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What are patients' beliefs about, and experiences of, adaptation to glasses and how does this affect their wearing habits?

Amy Hughes¹, Fiona Fylan^{2,3}, David Elliott¹

Institutions

¹ Bradford School of Optometry and Vision Science, University of Bradford, Bradford, UK

² Brainbox Research, Leeds, UK

³ Leeds Sustainability Institute, Leeds Beckett University, Leeds, UK

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Author's email: A.R.Hughes4@student.bradford.ac.uk, aimshughes@hotmail.com

Abstract

Purpose

It is well known that some patients experience difficulties adapting to new glasses. However, little is known about what patients themselves understand of the adaptation process, and how this influences their attitudes and the decisions they make when adapting to a new pair of glasses. Nor is it understood whether these factors affect their wearing habits.

Methods

We conducted four focus groups. Participants were 22 glasses wearers (mean \pm SD age 43 ± 14 years, range 21-71 years) who reported they: 1) wore spectacle correction for distance vision (single vision, bifocal or progressive lenses); 2) had struggled to get used to a new pair of glasses; and 3) sometimes chose not to wear their distance correction. Focus groups were audio recorded, transcribed verbatim and analysed thematically.

Results

We identified three themes. *Trust* is about how participants' trust in their optometrist and themselves influences the likelihood of them adapting successfully to new glasses. *Conflict* describes how the advice patients have received about adapting to glasses can conflict with what they have experienced and how this conflict influences their expectations. *Part of Me* explores how participants' experiences and feelings about their glasses are important to adaptation and this includes physical, visual, emotional and behavioural aspects.

Conclusions

The traditional optometric perspective of adaptation to glasses is much narrower than that held by patients, and significantly underestimates the physical, behavioural and emotional adaptation that patients must go through in order to feel fully comfortable wearing their glasses. Patients should receive significantly more information about adaptation, including symptoms that may be experienced and why these happen, practical tips to aid adaptation, and when and how to raise concerns. Patients should also receive information about the day-to-day effects of blur adaptation to avoid them not wearing their glasses, including for vision-critical tasks such as driving.

Key Points

- Patients should receive significantly more information about adaptation, including symptoms that may be experienced and why these happen, practical tips to aid adaptation and when and how to raise concerns.
- Patients are aware of blur adaptation and require a comprehensive explanation of this effect so they do not avoid wearing glasses.
- The physical, behavioural and emotional adaptation that is required by patients may be underestimated, and some patients may not be fully adapted to their glasses even after long-term wear.

Introduction

Some patients have difficulties adjusting to a new pair of glasses, particularly if changes are relatively large.¹⁻⁴ Some require a period of adaptation to their new glasses, while others may be unable to accept a new or changed prescription.⁵⁻⁹ Some optometrists, particularly as they become more experienced,¹⁰ make adjustments to their subjective refraction, and use prescribing rules such as “if it ain’t broke don’t fix it”,¹¹ to aid the adaptation process, and to avoid cases of patient dissatisfaction.^{12, 13}

Patients are aware of the risk of not getting used to a new pair of glasses and it is a source of concern for many.¹⁴ Recheck rates (the percentage of patients returning to an optometry practice because they are dissatisfied with their new glasses) have been reported to be between 0.7% and 5.7%,⁵⁻⁹ with a recent systematic review finding a pooled prevalence for spectacle non-tolerance of 2.1%.¹⁵ These prevalence rates are based upon data from high-resource countries and settings, and the rates of dissatisfaction with glasses in lower resource settings is not understood and could be a significant issue. The authors of these reports accept that there are patients who are dissatisfied with new glasses but do not return to the original practice. It has been found that patients reported nearly 10% of glasses purchased from UK optometry practices as “unacceptable”.¹⁶ Furthermore, results from our recent questionnaire study (Hughes et al, In preparation) reveal that over 25% of patients older than 60 years of age have received a pair of glasses that they could not wear, and, of these, over 20% did not take the glasses back to their optometrist. Of those that did return, only half reported a satisfactory resolution from their original optical practice.

Nearly 10% of spectacle dissatisfaction cases have been reported as due to “non-adaptation”¹⁵ and there are a number of reasons that a patient may be unhappy with their new glasses, even when

their refraction has been carried out proficiently, their vision is good and there is no issue to be found with the dispensing of their glasses. Although subjective refraction is considered to be the gold standard methodology for obtaining a prescription,¹⁷ it is certainly not infallible¹⁸ and is subject to inherent measurement uncertainties¹⁹ and variability.^{17, 20-22} Even small amounts of variability are enough to cause problems for some patients.^{23 24} Other difficulties may be due to spatial distortion caused by the new prescription, due to minification (myopes), magnification (hyperopes) or meridional aniseikonia (astigmats). These perceived changes in image size also alter the requirements of the vestibulo-ocular reflex, which can lead to patients reporting that the world “swims” until adaptation is complete.²⁵ Astigmats may be particularly sensitive to spatial distortion, as meridional variation can change not only the size, but also the shape of an object,³ and these differences in meridional magnification affect older people more adversely.²⁶

A second type of visual adaptation also affects patients and could potentially impact their glasses wearing habits. Patients who have been habitually exposed to blur, either due to being uncorrected or wearing a non-optimal refractive correction, are likely to experience blur adaptation. When exposed to blur for a period of time, the visual system quickly recalibrates in an attempt to partially restore vision,²⁷⁻³⁰ particularly in myopes.³¹ This blur adaptation can be defined as an improvement in visual performance following exposure to blur, which is not accompanied by a measurable change in refractive error²⁸ and cannot be explained by other effects, such as accommodative or psychological effects.²⁷ Furthermore, blur adaptation can influence patients’ subjective perception of how blurred an image appears.³² Adaptation effects have been shown after just a few minutes of exposure to blur and, once established, the effects can be persistent.³⁰ Astigmatic blur adaptation, with meridional adaptation effects, has also been demonstrated.^{33, 34}

