PRINCIPAL INVESTIGATOR: Amanda King, PhD, APNP-BC

STUDY TITLE: A Phase II Feasibility Trial Using Immersive Virtual Reality (VR) at the Time of Clinical Evaluation to Improve Psychological Distress and Anxiety in Primary Brain Tumor (PBT) Patients

STUDY SITE: NIH Clinical Center

Cohort: Affected Patient

Consent Version: 04/03/2024

WHO DO YOU CONTACT ABOUT THIS STUDY?

Principal Investigator: Amanda King, PhD, APNP-BC
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KEY INFORMATION ABOUT THIS RESEARCH

This consent form describes a research study and is designed to help you decide if you would like to be a part of the research study.

You are being asked to take part in a research study at the National Institutes of Health (NIH). This section provides the information we believe is most helpful and important to you in making your decision about participating in this study. Additional information that may help you make a decision can be found in other sections of the document. Taking part in research at the NIH is your choice.

You are being asked to take part in this study because you have been diagnosed with a brain tumor and have reported past psychological distress on your symptom questionnaire during your participation in our Natural History Study.

The purpose of this study is to investigate if it is feasible to use a virtual reality (VR) relaxation intervention in primary brain tumor (PBT) patients. We will also try and determine if there are any positive effects on psychological symptoms.

The VR device and software tested on the study, the Pico G2 4K Headset with AppliedVR software, are not approved by the FDA for this purpose. However, the FDA does allow us to use it for this research.

As there is no treatment offered on this study, your alternative to joining this study is to simply not participate. It will have no impact on your treatment.

If you decide to join this study, here are some of the most important things that you should know that will happen:

- You will be asked to fill out questionnaires, participate in a phone interview, and provide saliva samples for research purposes.
- The saliva samples are optional collections.

- You will be given a VR headset, a device that looks like a thick pair of goggles that goes over your eyes. You will be able to view computer-generated virtual environments on this headset.
- This study will also use the forms and questionnaires that you fill out as part of the Natural History Study.
- There is no medication involved in this study.

The questionnaires will be done at 4 different time points, including before and after the initial VR intervention, and again 1 week and 1 month later. There will also be a phone interview conducted 1 month after your initial VR intervention, which will take 10-15 minutes to complete. The optional saliva collection will be done at 2 different timepoints before and after the initial VR intervention. The VR intervention, saliva collection and all questionnaires will be completed remotely from home.

While side effects of using a VR headset are uncommon, it is possible you might experience motion sickness, dizziness, eyestrain, headaches, or other visual changes while using the device. In a very small number of patients (0.025%), increased seizures can occur, though this has only happened in children and people with a seizure disorder. If you experience any unpleasant symptoms or seizure activity while using the VR headset, please stop use immediately and notify the study team.

You may feel uncomfortable answering questions about the distress or anxiety you are experiencing. There should be no discomfort involved with collecting your saliva samples, as this is a non-invasive procedure.

Just as we do not know what side effects you might have, we cannot know if you may benefit from taking part in this study. If you do not benefit, this study and the results from our research may help others in the future.

You are free to stop participating in the trial at any time. If you decide to stop, the study researcher may ask you a few questions before stopping.

The remaining document will now describe more about the research study in more detail. This information should be considered before you make your choice. Members of the study team will talk with you about the information described in this document. Some people have personal, religious, or ethical beliefs that may limit the kinds of medical or research interventions in which they would want to participate. Take the time needed to ask any questions and discuss this study with NIH staff, and with your family, friends, and personal health care providers.

IT IS YOUR CHOICE TO TAKE PART IN THE STUDY

You may choose not to take part in this study for any reason. If you join this study, you may change your mind and stop participating in the study at any time and for any reason. In either case, you will not lose any benefits to which you are otherwise entitled. However, to be seen at the NIH, you must be taking part in a study or are being considered for a study. If you do choose to leave the study, please inform your study team to ensure a safe withdrawal from the research.

WHY IS THIS STUDY BEING DONE?

This study is being done to investigate the effects of a virtual reality (VR) relaxation intervention on psychological symptoms in primary brain tumor (PBT) patients. Past studies have shown that distress, anxiety, and other psychological disorders may be more common in patients with brain tumors, which can have a significant impact on their overall symptom burden, quality of life, and tolerance of their cancer therapies. The COVID19 pandemic adds additional stressors for patients that might make coping with their disease more challenging. Though VR technology has shown promising effects on a variety of patient symptoms, there are no studies to date using a VR relaxation intervention to improve psychological distress and anxiety in a PBT population. It is thought that this VR intervention could potentially reduce stress and improve coping skills for patients, which might ultimately decrease the distress and anxiety that they experience.

