

'Eczema shouldn't control you; you should control eczema': qualitative process evaluation of online behavioural interventions to support young people and parents/carers of children with eczema

Kate Greenwell¹, Katy Sivyer¹, Laura Howells², Mary Steele³, Matthew J. Ridd⁴, Amanda Roberts², Amina Ahmed², Sandra Lawton⁵, Sinéad M. Langan⁶, Julie Hooper³, Sylvia Wilczynska³, Paul Leighton², Gareth Griffiths⁷, Tracey Sach⁸, Paul Little³, Hywel C. Williams², Kim S. Thomas², Lucy Yardley^{1,9}, Miriam Santer³ and Ingrid Muller³

¹Centre for Clinical and Community Applications of Health Psychology, Faculty of Environmental and Life Sciences, University of Southampton, Southampton, UK

²Centre of Evidence Based Dermatology, Lifespan and Population Health, School of Medicine, University of Nottingham, Nottingham, UK

³Primary Care Research Centre, Primary Care, Population Sciences and Medical Education Unit, Faculty of Medicine, University of Southampton, Southampton, UK

⁴Population Health Sciences, University of Bristol, Bristol, UK

⁵Department of Dermatology, Rotherham NHS Foundation Trust, Rotherham, UK

⁶Faculty of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK

⁷Southampton Clinical Trials Unit, University of Southampton, UK

⁸Health Economics Group, Norwich Medical School, University of East Anglia, Norwich Research Park, Norwich, UK

⁹School of Psychological Science, University of Bristol, Bristol, UK

Correspondence: Kate Greenwell. Email: K.Greenwell@soton.ac.uk

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Abstract

Background There is a lack of well-conducted randomized controlled trials evaluating the effectiveness of theory-based online interventions for eczema. To address these deficiencies, we previously developed and demonstrated the effectiveness of two online behavioural interventions: Eczema Care Online for parents/carers of children with eczema, and Eczema Care Online for young people with eczema.

Objectives To explore the views and experiences of people who have used the Eczema Care Online interventions to provide insights into how the interventions worked and identify contextual factors that may impede users' engagement with the interventions.

Methods Qualitative semistructured interviews were conducted with 17 parents/carers of children with eczema and 17 young people with eczema. Participants were purposively sampled from two randomized controlled trials of the interventions and recruited from GP surgeries in England. Transcripts were analysed using inductive thematic analysis, and intervention modifications were identified using the person-based approach table of changes method.

Results Both young people and parents/carers found the interventions easy to use, relatable and trustworthy, and perceived that they helped them to manage their eczema, thus suggesting that Eczema Care Online may be acceptable to its target groups. Our analysis suggested that the interventions may reduce eczema severity by facilitating empowerment among its users, specifically through improved understanding of, and confidence in, eczema management, reduced treatment concerns, and improved treatment adherence and management of irritants/triggers. Reading about the experiences of others with eczema helped people to feel 'normal' and less alone. Some (mainly young people) expressed firmly held negative beliefs about topical corticosteroids, views that were not influenced by the intervention. Minor improvements to the design and navigation of the Eczema Care Online interventions and content changes were identified and made, ready for wider implementation.

Conclusions People with eczema and their families can benefit from reliable information, specifically information on the best and safest ways to use their eczema treatments early in their eczema journey. Together, our findings from this study and the corresponding trials suggest wider implementation of Eczema Care Online ([EczemaCareOnline.org.uk](https://www.eczemacareonline.org.uk)) is justified.

What is already known about this topic?

- The availability of eczema self-management programmes is limited and there is a lack of randomized controlled trials evaluating their effectiveness.

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- Previous research demonstrated that two online behavioural interventions – one for young people with eczema and one for parents/carers of children with eczema – provided a useful, sustained benefit in managing eczema severity.
- There is little understanding of how these interventions work and the contextual factors that influence delivery.

What does this study add?

- Findings demonstrated that the Eczema Care Online interventions are likely to be acceptable to young people with eczema and parents/carers of children with eczema.
- Potential intervention mechanisms include improved understanding of, and confidence in, eczema management; reduced treatment concerns; improved treatment adherence and management of irritants/triggers; and enhanced feelings of normalcy and acceptance.
- Perceived need for the intervention and strong treatment beliefs may influence an individual's intervention engagement.

What are the clinical implications of this work?

