Study Title: Gamma neurofeedback intervention to improve memory in mild cognitive impairment

NCT04566900

Document Date: 10/2/2024

University of California, San Diego
Consent to Act as a Research Subject

Gamma neurofeedback intervention to improve memory in mild cognitive impairment

Introduction

Dr. Fiza Singh and colleagues are conducting this research and asking for your consent to participate. This section provides a summary of important information. The rest of the form provides additional details.

- Research is voluntary - whether or not you join is your decision. You can discuss your decision with others (such as family, friends or your doctor).
- You can say yes, but change your mind later.
- If you say no, we will not hold your decision against you.
- Your decision will not affect your health care or any other benefits you may be entitled to.
- You can say no even if the person inviting you is part of your healthcare team.
- Please ask questions or mention concerns before, during or after the research.

The purpose of this study is to learn whether a specific person's electroencephalography (EEG), the electrical activity of the brain, can predict if he or she will respond to specific forms of EEG neurofeedback. EEG neurofeedback is a treatment where small metal electrodes are placed on the scalp to visualize brain function so that a person can learn to control the electrical activity.

During your initial visit, you will participate in a brief interview and be asked to complete paper and pencil and computer tests that measure memory and EEG recordings. If you are eligible for the study, you will be asked to participate in twice weekly neurofeedback sessions for 12 weeks. You will also be asked to participate in occasional assessment visits during your participation and two assessment visits following the end of the neurofeedback sessions.

Participation in this study may or may not benefit you directly, but may help the study investigators learn more about how EEG neurofeedback might improve the evaluation and treatment of individuals with memory problems.

The most commonly expected risks of the study are: 1) Feeling tired or annoyed, or mild headaches any of which improves with rest or 2) Feeling uncomfortable with some of the questions asked may be uncomfortable; for example, 'Have you been feeling depressed in the past week?' However, be assured that all questions are ones routinely asked in doctor's offices.

Additional, detailed information about this research is provided below. Please feel free to ask questions before signing this consent.

Why have you been asked to participate, how you were selected, and what is the approximate number of participants in the study?

You have been asked to participate in this study because you meet criteria for memory problems based on a screening test. There will be approximately 135 participants consented in the project.

What will happen to you in this study and which procedures are standard of care and which are experimental?

In addition to the information at the beginning of this form, here are some additional details about will happen to you if you agree to be in this study:

During your initial visit with research staff, you will participate in an interview and a variety of tests. This visit will last about 125-155 minutes. We will also ask for permission to speak with your internist at this visit to obtain a current medication list and to confirm diagnosis.

In addition to the neurofeedback sessions, we will record your EEG at times during the assessment visits. This will occur with your eyes closed or open, while performing memory tests, or while completing a light stimulation task.

All of the information will help the research team determine if you are eligible for the study. If you are eligible for the study, you will be assigned by chance to one of two study groups. Your chance of being assigned to each group is 1 in 2 or 50-50. Neither you nor the researchers can choose the group to which you will be assigned. Each of the two groups is described below:

1. Neurofeedback: During the neurofeedback, small metal electrodes that detect your brain's electrical activity are placed on the surface of your scalp. Your brain's activity will be shown on a computer screen as a visual metaphor, such as an airplane flying. You will be asked to pay attention to the screen and make the plane fly as much as possible. Your EEG will be recorded during this time.

2. Placebo neurofeedback: You will use the same equipment as the active neurofeedback, but will view a pre-recorded neurofeedback session rather than receiving feedback based on your brain signals.

In either group, you will be asked to participate in 2 neurofeedback sessions each week for 12 weeks (24 sessions). Each session will be 30-45 minutes long.

Following the final follow-up assessment, if you were assigned to the placebo neurofeedback group, you will be offered the opportunity to complete the neurofeedback training at no cost to you. Transportation will not be provided and you will not be paid for any further assessments.

You will also be asked to participate in assessment visits after sessions 8, 16, 24 and follow-up visits at 1 and 3 months after completing the final neurofeedback visit. These visits will include the same tests that you will complete and the initial assessment visit. Each visit will be approximately 125-155 minutes long. Your total participation in the study will be 6 months.

If you choose to participate in neurofeedback training after completing placebo treatment, you will be asked to participate in one final assessment at the end of treatment, 12 weeks or if/when you choose to stop participating in training.