Our study investigating why some people drive without glasses revealed the unexpected finding that some participants were aware of blur adaptation and tailored their wearing habits as a result, including not wearing their glasses in the afternoon if they wanted to go out in the evening uncorrected, as they felt that this process would provide their best uncorrected vision in the evening.³⁵

Although many optometrists are likely to be aware of the challenges that getting used to a new pair of glasses presents to some patients, little is known about what patients themselves understand of the adaptation process. Furthermore, it is not known how this may affect the decisions they make, their attitudes when it comes to adapting to a new pair of glasses and, importantly, how it may affect their wearing habits. Some patients believe that wearing glasses will “weaken” their eyes and/or make their prescription change more quickly.³⁶ In this study, a focus group methodology was

chosen to provide a deep level of understanding into patients' beliefs about, and experiences of, adaptation to glasses and how this may affect their wearing habits and their ability to successfully get used to a new pair of glasses. The study aimed to provide insight into the beliefs and understanding that drive patients' experiences and behaviours, to understand not just what happens, but why.

Methods

Participants

Participants were 22 spectacle wearers with a mean age of 43 (SD \pm 14) years. Fourteen participants were female and eight male. Three groups were recruited by a fieldwork agency, briefed to ensure that each group contained a range of ages and socio-economic groups and a balance of genders and took place in the North East of England. Potential participants from the agency's database were contacted and screened for the inclusion criteria before being invited to take part. The fourth group was recruited via a local community online platform, with participants screened by an optometrist (AH) to ensure that they fulfilled the inclusion criteria, and took place in the South West of England. In the case of the local community platform, a flyer was posted online to those signed up to the platform (a sample of people who lived in the particular geographical neighbourhood) asking for participants to contact one of the researchers if they met the inclusion criteria and were interested in taking part in a focus group. Participants were recruited in this way in order to ensure that those included would have beliefs and behaviours typical of a general population, rather than with a particular interest in optometry or healthcare. The inclusion criteria were that participants 1) wore a spectacle correction for distance vision (single vision, bifocal, or progressive lenses); 2) had struggled to get used to a new pair of glasses and 3) sometimes chose not to wear their distance correction. Although all participants were required to have a distance correction, the difficulty with getting used to the new pair of glasses did not have to relate to their distance vision, in order to ensure that a full range of experiences of glasses adaptation could be explored.

Procedure

We held four focus groups, two with six participants and two with five participants. The ideal size for a non-commercial focus group is considered to be five to eight participants, to allow each participant adequate time to share insight and observations.³⁷ Small focus groups of four to six participants are also valuable as they allow more discussion and in-depth insights. Three to four focus groups are considered the usual point to reach saturation (defined as the point where all new ideas have been

heard and little new information is being added).³⁷ It was agreed that the saturation point had been reached after the planned four groups had been held, and no further groups were deemed necessary. Focus groups provide a means of gaining in-depth interviews in a group setting where the dynamics of the group lead to participants disclosing and discussing their thoughts, feelings and experiences in a way that they may not have done in a one-to-one interview. When participants arrived, refractive correction was determined by focimetry, and binocular habitually corrected and uncorrected visual acuity (VA) was measured using a logMAR chart (Thomson, thomson-software-solutions.com) by one researcher (AH), a practising optometrist. A 15.6-inch LED-backlit HD laptop monitor with a luminance of 200 cd/m² was used at a testing distance of three metres. The letters were randomised between each measurement and participants were encouraged to guess until three out of five letters on a line were read incorrectly, at which point visual acuity was scored by letter and recorded. Discussions followed a semi-structured topic guide and covered experiences of:

- wearing glasses, including which tasks glasses are needed for and what participants like and dislike about wearing glasses;
- eye examinations and advice from optometrists about getting used to glasses;
- getting used to new glasses and the advice given to participants not able to get used to glasses; and
- when glasses are worn and not worn, and the reasons behind these decisions.

The components of the semi-structured topic guide were introduced as open-ended questions to initiate free-flowing discussion.

Each focus group lasted one hour and, with permission from participants, was audio recorded and transcribed verbatim. Focus groups were facilitated by two researchers (AH and FF). One researcher (AH) is a practicing optometrist and was able to bring clinical expertise to the groups. The other researcher (FF) is a health psychologist with extensive experience in qualitative research methods. Neither facilitator was introduced in the context of their clinical roles to avoid influencing the participants' responses. None of the participants were known to either researcher.

The study followed the tenets of the Declaration of Helsinki and ethical approval was granted by the University of Bradford. All participants were given a full explanation of the nature of the study, what taking part would involve, and how to withdraw from the research. Written informed consent was obtained.

Data Analysis

Transcripts were analysed thematically using the methods of Braun and Clarke.³⁸ Transcripts were coded using the research question, 'What are patients' beliefs about, and experiences of, adaptation to glasses?' An inductive approach was taken in which the codes were generated from the data rather than by applying a pre-determined framework. Codes were grouped together with others of similar meaning and sorted into a thematic structure that best described the data. The criteria for a theme were that it was internally homogeneous (i.e., the sub-themes it contained all shared a certain perspective), and that it was externally heterogeneous (i.e., that the themes were fundamentally different from one another). This was an open-ended process, with codes and sub-themes merging and moving between themes until a grouping was developed that captured the full set of codes in a clear and efficient data structure. One researcher (AH) was responsible for transcribing and coding the transcripts and the initial suggestion for the thematic structure. A second researcher (FF) then reviewed the codes and categories alongside the transcripts. The thematic structure was subsequently developed with input from all three researchers.

