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Oral Health for Brain Health (Mysmile): Participant Information Sheet

We would like to invite you to take part in our research study. Before you decide we will explain why the research is being done and what it would involve for you. Talk to others about the study if you wish. Ask us if there is anything that is not clear.

What is the purpose of the study?

Alzheimer's Disease has recently been linked to oral health and certain bacteria that are found in the mouth (oral bacteria). We want to see whether, with appropriate dental treatment we can improve oral health (oral hygiene, how well we clean our teeth and gums) and reduce the number of oral bacteria in people living with memory loss. If the study is successful we want to complete a bigger study to see if keeping teeth and gums clean can slow the progression of Alzheimer's disease.

We are looking for people to take part in this study who have:

- A diagnosis of early-stage Alzheimer's disease or mild cognitive impairment (MCI) and
- Gum disease (often an underlying disease, if you have bleeding gums you probably have gum disease) and
- Are aged 60 years or above.

Why have I been invited to take part?

You have been invited to take part as you have a diagnosis of Alzheimer's Disease or MCI. We are hoping to recruit approximately 50 people with early-stage Alzheimer's Disease or MCI, together with their chosen project partner (e.g. a friend, relative or carer) to take part in this feasibility study.

To help with this study it is important that every person who takes part in the study has a project partner who must attend their first appointment with them and provide support, if necessary. The project partner does not necessarily need to attend subsequent appointments. If you decide to take part then your project partner should be someone you know well, such as an adult family member or close friend. You may choose to have more than one project partner.

Do I have to take part?

No, it is up to you to decide if you want to join the study. We will describe the study and go through this information sheet with you. If you agree to take part, we will ask you to sign a consent form. You are free to withdraw from the study at any time, without giving a reason. This will not affect the treatment you

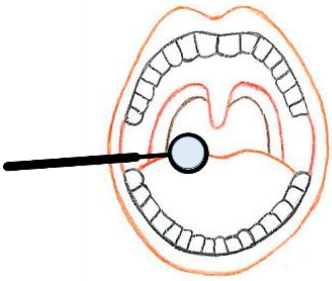
receive for your memory loss in any way. We will also ask your project partner if they are happy to take part in the study.

What will happen to me if I decide to take part? What will I have to do?

In brief:

If you consent to take part a cognitive assessor will do some memory tests

A dentist will ask you some questions about your current health conditions and assess your gum health



If these tests and your current health conditions indicate that you are suitable for inclusion in the study we will take samples of saliva and blood. After this you will be allocated to one of two study groups at random (like tossing a coin):

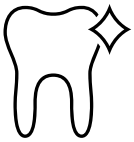
Allocated at random

50% 50%

GROUP 1

Will visit a dental practice 3-4 times:

The dentist will clean your teeth and gums



GROUP 2

No study dental treatment:

You do not need to do anything, but you should continue to visit your dentist if you have one

After 6 and 12 months of being in the study **both** groups will:

- Have memory tests.
- Have dental assessments.
- Give samples of saliva and blood.

At the 12 month appointment you will also be asked if you can tell us how the study was for you, for example, was it easy to get to study appointments, if you were in group 1 how did you find the treatment?

After 18 months participants enrolled early in the study will be contacted to see if they are able to do some memory tests by video link or in person.

Further details:

Visit 1: Screening visit at Bristol Brain Centre, Southmead Hospital – all participants:

This will last approximately 2 hours to confirm that you are eligible for the study, not everybody who is screened for the study will be able to take part. You will be reimbursed for your travel expenses.

You will be introduced to a memory (cognitive) assessor and a dentist.

The cognitive assessor will go through this information sheet with you and your project partner and answer any questions you have. If you are still happy to take part, they will take informed consent from both of you and then undertake standard assessments, to see how well you learn and remember things.

The study dentist will then ask you some questions about your medical history and assess your oral health using standard gum health scores.

If both your memory and dental assessments show that you are eligible to take part the dentist will then:

- ask you for a sample of your saliva so that we can estimate the number and types of bacteria you have in your mouth. You will be given a mouthful of mouthwash to swish around your mouth, and you will be asked to expectorate (spit) into a pot.
- take a small sample of blood so that we can see if there are any proteins in it that indicate there is some inflammation. This will be like any other blood test you may have had before. A band will be placed around your upper arm and a needle inserted to take enough blood to fill one tube about the same size as the index finger on a small adult hand. There will be an initial, brief sharp pricking sensation. Once the blood has been taken, pressure and a covering will be applied to the site.
- give you an electric toothbrush and toothpaste and show you how to use it to keep your teeth as clean as possible.
- give you a leaflet with instructions about toothbrushing to take home.
- ask you how you would like to be contacted throughout the study, by phone, email, text or letter.

