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Views and experiences of people with acne vulgaris and healthcare professionals about treatments: systematic review and thematic synthesis of qualitative research

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ABSTRACT

Objectives The objective of this study was to systematically review and synthesise qualitative papers exploring views and experiences of acne and its treatments among people with acne, their carers and healthcare professionals (HCPs).

Design Systematic review and synthesis of qualitative papers.

Methods Papers were identified through Medline, EMBASE, PubMed, PsychINFO and CINAHL on 05 November 2019, forward and backward citation searching, Google Scholar and contacting authors. Inclusion criteria were studies reporting qualitative data and analysis, studies carried out among people with acne, their carers or HCPs and studies comprising different skin conditions, including acne. The title and abstracts of papers were independently screened by three researchers. Appraisal was carried out using the adapted Critical Appraisal Skills Programme tool. Thematic synthesis was used to synthesise findings.

Results A total of 20 papers were included from six countries. Papers explored; experiences living with acne, psychosocial impact of acne, views on causation of acne, perceptions of acne treatments, ambivalence and ambiguity in young people's experience of acne and HCPs' attitudes towards acne management. Findings suggest that people often viewed acne as short-term and that this had implications for acne management, particularly long-term treatment adherence. People often felt that the substantial impact of acne was not recognised by others, or that their condition was 'trivialised' by HCPs. The sense of a lack of control over acne and control over treatment was linked to both psychological impact and treatment adherence. Concerns and uncertainty over acne treatments were influenced by variable advice and information from others.

Conclusions People need support with understanding the long-term management of acne, building control over acne and its treatments, acknowledging the impact and appropriate information to reduce the barriers to effective treatment use.

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Strengths and limitations of this study

- This synthesis of qualitative studies provides a broader understanding around perceptions of acne and acne treatments than any single study, which can inform barriers and facilitators to treatment adherence.
- The search strategy was comprehensive and used the Information Specialists' Sub-Group search filter resource to ensure that all relevant terms were covered.
- The methods were robust, including three researchers screening all papers identified from database searches, independent quality appraisal of publications and a team approach to developing codes, themes and model to best reflect the data.
- The review was limited by gaps in the evidence base, which helps highlight future areas for further qualitative research.

INTRODUCTION

Acne vulgaris is a common skin condition worldwide.[1] It can have a substantial impact on quality of life both physically and psychologically.[2] Treatments for mild to moderate acne are topical preparations including topical retinoids or adapalene, topical antibiotics, combination topicals and azelaic acid.[3] If these are not effective, oral antibiotics are prescribed or, in women, combined oral contraception or cocyprindiol. More severe acne is treated with oral isotretinoin.[3 4]

Quantitative research has found that adherence to acne treatments is poor.[5] This is primarily the case for topical treatments for reasons including side effects, young age and forgetfulness.[6] While quantitative research is useful for determining the prevalence and common reasons given for non-adherence, qualitative research is essential

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for understanding people's views and perceptions around treatments and more fully understand barriers and facilitators to treatment adherence.

By synthesising qualitative research on acne, we can generate new understandings that go beyond the primary studies.[7] This is useful for informing future research and for developing interventions to support people in effectively managing their condition.

The aim of this systematic review was to identify and synthesise qualitative papers exploring views and experiences of acne and its treatments among people with acne, their carers and healthcare professionals (HCPs).

METHODS

The Enhancing transparency in reporting the synthesis of qualitative research statement was used to facilitate appropriate reporting for this synthesis of qualitative studies.[8]

Search strategy

Five databases were searched on 05 November 2019 using a comprehensive search strategy: Medline (1946–2019), EMBASE (1974–2019), PubMed (1996–2019), PsychINFO (1806–2019) and CINAHL (1981–2019). Databases were chosen to ensure that literature on nursing, social science, psychology and medicine were searched as comprehensively as possible. Other resources included backward and forward citation searching using Google Scholar, contacting authors of included papers regarding other articles or when full texts were unavailable.

The search strategy was developed through discussions with coauthors and a medical librarian at the University of Southampton. Searching for qualitative literature can be difficult and that is why we included a librarian and used the Information Specialists' Sub-Group search filter resource to ensure that all relevant terms related to acne and qualitative research were covered (see online supplemental material A for the list of search terms). We defined qualitative as papers presenting qualitative method of data collection and analysis as well as presenting qualitative data (quotes). There were no date or language restrictions.

