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# Young people's experiences of orthodontic retainers: A qualitative study

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## Abstract

**Objective:** To investigate young people's experiences of retainers, the associated impact of retainers on their lives and their perceptions of what influences their own co-operation.

**Design:** Qualitative, cross-sectional study.

**Setting:** An orthodontic department in a UK dental hospital.

**Participants:** Purposive sampling was used to recruit young people, aged 11–17 years, wearing a range of different types of retainers.

**Methods:** Semi-structured interviews were conducted and transcribed. The resultant data were analysed using code-book thematic analysis.

**Results:** Ten patients were recruited before thematic saturation was achieved. Four themes were identified: impact and experiences of wearing retainers; facilitators and barriers to retainer adherence; finding out about retainers; and, finally, involvement in decisions about retainers. Although some initial negative impacts were described, participants generally adapted quickly to retainers. Several factors were perceived to influence co-operation with removable retainers, including concerns about relapse and the associated waste of personal effort and wider resources. There were perceived deficiencies in the information provided by clinicians, which led participants to seek advice from other sources, including social media. Some young people wanted to be more involved in decisions about their retainers.

**Conclusion:** While patients perceived retainers to be easier to wear than active appliances, some transient negative impacts occurred, largely related to initial periods of full-time wear. There were a range of factors which patients perceived to influence their adherence with removable retainers.

## Keywords

qualitative, semi-structured interviews, orthodontic retainers

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## Introduction

Existing research into orthodontic retention has tended to disregard patient-reported outcome measures (PROMs) in favour of clinician-centred outcomes. Despite the existence of several high-quality randomised clinical trials (RCTs), orthodontic researchers have yet to demonstrate the superiority of a particular retainer based on clinical outcomes alone (Littlewood et al., 2016). Arguably, this should lend greater significance to our patients' personal preferences when selecting a retainer.

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Retention represents a long-term clinical dilemma, requiring studies with long-term follow-up. Unfortunately, longer study durations are more likely to be associated with loss of participants to follow-up. This was evidenced by a well-conducted recent RCT comparing mandibular bonded retainers (BRs) with vacuum-formed retainers (VFRs), which reported less relapse associated with BRs at four years post-debond (Al-Moghrabi et al., 2018). Unfortunately, this study also had a drop-out rate of 50%, with the resultant risk of attrition bias limiting the validity of these findings. This issue, which is inherent to long-term retention research, magnifies the importance of conducting patient-centred studies into retention.

While some studies have investigated patients' perspectives of retainers using quantitative survey methodology, the questionnaires have tended to be developed without patient involvement (Guyatt et al., 1986) and administered without adequate testing (Forde et al., 2017; Hichens et al., 2007). Investigating patients' experiences of retention has also been approached by analysing the content of Twitter posts mentioning retainers (Al-Moghrabi et al., 2017). While this method minimises bias that can arise due to power imbalances associated with qualitative interviews, it is fundamentally limited by the researcher's lack of knowledge about the context in which individual posts were made (Henzell et al., 2014). Addressing this research problem using semi-structured, qualitative interviews would allow patients to discuss issues of importance to them and therefore elucidate a greater depth of understanding of retention from their perspectives.

It is no secret that patients can struggle to adhere to their prescribed retainer regimes (Al Moghrabi et al., 2019). This is obviously a particular concern for individuals wearing removable retainers, the most frequently prescribed in the UK (Singh et al., 2009), because relapse might be influenced by adherence to prescribed wear. Enhancing our understanding of what factors patients perceive to influence their adherence may help clinicians to identify and support individuals struggling to wear retainers and reduce potential wastage of time and resources. Qualitative interviews are an appropriate way of accessing patients' views of this potentially sensitive topic.

The primary aim of this study was to investigate young people's experiences of wearing orthodontic retainers. The secondary aims were to investigate the following: (1) the impact of retainers upon the lives of young people; and (2) the factors that they perceive to influence their co-operation.

## Methods

This was a cross-sectional, qualitative study using semi-structured, face-to-face, individual interviews. It is part of a wider project to develop and validate a questionnaire to assess the impact of orthodontic appliances (Kettle et al., 2020; NHS Health Research Authority, 2016). Standards

for reporting qualitative research (SRQR) guidelines were followed when writing this article (O'Brien et al., 2014).