1-2 Days after visit 1:

We will evaluate your scores and enter them into a computer program that will allocate you to one of 2 groups at random, we will not be able to influence which group you end up in. Once completed we will contact you to let you know which group you are in.

- **Group 1:** you will be allocated to a dentist in general dental practice or at Bristol Dental Hospital who will treat your gums to improve their health. We will do our best to match you up with a dentist as close as possible, but if you have to travel we will reimburse your travel expenses. We will help you make your appointments.
- **Group 2:** no dental treatment during the main study, we will ask you to carry on as you normally would with your dental care and any dental appointments you might have with your own dentist.

Group 1 only (Dental study treatment appointments):

First treatment appointment, 1-2 weeks after the screening visit:

- At this appointment the treatment you need to improve your oral hygiene and stabilise your gums will be determined
  - a more detailed medical and dental history will be taken.
  - your gum health and how secure your teeth are will be assessed further, which may require taking some dental X-rays.
  - a treatment plan will be designed and explain to you and your project partner.
- The professional treatment to clean your teeth will be started.
  - if necessary, the dentist will numb your mouth before starting the clean
  - If required, the dentist may give you a course of antibiotics to take every day for a week.
  - you will be given some mouth wash and interdental aids to help you clean between your teeth better, shown how to do this and told when you should use the products you have been given.
  - The dentist will talk to you about your normal tooth brushing habits and after listening, offer advice as to what might help you clean your mouth and gums better.

Second treatment appointment: (30 mins - 2 hours depending on the amount of treatment you need).

- the preliminary professional clean of your teeth will be completed.
- if necessary, supplementary dental treatment to stabilise your teeth and gums will be started.
- We will ask you and your project partner how easy it is for you to follow the dentist's instructions that you have been given so far.
- If you are having trouble with the advice given the dentist will try to explain things a different way or offer different hints and tips.

Further treatment/review appointments: (30 mins - 2 hours depending on the amount of treatment).

You will receive approximately 3 treatment/review sessions over the course of the first 3-4 months of the study. The exact number will depend on how much treatment you need to get your gums healthy.

At each of these further treatment/review appointments:

- the treatment that you have had so far will be reviewed and your gum health assessed.
- if necessary a further professional clean will be carried out.
- you will be asked how easy it has been for you to follow the advice given to you.
- the dentist will try to find more ways to help you keep your mouth clean if you are still having trouble.
- further appointments for you will be made if you still need professional treatment to fully clean your mouth.

The dental practice at which you are being treated will send you some reminders, hints and tips about keeping your mouth clean while you are in the study. We will ask you what format is best for you to receive these, by phone, email or text.

Group 2 and Group 1

Visits 2 and 3 at the Bristol Brain Centre, Southmead Hospital:

These visits will be 6 and 12 months after your first visit and will last approximately 2 hours. You do not have to attend these appointments with your project partner, whether they attend or not is up to you both. You can ask someone else to accompany you if this is more convenient, or you can attend alone.

You will be assessed by a memory (cognitive) assessor and a dentist, the order of the assessments may not always be the same, sometimes you may see the dentist first, other times the cognitive assessor.

- The cognitive assessor will:
  - check how you are feeling in yourself and how well you can learn and remember things using assessments, such as memory tests, that are routinely used for this purpose.

- The study dentist will:
  - assess your oral health using standard gum health scores.
  - ask you for a sample of your saliva so that we can estimate the number and types of bacteria you have in your mouth.
  - take a small sample of blood in 1 tube about the size of your finger using standard techniques so that we can see if there are any proteins in it that indicate there is some inflammation.

Visit 3 only:

- You will be asked if you are happy to have a quick chat with a researcher to find out your thoughts about the study - this will take approximately 15 minutes and will be audio recorded, the recordings will then be transcribed. If you agree you will be asked:
  - how you felt being allocated to the group you ended up in, was it OK or not?
  - Whether there were any things that were particularly difficult, that made it hard to stay part of the study?
  - What things helped you improve your oral health the most?