Results

The refractive data for each participant are provided in Table 1. Median binocular unaided and habitual visual acuity values were 0.29 (~ 6/12; range -0.04 to 1.98, 6/6+ to ~ 1/60) and -0.05 logMAR (6/6+; range -0.20 to 0.40, ~6/4 to 6/15).

Three themes were identified in the data: Trust; Conflict and Part of Me, each with sub-themes as shown in Figure 1. They are described below and illustrated using quotes from the focus groups. Quotes from the focus groups were selected on the basis that they best illustrated each sub-theme. The number of the focus group (FG1-4) is indicated in brackets after each quote, along with the gender and age of the participant, the lens type worn (single vision (SV), bifocal (BF) or progressive addition lenses (PAL)).

Trust

This theme discusses how a participant's trust in their optometrist and themselves can influence the likelihood of adapting successfully to new glasses. It is divided into two sub-themes, "Trust in the optometrist" and "Trust in myself".

Trust in the optometrist

Participants talked about how having trust in their optometrist means they are more likely to persevere with, adapt to and be satisfied with a new pair of glasses. In contrast, a lack of trust often means that participants expected, or actively looked for, problems with their new glasses and are less likely to trust that any problems would resolve.

“If you get the right sort of feedback from the [optometrist] then I’m more likely to trust them and I’m going to trust that my glasses are going to be OK and I’m going to be able to see out of them. But if I don’t feel that I’ve got that trust, then I’m immediately suspicious of everything that they say.” (FG1, F, 47, PAL)

“It is the trust in everything, and I think if you’ve got that trust in a person, even before you put [the glasses] on you feel that they’re going to be fine, because you trust that person who’s telling you. Because if you don’t trust somebody or you think the firm’s a bit dodgy you automatically start looking for the problem.” (FG1, M, 70, PAL)

Participants reported they are more likely to trust the optometrist when they have continuity of care and the opportunity to develop a long-term relationship with their optometrist. They wanted to feel listened to and that the optometrist had taken their time. They wanted to feel that “they know me there”.

“I feel like it’s really a big trust thing as well when you go to the [optometrist], it’s such a big thing your eyes, and having gone to the same [optometrist] since I was a teenager and then they retired, I found that really uncomfortable having to go to a different place.” (FG1, F, 47, PAL)

“I think they get to know you and if you have got, you know, a slight issue, ...they’re just aware of that every time you come in, whereas if you’re going to somewhere bigger you don’t know who you’re going to see.” (FG1, F, 50, PAL)

Participants discussed the importance of communication in developing trust. They wanted their optometrist to take the time during clinical testing to explain the results of the eye examination, and to explore options.

“It is nicer to have the more personal service and have them explain a little bit more. I think it’s quite important. [It would] be like going to the doctor and them not saying anything and

just giving you some pills and then you just taking them without explanation.” (FG1, F, 30, SV)

Participants discussed how being passed around different staff members during a visit damages trust and felt this creates a risk of information not being passed from one person to another. For this reason, some participants described trusting smaller and independent practices more than high street multiples. However, this was not universal.

“I’m thinking if you go to a smaller place, you’re more likely to see the same person whereas [a large multiple] when I went there, you could just see anybody and I think you just get passed around, you just don’t know whether they’ve passed on all the information, whereas I think in a smaller place you just feel a bit more looked after.” (FG1, F, 50, PAL)

Participants were suspicious of, and therefore lacked trust in, the retail side of their practice visit. Many described being sold add-ons and being convinced to purchase more expensive glasses than intended, which further eroded trust in the practice.

“They usually want you to buy the more expensive frames I find; you know, the designer frames. ‘Oh, look at this, it suits you more, if you look at the shape of your cheekbones here it suits you more this pair.’ But that pair’s 100 pound more.” (FG3, M, 34, SV)

Participants described being more likely to persevere with getting used to new glasses if they trusted their optometrist and felt confident that any problem that did not resolve would be dealt with to their satisfaction. They were then happy to try new glasses and confident that they would get used to them. Persistent problems that were handled well by the practice did not damage participants’ trust. Indeed, some of the participants who spoke most highly of their optometrist had been initially dissatisfied with their new glasses.

“They said, look, if it doesn’t feel right after a day or two, come back again and we’ll be able to readjust and swap them.” (FG3, M, 34, SV)

“I once had to take mine back because I felt that they’d made them too strong, and they did give me a weaker prescription...they were happy to say try these, and it seemed to solve the problem.” (FG4, F, 32, SV)

The influence of trust in the optometrist extended even to the point that some participants were satisfied to continue with a pair of glasses they could not wear comfortably because the optometrist had checked them thoroughly and said that they were “right”.

“I’d had these [glasses] for about six months and I was having some issues with them, so they tested my eyes again and found the prescription was right. I think I just wasn’t getting used to them, but where I’ve been [they were] really quite nice and friendly, and you know...they re-tested me, and they seemed really thorough and confident in what they were telling me, so I trusted them.” (FG4, F, 34, SV)

Trust in myself

Participants described how they know their own eyes and “just knew” when glasses were not right. Suggestions that they should take the glasses home and try them were seen as the practice trying to “fob them off” rather than resolve the issue. Any problems with getting used to new glasses were described as the optometrist “getting it wrong”.