The study was approached from a realist paradigm, which assumes a relatively simple relationship between meaning, experience and language, i.e. that our language reflects our experiences. The aims were addressed by drawing upon a phenomenological approach, focussing on participants' subjective experiences.

Ethical review and subsequent approval for the overall study was obtained from the North East Tyne & Wear South Research Ethics Proportionate Review Sub-Committee (reference no. 16/NE/0367) and the Health Research Authority.

### Inclusion criteria

Inclusion criteria were as follows: young people, aged 11–17 years, wearing any type of appliance(s) constructed specifically for retention, who had received orthodontic treatment at the Charles Clifford Dental Hospital (CCDH), Sheffield.

### Exclusion criteria

Exclusion criteria were as follows: patients with cleft lip and/or palate, craniofacial syndromes, and those planned for orthognathic surgery; patients with a medical history preventing involvement in an interview; and patients unable to speak English.

Purposive sampling was chosen to maximise the diversity of experiences that participants had with their retainers. A sampling framework (drawn from factors investigated by previous research) was used, based on retainer type, time in retention, age and sex (Kacer et al., 2010; Wong and Freer, 2005).

Recruitment ceased once thematic saturation was reached. This process was aided by conducting data collection and analysis simultaneously. Participants were recruited during retainer review appointments at the CCDH by three consultants. The primary researcher (TF, an orthodontic specialty trainee) had not been involved with the participants' treatment.

Interested participants were provided with age-appropriate information sheets and given at least one week to consider participation before they were telephoned by TF to confirm this. A mutually convenient time (when at least one of their parents were available) and place (usually the participant's home) for an interview was then agreed. Written consent was obtained from the participants and parents before each interview. Confidentiality of participant quotations was maintained by using pseudonyms.

TF initially introduced himself as a researcher rather than as a clinician. This approach, which has been used in other qualitative studies (Carter et al., 2015; Longstaff et al., 2021), was adopted to minimise reporting bias associated with participants underreporting experiences that they may have perceived as being mundane to a relative expert. If asked, TF explained that he was training to become an orthodontist.

Face-to-face, semi-structured interviews were conducted in the participants' homes to prevent travel from deterring participation and to help address any perceived researcher–participant power imbalance, which may have been magnified in a clinical environment. The face-to-face interview format helped to build rapport, and enabled TF to respond more readily to non-verbal cues. To ensure that they felt comfortable to express their views freely without the influence of others, participants chose whether a parent was present during the interview itself.

Although TF had no prior experience in qualitative research, he attended Social Research Association qualitative courses before data collection. He also conducted a pilot interview, which was observed and appraised by a researcher with doctoral level qualitative experience (JK).

All interviews were conducted by TF. Interviews were recorded and then transcribed by an external transcribing service (Dictate2us). Transcripts were checked against the original recordings by TF. Parental contributions were included in the transcriptions but were excluded from the analysis as patients' views, rather than those of their parents, were the focus of our study. Field notes were also recorded to aid reflexivity and provide context during analysis.

Although a topic guide was used as an *aide memoir*, the interviews were flexible, allowing participants to explore issues of importance to them. This initial topic guide (Appendix 1), derived from informal patient discussions and a literature review, was reviewed by the research team before being tested in the pilot interview. The topic guide evolved during data collection and analysis, as previously unanticipated ideas were raised by participants. Props were also used to facilitate discussion, including the British Orthodontic Society (BOS) patient information leaflet (PIL) about retainers and the 'Hold that smile' video (BOS, 2017). Each interview was stopped when TF judged that all useful data had been obtained. In accordance with INVOLVE recommendations (NIHR, 2016), participants were then given a £25 voucher as a sign of appreciation.

Data were analysed using a codebook approach to thematic analysis (Braun et al., 2018). During analysis, TF identified semantic (i.e. directly observable) themes within the data using a combined inductive and deductive approach. Initially, the analytic process involved familiarisation with the data, generation of initial codes and collation of relevant data for each code. After doing this for the initial four transcripts, codes were collated into themes and sub-themes (defined here as domain summaries rather than patterns of shared meaning), and a provisional analytical framework was developed. Applying this framework to later interviews enabled an evaluation of when thematic saturation, defined as the point at which no new themes or sub-themes emerged from the interviews, had been achieved. Conducting data collection and analysis concurrently also aided reflexivity.

