Why is dentine hypersensitivity under diagnosed?

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CP is an employee of Haleon, a manufacture of oral care products.

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Background

Dentin hypersensitivity (DH) is defined as ‘a short sharp pain arising from exposed dentin in response to stimuli…which cannot be ascribed to any other form of dental defect or pathology... [1]

- 51% adults clinically diagnosed with DH[2]
- People affected by DH tend to report substantial impacts on their quality of life[3]
- But only approx. 30% of adults with DH treat their DH[4]

Reference:
1. Holland G.R. *et al. J Clin Periodont* 1997; 24:808-813.
2. West N. *et al* Dentine hypersensitivity and associated risk factors: An observational, cross-sectional multi-centre epidemiological study in 7 European countries (Meribel), IADR Bogota, 2023
3. Baker, S. R., et al . Journal of Clinical Periodontology, 2014, 41(1), 52-59
4. Haleon data on file,

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Objectives

Aim:

This qualitative study aimed to understand the barriers and facilitators to initiating DH conversations in dental teams, and whether the Theoretical Domains Framework (TDF) could explain why dental teams and patients do not have DH conversations.

In this study we asked dental teams to talk about where tooth sensitivity sits in their professional role, and the views of people who had self-rated themselves either as troubled by sensitivity (high sensitivity participants) or not (low-sensitivity respondents).

Methods

Online Focus Group (FG) study.

- Using an interview topic guide based on the Theoretical Domains Framework we conducted 12 FGs lasting around an hour, 4-8 participants each, took place using Zoom March to April 2022.
- Moderated by a trained dentist-researcher and supervised by a social/behavioural scientist team undertaken in a University setting.
- FGs were recorded, anonymised and transcribed verbatim and field notes were compiled.

Participants

- **Dental Team**: Experienced dentists (2 groups), dental foundation trainees (DFTs) (2 groups), and dental care professionals (DCPs; hygienists, therapists and nurses) (3 groups)
- **DH volunteers**: Individuals including patients and staff who had experienced DH (5 groups (3 with “low” sensitivity and 2 with “high” sensitivity”)

Methods

1. Inductive thematic analysis

- A researcher read and re-read each transcript to identify similarities and differences.
- Codes assigned to meaningful data segments (checked by 2nd researcher)

2. Deductive Analysis – mapping themes to the TDF

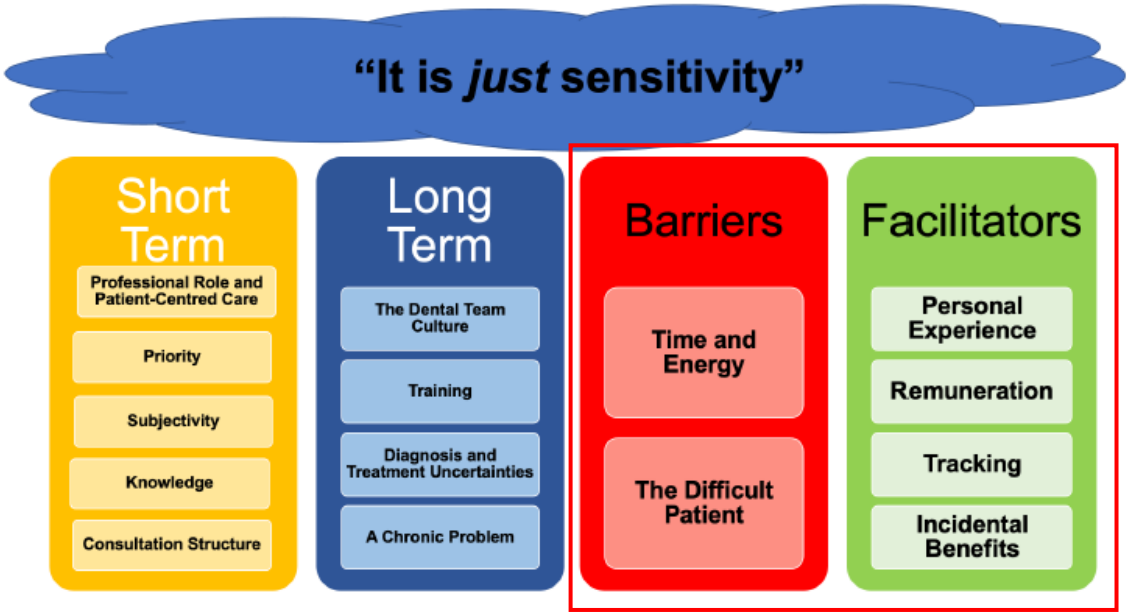
- Themes were coded onto the TDF using the coding framework (Cane et al. (2012).

Reference:
1. Cane, J., O'Connor, D. & Michie, S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Sci* 7, 37 (2012)Clinical Periodontology, 2014, 41(1), 52-59

Results The Dental Professionals Story

For **Dental Teams**: 40 Dental Professionals (10 ED; 15 DFTs and 15 DCPs).

Barriers and facilitators to dental teams' discussing DH.



- Attitude-behaviour gap.
- Really easy to undertake, central part of their professional role, crucial to providing patient-centred care but only able to have DH conversations when there was enough time, when they thought they were treating a potentially compliant, motivated patient.
- When DH was likely to as a result of other procedures, this facilitated conversations

Example verbatium.