“I knew they were wrong when I’ve been back a couple of times now and nothing that was said to me would have changed my mind” (FG1, M, 70, PAL)

Participants who expressed a high level of trust in themselves had always taken glasses back if they were having problems, expected to have their problems resolved and reported that this had happened, even if this meant that they had a refund and went to a different practice.

I’ve just got conviction in myself I think, like you just know that it’s not something you’re just going to get used to. I can’t see, I’m not going to get used to not being able to see, so therefore you are going to have to sort me out. And they did, they did sort me out.” (FG1, F, 47, PAL)

However, those who expressed a lower level of trust in themselves described worrying about whether they had made the right choices and given the right answers in the eye examination and were more likely to blame themselves for any problems with their glasses. They described feeling unsure about whether to return their glasses, given that they assumed the difficulties they were

experiencing were their own fault. Often, they chose not to seek help, so problems tended to remain unresolved. These participants described it being hard to know whether a pair of glasses were right or wrong, and felt that they had no choice but to accept the optometrist's advice.

"I always think I don't know, so can't pick what I should be wearing so you almost have to trust them, don't you, 'cos I've no idea what they're talking about so it is like going to the doctors isn't it really, you have to put your trust in that person because you don't know yourself." (FG3, F, 31, SV)

"I think I knew when I went back [that the glasses weren't right] but because they weren't convinced and they thought it was me, you just think, well, they're the experts so probably it is me. But I think, deep down I did know that it wasn't right." (FG1, F, 50, PAL)

"Everything just seems a little bit out of focus in one way or the other and I think, oh no, it was probably when I said I could see green instead of red on the eye test." (FG3, M, 34, SV)

Conflict

This theme describes the conflict that some patients have between what they have been advised about adaptation by their optometrist and what they have actually experienced or heard anecdotally. This conflict can, in turn, influence their future expectations about adaptation and their choices about when to wear their glasses. It contains three sub-themes: Advice (what I was told would happen); Experience (what did happen); and Expectations (what I think should happen).

Advice

Many participants had been warned that they might take a while to adapt to their new glasses, especially progressive lenses. The advice was typically to persevere, and they would adapt within a couple of weeks.

"She said it would take time to get used to them and to keep persisting, but there was no 'Look, if they're not right come back and we'll swap them', so I had no knowledge that that was an option." (FG2, F, 52, SV)

"I just got told to keep wearing them, just keep wearing them, it will take time to settle down". (FG2, F, 49, BF)

The advice participants recalled included wearing the glasses round the house first, getting used to glasses before driving in them, taking care with steps and stairs, warnings that objects may appear to be slanting and how to move their head and eyes to use progressive lenses. Participants who had received advice about adapting to their glasses found this helpful and it meant they were more likely to persevere with adaptation as they knew what to expect.

“[I was told] that it might take some time to get used to them and to wear them round the house a bit before I started driving in them, which was actually quite a good thing ‘cos I was very distracted at first, putting them up and down, checking the distance. I could have quite easily crashed the car if I’d worn them when I was driving, you know, it did take a good few weeks to get used to that change”. (FG4, F, 30, SV)

“I put them on, then the staff just sort of reassured me in the shop that, oh, this just feels like that for a while, give it a day or two.” (FG3, M, 34, SV)

However, participants reported wanting more detailed and more specific advice about getting used to new glasses. They wanted to be given timeframes and to know exactly when they could bring glasses back if they were not getting on with them. They suggested that it would be excellent service if a practice gave a follow-up phone call to confirm that they were happy with their new glasses.

“They should ring you after two weeks and say, ‘how are the glasses doing, are they alright?’, just to reassure.” (FG2, M, 27, SV)

Few participants reported receiving advice from their optometrist about either blur adaptation, or the likely progression of ametropia, meaning that advice regarding the effects of wearing glasses regularly might come from more anecdotal sources.

“My Grammy always used to say to me, if you get glasses don’t wear them all the time ‘cos you’ll become dependent and you’ll need them for the rest of your life.” (FG4, F, 30, SV)

“When I go to the [optometrists], they say the opposite, they reinforce the fact that if you do wear [glasses] more, they’re doing their job and, you know, you’re putting less strain on your eyes and they’re doing exactly what they say on the tin. So, I’ve kind of changed my thoughts over the years about that. (FG3, M, 48, SV)”

Experience

Participants described a wide variety of experiences of getting used to new glasses. Symptoms included headaches, light-headedness, dizziness and eyestrain. Participants described how the clearer vision in new glasses could be distracting and take time to get used to. Even though they appreciated the clearer vision, it could be quite uncomfortable to begin with, and some liked to go back to their old glasses to take a break from the new, clearer vision. Some participants described never getting used to a new pair of glasses, and in particular progressive lenses.

“I think because I can see a lot better, everything seems brighter as well, which then causes these headaches or feeling like eyestrain. But after a couple of weeks, it settles down.” (FG3, F, 31, SV)

“I feel like I get headaches, I can get a bit lightheaded. I’ve found myself, actually, if I’ve got some new ones, taking them off and putting my old ones back on just for a little while. “ (FG3, F, 31, SV)

“The prescription being stronger, the lens is obviously that much clearer and crisper and it’s just getting used to that I think, that’s what I find. It doesn’t take me long, but I do feel a difference when I put the new ones on, you know, to my previous ones.” (FG1, F, 71, PAL)

“I tried [progressive lenses], I bought a pair and they cost me about 250 pounds, and I put them on when I first got them and I got home and I put them on, and I took them off ‘cos they made me feel dizzy. And I’ve never worn them again... and then I had to go back ‘cos it was a new prescription as well and buy a pair for distance and a pair for reading, separate pairs.” (FG2, F, 52, SV)

Many participants had noticed that their vision without their glasses varied throughout the day. They noticed that their uncorrected vision was better in the morning or when they had not been wearing their glasses. However, once they had been wearing their glasses, they did not want to take them off again as they then noticed that their vision was blurry. This was frequently a reason to avoid wearing the glasses.