- At this visit if you are in **Group 2** you will also be asked if you would like to receive the dental treatment. If so, a member of the research team will be in touch to arrange this.

Memory assessment by video (or face to face if video is not possible) - this will take approximately 60 minutes.

- A member of the research team will contact you about 17 months after you enrolled in the study to set up a video call (if this is possible for you) with the cognitive assessor.

  During the call, the cognitive assessor will see how well you are feeling in yourself and how well you can learn and remember things using assessments, such as memory tests, that are routinely used for this purpose.

Frequently asked questions:

What are the possible benefits of taking part?

If you take part in the study you will receive an electric tooth brush, tooth paste and interdental brushes together with a leaflet about how to keep your teeth clean.

- If you are in **Group 1** you will receive dental treatment aimed to improve your dental health and oral hygiene. All dental care provided by study dentists will be free of charge.
- If you are in **Group 2** you can ask to have the same dental treatment that people in group 1 received, at the end of the study. This will be free of charge. If you are in **Group 2** and decide to attend your own dentist during the main study period, they will charge you as usual.

Both groups will also receive three or four cognitive assessments to determine how well you are remembering things; this will help you to monitor your memory loss.

We cannot promise that keeping your mouth clean will help your memory loss, but the information we get from this study will help us design a bigger study to test if improving oral hygiene can slow the onset and progression of memory loss.

What are the possible disadvantages and risks of taking part?

The dental treatment you will be given will be routine. Every effort will be made to alleviate any pain or discomfort with a dental cause. Risks of treatment will be no greater than those encountered if you were to attend your own dentist.

When necessary, you will be given an injection to make your mouth numb before treatment to minimise any discomfort. A gel will be applied to your gum prior to the injection to minimise any discomfort from the injection itself.

You may be asked to have an X-ray to determine what treatment you need. This is a normal requirement before dental treatment, and the dose of radiation that you receive from the X-ray is low. The X-rays will enable the dentist to spot problems and signs of disease that may not be visible on the surface of your teeth and gums when the dentist examines them. The X-rays are necessary to reach a diagnosis and formulate the best treatment plan for you.

If it is thought to be necessary, you may also be asked to take a short course of antibiotics, and it is possible that you could be allergic to the antibiotic prescribed. The dentist will take a full medical history to make sure they are not prescribing something that you are known to be allergic to. They will also provide you and your project partner advice regarding what to do and who to contact if you feel unwell after taking the antibiotics. As with all antibiotics, there is a risk of gut problems which can cause symptoms whilst taking a course of antibiotics or up to 2 months afterwards. Noticeable symptoms may be changed bowel movements, diarrhoea, fever, loss of appetite, nausea, abdominal pain or tenderness. This can be caused by the bacteria *Clostridium difficile* and associated disease and if you notice any of these changes you should arrange a consultation with your general medical practitioner (doctor).

When blood is taken there will be a sharp scratch from the needle, but this should not last long and is no different to giving blood for a blood test.

Up to £20 per visit will be available to help towards covering the cost of transport, please ask us.

What if something goes wrong?

If you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of this study, please contact a member of the research team (details at the bottom of this information sheet) or the Patient Support and Complaints Team (at UHBW) on 0117 342 1050, or by email: PSCT@uhbw.nhs.uk.

What will happen if I don't want to carry on with the study?

You can withdraw from the study at any time without giving a reason; this will not affect the health care that you receive now or in the future.

Your anonymised data about your dental health and how well you are able to remember things will be retained for the study unless you ask us to remove it from the study at the time you withdraw. Any of your saliva or blood samples that are unused at the time that you withdraw will be retained for the study unless it is requested that they are destroyed, but it will not be possible to destroy any samples that have already been used up.

Will my taking part in the study be kept confidential?

Yes. Your participation in the study will be treated as confidential, any personally identifiable information will be held and processed under secure conditions by the study team and authorised agents only. If you consent to take part in this study, only your project partner who has enrolled in the study with you, the research team and your dentist (if you have one) will know that you are taking part, the treatment you are receiving and the results of your oral health assessments. Your identity will not be disclosed to any other person, except in the event of a medical emergency or if required by law. However, we will also ask you if we can notify your doctor ('general practitioner') of your participation, if you agree they will also know that you are taking part. If you do not want us to tell them you are taking part in the study that is fine, just let us know.

