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Oral Health for Brain Health (Mysmile): Project partner 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 Alzheimer's disease. 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 hoping to recruit 50 participants to the study who are aged 60 or over and 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).

Why have I been invited to take part?

To help with this study, it is important that every person who takes part has a project partner e.g a friend, relative or carer such as you who can attend their first appointment with them and support them, if necessary, with any difficulties encountered in following advice they are given and attending further study appointments. A project partner should be someone who is known well to the participant, such as an adult family member or close friend. The participant may have more than one project partner.

A person who knows you well and is currently living with Early Alzheimer's disease or MCI has expressed an interest in taking part in the study and has told us that if they take part they would like you to be their project partner.

Do I have to take part?

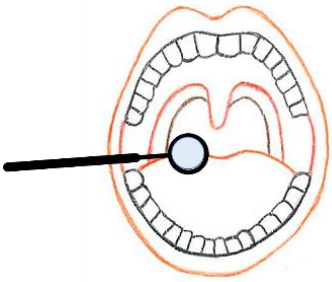
No, it is up to you to decide to join the study. We will describe the study and go through this information sheet with you and the person with early Alzheimer's Disease or MCI who has nominated you. If you agree to take part in the study with them we will ask you to sign a consent form.
You are both free to withdraw from the study at any time, without giving a reason. This will not affect any current healthcare treatment either of you receive in any way.

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

In brief:

If you and the person with memory problems who has nominated you agree to take part, a cognitive assessor will assess their memory

A dentist will ask them some questions about their current health conditions and assess their gum health



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

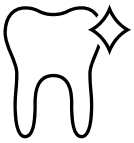
Allocated at random

50% 50%

GROUP 1

Will visit a dental practice 3-4 times:

The dentist will clean their teeth and gums



GROUP 2

No study dental treatment:

They do not need to do anything but should continue to visit their dentist if they 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 the person with memory problems will also be asked if they can tell us how the study was for them, for example, was it easy to get to study appointments, if they were in group 1 how did they find the treatment?

After 18 months participants with memory problems who were 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:

If the person who nominated you expresses an interest in taking part in the study you will both be invited to a screening appointment to confirm that they are eligible for the study and that you are both happy to participate. This appointment will last approximately 2 hours, travel expenses will be reimbursed.

The person you are partnering will be introduced to a memory (cognitive) assessor and a dentist.

The cognitive assessor will go through this information sheet with you and the person you are partnering 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 of the person you are partnering to see how well they can learn and remember things.

The study dentist will then ask the person you are partnering some questions about their medical history and assess their oral health using standard gum health scores.

If both the memory and dental assessments of the person you are partnering show that they are eligible to take part in the study the dentist will then:

- ask the them for a sample of their saliva so that we can estimate the number and types of bacteria they have in their mouth.
- take a small sample of their blood in the same way blood is taken for a standard blood test so that we can see if there are any proteins in it that indicate there is some inflammation.
- give them an electric toothbrush and toothpaste and show you both how this should be used to keep teeth as clean as possible.
- give you both a leaflet with instructions about toothbrushing to take home.
- Ask you both 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 the scores of the person you are partnering and enter them into a computer program that will allocate them to one of 2 groups at random, we will not be able to influence which group they end up in. Once completed we will contact you/the person you are partnering to let you both know which group they are in.

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

The study team will ask you if you would like to be informed of all the appointments made for the person that you are partnering, and if so, how you would like to receive this information.

Group 1 only (Dental treatment appointments):

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

You do not have to attend this appointment, you and the person you are partnering can decide what is right for them.

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

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

- the preliminary professional clean of the person you are partnering's teeth will be completed.
- if necessary supplementary dental treatment to stabilise their teeth and gums will be started.
- You and the person you are partnering will be asked how easy it has been for them to follow the dentist's instructions.
- If they 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). The person you are partnering 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 they need to get their gums healthy.

At each of these further treatment/review appointments:

- The treatment received so far will be reviewed.
- if necessary a further professional clean will be carried out.
- the person you are partnering will be asked how easy it has been for them to follow the advice they have been given.
- If they are having difficulty keeping their mouth clean the dentist will come up with additional ways to help them.

The dental practice where the treatment is taking place will send them some reminders, hints and tips about keeping their mouth clean while they are in the study. We will ask the person you are partnering what format is best 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 the person that you are partnering, whether you attend or not is up to you both. The person you are partnering can ask someone else to accompany them if this is more convenient, or they can attend alone.

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

- **The cognitive assessor will:**
  - check how the person you are partnering is feeling and how well they can learn and remember things using assessments, such as memory tests, routinely used for this purpose.

- **The study dentist will:**
  - assess the oral health of the person you are partnering using standard gum health scores.
  - ask them for a sample of their saliva so that we can estimate the number and types of bacteria they have in their mouth.
  - take a small sample of their blood in 1 tube about the size of a 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:

- The person you are partnering will be asked if they are happy to have a quick chat with a researcher to find out their thoughts about the study - this will take approximately 15 minutes and will be audio-recorded and transcribed. If they agree they will be asked:
  - how they felt being allocated to the group they 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 them improve their oral health the most?