“I try not to put them on because I know I’ll be stuck wearing them then, I won’t be able to see a thing without them.” (FG2, F, 49, BF)

“I can get up in the morning OK without the glasses, but if I take them off now [everything is blurred]. I could clearly see better first thing this morning without them.” (FG1, M, 70, PAL)

“I think for me, if I have worn my glasses and then I take them off, it highlights the fact that I do struggle to see far away, whereas now I’m sat here blissfully ignorant, I’ve not worn them in a day or two, so it just looks like it always does. Once you’ve had them on and then you remove them the think right, oh gosh, I can’t actually see that over there.” (FG4, F, 30, SV)

Expectations

Participants had beliefs and expectations about what should happen when they adapt to new glasses, which could conflict with the advice they received from the optometrist, particularly where this advice had not been borne out by their experience. For example, some optometrists had advised about the importance of wearing their glasses all the time in order to adapt, whereas many participants were concerned that wearing glasses all the time would cause their vision to deteriorate.

“It just feels if I wore them all the time it would be unnecessary, but then it might make my eyesight worse”. (FG3, F, 30, SV)

“I’m convinced these have made my eyesight worse, just wearing them, ‘cos obviously I used to wear them all the time and I was told just wear them for TV or if you’re on the computer at work and things like that, but because I’ve been wearing them all the time my eyesight has got worse.” (FG3, F, 31, SV)

Several participants reported avoiding wearing their glasses for fear that they would become more reliant on them. However, others were confident that wearing glasses did not make the vision deteriorate.

“I’m also finding that it’s getting more blurry to see distance as well, but if I keep wearing them, I’m going to start relying on them more and more.” (FG2, F, 49, BF)

“Well, it is an old wives’ tale. Wearing them will keep your eyesight at the same level for longer, apparently, according to the research, I believe.” (FG3, M, 61, PAL)

Participants discussed their uncertainty about what information was fact and what was myth and the conflict this causes in not knowing who and what to believe. Several possible causes of visual

deterioration were discussed, including wearing glasses too much, using computers, having children, being the child of an older mother and diet.

“I feel like if I wear them all the time my eyesight might deteriorate by wearing them, whether that’s true or not or it’s a complete myth.” (FG3, F, 30, SV)

“I work on computers all day, but I don’t know what it is that’s [made my vision worse], I don’t know whether it’s just having children, whether that changes your body and stuff, I don’t know.” (FG4, F, 32, SV)

Some participants described how they expected to experience difficulties in adapting to new glasses (particularly progressive lenses) after hearing about the difficulties other people had experienced and/or being prepared for difficulties by their optometrist. If glasses were easier to get used to than expected, this was seen as a particularly positive experience.

“Mine are [progressive lenses] and they did say that some people can’t adjust to them and it takes some people longer, but I’d say within 24 hours I just loved them.” (FG4, F, 58, PAL)

Others felt that a new pair of glasses should feel exactly right straight away, and if they did not, this was likely to be perceived as a mistake or failure on the part of the practice.

“I would expect to put them on and they’re perfect, I wouldn’t expect [to have to get used to them].” (FG1, M, 70, PAL)

Once participants had experienced adapting to new glasses, they expected to go through the same process every time they change their glasses. Several participants who had previously had difficulties adapting to new glasses described being worried at the prospect of experiencing the same problems, and how relieved they were if they could immediately see clearly. Others, who had successfully adapted to a previous pair of glasses, were less concerned by any adaptation symptoms. Participants tended only to have tried a particular lens type once; if they had not got used to it the first time, they believed they would never be able to wear that type of lens.

“I think because I went through quite a long period of not being able to see properly, it was horrible. So now, if I’ve got to have a new pair you think, oh gosh, fingers crossed it’s going to be OK.” (FG1, F, 50, PAL)

“It was fine [last time] and that, in a way, sort of eased the fears and then I’ve not bothered saying anything, I just expect that first day or so to feel out of sync a little.” (FG3, M, 34, SV)

“I think, because I’ve got sensitive eyes, I just pick up on any little change and it takes a little while to get used to anything.” (FG1, F, 50, PAL)

“I got some [progressive lenses] and, oh no, I’m no good with them, absolutely no, no, no.” (FG2, F, 49, BF)

Part of me

This theme describes participants’ experiences and feelings about wearing glasses, including the different levels on which they need to adapt visually, physically, behaviourally and emotionally.

Visually

Participants discussed how getting used to having clear vision is an important part of accepting glasses, with some describing how they dislike not being able to see clearly and how they feel less safe without their glasses. Others reported bothersome symptoms when they do not wear their glasses including asthenopia, lack of concentration and tiredness.

“I need clear vision... I wouldn’t be able to feel comfortable, feel safe without.” (FG2, F, 43, SV)

“I get headaches if I don’t wear [glasses], within 10 minutes I’ve got a really bad headache, so I have to wear them to stop that.” (FG4, M, 21, SV)

However, some did not find the blur without their glasses particularly bothersome, with some preferring to have less clear vision rather than wear their glasses and this is often task-dependent.

