flights or crowded public spaces	19%	25%	38%	18%
7	Patients can feel more control over their therapy process when using virtual reality	35%	40%	12%	13%

8	Virtual reality therapy can reduce the stigma often associated with traditional anxiety treatment	32%	35%	24%	9%
9	Patients who undergo virtual reality therapy show significant improvements in their ability to deal with anxiety-provoking situations in the real world	47%	29%	14%	10%
0	Virtual reality provides the opportunity for therapists to monitor patient reactions in real-time and customize interventions as needed.	25 %	1 5%	40 %	2 0%

In the table 3 statement above, the researcher has also made ten questions. Which can be seen from the first question regarding virtual reality therapy can be integrated with other therapeutic methods, such as CBT (Cognitive Behavioral Therapy), for more comprehensive results, getting a percentage score of 35% in the disagree category option. Next, question number two about patients who use virtual reality therapy often report an improvement in overall quality of life, received a percentage score of 38% in the agree category. The third question about virtual reality therapy can help reduce dependence on medications to manage anxiety, received a percentage score of 60% in the strongly agree category.

Furthermore, the fourth question about the effectiveness of virtual reality therapy in managing chronic anxiety is supported by various clinical studies, getting a percentage score of 40% percentage score in the agree category option. The fifth question about virtual reality therapy allows unlimited repetition of exposure exercises, helping to strengthen learned skills, getting a percentage score of 57% in the strongly agree category. The sixth question about virtual reality can be used to explore scenarios that are difficult to access in real life, such as flights or crowded public spaces, received a percentage score of 38% in the disagree category.

Furthermore, the seventh question regarding patients can feel more control over their therapy process when using virtual reality, getting a percentage of 40% in the agree category. The eighth question about virtual reality therapy can reduce the stigma often associated with traditional anxiety treatment, getting a percentage of 35% in the agree category. In question nine that patients undergoing virtual reality therapy showed significant improvement in their ability to deal with anxiety-provoking situations in the real world, a percentage of 47% strongly agreed. The last question about virtual reality provides an opportunity for therapists to monitor patient reactions in real-time and adjust interventions as needed, received a percentage of 40% in the disagree option.