We are asking you to join this research study because you have been diagnosed with a brain tumor and have previously reported psychological distress on your symptoms questionnaire during your participation in our Natural History Study.

The name of the device being used is the Pico G2 4K VR headset with AppliedVR software, which is considered investigational and has not been approved by the U.S. Food and Drug Administration (FDA) to treat psychological symptoms.

WHAT WILL HAPPEN DURING THE STUDY?

Before you begin the study

Because of the symptoms you reported as part of the "Evaluation of the Natural History of and Specimen Banking for Patients with Tumors of the Central Nervous System" protocol (also known as the Natural History Study), you will be asked if you want to participate in this study via a phone call prior to your upcoming neuro-oncology appointment. Informed consent will be done remotely.

If you choose to take part in saliva collection for this study, research staff will ask standard screening questions about any COVID symptoms that you may have had within the 72 hours prior to the baseline sample collection. If due to scheduling, the immediate post-VR saliva collection is more than 1 week from the baseline assessment, the COVID screening will be repeated prior to collection. If you have any COVID symptoms, then you will not be able to participate in the saliva collection portion of this study.

During the study

The VR intervention and all questionnaires will be completed remotely from home. You will fill out 6 additional questionnaires in addition to the ones you fill out for the Natural History Study, which are estimated to take approximately 15-20 minutes to complete. You will also be asked to provide 2 saliva samples, which take approximately 5 minutes to collect. The saliva collection will be done at 2 different timepoints before and after the initial VR intervention. These saliva samples are optional and if you agree to provide these samples, you will be sent collection kits in the mail with instructions on use and an addressed envelope to return the samples to the study

team. The questionnaires will be done at 4 different time points, including before and after the initial VR intervention, and again 1 week and 1 month later. There will also be a phone interview conducted 1 month after the initial VR intervention, which will take 10-15 minutes to complete. For approximately 4 weeks, a member of the study team will contact you weekly about any symptoms you are feeling while using the headset.

HOW LONG WILL THE STUDY TAKE?

If you agree to take part in this study, your involvement is expected to last for approximately 1 and ½ months.

HOW MANY PEOPLE WILL PARTICIPATE IN THIS STUDY?

We plan to have approximately 120 people participate in this study at the NIH.

WHAT ARE THE RISKS AND DISCOMFORTS OF BEING IN THE STUDY?

While side effects of using the VR headset are uncommon, it is possible you might experience motion sickness, dizziness, eyestrain, headaches, or other visual changes while using the device. In a very small number of patients (0.025%), increased seizures can occur, though this has only happened in children and people with a seizure disorder. If you experience any unpleasant symptoms or seizure activity while using the VR headset, please stop use immediately and notify the study team.

You may feel uncomfortable answering questions about the distress or anxiety you are experiencing. There should be no discomfort involved with collecting your saliva samples, as this is a non-invasive procedure.

WHAT ARE THE BENEFITS OF BEING IN THE STUDY?

You might not benefit from being in this study.

However, the potential benefit to you might be gaining some relief from your psychological symptoms through use of a VR headset, which is designed to promote relaxation and positive coping.

Are there any potential benefits to others that might result from the study?

In the future, others with brain cancer might benefit from this study through the knowledge gained from your participation.

WHAT OTHER OPTIONS ARE THERE FOR YOU?

Before you decide whether or not to be in this study, we will discuss other options that are available to you. Instead of being in this study, you could choose not to participate.

DISCUSSION OF FINDINGS

New information about the study

If we find out any new information that may affect your choice to participate in this study, we will get in touch with you to explain what we have learned. This may be information we have learned while doing this study here at the NIH or information we have learned from other scientists doing similar research in other places.

Return of research results

We do not plan to return your individualized study results to you.

EARLY WITHDRAWAL FROM THE STUDY

Your doctor may decide to stop your participation for the following reasons:

- if he/she believes that it is in your best interest
- if you do not follow the study rules
- if the study is stopped for any reason

In this case, you will be informed of the reason that your participation is being stopped.

After the intervention is stopped, we would like to contact you for a safety phone call 30 days after the initial VR intervention.