“It’s blurred consistently if I don’t have them on, but it’s funny how you just adapt to seeing things blurry. So, when you do put them on you think, oh, I should have had these on all along.” (FG2, F, 52, SV)

“The actual vision, I don’t mind looking at things blurry, but it is completely dependent on what you’re doing, isn’t it.” (FG4, F, 32, SV)

“Depends what you’re doing. Like, if I’m at work I want clear [vision] but if I’m just with my mates I want to be comfortable [without glasses].” (FG4, M, 21, SV)

Many participants talked about struggling to get used to aspects of vision in their glasses. Many were happy to wear glasses in certain situations, but not others. For example, some found their vision comfortable for certain tasks or distances but not others, or for stationary viewing but not when moving around.

“It takes that time to re-adjust, and when you’re sat in work trying to do various tasks, [it’s better not to wear them than] to have your eyes readjust every time you take them off.” (FG1, F, 42, SV)

“I take the dog for a walk and they’re fantastic for walking and looking [ahead], but as soon as I need to look down, that’s the issue. I get a sensation of the ground coming up at me a little bit, so it can actually put me off balance a little bit. So, from that perspective, that’s why I don’t like walking around in them. Even in the house, if I’m sat watching TV, I’m happy to put them on, but then I’ll throw them off if I’m wanting to run upstairs, I won’t leave them on.” (FG2, F, 52, SV)

“When I’ve got to work and I’ve forgotten to take them off and I’m rushing in and I turn my screen on, I can feel that it’s like my eyes are working really hard to look at that, and I’m like ‘oh yeah glasses’, take them off and its better.” (FG4, F, 32, SV)

Physically

Participants talked about the physical aspects involved in adapting to new glasses. The physical feel of glasses on their face was an important part of adaptation for participants. Some adapted quickly and often forgot they were wearing their glasses, while others described their glasses feeling uncomfortable and often needing adjustment. Some reported that the physical aspects of wearing glasses was a major disincentive to wear. Participants talked about finding glasses heavy or uncomfortable and reported feeling more physically comfortable when not wearing them. Frames that did not fit as well as they could were described as a significant barrier to wearing glasses. Participants also reported that lenses steaming up or getting wet was bothersome.

“Sometimes you have to go back a few times and get them tweaked because it can be a bit sore behind your ears or on your nose.” (FG1, F, 71, PAL)

“I’m totally comfortable without them on, absolutely, I definitely feel better.” (FG1, M, 70, PAL)

“I feel more comfortable now I’ve taken them off, it always feels like my eyelashes are touching the glass.” (FG1, M, 70, PAL)

“They steam up as well, don’t they, that’s what I don’t like about them. You feel like you’re really hot and sweaty all the time, don’t you, because you can’t see out of your glasses.” (FG4, F, 30, SV)

“I just get fed up of [my glasses], they slip down my face and I have to go and get them tightened up all the time and I’ll be looking at something and they’ll be falling down.” (FG2, F, 43, SV)

Behaviourally

Discussions highlighted the importance of behavioural adaptation. Some participants reported being well practiced at the behavioural adjustments needed to use their glasses easily and safely (particularly with progressive lenses), such as adjusting their gaze. Others, however, experienced more difficulties, to the extent that they need to consciously think about the behaviours such as navigating stairs when wearing progressive lenses and taking glasses on and off for different tasks.

“It’s automatic now, I always just drop my head when I’m going downstairs because then I can see.” (FG1, M, 70, PAL)

“Even getting up this morning, all these years later, I still carefully come down the stairs.” (FG1, M, 70, PAL)

Another element of behavioural adaptation is getting into a routine of wearing glasses. Some participants explained they were in the habit of putting glasses on and leaving them on all day, while others only remember to wear them when they are struggling to see.

“I could get away with not wearing them, I just choose [to] because I’m in a routine now where I get up and then just put them on.” (FG2, M, 35, SV)

“I’ve a long-distance prescription so I’m supposed to wear them for driving, but I’m quite bad at remembering to do that, so if I’m on a long journey I’ll wear them, but just doing the school run and nipping to the shops I forget to put them on.” (FG4, F, 30, SV)

Participants reported developing behaviours in order to manage without glasses such as using a larger TV or text, using a magnifying glass or squinting to see more clearly.

"I now have a trusted magnifying glass which I carry around with me in work and I use that when I need to so that I can just, literally, I don't have to wear my glasses." (FG1, F, 42, SV)

Emotionally

Some participants fully accepted their self-image as a glasses wearer and felt happy wearing their glasses, whereas others struggled and felt self-conscious or unhappy with their appearance and/or image. A few described how accepting their glasses became easier with age whereas others talked about how glasses made them feel older, less attractive and different to their peers.

"[Glasses are] just part of me, they don't annoy me at all [I'm] just comfortable with them, I just resigned myself to the fact that I wear glasses and that's it." (FG4, F, 58, PAL)

"I don't like myself in [glasses], I think they're aging, I just feel like I'd rather not be wearing them. And I think most of my group, they don't wear them, so I feel like I'm the odd one out." (FG1, F, 50, PAL)

"I just feel self-conscious with them, if I'm honest I don't feel like myself." (FG2, F, 39, SV)

"The older I've got, actually I just don't care anymore, I'm completely happy wearing my glasses, I'm completely happy not wearing my glasses, and it all depends on whether I want to see or not." (FG1, F, 47, PAL)

Participants who had not adapted emotionally wished they did not have to wear glasses in order to see clearly. Some accepted wearing their glasses in certain situations but would never wear them if they were going out socially, or for a special occasion. Some talked about not feeling like themselves when wearing glasses. Although all our participants said that there was no longer a stigma to wearing glasses, some nevertheless did not want to wear them; glasses are fine for other people, but not for me.