- People with eczema and their families require access to reliable information early in their eczema journey, especially information on the best and safest ways to use their eczema treatments.
- Findings also highlight aspects of self-management interventions that are most valued by these two target groups.
- Together, our findings from this study and the randomized controlled trials support our plans to implement Eczema Care Online nationally in the UK.

Eczema is a common skin condition that can significantly impact on the quality of life of children, adults and families.^{1–3} For people with mild to moderate eczema, treated in the community, eczema management usually includes: regular use of emollients to moisturize and protect the skin; use of topical corticosteroids or topical calcineurin inhibitors to treat flare-ups; and avoidance of eczema irritants/triggers.⁴ Guidelines recommend that parents/carers and adults with eczema be provided with education about eczema and its management.⁴ However, there is a lack of well-conducted randomized controlled trials (RCTs) evaluating the effectiveness of self-management education interventions for eczema, specifically theory-based online interventions.^{5,6} To address this gap, we developed two online evidence-informed and theory-based behavioural interventions: Eczema Care Online for young people (aged 13–25 years)⁷ and Eczema Care Online for families (parents/carers of children aged 0–12 years).⁸ Two RCTs found that the interventions provided a useful, sustained improvement in the severity of eczema symptoms for up to 52 weeks in both children and young people, when offered in addition to usual eczema care.⁹

The Medical Research Council guidelines for developing and evaluating complex interventions¹⁰ and process evaluations¹¹ emphasize that, as well as asking whether an intervention works, evaluators should also explore how the intervention works and how the intervention interacts with its context. In line with this, we carried out a mixed-methods process evaluation study to explore these additional questions. This paper focuses on the qualitative interview study that aimed to explore views and experiences of the parents/carers and young people who used the Eczema Care Online interventions. The current study will add to the limited evidence base on the potential mechanisms by which online behavioural interventions may work and contextual factors that may impede users' intervention engagement. We will also identify essential intervention modifications

required prior to national implementation. The quantitative study that describes intervention usage and further explores potential mechanisms and contextual factors will be reported elsewhere.

Patients and methods

Design

A qualitative interview study was embedded within the RCTs (details of which can be found elsewhere^{9,12}). Ethical approval was granted by South Central – Oxford A Research Ethics Committee (19/SC/0351).

Intervention

The aim of both interventions was to reduce eczema severity by supporting users with the aim of: (i) increasing use of emollients to maintain skin hydration and prevent flare-ups; (ii) improving use of topical corticosteroids or topical calcineurin inhibitors (referred to as 'flare control creams' in the interventions) through reactive applications of these treatments in response to flare-ups or, where appropriate, regular intermittent ('weekend') preventive treatment applications; (iii) improving management of irritants and triggers; (iv) reducing scratching (children and young people); and (v) improving emotional management (children and young people). Logic models illustrating the interventions' programme theories, including hypothesized mechanisms of change, can be found in Figures S1 and S2 (see [Supporting Information](#)).

The online interventions (websites accessible via a mobile device) were developed using theory-, evidence- and person-based approaches. A detailed summary of each intervention is available in Appendix S1 and S2 (see [Supporting Information](#)) and a description of programme theory development is provided in Appendix S3 (see [Supporting](#)

Information). The development process and intervention design objectives for each group are described elsewhere.^{7,8} Key design features included: short videos summarizing key behavioural messages; quotations from other young people with eczema and parents/carers sharing their experiences of eczema and management advice; a 'two-week challenge' that supported people in applying emollients consistently; optional email or SMS text messages with additional behaviour change content; and a brief eczema assessment that provided advice on which of the core treatment modules (emollients or flare control creams) would be most relevant. Both interventions contained the same behavioural content and design features, but there were some information topics that were specific to just one group (e.g. cosmetics and shaving for young people and involving your child in treatments for parents/carers).

Recruitment

Trial participants were recruited from GP surgeries in England via GP letters. Participants were invited to participate if they were a parent/carer of a child with eczema aged 0–12 years or a young person with eczema aged 13–25 years, who had obtained an eczema prescription in the previous 12 months. Eczema severity was assessed online at screening and those with very mild or inactive eczema (Patient-Oriented Eczema Measure scores of 5 or less^{13,14}) were excluded.