Themes were then reviewed to confirm they were representative of the entire dataset. Continued refinement involved

defining themes, as well as any relevant sub-themes, and interpreting the overall story told by each participant. Quotations were selected to represent the overall story of each theme.

Transcriptions were uploaded as MS Word documents into NVivo 11, a data management tool. TF was the sole data coder; however, other team members with qualitative research experience (JK, SJL) were involved in analytic discussions to enhance the credibility of the analysis. Continued reflexive discussion among the research team helped to minimise the effect of the primary researcher's clinical background and led to the rejection of some initial interpretations of the data. TF also actively searched for competing explanations within the data. The need to confirm thematic saturation was balanced against unnecessary over-recruitment by conducting one additional interview after the point that TF perceived that saturation had been reached.

## Results

Recruitment, data collection and analysis occurred between January and August 2018. A total of 12 patients were approached initially, 10 of whom were interviewed. Of the two who declined to participate, one changed their mind due to other commitments and the other was not contactable. Therefore, four boys and six girls, aged 11–17 years, wearing a range of different retainers (Table 1), were interviewed. A 3:2 gender split, in favour of girls, was selected for the sampling framework to represent the gender distribution of UK adolescent orthodontic patients (Chestnutt et al., 2006).

For those wearing removable retainers, the duration of wear ranged from two weeks to 18 months. These participants were all prescribed full-time wear for two days, before reducing to night-only wear. The exception to this were two participants with hypodontia who wore their removable retainers, which incorporated prosthetic teeth, full-time for several weeks until their definitive restorative treatment. One participant wore a Frankel III (FRIII) appliance, constructed solely for retention purposes, following protraction facemask (PFM) treatment.

The interview length was in the range of 33–67 min, with a mean duration of 46 min. Two participants chose for a parent to be present during the interview. In both instances their role was supportive, making few contributions themselves. There were no withdrawals.

The following 4 themes and 11 sub-themes were identified (Figure 1).

### Impact and experiences of wearing retainers

Participants widely perceived that retainers were easier to cope with than their previous appliances. Although

**Table 1.** Characteristics of recruited participants, types of retainers and time in retention.

Participant no. (Pseudonym)	Sex	Age (years)	Retainer type	Time in retention
1 (Megan)	F	17	VFRs	12 months
2 (James)	M	15	VFRs	7 months
3 (John)	M	16	VFRs	3 months
4 (Elizabeth)	F	15	VFRs and Begg retainer	18 months
5 (Clarise)	F	14	BR, HR and VFRs	14 months
6 (Lisa)	F	17	HR (with prosthetic tooth) and VFRs (upper with prosthetic tooth)*	3 weeks
7 (Hannah)	F	17	HR (with prosthetic tooth) and VFRs (upper with prosthetic tooth)*	5 weeks
8 (Charlie)	M	11	HR and VFR	2 weeks
9 (Elise)	F	11	Frankel III	2 weeks
10 (Sam)	M	17	BR and VFR	6 months

\*As per departmental protocol, patients with hypodontia are generally fitted with a VFR containing prosthetic teeth on the day of debond, before being provided with a HR after two weeks. Patients are given a HR because they can eat with it in, but they may wear the VFR at night or for social occasions.

BR, bonded retainer; HR, Hawley retainer; VFR, vacuum formed thermoplastic retainer.

participants reported various instances in which removable retainers had affected them negatively, this was usually temporary and related to the initial period of full-time wear. These short-term effects were often described in relation to their impact during social situations.

**How retainers feel.** Participants generally described an unanticipated period of initial discomfort when first provided with all types of retainers, sometimes leading to a minor disturbance to their sleeping pattern. Following this period, all participants adapted to their retainers.

*'The first night I had it, it was painful. I couldn't sleep much. . . I'd just wake up at 4am in the morning thinking "oh, this hurts".'* **Hannah, 17, Hawley retainer (HR)/VFRs for five weeks**

**Speaking and eating.** During initial periods of full-time removable retainer wear, participants reported instances where they had been embarrassed by abnormal sounds they made while speaking. This sometimes resulted in them avoiding participation at school. Participants also emphasised the social impact of having to remove VFRs at meal-times, which led to unwanted attention from peers.

*' . . . it's just putting it in afterwards, I'd have all food in my teeth. People would be like "Ew you've got retainers!"'* **Megan, 17, VFRs for 12 months**

**Appearance.** Participants described the discreet appearance of both VFRs and BRs in a positive light, which was in

contrast to HRs. This was often discussed within the context of comments they had received from others.