"I don't like wearing [glasses], I try to get away with wearing them as little as possible... I just wish I didn't have to wear them." (FG2, F, 43, SV)

“If I’m getting really dressed up, so if I was going to a wedding on Saturday, say, and I’d got a lovely outfit and [done] my hair, I’d not want to put my glasses on because I feel like I’m spoiling [it].” (FG4, F, 58, PAL)

Discussion

We used a qualitative methodology to explore participants’ beliefs about, and experiences of, adaptation to glasses and how this affects wearing habits. Participants’ trust in their optometrist and themselves influenced how they felt and behaved when receiving a pair of glasses that did not feel immediately “right”. Participants sometimes found it difficult to know where to find reliable information about adaptation to glasses and the reasons behind some of the visual adaptation effects they had noticed in their day-to-day lives. Participants discussed the need to adapt to four aspects of wearing glasses: visually, physically, behaviourally and emotionally.

Trust

Our results show that trust plays a significant role in whether participants are likely to accept, and adapt to, new glasses. The trust established through continuity of care and good communication allowed participants to feel confident in taking time to get used to glasses, secure that they could return to the practice and receive help if they could not adapt. A perception of being “passed around” different staff members and being sold more expensive glasses or add-ons eroded trust, in agreement with previous research.^{36, 39, 40} These findings highlight the need for excellent communication and for practices to have a robust handover process from optometrist to other staff, involving the patient.

We found that patients who have a secure trust in their own judgement are less likely to accept advice to persevere with glasses they feel are not “right” and there is a danger that these patients will feel “fobbed off” by any request by the practice to take glasses away to try. These individuals may require the glasses to be checked in front of them, a vision check, further discussion with the optometrist, and a clear schedule of what to do if their problems persist. Although these self-confident patients may take more clinical chair time to satisfy, once a problem is resolved, our results indicate that they are likely to think highly of the optometrist, be loyal to the practice and have a high expectation of successful adaptation to new glasses in the future. This suggests time spent resolving cases of glasses dissatisfaction is well spent and should be seen as an opportunity to gain patient trust and loyalty. The patients who have less confidence in themselves may be more problematic as they may never return to give the practice the opportunity to solve their problem. All

practices should be aware of these “non-returners” who will be missed by a policy of problem-solving dissatisfaction cases only when a patient returns. Instead, all patients should receive clear guidance of what to do, and when, if their glasses do not feel right and reassurance that they are welcome to return to the practice with any issues. One strategy may be a telephone call, text or email a week after collection to all patients checking whether all is well and offering additional advice on adaptation where required. It is likely that the time cost of this strategy to the practice will pay off in the form of avoiding dissatisfied patients going elsewhere and mitigating the risk of damaging word of mouth.^{5, 41, 42}

Conflict

We found a strong link, and a potential conflict, between the advice a participant had received, their experiences of adapting to and wearing glasses and the expectations and beliefs they held.

The advice given to participants about two key aspects of adaptation (getting used to new glasses and blur adaptation) appears to be very variable, and many of our participants reported that they had not received sufficient information from their optometrist, in agreement with previous studies.^{14, 36, 40} Where good advice had been given, it was found to be helpful, and encouraged participants to persevere with getting used to new glasses and to wear their glasses more often, highlighting the importance of giving patients sufficient information. If the possible adaptive symptoms of changes in prescription and/or lens types are not explained in advance, with suitable strategies to aid adaptation, it is easy for patients to conclude that any difficulties are due to the glasses being “wrong”. Timely advice can help patients understand that occasionally an adjustment in prescription after trying the glasses in the “real world” environment may be required, and there is no need for this to reflect poorly on the optometrist or the patient’s “ability” to get used to a pair of glasses.

Furthermore, our results suggest that few optometrists discuss blur adaptation with patients. However, many patients have noticed the effect, and the lack of a credible explanation may cause them to avoid wearing glasses and/or worry that the glasses are causing their eyesight to deteriorate. Participants found benefits to utilising blur adaptation, and it was an incentive to avoid glasses wear for many. Indeed, with improvements of up to nearly three lines in VA (0.27 logMAR) following exposure to myopic defocus,³⁰ participants with lower levels of myopia may be enjoying better levels of unaided vision than their prescription suggests. Participants assumed that a prolonged period without glasses was needed to utilise blur adaptation. In fact, improvements in vision due to blur adaptation have been shown in just a few minutes,⁴³ and there may be little further improvement in vision after half an hour.³⁰ It seems important that optometrists discuss blur

adaptation with patients, including the likely time course, to ensure that they do not avoid wearing their correction for vision-critical tasks such as driving.^{35, 44-47} Patients should be reassured that they can enjoy clear vision without worrying about increased glasses wear harming their eyes, and that, whether or not they choose to use their clearest available vision at other times, they must wear their correction for driving if advised by their optometrist to do so.

We suggest that good advice leads to realistic expectations that should be borne out through patients' experiences, and this feedback loop continues; if a patient has received good advice and has been able to adapt successfully to one pair of glasses, they expect this to happen again and are more likely to allow the time to successfully adapt to subsequent changes in prescription. In contrast, if a patient is not given sufficient advice and experiences unexplained symptoms, they are likely to expect this to happen again in the future. There seems to be no negative consequence of forewarning patients about adaptation; where patients experience less symptoms of adaptation than expected, this is perceived as a positive experience.

Perhaps unsurprisingly, participants were strongly influenced by their own experiences of adapting to, and wearing glasses. Often a single difficult experience was enough to put them off a lens type, such as progressive lenses, for good. It is possible that many patients are wearing a lens type that does not best suit their lifestyle and needs due to a previous experience of glasses dissatisfaction, and this highlights the consequences of such difficulties not being resolved successfully.