Participants signed up to the trial online and signified whether they would be happy to be invited to an interview. Purposive sampling was used to recruit intervention participants of different ages, genders, ethnicity, eczema severity, socioeconomic status, recruitment site and intervention usage. Interested participants were sent an information sheet and provided online consent. Parents/carers of young people aged 13–15 years provided online consent for their child to take part, and then these young people were sent an information sheet and provided verbal assent at the interview. Participants were given a £10 voucher for taking part.

Data collection

Semistructured telephone interviews were carried out at least 3 months post randomization by post-doctoral psychology researchers experienced in qualitative methods (K.G., L.H., M.St., K.S.). Three interviewers, including the data analysis lead (K.G.), were involved in intervention development, which may have meant they had a vested interest in the research findings. However, interviewers endeavoured to stay neutral throughout and did not disclose their involvement to participants in case this led to socially desirable responses. The interviewers wrote a summary after each interview, and shared and discussed this with the other interviewers, and M.Sa. and I.M., to facilitate reflexivity and refine the topic guide and purposive sampling strategy.

A topic guide (Appendix S4; see [Supporting Information](#)) was informed by the intervention's programme theory (Figures S1 and S2) and was developed with feedback from a public contributor (A.R.). Interviews were carried out from March 2020 to February 2021. Parent/carer interviews lasted between 25 and 65 minutes and young people interviews lasted 19–55 minutes. Interviews were audio recorded and transcribed verbatim.

Data analysis

Data from both groups were analysed together, but consecutively, so similarities and differences could be explored. K.G. read through each transcript several times and then analysed the data using two different analysis methods. Firstly, to inform wider implementation, the person-based approach table of changes was used, which provides a rapid and systematic way of recording, identifying and prioritizing modifications to the interventions suggested by the qualitative research¹⁵. Negative comments were extracted from the transcripts and organized by intervention component. As the interventions have been tested in RCTs, we avoided making major changes to the behavioural content, unless the comment was said repeatedly or there was substantial evidence from the process evaluation that the presence or lack of certain content was significantly affecting user engagement or behaviour change. Changes were made to both interventions unless they were not relevant to one group.

Secondly, the data were analysed using inductive thematic analysis, which provided a more in-depth and interpretive understanding of the data. Analysis followed the six phases of Braun and Clarke's reflexive thematic analysis^{16,17} and was assisted by NVivo Release 1.3 (QSR International, Doncaster, VIC, Australia). Attention was paid to the meaning behind participants' accounts, considering why certain intervention aspects were (or were not) important or useful. Transcripts were read line by line, and initial codes were applied to content that seemed meaningful. Negative cases were actively sought to challenge the prevalent view or hypothesized mechanisms in the intervention's programme theory. Initial codes were both descriptive (e.g. 'easy to understand') and interpretive (e.g. 'normalizing eczema'). These codes were then iteratively refined, added to, and made more interpretive, as transcripts were revisited over time. Codes were then organized by interpretive themes based on their commonality. Initial thematic maps were created and shared with I.M. and M.Sa. to facilitate reflexivity, assist with interpretation of findings, and help refine the coding and theme structure and labels. Following this process, some themes were split to better highlight distinctly different meanings/processes, and theme labels were reworded to ensure they were generated from the data and were not too influenced by K.G.'s academic knowledge of behaviour change theory. The results were shared with our public contributor (A.R.) and coauthors for further interpretation. The thematic analysis findings were reviewed to identify additional modifications to the intervention.

Results

Participants

One hundred and thirty-six (80%) parents/carers from the Eczema Care Online trials consented to be contacted for interview and 109 young people (66%) consented or assented (if parental consent was also given). Twenty-three parents/carers and 19 young people were contacted for interview and 17 participants from each group took part (Table 1). Those who did not participate were too busy ($n=2$), had changed their mind ($n=1$) or could not be contacted after

Table 1 Demographics for parents/carers of children with eczema and young people with eczema

