

Community session: Type 2 Diabetes and Gum Diseases

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Background

The National Institute for Health and Social Care Research (NIHR) currently funds 20 Biomedical Research Centres (BRCs) across England. These collaborations between world-leading universities and NHS organisations bring together academics and clinicians to translate lab-based scientific breakthroughs into potential new treatments, diagnostics, and medical technologies. The Imperial BRC is a collaboration between Imperial College, London and Imperial College Healthcare NHS Trust (ICHT) and is currently funded until November 2027. It has 14 research themes.

The Imperial Patient Experience Research Centre (PERC) is a core facility of the Imperial BRC undertaking research on research and supporting Imperial BRC researchers to undertake public involvement and engagement in research. PERC recognises that involving a diverse range of patients and members of the public in research is essential for ensuring that research is relevant, meaningful, and useful for improving healthcare experiences and outcomes for all. PERC is seeking to establish relationships with under-represented and under-served communities in North West London to engage a more diverse range of patients and members of the public in research. By working closely with these communities, PERC seeks to ensure that research is tailored to their specific needs and priorities and that their voices are heard in research decision-making. Building trust is paramount in PERC's efforts to engage with communities in North West London about Imperial's research (both for the purposes of public involvement participation in research), and this is done by inviting speakers who can provide insights on specific topics that matter to the community members.

Approach and Purpose

EKTA Community is a mental health support group in Harrow, catering to individuals aged 55 and above. Run entirely by a dedicated committee of volunteers, the group hosts bi-weekly social events featuring activities like yoga and painting. EKTA convenes monthly gatherings, complete with lunch, where members can enjoy informative sessions covering a wide range of topics, from health-related matters to finance and energy management. The group's mission is to offer assistance to South Asian mental health service users residing in Harrow. With a membership of 80 individuals, predominantly elderly residents of Harrow, EKTA plays a crucial role in providing a sense of community, facilitating knowledge exchange, and offering support to combat issues such as loneliness among its members.

In a previous session with EKTA, we utilised feedback forms to gain valuable insights into the community's interests regarding healthcare topics. The primary aim of these forms was to identify preferences and specific areas of health research that community members wished to explore further. After analysing the feedback and consulting with community leaders, we determined that the subsequent session would focus on understanding type 2 diabetes, gum diseases and strategies for better health.

Dr. Menka Loomba is a public health researcher and PhD candidate at the Max Institute of Medical Excellence and Academy of Scientific and Innovative Research (AcSIR), in New Delhi India. Menka is working on the epidemiologic link between periodontal disease and Type 2 Diabetes. Using the Capability, Opportunity, Motivation for behaviour change (COM-B model),

her research focuses on behavioural interventions to improve periodontal health and glycemic control in urban slum populations. With over seven years of experience in public health research and project management, she is a Project Manager at Max Healthcare and was a visiting Research Fellow at Imperial College London from January to March 2025. Menka is also a former dental surgeon with an Masters in Public Health from Panjab University, her work spans non-communicable disease surveillance, oral health, urban slum health, and community-based interventions.

Dr. Minesh Shah graduated with a Bachelor of Dental Surgery (BDS) from the University of Sheffield, UK, in 1982. He dedicated nearly 38 years to clinical dentistry, primarily in NHS practice, including a period of practice ownership, before retiring on December 31, 2020. Committed to serving the community, he now volunteers at EKTA in Harrow and Northwick Park Hospital.

Session Overview

The session took place on 18th February 2025 from 11am to 2pm at a community hub used by EKTA, and was delivered by Dr Menka Loomba and Dr Minesh Shah and supported by Naima Adan from PERC.

Understanding Type 2 Diabetes

The session began with an introduction to Type 2 Diabetes (T2DM), outlining its causes, symptoms, and global prevalence. Attendees learned that T2DM is a chronic metabolic disorder characterised by insulin resistance and hyperglycaemia, with risk factors including obesity, poor diet, physical inactivity, and genetics. Attendees were informed of the growing burden of diabetes globally and its impact on health outcomes.

Gum Disease and its Stages

Attendees were introduced to periodontal disease, commonly known as gum disease, which affects the tissues supporting the teeth. The session covered the stages of gum disease, from gingivitis to more advanced periodontitis, along with symptoms such as bleeding gums, bad breath, and tooth loss. The importance of maintaining good oral hygiene to prevent gum disease was emphasized.

Association Between T2DM and Gum Disease

The bidirectional relationship between T2DM and gum disease was a key highlight of the session. Attendees learned that individuals with poorly controlled diabetes are more prone to developing gum disease due to impaired immune responses and increased inflammation. Conversely, gum disease can worsen glycaemic control, contributing to poor diabetes management. Scientific evidence supporting this association was shared with attendees.

Common Risk Factors for Both Conditions

Attendees learned about common risk factors contributing to both T2DM and gum disease, including smoking, obesity, poor diet, stress, and lack of physical activity. The importance of

addressing these shared risk factors through lifestyle changes was emphasized to improve overall health outcomes.

