

# Dentine Hypersensitivity Experience Questionnaire (DHEQ) Pooled Analysis Study

Adapted from RH02026, GSK Data on File; Sufi F and Baker S. The subjective experience of dentine hypersensitivity – a pooled analysis. Presented at 93<sup>rd</sup> General Session & Exhibition of the IADR. 2015.

## Background and aim

The DHEQ was developed by researchers at the University of Sheffield to assess the subjective impact of dentine hypersensitivity (DH) on five areas of life; functional restrictions (e.g. slower eating), coping behaviours (e.g. warming food and drinks), emotional (e.g. annoyance), social (e.g. difficulty conversing) and personal identity impacts (e.g. feeling old).

The aim of this study was to summarise a pooled analysis of 7 GSK clinical trials that used the DHEQ to support the cross-sectional validity, reliability, and longitudinal responsiveness of the DHEQ. Validation of the short forms of the DHEQ and exploratory analyses were also conducted.

## Study design

Seven clinical trials including 905 participants aged 18–65 years from Canada, Europe and USA.

Trials were standard randomised, controlled, examiner blinded, 2 or 4 treatment-arm, parallel group sensitivity studies, with 4 and 24 weeks duration. A range of products were tested (GSK sensitivity relief products, active competitor products, and controls) for clinical efficacy and included the new, validated subjective-response questionnaire, the DHEQ, as a measure of oral health-related quality of life.

## DHEQ pooled analysis study

The majority of patients in this analysis had experienced sensitivity for between 1 and 20 years and felt sensations on a daily or weekly basis. The main triggers of these sensations were cold drinks, foods, cold air or ice cream.

**Figure 1: Baseline characteristics from the pooled analysis**

	<b>N=905</b>	<b>%</b>
<b>Duration of condition (n=897)</b>		
≤ 1 year	97	10.8
1–5 years	393	43.4
5–20 years	374	41.3
> 20 years	33	3.6
<b>Part of mouth affected</b>		
Top front	604	66.7
Top back	523	57.8
Bottom front	533	58.9
Bottom back	530	58.6
<b>Frequency of sensation (n=900)</b>		
Monthly	152	16.8
Weekly	384	42.5
Daily	364	40.3

## Results and findings

DHEQ measures, and reliability and validity analyses, were very similar to the previously published findings, confirming the robustness and stability of the DHEQ.

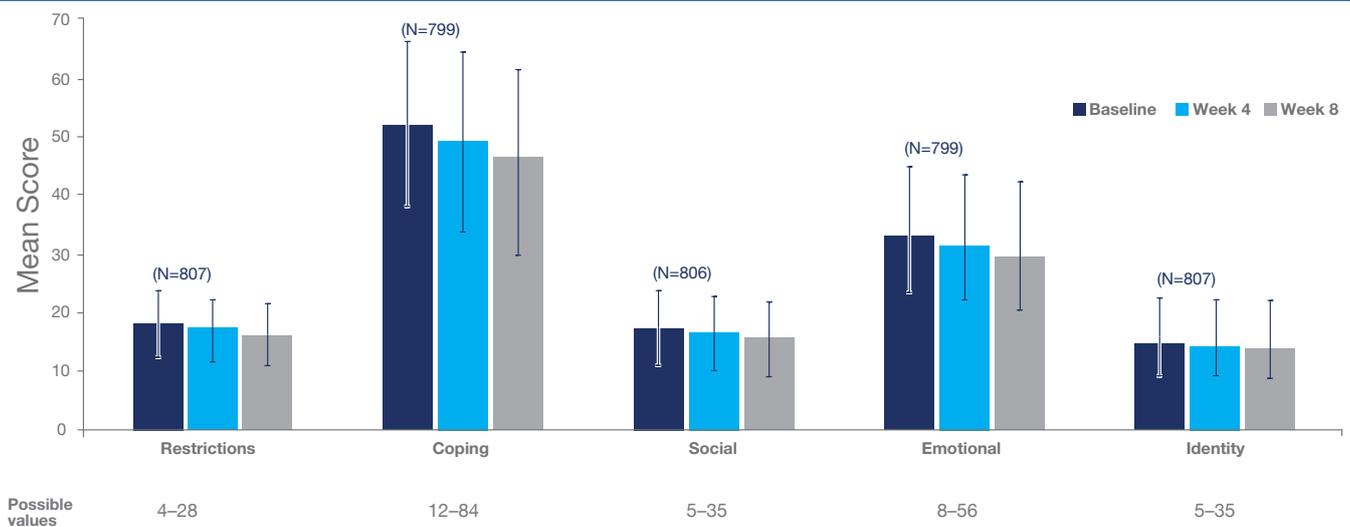
All 5 areas of life assessed by the DHEQ were shown to be impacted by DH. For example, based on the number of patients who gave ratings of 5, 6, or 7 (agree a little, agree, strongly agree) on the 7-point Likert scale, 70.4% of participants reported functional restrictions (e.g. having the sensations in my teeth takes a lot of pleasure out of eating and drinking), 86.5% reported emotional impacts (e.g. the sensations in my teeth have been annoying) and 32.8% experienced personal identity impacts (e.g. having these sensations in my teeth makes me feel old).

Women were found to experience a larger life impact from DH than men, reporting higher total DHEQ scores than men, and higher subscales for functional restrictions and coping mechanisms.

The DHEQ showed responsiveness to change within individuals over time and in response to treatment with twice-daily DH toothpaste.

The DHEQ captured significant decreases in all impact domains and total scores over time, with the largest effect seen at week 8.

**Figure 2: Change in DHEQ domain scores over time**



Impact items that showed the greatest improvements after 8 weeks of treatment were:

- Taking a lot of the pleasure out of eating and drinking
- Taking longer to finish some foods and drinks
- Problems with eating ice cream
- Having to make modifications to eating and drinking
- Avoiding cold foods or drinks
- Avoiding contact with certain teeth when eating
- Anxious that eating or drinking may cause hypersensitivity
- Sensations are irritating
- Annoyed with self for doing something that causes hypersensitivity
- Sensations are annoying

## Conclusion

This pooled analysis confirms the longitudinal validity and reliability of the DHEQ as a subjective measure of the everyday impact of DH. It also illustrates the considerable impact DH has on different areas of patients' lives and the effectiveness of sensitivity products in improving oral health-related quality of life.