You can stop taking part in the study at any time. However, if you decide to stop taking part in the study, we would like you to talk to the study researcher.

If you decide at any time to withdraw your consent to participate in the trial, we will not collect any additional medical information about you. However, according to FDA guidelines, information collected on you up to that point may still be provided to AppliedVR or designated representatives.

STORAGE, SHARING AND FUTURE RESEARCH USING YOUR SPECIMENS AND DATA

Will Your Specimens or Data Be Saved for Use in Other Research Studies?

As part of this study, we are obtaining specimens and data from you. We will remove all the identifiers, such as your name, date of birth, address, or medical record number and label your specimens and data with a code so that you cannot easily be identified. However, the code will be linked through a key to information that can identify you. We plan to store and use these specimens and data for studies other than the ones described in this consent form that are going on right now, as well as studies that may be conducted in the future. These studies may provide additional information that will be helpful in understanding psychological symptoms in PBT patients or other patient populations, or other diseases or conditions. This could include studies

to develop other research tests, treatments, drugs, or devices, that may lead to the development of a commercial product by the NIH and/or its research or commercial partners. There are no plans to provide financial compensation to you if this happens. Also, it is unlikely that we will learn anything from these studies that may directly benefit you.

I give permission for my coded specimens and data to be stored and used for future research as described above.

_____ Yes _____ No

Initials Initials

Will Your Specimens or Data Be Shared for Use in Other Research Studies?

We may share your coded specimens and data with other researchers. If we do, while we will maintain the code key, we will not share it, so the other researchers will not be able to identify you. They may be doing research in areas similar to this research or in other unrelated areas. These researchers may be at NIH, other research centers and institutions, or commercial entities.

I give permission for my coded specimens and data to be shared with other researchers and used by these researchers for future research as described above.

_____ Yes _____ No

Initials Initials

If you change your mind and do not want us to store and use your specimens and data for future research, you should contact the research team member identified at the top of this document. We will do our best to comply with your request but cannot guarantee that we will always be able to destroy your specimens and data. For example, if some research with your specimens and data has already been completed, the information from that research may still be used. Also, for example, if the specimens and data have been shared already with other researchers, it might not be possible to withdraw them.

In addition to the planned use and sharing described above, we might remove all identifiers and codes from your specimens and data and use or share them with other researchers for future research at the NIH or other places. When we or the other researchers access your anonymized data, there will be no way to link the specimens or data back to you. We will not contact you to ask your permission or otherwise inform you before we do this. We might do this even if you answered "no" to the above questions. If we do this, we would not be able to remove your specimens or data to prevent their use in future research studies, even if you asked, because we will not be able to tell which are your specimens or data.

NIH policies require that your clinical and other study data be placed in an internal NIH database that is accessible to other NIH researchers for future research. Usually, these researchers will not have access to any of your identifiers, such as your name, date of birth, address, or medical

record number; and your data will be labeled with only a code. We cannot offer you a choice of whether your data to be placed in this database or not. If you do not wish to have your data placed in this database, you should not enroll in this study.

How Long Will Your Specimens and Data be Stored by the NIH?

Your specimens and data may be stored by the NIH indefinitely.

Risks of Storage and Sharing of Specimens and Data

When we store your specimens and data, we take precautions to protect your information from others that should not have access to it. When we share your specimens and data, we will do everything we can to protect your identity, for example, when appropriate we remove information that can identify you. Even with the safeguards we put in place, we cannot guarantee that your identity will never become known or someone may gain unauthorized access to your information. New methods may be created in the future that could make it possible to re-identify your specimens and data.

PAYMENT

Will you receive any type of payment for taking part in the study?

You will not receive any payment for participation in this study.

You can keep the VR headset, if you wish.

REIMBURSEMENT

Will you receive reimbursement or direct payment by NIH as part of your participation?

This study does not offer reimbursement for, or payment of, travel, lodging or meals.

COSTS

Will taking part in this research study cost you anything?

NIH does not bill health insurance companies or participants for any research or related clinical care that you receive at the NIH Clinical Center.

CONFLICT OF INTEREST (COI)

The National Institutes of Health (NIH) reviews NIH staff researchers at least yearly for conflicts of interest. This process is detailed in a COI Guide. You may ask your research team for a copy of the COI Guide or for more information. Members of the research team who do not work for NIH are expected to follow these guidelines or the guidelines of their home institution, but they do not need to report their personal finances to the NIH.