Your anonymised data will be processed electronically to determine the outcome of this study. You will not be referred to by name in any report or publication (in a scientific journal) of the study. A study monitor whose job it is to check that the study is running correctly may observe the study procedures at one or more study visits.

What will happen to my saliva and blood samples?

Your saliva and blood samples will be frozen and a number (a code) will be given to both your sample and your data by a member of the clinical care team. Only the non-laboratory research staff will know who the samples and data came from. The saliva and blood samples will be used by the laboratory researchers to analyse the human inflammation proteins they contain, these tests are not diagnostic. They will also be used to estimate the number of bacteria and type of bacteria you have in your mouth and blood. Samples will be stored safely and with your permission, if there is any left over we would like to be able to use it in future studies investigating gum health and memory loss and we will ask for your consent to do this.

Who will have access to my saliva and blood samples?

Only the clinical staff who took the samples and the researchers estimating the amount of bacteria and looking at the human proteins will have access to the samples during the study. If you give your permission for the use of the samples in future research they will be provided to other researchers in anonymised form (so that the researchers do not know who the samples came from, they will not know that the samples are yours). We will keep your signed consent form with these stored samples so that we can show that you are happy for the samples to be used for future research.

How will we use information about you?

We will need to use information from you for this research project.

This information will include: your initials, Name, Contact Details, The details of your dentist (and doctor if you give us permission to contact them), Medical history, Your gum health and memory scores, Information about the bacteria in your saliva and the proteins that indicate inflammation in your blood.

People will use this information to do the research or to check your records to make sure that the research is being done properly.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a code number instead.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no-one can work out that you took part in the study.

What are your choices about how your information is used?

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.
- If you agree to take part in this study, you will have the option to take part in future research using your anonymised data saved from this study. If you agree, your anonymised data will be saved in the University of Bristol's Research Data Repository.

Where can you find out more about how your information is used?

You can find out more about how we use your information

- at www.hra.nhs.uk/information-about-patients/
- our leaflet available from our website www.uhbristol.nhs.uk/research-innovation/for-patients-and-public/how-we-use-your-information-(gdpr)/
- by asking one of the research team
- by sending an email to our Data Protection Officer: InformationGovernance@UHBW.nhs.uk
- by ringing us on 0117 34 23701 or 0117 34 23794. (Data Protection Officer)

What will happen to the results of the study?

The researchers involved with the project hope to publish the data in research journals. Your identity will not be revealed in any publication. We will also provide a summary of the study findings to you when we have analysed them.

Who is organising and funding the research?

University Hospitals Bristol and Weston NHS Foundation Trust (UHBW) and the University of Bristol are organising the research, and it has been funded by the National Institute of Health Research.

Who has reviewed the study?

This study has been reviewed and given favourable ethical approval by National Research Ethics Service: West of Scotland Research Ethics Service (WoSRES)

How have patients and the public been involved with the study?

We have discussed the study with those living with memory loss, who were interested in the study and keen to learn more about the potential links between memory loss and dental disease. We also have a patient advisory group who are helping during the study, providing patient feedback so that we can take this into account while the study is running.

What if relevant new information becomes available?

Sometimes, during the course of a research study, new information becomes available about the treatment that is being studied. If this happens, your research dentist will tell you about it and discuss with you whether you want to or should continue the study. If you decide to continue in the study you will be asked to sign an updated consent form. Also, on receiving new information your research dentist might consider it to be in your best interests to withdraw you from the study and he/she will explain the reasons why. If the study is stopped for any other reason, you will be informed why.

About the consent form

If you are happy to take part in the study and for us to collect and use samples of saliva for this research we would like you to confirm that you have given us your consent (permission) by completing the Consent Form given to you with this information sheet. Please note that you do not have to give your consent. If you do not wish to give your consent it will not affect the quality of care you currently receive in any way.

If you would like to take part, or if you would like to ask some questions before deciding contact:

Miss Nikki Hellin, Bristol Dental School, Bristol Dental Hospital, Lower Maudlin Street, Bristol, BS1 2LY, UK. Email: nikki.hellin@bristol.ac.uk. Tel: 07773 579130.

Or the Clinical Trials Team at Bristol Dental School, Lower Maudlin Street, Bristol, BS1 2LY
Email: dental-clinical-trials@bristol.ac.uk

Thank you for reading this leaflet and considering our research