*' . . . having the clear one on makes your teeth look really good. . . I have a boyfriend who even told me, he was like "oh, your teeth are really good with them in".'* **Lisa, 17, HR/VFRs for three weeks**

The positive aesthetic impact of retainers was especially marked for participants with hypodontia, wearing retainers incorporating prosthetic teeth.

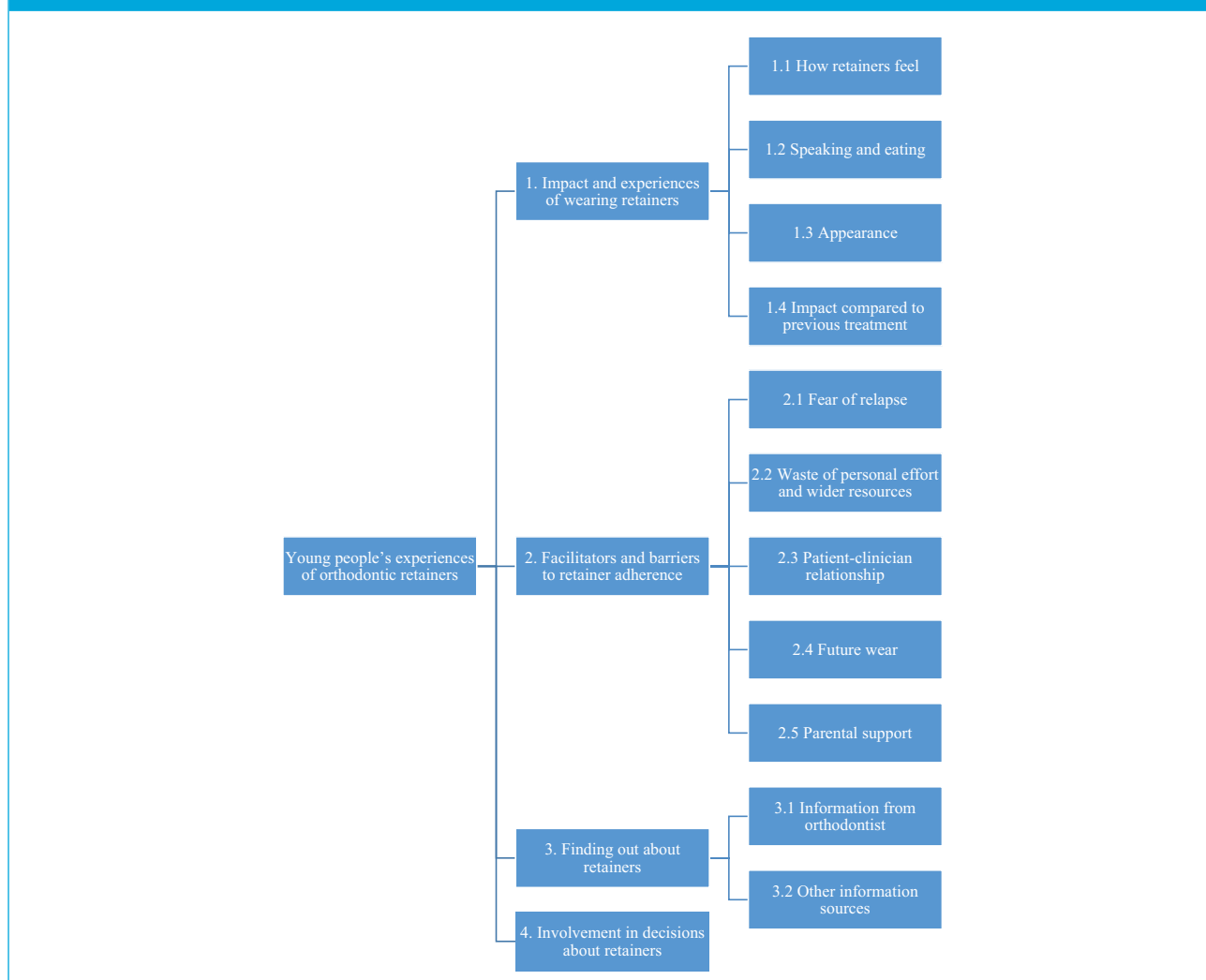
*'I've kind of been used to having gaps for quite a long time. . . when I had them filled, I was like "oh yeah this is what I look like with a full set of teeth!"'* **Hannah, 17, HR/VFRs for five weeks**

**Impact compared to previous treatment.** Participants generally considered that retainers of all types were easier to wear than their previous active appliances.