	Parents/carers (<i>n</i> =20)	Young people (<i>n</i> =20)
Age, years		
Median (range)	39.00 (29–62)	17.00 (13–25)
Gender		
Female	14 (82)	9 (53)
Male	3 (18)	8 (47)
Child's age, years		
Median (range)	2.00 (0–12)	N/A
Child's gender		
Female	8 (47)	N/A
Male	9 (53)	N/A
Child/young person eczema severity (defined by POEM) ^a		
Mild	3 (18)	2 (12)
Moderate	9 (53)	7 (41)
Severe	5 (29)	8 (47)
Ethnicity (self-reported)		
White British	13 (76)	11 (65)
Chinese	2 (12)	0
Indian	1 (6)	3 (18)
African	0	1 (6)
White and Black Caribbean	1 (6)	1 (6)
White and Asian	0	1 (6)
Socioeconomic status (Index of Multiple Deprivation score) ^b		
Median (range)	7.00 (1–10)	7.00 (2–10) ^c
Highest level of qualification		
Degree (or equivalent or higher)	9 (53)	N/A
Diploma (or equivalent)	4 (24)	N/A
A-Level	2 (12)	N/A
GCSE/O-level	0	N/A
None	0	N/A
Other	1 (6)	N/A
Prefer not to say	1 (6)	N/A
Completed the introductory module at the time of interview		
Yes	15 (88)	14 (82)
No	2 (12)	3 (18)

All values are *n* (%) unless otherwise stated. N/A, not applicable; POEM, Patient-Oriented Eczema Measure. ^aMild eczema defined as POEM 6–7; moderate eczema POEM 8–16; severe eczema POEM 17–28. Respondents with very mild eczema (POEM score of 5 or lower) were excluded from the research. ^bCalculated from postcode, 10 is the highest socioeconomic status. ^c*n* = 16.

Table 2 Example excerpts from the Eczema Care Online table of changes

Intervention component	Summary of issue identified	Changes implemented	Reason for change (or lack of change)
Information architecture	A minority of participants spoke of information overload, there being too much reading, or it being hard to find what information they need.	Improved navigation, ensuring users can skip irrelevant content and easily access the content they need. Broke up text with videos. Included additional summaries of key information.	REP; IMP
Visual design	Some participants found the visual design impersonal, bland, unattractive and dated.	Improved visual design to look more attractive and modern.	REP
Delivery methods	A minority found it difficult to use on a smartphone.	Website made available as a web app, thus improving smartphone usability.	REP
Information depth	A few participants found the information to be pitched at too low a level and would have liked more information on the evidence base supporting the advice provided.	Added links to associated research publications, where appropriate.	EAS
Advice on use of topical corticosteroids	Some participants were cautious about the use of topical corticosteroids due to concerns and experiences relating to topical corticosteroid withdrawal.	Added brief reassuring information on topical corticosteroid withdrawal.	IMP; EAS
Information on antihistamines	One parent/carer was surprised by and disagreed with the information that said antihistamines do not help itch, which was the opposite of his experience.	Added an acknowledgment that different things work for different people to avoid people feeling disengaged by any evidence that contradicts their experience.	EAS

EAS, easy and uncontroversial change; IMP, important for engagement or behaviour change; REP, issue raised repeatedly by multiple participants.

multiple attempts ($n=5$). Drawing on the guidelines on information power,¹⁸ we judged this sample size to be adequately given: the study's narrow aim (views on two similar interventions); the minimal level of user engagement required; the specificity of the participants' experiences, knowledge and characteristics; and the high quality of interview dialogue from using experienced qualitative researchers. All parents/carers defined themselves as parents, so participants will be referred to as such from now on.

Themes

The following themes were generated: (1) Ease, accessibility and trust; (2) Relatedness, normalization and acceptance; (3) Understanding and confidence to manage eczema; (4) Alleviating treatment concerns; and (5) Taking control of eczema.

Across all themes there was an overarching theme of 'empowerment', which is summarized well in the following quote:

'I think the message that I had from it [Eczema Care Online] was – eczema shouldn't control you; you should control your eczema.' (YP11, 14 years old, severe eczema).

Empowerment was demonstrated by participants in two ways: firstly, through external acts, such as making behavioural changes to control eczema flare-ups or engaging in productive treatment conversations with their health professional; and secondly, through cognitive or emotional changes such as improved trust; understanding and confidence; alleviated concerns; or enhanced feelings of normalcy.

Ease, accessibility and trust

Most parents and young people (YP) felt the written content of Eczema Care Online was clear, easy to understand and comprehensive. Many participants (mostly parents) said they felt that the interventions' information and advice was trustworthy and factually correct because it was developed by health professionals/specialists in eczema, it was part of a university research study, and they were referred into the study by their GP, whom they trusted.