Eligible papers reported on studies that used qualitative methods of data collection and analysis, presented qualitative data either standalone or distinct part of a mixed-methods study, included people with acne, HCPs treating acne or carers/parents of children with acne and studies that considered more than one skin condition that included acne.

Selection process

Three independent researchers screened the title and abstracts of the papers (AI, DP and IM). AI conducted the full-text screening of eligible papers and any uncertainties were discussed with coauthors.

Quality appraisal

An adapted version of the Critical Appraisal Skills Programme tool was used to provide an indication of strengths and weaknesses of the qualitative papers.[9] All papers were included regardless of quality. Papers were appraised by AI, and other members of the research team (AWAG, MS and IM) independently appraised a third of papers each. Disagreements in quality assessment were resolved through discussion.

Data extraction

Study characteristics extracted from each paper included: author(s), country, year of publication, focus, participants, skin conditions, data collection, methodology, analysis and key themes presented by the author. The papers were repeatedly read by AI to ensure that all quotes and relevant text under the 'results' or 'findings' were extracted onto NVivo V.11 software to manage and code the data.[10]

Synthesis of findings

A thematic synthesis was carried out involving three stages.[7] First AI carried out line-by-line coding of relevant text (quotes or authors' descriptions). Next, the free codes were organised to develop descriptive themes across studies. A coding manual was produced to facilitate the systematic coding of the data. The themes identified were deliberated with IM, MS, AWAG and PL and any discrepancies were discussed until the agreement was reached. The third stage involved 'going beyond' the data to develop analytical themes that generate additional understanding from synthesising original studies. Analytical themes were produced through team discussions and a model was developed showing the interrelationship between themes and their association with treatment initiation (decision to start treatment) and adherence.

Patient and public involvement

No patients were involved in carrying out this systematic review. Following publication, results will be disseminated through lay summary and social media.

RESULTS

The database search identified 2931 records and seven papers were found through other resources (2519 after removing duplicates). After eligibility screening, 20 papers were included in the synthesis (figure 1).

Study characteristics

The included studies were relatively heterogeneous, primarily exploring the following topics: experiences living with acne, psychosocial impact of acne, complementary and alternative medicines (CAM), sexual life and acne, patients' relationships with their doctors, views on causation of acne, perceptions of acne treatments, ambivalence and ambiguity in young people's experience of acne and HCPs' attitudes towards acne management. Methods of data collection included face-to-face, video or telephone interviews, written interviews online

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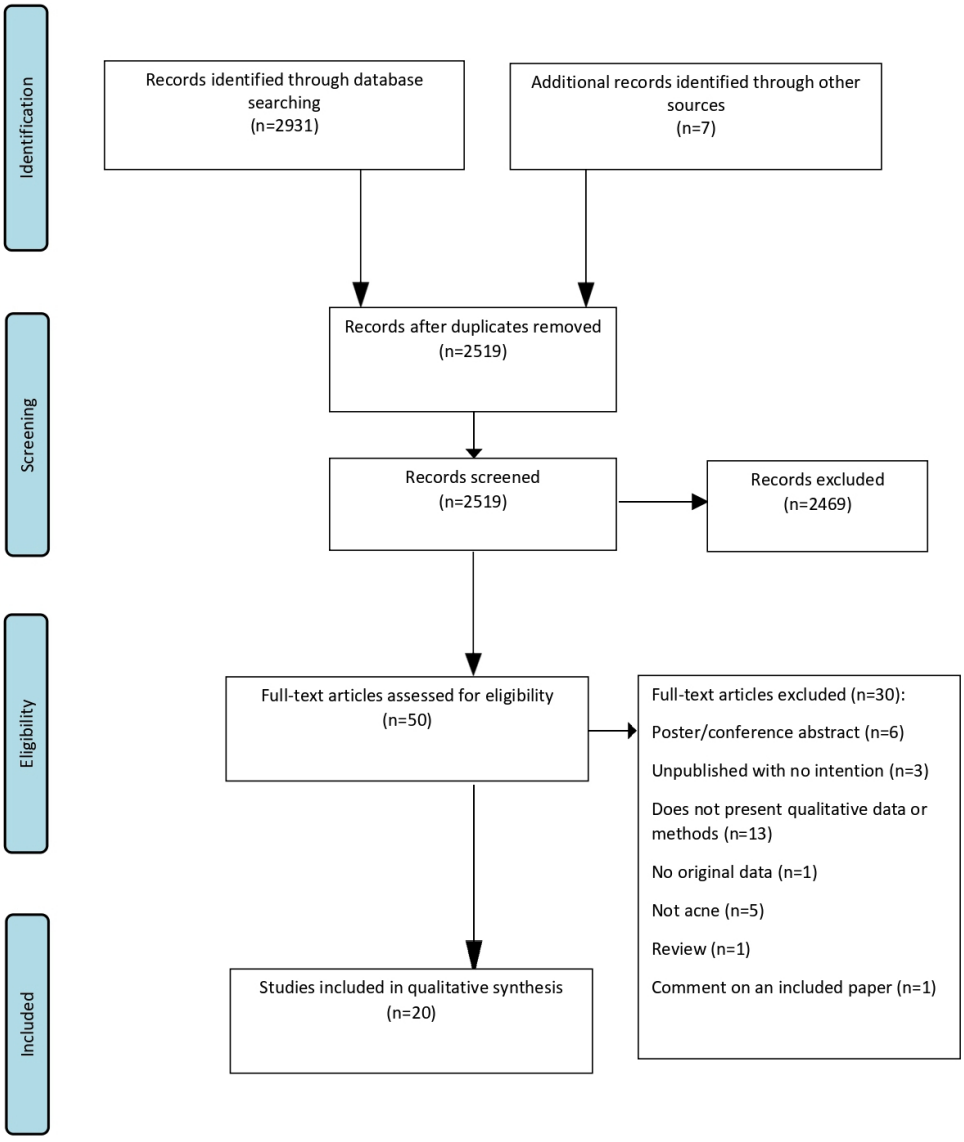