AppliedVR is providing VR Headsets for this study to NIH without charge. No NIH investigator involved in this study receives payments or other benefits from any company whose drug, product or device is being tested. However, there are some research partners not associated with the NIH working on this study who may receive payments or benefits, limited by the rules of their workplace.

CLINICAL TRIAL REGISTRATION AND RESULTS REPORTING

A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This Web site will not include information that can identify you. At most, the Web site will include a summary of the results. You can search this web site at any time.

CONFIDENTIALITY PROTECTIONS PROVIDED IN THIS STUDY

Will your medical information be kept private?

We will do our best to make sure that the personal information in your medical record will be kept private. However, we cannot guarantee total privacy. Organizations that may look at and/or copy your medical records for research, quality assurance, and data analysis include:

- The NIH and other government agencies, like the Food and Drug Administration (FDA), which are involved in keeping research safe for people.
- National Institutes of Health Intramural Institutional Review Board
- Qualified representatives from AppliedVR, the company who produces VR software

The researchers conducting this study and the NIH follow applicable laws and policies to keep your identifying information private to the extent possible. However, there is always a chance that, despite our best efforts, your identity and/or information about your participation in this research may be inadvertently released or improperly accessed by unauthorized persons.

In most cases, the NIH will not release any identifiable information collected about you without your written permission. However, your information may be shared as described in the section of this document on sharing of specimens and data, and as further outlined in the following sections. Further, the information collected for this study is protected by NIH under a Certificate of Confidentiality and the Privacy Act.

Certificate of Confidentiality

To help us protect your privacy, the NIH Intramural Program has received a Certificate of Confidentiality (Certificate). With this certificate, researchers may not release or use data or information about you except in certain circumstances.

NIH researchers must not share information that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other proceedings, for example, if requested by a court.

The Certificate does not protect your information when it:

1. is disclosed to people connected with the research, for example, information may be used for auditing or program evaluation internally by the NIH; or
2. is required to be disclosed by Federal, State, or local laws, for example, when information must be disclosed to meet the legal requirements of the federal Food and Drug Administration (FDA);
3. is for other research;
4. is disclosed with your consent.

The Certificate does not prevent you from voluntarily releasing information about yourself or your involvement in this research.

The Certificate will not be used to prevent disclosure to state or local authorities of harm to self or others including, for example, child abuse and neglect, and by signing below you consent to those disclosures. Other permissions for release may be made by signing NIH forms, such as the Notice and Acknowledgement of Information Practices consent.

Privacy Act

The Federal Privacy Act generally protects the confidentiality of your NIH medical information that we collect under the authority of the Public Health Service Act. In some cases, the Privacy Act protections differ from the Certificate of Confidentiality. For example, sometimes the Privacy Act allows release of information from your record without your permission, for example, if it is requested by Congress. Information may also be released for certain research purposes with due consideration and protection, to those engaged by the agency for research purposes, to certain federal and state agencies, for HIV partner notification, for infectious disease or abuse or neglect reporting, to tumor registries, for quality assessment and medical audits, or when the NIH is involved in a lawsuit. However, NIH will only release information from your medical record if it is permitted by both the Certificate of Confidentiality and the Privacy Act.

POLICY REGARDING RESEARCH-RELATED INJURIES

The NIH Clinical Center will provide short-term medical care for any injury resulting from your participation in research here. In general, no long-term medical care or financial compensation for research-related injuries will be provided by the NIH, the NIH Clinical Center, or the Federal Government. However, you have the right to pursue legal remedy if you believe that your injury justifies such action.

PROBLEMS OR QUESTIONS

If you have any problems or questions about this study, or about your rights as a research participant, or about any research-related injury, contact the Principal Investigator, Amanda King, PhD, APNP-BC, amanda.king2@nih.gov, Telephone: 240-535-7958. You may also call the NIH Clinical Center Patient Representative at 301-496-2626, or the NIH Office of IRB Operations at 301-402-3713, if you have a research-related complaint or concern.

CONSENT DOCUMENT

Please keep a copy of this document in case you want to read it again.

Adult Research Participant: I have read the explanation about this study and have been given the opportunity to discuss it and to ask questions. I consent to participate in this study.

Signature of Research Participant	Print Name of Research Participant	Date

Investigator:

Signature of Investigator	Print Name of Investigator	Date