Many parents and young people talked about how the online nature of the interventions made eczema information more accessible and they could supplement health professionals' advice, thus potentially reducing the need to contact them with information requests. This was particularly valuable in several ways: during the COVID-19 pandemic when participants worried that it would be difficult to access health professional advice, if your health professional had limited eczema knowledge, if you didn't feel confident asking them questions, if you had forgotten what they told you, or if you were worried about wasting health professionals' time.

'If I have like a quick question, I can just go to the website and I can quickly get an answer [...] Before I used the website I would kind of nag my mum to go to the doctors to ask the question [...] I'd have to take time off school to get a doctor's appointment and also might not be able to get the doctor's appointment when it's really bad.' YP3, 16 years old, mild eczema

Both participant groups valued the videos to facilitate understanding of key concepts and break up the written content, and the SMS/email messages to remind them to revisit the website.

Relatedness, normalization and acceptance

Generally, both parents and young people felt the information was relevant to them and they could relate to the descriptions of what it's like to have, or have a child with, eczema:

'It's like a community kind of website that [...] you go on it and you're like, oh, this is made for people like me.' YP12, 25 years old, moderate eczema

Some parents (PCs) liked how the intervention acknowledged the complexity and challenges associated with the condition and focused on the entire experience of living with eczema, not just medical treatments.

'I like [...] that it's not just about treatment in the medical sense; it's the extra bits like sleep [...] it's seeing it [eczema] as a whole, as part of the entire family [...] it's nice that it is noted that eczema is really stressful [...] makes me realise that, yes, it is hard sometimes.' PC2, parent of 4-year-old son, mild eczema

Many parents and young people explained how Eczema Care Online helped them, or their child, normalize eczema. Young people valued reading the experiences of others living with eczema that helped them feel less 'alone', feel more positive about their condition, and reassured them that their experiences were 'normal'.

'I feel like it's definitely sort of, improved my confidence, so I guess just the fact that I know I'm not alone anymore [...] it's nice just knowing that there is other people out there and the information in there [...] that's given me a lot more confidence in not being as embarrassed of it [eczema].' YP9, 20 years old, severe eczema

As reflected in the quote above, a few young people believed the intervention had helped them to become less embarrassed and more confident about their eczema. One young person and one parent also explained how Eczema Care Online helped them to accept that eczema was not going to go away.

Understanding and confidence to manage eczema

Many parents and young people reported that the interventions helped them to develop a better understanding of eczema and its management – specifically, the causes of eczema and flare-ups; why you need to use the topical treatments; how, when and how long to use treatments; the differences between emollients and flare control creams; and how to deal with itching.

'I understand it a lot more now [...] because [...] the doctors just give you two creams and tell you what to do with them, rather than what they do and they don't really explain what eczema is [...] And I think understanding eczema, you understand how to treat it yourself better.' YP14, 19 years old, moderate eczema

In contrast, some parents and young people who had lived with eczema for a long time and extensively researched

the condition explained how they did not get much value from the interventions as they already knew a lot of the information.

Parents explained how the intervention helped them to become confident in managing their child's eczema or gave them reassurance that they were doing the 'right thing'. Some believed this increased confidence empowered them to engage better in productive treatment conversations with their health professional.

'We felt more empowered when going to see the medical professionals [...] I've got a reliable resource with all this information [...] made me feel that I can stand up for myself. But it also meant that the GP [...] was more willing to listen.' PC8, parent of 2-year-old son, moderate eczema

Parents valued the content on how to involve their child in their treatments, and content they could share with them. They found it prompted positive conversations with their children about eczema, allowed their children to better understand eczema, or helped them to become more involved in their treatment or management.

'I think where it has been helpful for me, as a parent, is sometimes when I say things, she doesn't really want to hear them. So hearing it from a website is more manageable because then she's learning the information for herself rather than just me telling her.' PC11, 10-year-old daughter, severe eczema

Alleviating treatment concerns

Parents and, to a lesser extent, young people explained how the interventions relieved concerns they had about the safety of topical corticosteroids (mainly) and emollients, which subsequently increased their confidence in using these treatments.