Figure 1 PRISMA flow diagram of search strategy and included papers.

and searching online discussion forums. Studies were carried out in India, US, UK, Australia, Italy and Germany (table 1).

Quality appraisal results

The overall quality of the papers varied with longer articles providing more information for the checklist. Many of the studies did not explore reflexivity of the researcher in terms of their disciplinary knowledge and epistemological position. In addition, many of the papers did not include participant characteristics when presenting quotes. Some papers did not explicitly state the qualitative approach or a recognised approach to analysis. One paper reported findings from a commercial trial that could result in bias and therefore conclusions from this study should be drawn with caution.[11]

Synthesis of results

Four overarching analytical themes were further developed from descriptive themes generated in the line-by-line coding: (1) People with acne tended to view their condition as short-term, (2) impact of acne not recognised by HCPs, others or self, (3) people wanted to have a sense of control over acne treatments and acne and (4) a range of barriers to acne treatments and strategies to help cope with acne. Figure 2 presents how the analytical and descriptive themes influence people's initiation and adherence to acne treatment. Table 2 presents a checklist of the studies that reported on each analytical theme. Example quotes or authors' description of quotes are presented in table 3. General practitioners' (GPs) views and perceptions are summarised separately as only one paper reported on this.

Acne is viewed as short-term

People with acne often seemed to view their condition as short-term and not requiring long-term treatment. Study participants commonly seemed to have little initial concern over their acne as they expected to 'grow out

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Table 1 Study characteristics of papers included in the synthesis