  At this visit if the person you have been partnering is in **Group 2** they will also be asked if they 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 min:

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

  During the call, the cognitive assessor will assess how well they are feeling and how well they learn and retain information 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 the person you are partnering take part in the study they will receive an electric tooth brush, tooth paste and interdental brushes together with a leaflet about how to keep their teeth clean.

- If they are in **Group 1** they will receive dental treatment aimed to improve their dental health and oral hygiene. All dental care provided by study dentists will be free of charge.
- If they are in **Group 2** they can ask to have the same dental treatment at the end of the study. If they are in **Group 2** and decide to attend their own dentist during the main study period, they will have to pay the normal charges, but if they choose to receive the study treatment from the study dentists at the end of the study this will be free.

Both groups will also receive four cognitive assessments to determine how well the person you are partnering is retaining information; this will help them to monitor their MCI/Alzheimer's disease.

We cannot promise that if the person who you are partnering keeps their mouth clean this will help their memory problems, 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 Alzheimer's Disease.

What are the possible disadvantages and risks of taking part?

The dental treatment that the person you are partnering is given will be the routine treatment for gum disease. 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 they were to attend their own dentist.

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

If the person you are partnering is in group 1 or is in group 2 and opts to take the study treatment at the end of the study they are likely to be asked to have an X-ray to determine what treatment they need. This is a normal requirement before to dental treatment, and the dose of radiation that they will 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 their teeth and gums when the dentist examines them. The X-rays are necessary to reach a diagnosis and formulate the best treatment plan for them.

If it is thought to be necessary, they may also be asked to take a short course of antibiotics, and it is possible that they could be allergic to the antibiotic prescribed. The dentist will take a full medical history to make sure they are not prescribing something that the person you are partnering is known to be allergic to. The dentist will also provide the person you are partnering and you advice regarding what to do and who to contact if they 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 a consultation with the general medical practitioner (doctor) for the person you are partnering should be arranged.

When blood is taken from the person you are partnering 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.

There are quite a few visits required for the study, although as project partner you do not need to attend all of these. 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 or the person I am partnering doesn't want to carry on with the study?

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

The anonymised data about the person you are partnering's dental health and how well they are able to remember things will be retained for the study unless they ask us to remove it from the study at the time they withdraw. Any of their saliva or blood samples that are unused at the time that they 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 the person you are partnering who has enrolled in the study with you and the research team will know that you are taking part. Your identity will not be disclosed to any other person, except in the event of a medical emergency or if required by law.

Your identity and that of the person you are partnering will not be disclosed to any other person, except in the event of a medical emergency or if required by law. Only anonymised data will be processed electronically to determine the outcome of this study. Neither you nor the person you are partnering will 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.

Also, if the person you are partnering agrees to take part in this study, we will notify their dentist ('general dental practitioner') and with their permission, their doctor ('general medical practitioner') of their participation. If they do not want us to contact their doctor they can still take part in the study they just need to let us know.

What will happen to saliva and blood samples collected for the study?

The saliva samples taken from the person you are partnering will be frozen and a number (a code) will be given to the sample and associated data by a member of the research team. Only the clinical research staff will know who the samples and data came from. The saliva samples will be used by the laboratory researcher to estimate the number and type of bacteria the person you are partnering has in their

mouth, and blood samples will be assessed to see if there is any evidence of inflammation, these tests are not diagnostic. Samples will be stored safely and with the permission of the person you are partnering, if there is any leftover we would like to be able to use it in future studies investigating gum health and Alzheimer's disease.

Who will have access to the 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 the person you are partnering gives their 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). We will keep their signed consent form with these stored samples so that we can show that they 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

In addition, to the above, from the person you are partnering in this project we will also use the following information: The details of their dentist (and doctor if they give us permission to contact them), their medical history, their gum health and memory scores, information about the bacteria in their saliva and the proteins that indicate inflammation in their 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 or the person that you are partnering are will not be able to see either of your names or contact details. Your data will have a code number instead.

We will keep all information about you both 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 either of you took part in the study.

What are your choices about how your information is used?

- You or the person you are partnering 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 both 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 the person you are partnering agrees to take part in this study, they will have the option to take part in future research using their data saved from this study. If they agree, their 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 and the identity of the person you are partnering will not be revealed in any publication. We will also provide a summary of the study findings to you both 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, the research dentist will tell you and the person you are partnering about it and discuss with you both as to whether they want to or should continue the study. If they decide to continue in the study you will be both be asked to sign an updated consent form. Also, on receiving new information your research dentist might consider it to be in their best interests to withdraw them from the study and he/she will explain the reasons why. If the study is stopped for any other reason, you will both be informed why.

About the consent form

If you are happy to take part in the study we would like you to confirm that you have given us your consent (permission) by completing the Consent Form given to you with this leaflet. 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 and the person with memory loss that you will partner would like to take part, or if you would like to ask some questions before deciding, contact:

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Or the Clinical Trials Team at Bristol Dental School, Lower Maudlin Street, Bristol, BS1 2LY
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Thank you for reading this leaflet and considering our research