*'I'd never want anyone to have braces. It's just awful. . . eating with a brace is just so annoying. Honestly, it's the worst. . . It's [retainer] just so much better in every way.'* **Lisa, 17, HR/VFRs for three weeks**

Due to the temporal association between the two events, participants linked being provided with retainers to the relative freedom associated with having their fixed appliances removed. This may have heightened any initial positive experiences associated with retainers.

Figure 1. Coding tree.



*'It's a bit like you've got the light at the end of the tunnel. Like it's the end of your fixed braces.'* **James, 15, VFRs for seven months**

*'I've seen what happened to my friend. I don't want to go back to my old teeth because they looked crap.'* **John, 16, VFRs for three months**

### Facilitators and barriers to retainer adherence

When discussing removable retainers, participants perceived themselves to be generally co-operative, although several reported occasions when their co-operation dropped for short periods. Participants believed that various factors, introduced as sub-themes below, influenced their own co-operation.

**Fear of relapse.** Some participants' determination to co-operate with retainers stemmed from their desire to avoid a return towards their pre-treatment dental appearance. Although participants were aware that if they were to seek re-treatment it would be at their own expense, this was never alluded to as a primary source of motivation.

**Waste of personal effort and wider resources.** Participants acknowledged the effort that they had put into treatment and perceived that this would be wasted if relapse occurred. Such feelings were related to the added inconvenience that treatment took place during their formative school years. Some also perceived that failing to wear retainers constituted a waste of wider healthcare resources.

*'...the NHS has spent like a large amount of money on everybody who's getting braces and if nobody then proceeds to wear their retainers, it's sort of like a massive waste of money when they could've done some life-saving research...'* **Clarise, 14, BR/HR/VFRs for 14 months**

**Patient-clinician relationship.** Several participants felt that aspects of their relationship with their orthodontist influenced

their motivation. These ranged from anticipated guilt if relapse were to occur due to their own lapsed co-operation, to a fear of being reprimanded by their orthodontist.

*‘. . . I’d sort of feel as if I’m letting them down after all this time.’ Clarise, 14, BR/HR/VFRs for 14 months*

**Future wear.** Most participants were open to the idea of wearing their retainers in the future. However, some raised concerns regarding whether long-term wear was sustainable due to the associated social burden in later life, particularly when moving to university.

*‘It’s a big change in life, like meeting new people. I think I might as well just stop wearing it then.’ Sam, 17, BR/VFRs for six months*

**Parental support.** Although participants believed that their parents had offered valuable support during active treatment, many perceived that this had diminished by the retention stage. Age appeared to influence the amount and perceived usefulness of parental support, perhaps due to higher levels of internal motivation among older children as reported previously (Trullsson et al., 2002).

*‘They just sort of leave it down to me. They’re like “you’re old enough to do it yourself. If you don’t it’s your own fault.”’ John, 16, VFRs for three months*

### Finding out about retainers

Patients’ experiences of retainers can be understood in relation to their understanding of what to expect, which reflects information received from various sources. Participants discussed the relevance of information they had received from clinicians and compared this to information they had sought for themselves.

**Information from the orthodontist.** Participants highlighted a deficiency in aspects of the practical information that they had received from their orthodontists about retainers.

*‘No-one said anything about the future. . . they said “You’ll have to buy a new one when it gets to a point.” But I don’t know when. How would I know when to buy a new one?’ Megan, 17, VFRs for 12 months*

The relevance of other forms of information provided by orthodontists was also questioned, including the BOS PIL.

*‘Often people get given a leaflet and they’ll just stick it in their bag and forget about it. . .’ Hannah, 17, HR/VFRs for five weeks*

A specific concern was the use of intra-oral photographs of retainers in information leaflets, which do not accurately

reflect how retainers would appear to others, as opposed to extra-oral smiling views.

*‘Most teenagers, all they care about is how they look. . . they just want to see what it looks like smiling and if you can notice it. . . You don’t want to see a picture of someone’s gums. You just want to see what it looks like normally.’ Lisa, 17, HR/VFRs for three weeks*

While participants valued the novelty of the BOS ‘Hold that Smile’ video, it was suggested that information should be delivered by young people, like themselves, rather than clinicians.