'I was a bit too scared of using the steroid creams. But now, because I'm not [scared], if I see just a slightest sign that her eczema's going to get worse, I reach for the steroid cream; it calms it down and it prevents it from becoming worse. So I would say just the fact that that website has eased my mind, I'm able to catch her eczema faster.' PC13, parent of 2-year-old daughter, moderate eczema

'[The intervention] says [...] you can't moisturise too much and, in my head, I sort of thought you could, you know, your skin would stop producing its natural barriers [...] it made me like revise what I was doing a little bit more and feeling confident in, like, moisturising just all the time, as much as possible.' PC17, parent of 1-year-old daughter, moderate eczema

However, a minority were still hesitant to use topical corticosteroids because of safety concerns or a belief that they are ineffective. Three young people had previously or currently experienced symptoms that they believed to be due to 'topical steroid withdrawal', which they had read about from other online sources. For some, this also seemed to be linked to an expressed preference for 'alternative', 'holistic', or 'nonmedical' treatments.

'I myself have always experienced this, that when you get off of steroids, sometimes it causes like withdrawal symptoms where suddenly it [eczema] might flare up again and then [...] you are sort of back on steroids [...] eventually I do want to, sort of, move away from being so dependent on steroids to maintain a good skin [...] it worries me the idea that if I stop using steroids at any point [...] then my skin doesn't have its own defences to maintain good health of my skin.' YP5, 24 years old, severe eczema

Taking control of eczema

Some parents and young people explained how the interventions helped them make changes to their treatment regimen or everyday lives. Specifically, participants reported increasing the regularity or consistency that they applied emollients, increasing the quantity of emollients applied, and starting to use wet wraps.

'Before we had [the website] we weren't as consistent with the maintenance of his skin [...] since we've been using the website we've moisturised every single day, twice a day, without fail [...] so the flare-ups have become less and less.' PC8, parent of 2-year-old son, moderate eczema

'I was stopping doing that [using emollients]; when it [eczema] was better I just wasn't putting any cream on it [...] [since using the intervention] I am doing it every day still [...] even if I'm having a good day.' YP17, 23 years old, severe eczema

Participants explained how they had increased their use, or length of use, of topical corticosteroids during a flare-up or were quicker to start using topical corticosteroids when flare-ups occurred. In contrast, two parents had reduced their topical corticosteroids use. One learned that they had been applying the treatment a lot longer than they should. Another explained they are now more likely to use emollients, instead of topical corticosteroids, when their child's eczema is bad, after learning through the intervention about the benefits of emollients.

Some parents and young people explained how the interventions prompted them to make changes to avoid eczema irritants/triggers or deal with itching/scratching, such as using emollient for bathing; changing products, bedding or clothing; putting emollients in the fridge to reduce itch; or encouraging their child to wear cotton gloves to minimize the impact of scratching.

Other participants explained how they did not make any changes to their treatments or everyday lives or use certain features (e.g. 2-week emollient challenge) because they believed their eczema to be under control or they already had a good treatment routine.

Intervention modifications

Table 2 presents excerpts from the table of changes for key intervention modifications. The main recommended modifications required for national implementation focused on improving the design of the website to make it more visually appealing, making it easier for people to find specific informational content within a module, and

including information on topical corticosteroid withdrawal. No additional intervention modifications were identified through the thematic analysis. All suggested changes were implemented, and the final intervention can be found at EczemaCareOnline.org.uk.

Discussion

This qualitative interview study explored the views and experiences of young people with eczema and parents/carers of children with eczema regarding Eczema Care Online, two online behavioural interventions that have been shown to reduce eczema severity in these groups. Our findings demonstrated that, generally, both young people and parents expressed positive views of the interventions, were able to engage with them competently, believed they were trustworthy and provided value to them, and believed they helped them manage eczema.

Our findings facilitated our understanding of how Eczema Care Online may have worked. We suggested that the interventions may have worked by facilitating empowerment among its users. Specifically, the interventions supported parents and young people in understanding and feeling confident in managing eczema; involving their child in eczema management (parents); improving their use of topical treatments; engaging in productive treatment conversations with their health professional; and avoiding irritants and triggers that make eczema worse. In line with our initial programme theory, drivers for these changes included an improved understanding of why, how and when treatments should be used and how to avoid irritants/triggers, and reduced treatment concerns. The interventions elicited a strong sense of relatedness for participants, and many parents and young people valued how the interventions helped them, or their child, normalize or accept eczema, which the development work identified as an important intervention objective for both groups^{7,8} and that has been identified as a key mechanism in other online behavioural interventions.¹⁹

Our findings highlight some contextual factors that may influence user engagement. Some participants felt that the interventions were not valuable to them because they believed they were already knowledgeable about eczema, had a good treatment regimen, or had their eczema under control. These findings support other studies regarding the potential influence of perceived relevance,^{20,21} current knowledge and management behaviours, and perceptions of disease control.^{7,8,19,22} Our quantitative process evaluation will explore associations between patient characteristics, intervention usage, hypothesized mechanisms, and intervention outcomes (eczema severity).