Behavioural Change Interventions

The session introduced the COM-B model (Capability, Opportunity, Motivation – Behaviour) as a framework for promoting behaviour change. Attendees learned how targeted interventions addressing capability, opportunity, and motivation can help individuals adopt better oral hygiene practices and diabetes management strategies.

Practical Tips for Better Oral Health and Diabetes Management

Attendees were provided with practical tips to manage both conditions, including regular dental check-ups, proper brushing and flossing techniques, a balanced diet, and maintaining optimal blood glucose levels. The importance of quitting smoking and regular physical activity was also highlighted.

Discussions in the Q&A Session

During the Q&A session following the presentations, attendees raised several important questions about the connection between Type 2 Diabetes and gum disease. One common concern was **dry mouth**, its link to both conditions, and how to manage it. Dr Menka explained that diabetes can reduce saliva production, leading to dry mouth, which increases the risk of cavities and gum disease. Similarly, gum disease-related inflammation can exacerbate dry mouth symptoms. Dr Minesh Shah provided practical solutions such as staying hydrated and using saliva substitutes.

Another question was about the **choice of toothpaste**—whether Ayurvedic toothpaste is effective and suitable for individuals with diabetes and gum disease. It was advised that fluoride toothpaste is essential for strengthening enamel and preventing decay. While Ayurvedic toothpaste may contain natural ingredients with potential benefits, it is important to ensure they provide adequate protection against plaque and bacteria.

Attendees also inquired whether **Type 2 Diabetes is more likely to cause gum disease** or if gum disease is more likely to contribute to diabetes. Dr. Menka emphasised the bidirectional relationship between the two, highlighting that poorly controlled diabetes increases the risk of severe gum disease, whilst chronic periodontitis can contribute to insulin resistance, making diabetes harder to manage.

Diet-related concerns were also discussed, particularly regarding foods that help manage both conditions. A balanced diet rich in fibre, lean proteins, and healthy fats while limiting processed sugars and refined carbohydrates was recommended.

The session concluded by emphasising the **importance of holistic care** in managing both T2DM and gum disease, with actionable strategies to promote better health outcomes.

Outcome of the session

Attendee numbers

The session was attended by approximately 35 members of the public (primarily from the Harrow area and part of the EKTA community group) attended the session, of which 23 completed feedback forms (N=23). Attendees were asked to provide feedback by completing a handwritten form, see **Appendix 1**.

The demographic composition of the attendees primarily consisted of individuals aged 56 and above, with a significant representation from Indian and Asian backgrounds. For a detailed demographic breakdown of the attendees, please see **Appendix 3**.

Feedback on the session

The completed feedback forms responses have been compiled and are included at **Appendix 2**.

The event received positive feedback, with 69.5% rating it as "Excellent" and 26% as "Good."

Understanding the Connection Between Type 2 Diabetes (T2D) and Gum Disease

Attendees appreciated learning about the bidirectional relationship between Type 2 Diabetes and gum disease. The session emphasized how poor oral health can worsen diabetes management and how diabetes, in turn, can increase the risk of gum infections.

Prevention and Management of Gum Disease

A key highlight was the discussion on preventing gum disease through proper oral hygiene practices and regular dental check-ups. Practical tips included proper brushing techniques, flossing, and the role of professional dental cleaning in maintaining gum health.

COM-B Approach in Improving Gum Health

Attendees found the discussion on the COM-B behavioural change model insightful. The approach focuses on enhancing **Capability, Opportunity, and Motivation** to bring about better oral health habits, which was seen as a useful strategy.

Integrating the Treatment of T2D and Gum Disease

The concept of managing both conditions together in a unified healthcare approach was well received. Attendees agreed that a combined program for diabetes and gum disease would be beneficial in improving overall health outcomes.

Engagement and Interaction

The Q&A session was highly valued, providing an opportunity for attendees to clarify doubts about gum health, diabetes management, and practical steps for prevention.

Areas for Improvement

Some attendees suggested using **less technical terms** for better understanding, ensuring that explanations are accessible to a wider audience.

Attendees indicated a keen interest in future session topics including heart failure, stroke, blood pressure, cholesterol, ear care, skin care, knee pain, joint health, other oral disease, mental health, kidney disease and arthritis.

Photos from the event are available in **Appendix 4**.

Appendix 1: Feedback form

IMPERIAL **FEEDBACK FORM -**
Diabetes and gum disease -
Tuesday 18th February 2025

1. How would you rate your experience at this event? (please circle)

Very bad Bad Average Good Excellent

2. What was the key highlight from this session?

3. What other healthcare topics would you like to hear about at future sessions?

I am also happy to share my...

age... No, thanks Sure, it's:

ethnicity... No, thanks Sure, it's:

gender... No, thanks Sure, it's:

postcode...
(first section only) No, thanks Sure, it's:

Interested in hearing about future opportunities to hear about healthcare topics? Ask us how!

NIHR Imperial Biomedical Research Centre Thank you for your feedback! **NHS** Imperial College Healthcare

IMPERIAL **AcSIR** **MAX Healthcare**
Share your views!
Diabetes and gum disease - Tuesday 18th February 2025

Thank you for participating in today's session.