Diagram 1

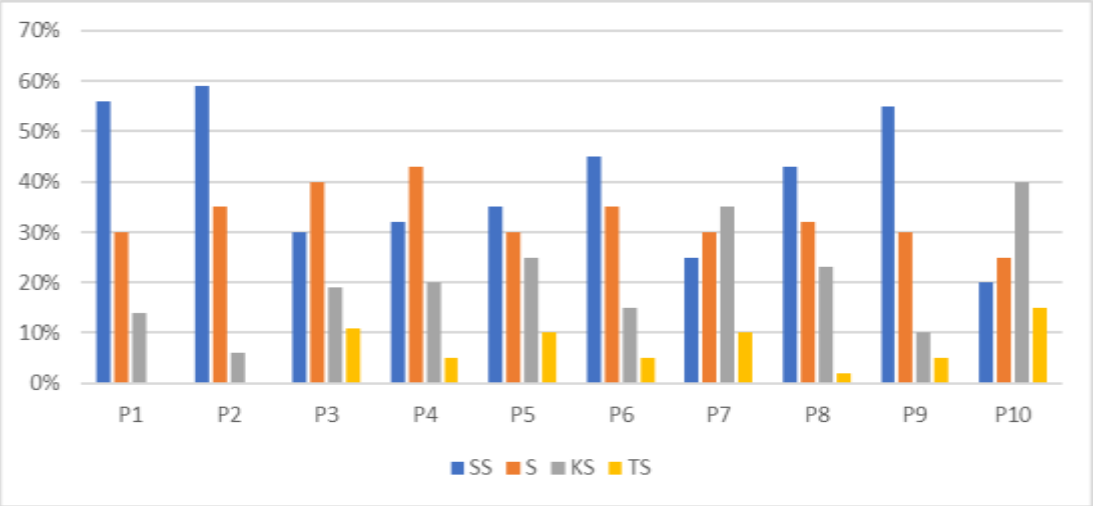


Diagram 2

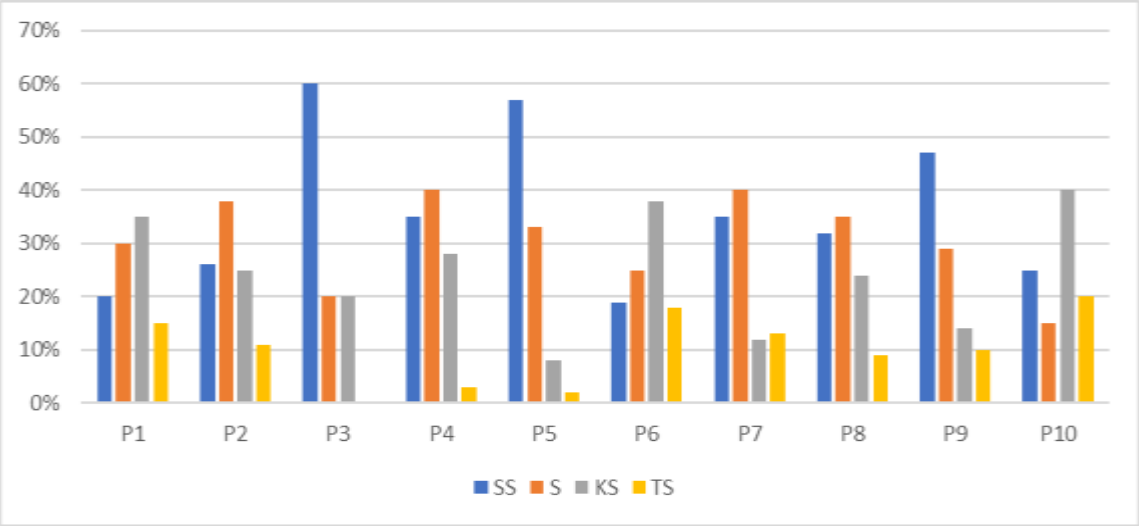


Table 3

T-test on the impact of virtual reality therapy in managing chronic anxiety in clinical psychology.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	45.5000	20	14.03942	3.13931
	POST TEST	30.7500	20	10.54751	2.35850

Paired Samples Correlations

	N	Correlation	Sig.

Pair 1	PRE TEST & POST TEST	20	-.589	.006

Paired Samples Test

		Paired Differences				
					95% Confidence Interva Difference	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	PRE TEST - POST TEST	14.75000	21.97337	4.91339	4.46615	25.0338

Based on the results of table 3 above, it is a T-test using the SPSS application. From the results of the study, researchers can conclude that the T-test in the first output section explains Mean as an average. In the Pre Test, the resulting average amount is 45.5000, while in the Post Test it is 30.7500. Based on these results it can be formulated that there is a difference from the results of the respondents' answers. Furthermore, in the Paired Samples Correlations section, obtaining Correlations of -.589, as well as a large sig acquisition of .006. Furthermore, in the Paired Samples Test section, the results obtained were 21.97337 in the Std. Deviation section, while in the Std. Error Mean section obtained a result of 4.91339. Based on these results, there is an impact of virtual reality therapy in managing chronic.

Table 4

T-test on the impact of virtual reality therapy in managing chronic anxiety in clinical psychology.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRE TEST	20.2500	20	10.32052	2.30774
	POST TEST	6.5000	20	7.79676	1.74341

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	.567	.009

Paired Samples Test

		Paired Differences

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interva Difference Lower	Upper
Pair 1	PRE TEST - POST TEST	13.75000	8.71704	1.94919	9.67030	17.8297

Furthermore, in the 4th table section, it is also the result of research using the T-test. It can be seen in the first output section from the acquisition of the Pre Test results of 20.2500, and the Post Test of 6.5000. In the Paired Samples Correlations section, obtaining Correlations of .567, with the acquisition of Sig results of .009. While in the Paired Samples Test section, obtained results of 8.71704 in the Std. Diviation, and Std. Error Meanya as much as 1.94919. Based on the results of this study, it can be seen that between each question posed by researchers regarding the impact of virtual reality therapy in managing chronic anxiety in clinical psychology, it is very influential on the health of its patients.

DISCUSSION

Virtual reality therapy allows patients to explore and practice dealing with situations that are usually avoided in real life, helping them to overcome their anxiety triggers in a safe and controlled environment (Carl et al., 2019). By simulating frightening or anxiety-provoking situations, patients can learn to manage their stress responses in a fully controlled environment (Çelik et al., 2021). Many clinical studies have shown that virtual reality therapy can reduce long-lasting anxiety symptoms. After several virtual therapy sessions, patients often report a significant reduction in anxiety (Makransky et al., 2019). This suggests that virtual reality is not only an innovative but also effective tool to help patients overcome their anxiety (Barreda-Ángeles & Hartmann, 2022).