Adherence to the interventions' treatment advice seemed to be influenced by participants' treatment beliefs, specifically concerns about the safety of topical treatments. For most participants, the interventions had successfully alleviated these concerns, which made them more confident in their treatment use. However, some (mainly young people) expressed firmly held negative beliefs about using topical corticosteroids, views that were not influenced by the intervention and may lead to nonadherence. To acknowledge these concerns, we decided to include brief additional evidence-based information on 'topical corticosteroids and

withdrawal reactions'²³ in the final interventions. It is important to ensure that people with eczema and their families are provided with reliable information on the best and safest ways to use their eczema treatments early in their eczema journey.

Strengths of our study are that we were able to purposively sample participants across a range of demographics, geographical areas, with different eczema severities and with levels of intervention usage. Specifically, we successfully recruited people from ethnic minority groups and those with levels of greater deprivation, which is important when evaluating digital interventions that have the potential to further widen health inequalities. Uptake for this study was good among trial participants, so the findings are likely to be transferable to the whole trial sample. However, a limitation of the study is that parents were generally highly educated and all participants recruited from an RCT sample, so the findings may not be transferable to those with lower education levels or the wider eczema population.²⁴

The interventions were delivered as part of a research study and participants were invited to participate by their GP, so participants' perceptions of trustworthiness may have been inflated. Future process evaluations of Eczema Care Online should explore how users' perceptions may differ when the interventions are accessed in the 'real world', earlier in their eczema journey, or from various sources (e.g. pharmacy, secondary care, eczema charities).

In conclusion, our findings demonstrated that Eczema Care Online was acceptable to our young people and parents. It is suggested that the interventions may have led to reductions in eczema severity for these groups by improving their understanding of, and confidence in, eczema management, reducing treatment concerns, improving treatment use and management of irritants/triggers, and enhancing feelings of normalcy and acceptance of eczema. Together, our findings from this study and the corresponding RCTs suggest wider implementation of Eczema Care Online is justified.

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Conflicts of interest

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Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

Ethical approval was granted by South Central – Oxford A Research Ethics Committee (19/SC/0351).

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BIMZELX is indicated for the treatment of moderate to severe plaque psoriasis in adults who are candidates for systemic therapy.¹

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Note: The most frequently reported adverse reactions with BIMZELX are: upper respiratory tract infections (14.5%) and oral candidiasis (7.3%).¹ Other common adverse events include: Tinea infection, ear infection, Herpes simplex infections, oropharyngeal candidiasis, gastroenteritis, folliculitis, headache, dermatitis and eczema, acne, injection site reaction and fatigue.

PRESCRIBING INFORMATION

(Please consult the Summary of Product Characteristics (SmPC) before prescribing)

BIMZELX[®] ▼ (Bimekizumab)

Active Ingredient: Bimekizumab – solution for injection in pre-filled syringe or pre-filled pen: 160 mg of bimekizumab in 1 mL of solution (160mg/mL). **Indications:** Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy. **Dosage and Administration:** Should be initiated and supervised by a physician experienced in the diagnosis and treatment of plaque psoriasis. **Recommended dose:** 320 mg (given as two subcutaneous injections of 160 mg each) at week 0, 4, 8, 12, 16 and every 8 weeks thereafter. For some patients with a body weight ≥ 120 kg who did not achieve complete skin clearance at week 16, 320 mg every 4 weeks after week 16 may further improve treatment response. Consider discontinuing if no improvement by 16 weeks of treatment. Renal or hepatic impairment: No dose adjustment needed. Elderly: No dose adjustment needed. Administer by subcutaneous injection to thigh, abdomen or upper arm. Rotate injection sites and do not inject into psoriatic plaques or skin that is tender, bruised, erythematous or indurated. Do not shake pre-filled syringe or pre-filled pen. Patients may be trained to self-inject. **Contraindications:** Hypersensitivity to bimekizumab or any excipient; Clinically important active infections (e.g. active tuberculosis). **Warnings and Precautions:** Record name and batch number of administered product. **Infection:** Bimekizumab may increase the risk of infections e.g. upper respiratory tract infections, oral candidiasis. Caution when considering use in patients with a chronic infection or a history of recurrent infection. Must not be initiated if any clinically important active infection until infection resolves or is adequately treated. Advise patients to seek medical advice if signs or symptoms suggestive of an infection occur. If a clinically important infection develops or is not responding to standard therapy,