Your feedback is essential to help us evaluate the effectiveness of the intervention in improving gum/oral health and glycemic control.

1. Do you think the COM-B approach (which looks at Capability, Opportunity, and Motivation as drivers of Behaviour change) can help improve gum health and lower blood sugar levels?
 a. Yes
 b. No
2. Do you think treating both gum disease and diabetes together in one program will be useful?
 a. Yes
 b. No, please tell us below why?

3. Do you have any other thoughts or suggestions about my approach?

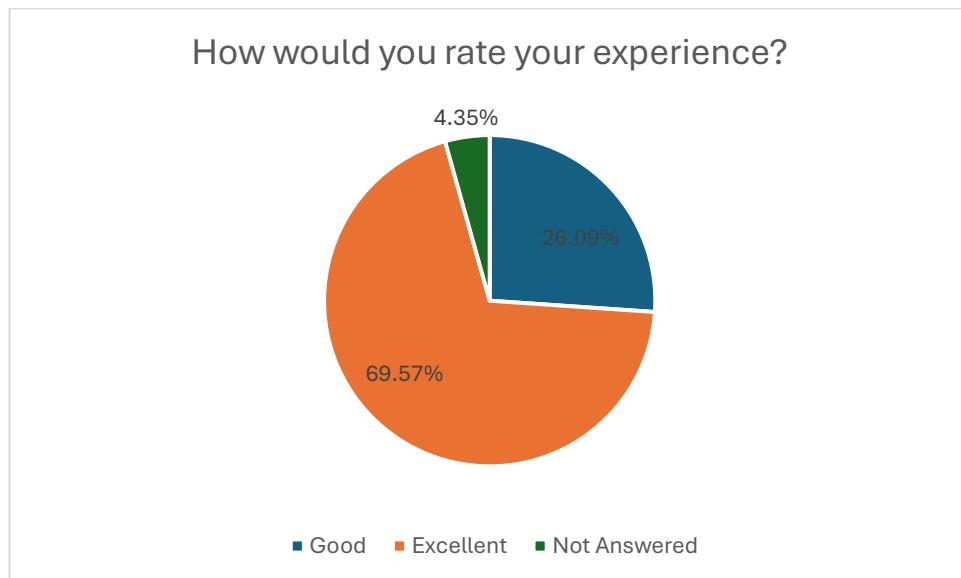
Thank you for your feedback!

NIHR National Institute for Health Research **UKaid** from the UK Aid Match **NHS** Imperial College Healthcare NHS Trust

Appendix 2: Attendee feedback

How would you rate your experience at this event?

Out of the 23 feedback forms returned, 69.57% (n=16/23) rated the event as "Excellent," whilst 26.09% (n=6/23) rated it as "Good" and 4.35% (n=1/23) did not answer.

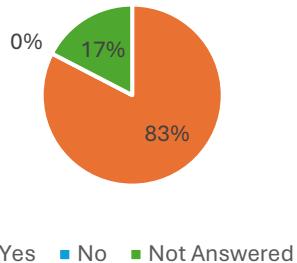


What other healthcare topics would you like to hear about at future sessions?

- Ear Care, Skin Care, and ENT Issues
- Other Oral Diseases and General Dental Health
- Cholesterol Management
- Blood Pressure Control
- Kidney Problems
- Knee Pain, Arthritis, and Joint Health
- Heart Failure and Cardiovascular Health
- Stroke Awareness and Aftercare
- Back Pain and Spinal Health
- Diet and Nutrition- Food Intolerance and Digestive Health
- Mental Health- Depression and Psychological Support, Dementia Care and Support for Caregivers
- Cancer Wellbeing and Support
- Asthma

Do you think the COM-B approach can help improve gum health?

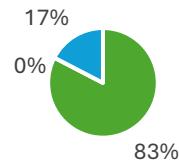
Do you think the COM-B approach can help improve gum health?



■ Yes ■ No ■ Not Answered

Do you think treating both gum disease and diabetes together in one program will be useful?

Do you think treating both gum disease and diabetes together in one program will be useful?



■ Yes ■ No ■ Not Answered

Do you have any other thoughts or suggestions about the COM-B approach?

Do you have any other thoughts or suggestions about COM-B approach?

44%
35%
39%
17%

- Use less Technical terms
- None
- Not Answered
- Approach is good/ effective/ excellent

Appendix 3: Attendee demographics

Table 1: Demographic characteristics provided voluntarily in feedback forms (N=23)

Characteristics	N (23)
Mean age (in years)	72.62
Age groups (in years)	
55-59	1
60-64	2
65-69	4
70-74	2
75-79	1
80+	6
Not provided	7
Gender	
Female	9
Male	8
Prefer not to say	6
Ethnic group	
Indian	10
Asian	6
Hindu	1
Not provided	6
Postcode (first section only)	
HA1	5
HA2	0
HA3	6
HA5	0
HA7	2
HA9	0
W2	1
Not provided	9

Appendix 4: Photos

These are photos taken at the Type 2 Diabetes and Gum Disease Community Session on 18 February 2025