**Other information sources.** Participants highlighted several other sources of information from which they had sought information about retainers, including using the Internet for any troubleshooting queries.

*‘I don’t want to spend all my time reading up about that [in information leaflets]. . . I’ll just use the internet instead.’ James, 15, VFRs for seven months*

Some also described how they searched social media to investigate other people’s experiences of retainers (including those of strangers) as a means of reassurance.

*‘. . . you sit there thinking “oh, am I the only that’s going through this?” . . . so you might go to Twitter to just see what other people feel.’ Lisa, 17, HR/VFRs for three weeks*

The perceived need to seek additional information was partly related to the deficiency in the information provided by clinicians and partly because they wanted to seek advice from people with whom they shared close relationships. In anticipation of being provided with retainers, several patients also conversed with trusted friends and relatives who had experience of wearing them. This was considered to be a valued source of reassurance.

### Involvement in decisions about retainers

Some participants wished that their views had been considered in decisions about their retainers, particularly because this could affect their appearance. This was mainly relevant for those with hypodontia wearing removable retainers for prolonged periods during the day.

*‘I don’t think it’s down to the orthodontist to decide what sort of retainer is best for someone else. . . they’ve got to consider how the patient will feel as well because they’re the one wearing it. . . to have a choice makes you feel like you’re in control of how you look, you’re in control of how your teeth are.’ Lisa, 17, HR/VFRs for three weeks*

Others felt that involving patients more in research and subsequently integrating this into practice was important in enabling clinicians to act with appropriate empathy.

*‘The orthodontist might not have actually worn them so they don’t really know the extent that it affects your life. . . If you tell it to the orthodontist they could better prepare the patient for what it’s going to be like.’ Clarise, 14, BR/HR/VFRs for 14 months*

## Discussion

Our study aimed to explore patients’ experiences of retainers and how retainers impacted upon everyday life. Using retainer type as a variable to derive the purposive sampling framework appeared to influence our findings, particularly with regards to their impact. Neither sex, nor time in retention, made a particular difference to patient experiences.

Negative impacts were often short-lived, and participants described a process of adapting to retainers. Participants described the negative impacts of removable retainers in the context of social situations when full-time wear was initially prescribed. Considering that one of the main disadvantages of having a malocclusion is social in nature (Shaw, 1981), and that one of the key benefits of treatment is improved social wellbeing (Javidi et al., 2017), the significance that participants placed upon social impact is perhaps unsurprising. This may be particularly relevant during adolescence due to a heightened desire for social acceptance.

Clearly this has clinical implications for the use of day-time retention, especially considering the effectiveness of part-time wear (Littlewood et al., 2016). It should be possible to avoid day-time wear in most instances; however, this may not be desirable for hypodontia patients awaiting definitive restorative replacements. Patients requiring longer periods of day-time wear should be sufficiently informed of these short-term effects.

Some participants believed that they should have been able to choose what type of retainer they wore. This highlights the importance of effective patient communication. If a retainer is being prescribed for a specific reason, clinicians should clearly explain the clinical reasons for suggesting the retainer to prevent patients from feeling that they have not been involved in the decision-making process. Wherever possible, patients should be more involved in decisions about their retainers.

Our study also investigated how participants perceived their own co-operation and the factors associated with this. Participants felt that they generally adhered to retention regimes and that their co-operation was related to various factors. Several believed that aspects of the relationship with their orthodontist influenced their motivation, correlating with the findings of other studies (Al Moghrabi et al., 2017; Mirzakouchaki et al., 2016). The acknowledgement

among participants that post-treatment tooth movement represents a waste of wider resources in a state-funded healthcare system (and their resultant desire to avoid this) is a novel finding. This new finding demonstrates the benefits of utilising patient interviews to investigate adherence, which enabled a more in-depth investigation compared to other previously utilised methods, such as clinician-derived questionnaires.

The perceived lack of parental support with retainer wear, and its relative insignificance with regards to adherence, among participants in this study conflicts with previous research findings (Al-Moghrabi et al., 2019; Mirzakouchaki et al., 2016). This could be due to recall bias associated with the non-contemporaneous data collection methods of previous studies, where participants were asked to reflect upon their initial retention experiences several months later.