carefully monitor and do not administer bimekizumab until infection resolves. **TB:** Evaluate for TB infection prior to initiating bimekizumab – do not give if active TB. While on bimekizumab, monitor for signs and symptoms of active TB. Consider anti-TB therapy prior to bimekizumab initiation if past history of latent or active TB in whom adequate treatment course cannot be confirmed. **Inflammatory bowel disease:** Bimekizumab is not recommended in patients with inflammatory bowel disease. Cases of new or exacerbations of inflammatory bowel disease have been reported. If inflammatory bowel disease signs/symptoms develop or patient experiences exacerbation of pre-existing inflammatory bowel disease, discontinue bimekizumab and initiate medical management. **Hypersensitivity:** Serious hypersensitivity reactions including anaphylactic reactions have been observed with IL-17 inhibitors. If a serious hypersensitivity reaction occurs, discontinue immediately and treat. **Vaccinations:** Complete all age appropriate immunisations prior to bimekizumab initiation. Do not give live vaccines to bimekizumab patients. Patients may receive inactivated or non-live vaccinations. **Interactions:** A clinically relevant effect on CYP450 substrates with a narrow therapeutic index in which the dose is individually adjusted e.g. warfarin, cannot be excluded. Therapeutic monitoring should be considered. **Fertility, pregnancy and lactation:** Women of child-bearing potential should use an effective method of contraception during treatment and for at least 17 weeks after treatment. Avoid use of bimekizumab during pregnancy and breastfeeding. Discontinue breastfeeding or discontinue bimekizumab during breastfeeding. It is unknown whether bimekizumab is excreted in human milk, hence a risk to the newborn/infant cannot be excluded. No data available on human fertility. **Driving and use of machines:** No or negligible influence on ability to drive and use machines. **Adverse Effects: Refer to SmPC for full information.** Very Common ($\geq 1/10$): upper respiratory tract

infection; Common ($\geq 1/100$ to $< 1/10$): oral candidiasis, tinea infections, ear infections, herpes simplex infections, oropharyngeal candidiasis, gastroenteritis, folliculitis; headache, dermatitis and eczema, acne, injection site reactions, fatigue; Uncommon ($\geq 1/1,000$ to $< 1/100$): mucosal and cutaneous candidiasis (including oesophageal candidiasis), conjunctivitis, neutropenia, inflammatory bowel disease. **Storage precautions:** Store in a refrigerator ($2^{\circ}\text{C} - 8^{\circ}\text{C}$), do not freeze. Keep in outer carton to protect from light. Bimzelx can be kept at up to 25°C for a single period of maximum 25 days with protection from light. Product should be discarded after this period or by the expiry date, whichever occurs first.

Legal Category: POM

Marketing Authorisation Numbers:

Northern Ireland: EU/1/21/1575/002 (2 x 1 Pre-filled Syringes), EU/1/21/1575/006 (2 x 1 Pre-filled Pens) Great Britain: PLGB 00039/0802 (Pre-filled Syringe), PLGB 00039/0803 (Pre-filled Pen). UK NHS Costs: £2,443 per pack of 2 pre-filled syringes or pens of 160 mg each.

Marketing Authorisation Holder: UCB Pharma S.A., Allée de la Recherche 60, B-1070 Brussels, Belgium (Northern Ireland). UCB Pharma Ltd, 208 Bath Road, Slough, Berkshire, SL1 3WE, United Kingdom (Great Britain).

Further information is available from: UCB Pharma Ltd, 208 Bath Road, Slough, Berkshire, SL1 3WE.

Tel: +44 (0)1753 777100 Email: ucbcares.uk@ucb.com

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Adverse events should also be reported
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