Virtual reality therapy can be tailored to meet individual needs with proper customization, providing a more specialized method of anxiety treatment (Zhang et al., 2020). Providing gradual exposure to situations that can cause anxiety is one of the main advantages of virtual reality therapy (Kothgassner et al., 2019). This gradual exposure method helps patients learn relaxation and breathing techniques in a calming virtual environment before gradually increasing the intensity of their exposure to more difficult situations (Chen et al., 2020). It also helps them refine their coping skills and increase their ability to deal with anxiety situations in real life. Virtual therapy is also particularly appealing to young patients who are familiar with technology, increasing their participation in therapy.

Moreover, patients often report that, compared to conventional therapy, they feel more engaged and motivated during virtual therapy sessions. This makes virtual reality a very effective tool to attract patients' interest and keep them engaged during therapy (Grassini et al., 2020). In the treatment of anxiety, virtual therapy can help reduce dependence on medications. Patients can rely more on self-management strategies rather than medications by acquiring better coping skills and reducing emotional

reactions to anxiety triggers (Lee et al., 2019). This not only reduces the risk of side effects from long-term medication use, but also gives patients more control over their anxiety. With all these advantages, virtual reality therapy offers a new and successful method to treat chronic anxiety in clinical psychology.

Chronic anxiety is a psychological disorder characterized by excessive and ongoing fear and worry. Clinical psychology treats chronic anxiety by combining psychological therapies, behavioral interventions, and sometimes medication (Bagheri Hosseinabadi et al., 2019). The main goal is to help people recognize the causes of their anxiety, create healthy coping techniques, and gradually reduce the frequency and intensity of symptoms. Chronic anxiety management is a process that requires perseverance and patience over the long term (Riches et al., 2019). Clinical psychologists build a treatment plan tailored to each patient's needs. During recovery, friends and family are essential for support. Many people with chronic anxiety can improve their quality of life and learn to manage their symptoms well with the right help and strategies (Hobaica et al., 2021).

Virtual reality therapy has been shown to be effective in the treatment of long-term anxiety in clinical psychology patients. In some studies, virtual reality has been used to treat various anxiety disorders, including phobias and panic disorder (Mekbib et al., 2020). This is because this technology allows people to overcome their fears and anxieties in a safe and controlled virtual environment. Thus, people can effectively reduce their fears and anxieties without having to face real situations that may increase their anxiety (Gujjar et al., 2019). And also in research, virtual reality has been used to treat eating disorders, acrophobia, schizophrenia, agoraphobia, eating disorders, claustrophobia, social phobia, and other eating disorders (Stewart, 2021).

Virtual reality therapy is also beneficial for those with addictions related to various substances such as alcohol, drugs, or nicotine, as well as behaviors such as gambling or excessive social media use (Giachero et al., 2020). Therefore, virtual reality can be a viable option for both therapists and patients, and perhaps even more beneficial for them. Virtual reality therapy can also treat fear of heights. When compared to other participants, those treated using Virtual reality technology showed lower levels of fear (Weber et al., 2019). The authors support virtual reality in treating mental health because the positive effects of the treatment last long term. Therefore, in clinical psychology, virtual reality therapy has shown a significant effect on long-term anxiety control.

CONCLUSION

In the field of clinical psychology, virtual reality therapy has shown significant results in managing chronic anxiety. VR therapy allows patients to gradually and systematically confront and overcome the causes of their anxiety by creating a safe and controlled environment. In a realistic simulation, patients can learn to manage their emotional responses to stress, which then helps them reduce their anxiety reactions in real life. Patients have the opportunity to develop better coping skills when facing

anxiety situations with this method. Clinical research has shown that virtual reality therapy is effective in reducing chronic anxiety symptoms. Patients undergoing VR therapy reported a significant reduction in their anxiety levels after a few therapy sessions. Gradual exposure to anxiety-provoking situations helps patients develop better coping skills and improves their ability to deal with problems in real life. In addition, VR technology, especially for young patients, makes therapy more engaging and fun.

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