While some health plans consider EEG neurofeedback an effective treatment for psychiatric symptoms (and will reimburse neurofeedback treatments), in general, EEG neurofeedback is considered an "alternative" or "experimental" treatment, and there is inadequate information on its effectiveness for memory complaints.

If you are a current participant at the Alzheimer's Disease Research Center (ADRC) at UCSD, we will request data collected during your prior participation with the ADRC to be used in this study.

What risks are associated with this study?
In addition to the risks mentioned at the beginning of this form, participation in this study may involve a potential loss of confidentiality. Answers and responses during visits, which include medical and mental health information, will be written down. While this information will be de-identified and will be stored on password-protected computers that are themselves stored in locked facilities, it is theoretically possible that this information may become public in the event of theft or error. That said, this possibility is extremely unlikely. The study investigators have conducted clinical research for over 10 years without ever experiencing such an event.

During one of the tests, you will be asked to wear headphones while listening to sounds. For some subjects, the volume of sounds played through earphones may be too loud. To avoid this, sounds will be presented at a volume usually tolerable to human ears. Volume will be changed based on your preference as needed.

At two of the assessment points, you will complete a light stimulation task. Exposure to a flickering light on a screen may lead to a mild headache that improves after rest; In rare instances, exposure to flickering lights has been associated with seizures. This is highly unlikely since the study is not enrolling subjects with a history of seizure disorders. The task will take approximately 15 minutes to complete.

It is theoretically possible that this research may involve risks that are currently unknown. For example, it is possible that EEG neurofeedback may worsen symptoms in some patients, though studies have generally demonstrated positive effects of EEG neurofeedback on cognitive impairment.

You will be assigned to a study group at random (by chance). Your assignment is based on chance rather than a medical decision made by the researchers. The study group you are assigned to might not be the group you would prefer to be in. Your assigned study group might also prove to be less effective or have more side effects than the other study groups(s), or other treatments available for your condition.

Because this is a research study, there may be some unknown risks that are currently unforeseeable. You will be informed of any significant new findings.

What are the alternatives to participating in this study?
The alternative is to not participate in the study.

What happens if you change your mind about participating?

If you decide that you no longer wish to continue in this study, you may notify any member of the study team at any time. You will be asked to come to the research office for about 15 minutes (optional) to complete questionnaires.

You will be told if any important new information is found during the course of this study that may affect your wanting to continue.

Can you be withdrawn from the study without your consent?
You may be withdrawn from the study for the following reasons: Dr. Singh and colleagues determine that the potential benefits of the study do not outweigh the potential risks of the study.

You may also be withdrawn from the study if you do not follow the instructions given you by the study personnel.

Will you be compensated for participating in this study?
In compensation for your time and travel, you will receive up to $450 for participating in this research. You will receive compensation on each of the longer visits when assessments are conducted.

Baseline Visit: $50, regardless of whether you are enrolled.
Visit 8 (4 weeks): $50
Visit 16 (8 weeks): $100
Visit 24 (12 weeks): $100
Post-treatment Visit at 1 month: $75
Post-treatment Visit at 3 months: $75

Are there any costs associated with participating in this study?
There will be no cost to you for participating in this study.

What if you are injured as a direct result of being in this study?
If you are injured as a direct result of participation in this research, the University of California will provide any medical care you need to treat those injuries. The University will not provide any other form of compensation to you if you are injured. You may call the Human Research Protections Program Office at 858-246-HRPP (858-246-4777) for more information about this, to inquire about your rights as a research participant or to report research-related problems.

What about your confidentiality?
Research records will be kept confidential to the extent allowed by law. Research records may be reviewed by the UCSD Institutional Review Board.

Your research records will be labeled with a code number. The list that matches your name with the code number will be kept in a locked file in the research team's office. Any research records that identify you will be kept only as paper records in locked storage or on password-protected computers.