Difficult Patient

*I think some patients as well think that sensitive toothpaste is for when they have sensitivity. Then they stop getting sensitivity and then they're like, "**I don't have sensitivity anymore. I don't need sensitive toothpaste." Then they go back to the whitening toothpaste because they always want white** teeth. M:DFT:29*

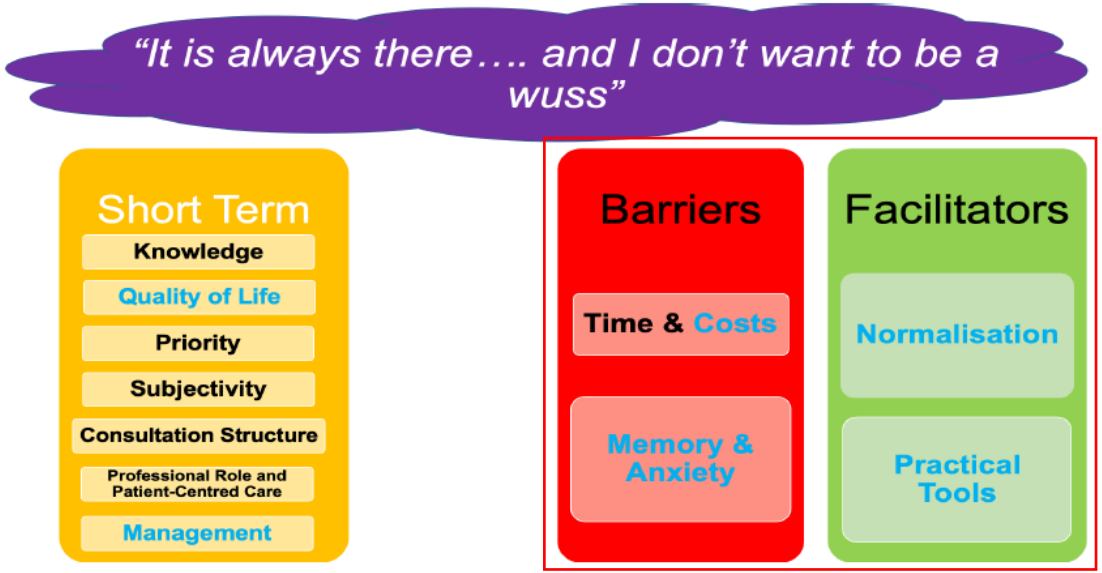
Incidental Benefits

*…you've pre-empted the fact that you're doing this treatment, some patients haven't been for two years, **they've got a mouthful of calculous, you take it off and it's going to be sensitive. So if you tell them that to start, then they're less inclined to think that you've done something wrong after the fact**. F:DCP:26*

Results The Patients story – Themes and Subthemes

For **DH Patients**: 26 DH volunteers. 16 “low sensitivity”; 10 “high” sensitivity.

Barriers and facilitators to patients discussing DH.



- Concern that dentists only had limited time available
- They might miss something more important.
- Concerns discussing DH might bring additional costs.
- Anxiety -wanted to end the dental consultation as soon as possible, mentioning DH would prolong the dental appointment.

- Explaining that DH was widespread acted to reassure patients that they were not wasting dentists’ time.
- Pre-visit questionnaires helpful but only where picked-up in the consultation

Mapping Themes on the TDF

The final analysis of the data involved mapping of the themes we identified to the 14 domains of the TDF.

Barrier	Dental team	Public
Knowledge	No- all knew and could describe what DH was in terms of physiology	No- all could describe what DH was in terms of lifestyle impacts and to some extent physiology
	Yes- knowledge of how to manage DH can be a barrier due to reported inadequate training and fear of litigation	Yes- their knowledge of management of DH differed from DTs in that it focused primarily on avoidance rather than toothpaste use
Skills	Yes – dentists and DCPs reported that the *formal* training they received to diagnose and manage sensitivity was often inadequate	No – Hi S volunteers felt they had the practical skills to talk about their sensitivity and describe necessary adjustments to treatment
	Yes – there was a lack of confidence in skills required to accurately diagnose and manage DH	Yes- Low S volunteers lacked the psychological skills to bring DH up routinely
	No – Ds, DFTs and hygienists believed it	No – High S volunteers believed there was a

So can the Theoretical Domains Framework explain why dental teams and the public do not routinely have DH conversations? ….. in principle, yes.

The vast majority of the TDF domains explained why DH conversations do not take place.

Only the ‘Social influences’ construct was not a barrier; neither dental professionals nor patients felt DH was a condition they would be uncomfortable discussing because of other people’s views about it.

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Conclusions

- **This study provides preliminary evidence on barriers that prevent conversations on dentine hypersensitivity between dental professionals and patients.**
  - **Clinicians** believe conversations should take place as they are part of their professional role, easy & rewarding. However, competing uncertainties about diagnosis, beliefs about lack of measurement and a belief that patients will be non-adherent to their advice prevent these conversations occurring.
  - **Patients** see DH conversations as evidence that they are being treated by a ‘good’ dentist, at the same time there is reluctance to initiate those conversations themselves.
  - Further research is required to explore the relative importance of each of the barriers identified.