Participants highlighted that clinicians rarely provided them with sufficient information about how retainers would appear to others. This is another novel finding and suggests that further work is required to improve the relevance of our current patient information sources. Given concerns regarding the reliability of existing Internet information (Dogramaci and Rossi-Fedele, 2016), consideration should be given to the development of a retainer-related resource using videos from existing patients, similar to that adopted for orthognathic patients (BOS, 2014).

In line with existing research, participants sought information from other sources, including people with whom they shared close relationships (Al Moghrabi et al., 2019; Bhamrah et al., 2015), suggesting a desire for them to relate to others having a similar experience. Considering the benefits that participants reported from this, clinicians should encourage patients to speak to close friends and relatives about their experiences as an adjunct to professional advice. Recommendations for incorporating the relevant findings from our study into clinical practice are outlined in Table 2.

## Strengths

The scarcity of patient-centred retention research correlates with a general tendency among the wider dental community to disregard PROMs in favour of clinician-centred outcomes (Fleming et al., 2016). A key strength of our study was addressing this limitation using an appropriate method. Furthermore, achieving our desired purposive sampling framework will ensure that our findings are transferable to adolescents wearing a variety of retainer types. Another strength was reaching thematic saturation, which was evidenced by the fact that no new themes emerged from the final two interviews.

Every effort was made to reduce the power imbalance and limit responder bias by conducting interviews at participants’ homes, the interview being a ‘researcher’ as opposed to a clinician and enabling participants to choose if



**Table 2.** Recommendations for integrating our findings into clinical practice.

When providing retainers for the first time, inform patients of any anticipated transient negative impacts relevant to their particular retainer(s), e.g. discomfort, speech, etc.
When providing retainers for the first time, encourage patients to speak to close friends and relatives about their recent experiences with retainers.
Wherever possible, aim to limit unnecessary prescription of day-time retainer wear to minimise their social impact.
In clinical situations where various types of retainer could be justifiably used, involve patients via a shared decision-making process.
Consider developing an online, evidence-based, retainer-related resource for patients, with a particular emphasis upon patients' experiences.

a parent was present. We believe that these methodological choices enhance the credibility of our findings.

## Limitations

The main limitations of the study are related to participant recruitment. As patients are generally discharged from the CCDH approximately 12 months after debond, the data presented do not reflect patients' long-term experiences with retainers, although it was noted that the greatest impacts were in the initial stages of wear. Furthermore, as recruitment took place at appointments, recruitment of patients with poor attendance will have been underrepresented. These patients could potentially have been less likely to co-operate with retainers and may therefore have had different experiences. Our findings will therefore have greater levels of transferability to adolescents who are adherent with their retainers. Future research into retention should concentrate on the experiences of patients who struggle to adhere to their retainers. Obtaining a greater understanding of their views is likely to enable orthodontists to address the needs of this important patient cohort; however, this group may also be inherently less likely to participate, making recruitment difficult.

Although the inclusion of a participant wearing an active retainer (in the form of a FRIII appliance after PFM therapy) maximises the diversity of participant experiences of retention in the sample, these appliances are used relatively infrequently in the UK. However, no additional themes or sub-themes arose from this interview and the views of this participant were representative of the overall sample.

Although the use of vouchers was in accordance with INVOLVE recommendations (NIHR, 2016), they could have potentially affected the nature of responses.

## Reflexivity

TF's role as a clinician may have influenced his interpretation of participants' experiences. A non-clinical researcher was therefore involved to minimise the potential impact for

this to lead to bias during analysis. As well as enhancing the credibility of our analysis, this is likely to have enhanced its relevance to patients since non-clinical professionals may interpret participants' dialogue differently to dental professionals. TF has not previously had orthodontic treatment, which prevented him from making assumptions about participants' experiences based on his own.

## Conclusion

Although removable retainers were associated with some transient negative impacts, particularly when day-time wear was initially prescribed, these were quickly overcome. Patients perceived that several factors influenced their co-operation with removable retainers. Participants sought advice regarding what it was like to wear retainers from additional sources besides their orthodontist. Some patients felt strongly about being involved when selecting a retainer following treatment.

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## Appendix

### Initial topic guide

#### Treatment history including retainers

How did you end up having braces?

#### Experiences

What's it like wearing retainers?

Does wearing retainers affect you in any way?

#### Other

How do you feel about your teeth moving back?

#### Co-operation

Props: BOS retainer patient information leaflet and Hold That Smile video