This research is covered by a Certificate of Confidentiality from the National Institutes of Health. Researchers with this Certificate may not disclose or use information, documents, or

biospecimens that may identify you in any federal, state, or local civil, criminal, administrative, legislative, or other action, suit, or proceeding, or be used as evidence unless you have consented for this use. Information, documents, or biospecimens protected by this Certificate cannot be disclosed to anyone else who is not connected with the research *unless* there is a federal, state, or local law that requires disclosure (such as to report child abuse, elder abuse, intent to hurt self or others, or communicable diseases), you have consented to the disclosure, including for your medical treatment; or it is used for other scientific research, as allowed by federal regulations protecting research participants.

The Certificate cannot be used to refuse a request for information from personnel of federal or state government agency sponsoring the project that is needed for auditing or program evaluation by the National Institutes of Health which is funding the project or for information that must be disclosed in order to meet the requirements of the Food and Drug Administration (FDA). You should also understand that a Certificate of Confidentiality does not prevent you from voluntarily releasing information about yourself or your involvement in this research. If you want your research information released to an insurer, medical care provider, or any other person not connected with the research, you must provide consent to allow the research to release it.

Under California law, we must report information about known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder including physical, sexual, emotional, and financial abuse or neglect. If any investigator has or is given such information, he or she may be required to report such information to the appropriate authorities.

Data from this study will be submitted to the National Institute of Mental Health Data Archive (NDA) at the National Institutes of Health (NIH). NDA is a large database where de-identified study data from many NIH studies are stored and managed. Sharing your de-identified study data helps researchers learn new and important things about brain science more quickly than before.

De-identified study data means that all personal information about you (such as name, address, birthdate and phone number) is removed and replaced with a code number. The study researchers will have to collect your personal information from you in order to make that code number. The code number cannot be used to identify you. The study researchers will never send your personal information to NDA.

It is possible that you will participate in more than one study that sends data to NDA. NDA can connect your data from different studies by matching the code number on your deidentified data from each study. This data matching helps researchers who use NDA data to count you only one time. It also helps researchers who use NDA to better understand your health and behavior without knowing who you are.

During and after the study, the study researchers will send de-identified study data about your health and behavior to the NDA. Other researchers across the world can then request your de-identified study data for different research projects. Every researcher (and the institution to which they belong) who requests your de-identified study data must promise to keep your data safe and promise not to try to learn your identity. Experts at the NIH who know how to keep your data safe will review each request carefully to reduce risks to your privacy. Sharing your study data does have some risks, although these risks are rare. Your study data could be

accidentally shared with an unauthorized person who may attempt to learn your identity. The study researchers will make every attempt to protect your identity.
You may not benefit directly from allowing your study data to be shared with NDA. The study data provided to NDA may help researchers around the world learn more about brain science and how to help others who have problems with brain science. NIH will also report to Congress and on its website about the different studies using NDA data. You will not be contacted directly about the study data you contributed to NDA.

You may decide now or later that you do not want your study data to be added to NDA. You can still participate in this research study even if you decide that you do not want your data to be added to NDA. If you know now that you do not want your data in NDA, please tell the study researcher before leaving the clinic today. If you decide any time after today that you do not want your data to be added to NDA, call or email the study staff who conducted this study, and they will tell NDA to stop sharing your study data. Once your data is part of NDA, the study researchers cannot take back the study data that was shared before they were notified that you changed your mind. If you would like more information about NDA, it is available on-line at http://nda.nih.gov.

Will you receive any results from participating in this study?
You will not receive any results from this study. The interview questions and tests used in this study are for research purposes and are not intended for diagnostic or clinical purposes.

Who can you call if you have questions?
This study has been explained to you and your questions have been answered. If you have other questions or research-related problems, you may reach Dr. Fiza Singh at 858-922-4365.

You may call the Human Research Protections Program Office at 858-246-HRPP (858-246-4777) to inquire about your rights as a research participants or to report research-related problems.

Conflict of Interest
Dr. Fiza Singh (Principal Investigator), Dr. Eric Granholm (Co-investigator) and Dr. I-Wei Shu (Co-investigator) are co-founders of BioSignal Solutions, LLC, a company that may potentially benefit from the research results from this study. The terms of this arrangement have been reviewed and approved by the University of California, San Diego in accordance with its conflict of interest policies.

Your Signature and Consent
You have received a copy of this consent document and a copy of the “Experimental Subject's Bill of Rights” to keep.

You agree to participate.

_____ _____
Participant’s signature Date

_____	_____
Signature of the person conducting the informed consent discussion	Date