In addition to the common symptoms of adaptation to new glasses, participants also reported having to adapt to the clear vision in new glasses; this was possibly due to their adaptation to blur in their previous non-optimal refractive correction biasing their subjective point of best focus towards a blurred image, leading a fully corrected image to appear "too sharp".³² Our findings agree that there is much individual variation in the amount of blur that a patient may find acceptable,⁴⁸ and not all prefer sharp vision at all times.⁴⁹ While having clear vision is important to patients,¹⁴ glasses do carry significant disadvantages which can impact a wearer's quality of life,⁵⁰ and having clear vision at all times was not the aim for all participants.

Part of me

Our results suggest that optometrists define adaptation to glasses much more narrowly than patients do, and underestimate the physical, behavioural and emotional adaptation that patients must go through in order to feel fully comfortable wearing their glasses.

We found that physical, behavioural, and emotional factors were as large a barrier to getting used to glasses as the visual aspects of adaptation. Perhaps naturally, optometrists may be more focussed

on the visual aspects and place less emphasis on the physical fit of the glasses. However, for participants, there is little distinction between the frame and lenses and if the glasses do not “feel right” then full adaptation is unlikely. In cases of patient dissatisfaction with a new pair of glasses, questions about the physical feel and fit of the glasses, and any necessary adjustments, should be prioritised. Advice about behavioural adaptation to the habits needed to wear glasses may also be required, with wearing glasses not always an established part of participants’ daily routine.

Emotional adaptation was found to be critical, with participants who did not have a self-image of themselves as a glasses wearer much less likely to be fully adapted to, and accepting of, their glasses. It seems that even if the vision feels “perfect”, a patient will not feel happy wearing glasses unless they accept the image of themselves as a glasses wearer, and some patients may never reach this point. Barriers to emotional adaptation include beliefs that wearing glasses is ageing, marking a person as different to their peers, and having a negative cosmetic impact, particularly on nights out and special occasions.

Patients go on an adaptation journey, but do not all reach the final destination (fully adapted, glasses are “part of me”). Rather, some may reach a point of partial adaptation where the benefits of wearing glasses outweigh the negatives in certain situations only. It is important for optometrists to understand that, for many, the adaptation process continues long after the initial few weeks of collecting a new pair of glasses. Our results suggest that a patient must be fully adapted in all four categories to feel entirely comfortable with wearing glasses, and it is crucial for optometrists to understand all aspects of adaptation, including those beyond visual adaptation, in order to support patients to develop the wearing habits that are most beneficial to them. For those patients for whom glasses are not “part of me”, contact lenses may be a welcome option, addressing many of the physical, emotional and behavioural barriers to wearing glasses. It is also particularly important to help these patients find frame and lens combinations that feel physically comfortable and as cosmetically acceptable as possible. In addition, whether or not patients choose to wear their glasses at other times, where glasses need to be worn for driving, this must be clearly stated.

Strengths and weaknesses

The strengths of this study are that the qualitative approach has allowed us to provide an in-depth understanding of participants’ beliefs about, and experiences of, adaptation to glasses and how this affects their wearing habits. Taking participants out of a clinical setting such as an optometry practice is likely to have allowed them to be more open about their experiences and beliefs than when they are in a patient/clinician situation. Our previous study (Hughes et al., In preparation) suggested that around 20% of patients dissatisfied with a pair of glasses do not take them back to

the practice. This study gives a valuable, and perhaps the first, opportunity to hear the views of those who are not satisfied but do not return to the practice.

Furthermore, recruiting participants through a fieldwork agency and local community group, as opposed to a university or clinical practice, allows the inclusion of participants who do not have a particular interest in, or knowledge of, vision or optometry and are more likely to be typical of the general public. We included a range of ages and held focus groups in a variety of geographical locations. The focus groups were facilitated by researchers with clinical expertise in both optometry and health psychology, offering a valuable breadth of experience.

However, there are weaknesses. Although one facilitator, AH, was not introduced as an optometrist, participants may have gleaned this from the fact that this researcher took vision and focimetry measurements, and this may have influenced them to speak more positively about experiences with optical practices, or withhold certain spectacle wearing behaviours. Furthermore, the qualitative approach is not designed to identify what proportion of people experience adaptation problems.

Conclusions

Our results suggest that patients should receive significantly more information about adaptation. This should include both information and advice on how to get used to a new pair of glasses, including what symptoms may be experienced and why this might happen, strategies to aid adaptation and the process that should be followed if the patient cannot get used to their new glasses. Verbal advice should be supported by a clear, concise and jargon-free written material.⁵¹ This information should be given to all patients, not just those who have been prescribed a larger change in prescription or report adaptation symptoms when collecting their glasses to ensure that patients do not “slip through the net” and decide not to return to the practice with their problem. Furthermore, patients should be told about blur adaptation: what it is, why it happens and suitable reassurance that it is not due to the glasses making the vision worse. It is clear that if no explanation is given, patients will draw their own conclusions, and this may lead to the avoidance of glasses wear.

Future research should involve designing information for patients about getting used to new glasses, blur adaptation and the usual course of ametropia, based on the way patients themselves want to receive information from optometric practices. It would also be beneficial to investigate the recheck rate and levels of patient satisfaction in practices using patient information about adaptation and a structured recheck policy, compared with those without such a policy.

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Conflicts of Interest

The authors report no conflicts of interest and have no proprietary interest in any of the materials mentioned in this article.

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Tables and Figures

Table 1: Demographic and refractive status of participants.

Figure 1. Thematic structure.