Study (country)	Focus	Participants (sampling)	Skin condition(s)	Data collection, methodology and analysis	Key themes presented by author
McNiven[12] UK	Ambivalence and ambiguity in young people's experiences of acne	25 participants aged 13–25 years Primary care, secondary care, patient representative groups, universities, colleges, schools and social media platforms	Acne	In-depth qualitative interviews Coding reports were analysed conceptually by the author using a mind-mapping technique	Differences and ambiguities: understandings held about acne causes: negotiating connotations; a medical concern? Preferentially positioning 'acne' or 'spots'; and other people and health contexts: making comparisons
Magin *et al*[13] Australia	Views about the causes of acne and implications for acne management	26 participants with acne (13–52 years) Primary care, secondary care and community advertising	Acne	Semistructured interviews Grounded theory approach	Beliefs regarding acne causation; implications of these beliefs for acne management
Ip *et al*[14] UK	Views and experiences of acne treatments (topicals and oral antibiotics)	25 participants with acne aged 13–24 years Primary care, secondary care, patient representative Groups, universities, colleges, schools and social media platforms	Acne	Secondary analysis of primary interviews Thematic analysis	Perception of acne; perception of treatments
Koo[15] USA	Psychological impact of acne	Not stated	Acne	Interviews Not labelled	The psychosocial effect; acne and functional status
Fabbrocini *et al*[16] UK, Italy, and Germany	Impact of acne and attributes to topical treatments	34 adolescents aged 12–17 years and 16 adults aged 18–47 years with moderate–severe acne who were currently/ recently prescribed topical treatment Recruited through a specialist recruitment panel	Acne	In-depth, semi-structured telephone interviews Thematic analysis	Impact on their quality of life; attributes of topical treatments
Murray and Rhodes[17] UK (users from USA, Australia, Britain, Canada, Colombia, Italy and the Pacific Islands)	Experiences of adults with severe visible acne, and implications of these experiences	11 participants with visible acne aged 19–33 years who visited acne message boards Community advertising (discussion groups and message boards)	Visible acne	Interviews via electronic email Interpretative phenomenological analysis	Powerlessness and the variable nature of acne; comparisons, self-image and identity; the experience of general social interaction; relationships with family and friends; and gender, sexuality and romantic relationships
Magin *et al*[18] Australia	Psychological impact of acne	Same participants as reference.[13]	Acne	Semistructured interviews Grounded theory approach	Self-perception and social anxiety; central theme: appearance, depression and anxiety; and consequences of the effects of acne; moderating factors
Santer *et al*[19] UK (Forum users in and outside the UK)	Views and experiences of oral antibiotics for acne and advice shared among messages posted on online forums	Forums including 65 discussions among 294 participants discussing oral antibiotics	Acne	Systematic search for online discussion forums on acne (four forums identified) Thematic analysis	Perception around effectiveness and appropriateness of oral antibiotics for acne; adverse effects with antibiotics; variable advice and experiences in acne severity; and delay in onset of action of oral antibiotics

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Table 1 Continued

Study (country)	Focus	Participants (sampling)	Skin condition(s)	Data collection, methodology and analysis	Key themes presented by author
Skaggs *et al*[11] USA	Experience using an acne treatment (topical)	27 young adults with acne (15-21) Single centre (either primary or secondary care)	Acne	Video interviews Not labelled	Symptoms; self-perception; social placement; and perception of control
Pruthi and Babu[20] India	Physical and psychosocial impact of acne in adult females	11 women, adult participants with acne (18–25) Primary and secondary care	Acne	Semi-structured clinical interview and open-ended questions Not labelled	Physical discomfort; anger; and intermingling impact of acne
Jowett and Ryan[21] UK	Impact of acne in terms of occupational, social and emotional functioning	30 participants with acne aged 16–79 years Secondary care (invited by letter)	Acne, psoriasis and atopic eczema	Semistructured interviews Not labelled	Experiences of the disorder; expressive disability; interpersonal relationships; daily life and leisure
Magin *et al*[22] Australia	Impact of the media on people with acne, psoriasis and atopic eczema	26 patients with acne, 29 with psoriasis and 7 with atopic eczema (13–73 years) Primary care, secondary care and community advertising	Acne, psoriasis and atopic eczema	Semistructured interviews Thematic analysis	Societal ideal; role of media; stigmatisation and other psychological sequelae; appreciation of the falsity of media representations of the ideal; and male respondents
Magin *et al*[23] Australia	Impact of acne, psoriasis and atopic eczema on sexual functioning and sexual relationships	Same participants as reference.[22]	Acne, psoriasis and atopic eczema	Semistructured interviews Thematic analysis and grounded theory approach	Participants with acne: the role of appearance and sexual attraction and gender differences
Magin *et al*[24] Australia	Impact of acne, psoriasis and atopic eczema in their experience of teasing and bullying	Same participants as reference.[22]	Acne, psoriasis and atopic eczema	Semistructured interviews Analytic induction method and modified grounded theory approach	The universally negative nature of teasing; the use of teasing as an instrument of social exclusion; the use of teasing as a means of establishing or enforcing power relationships; teasing relating to contagion and fear; the emotional and psychological sequelae of teasing; and 'insensate' teasing
Prior and Khadaroo[25] UK	The meaning of living with visible acne	11 young adults with mild-moderate facial acne (18–22) at university Snowball sampling and email to different courses	Facial acne	Interviews Thematic analysis	Coping strategies; comparisons to earlier self; advice and practical support from family; and gender and acne
Magin *et al*[26] Australia	Experiences of patients with acne, psoriasis or atopic eczema in their relationships with their doctors	Same participants as reference.[22]	Acne, psoriasis and atopic eczema	Semistructured interviews Thematic analysis and modified grounded theory approach	Relationships with GPs; relationships with dermatologists
Ryskina *et al*[28] Large academic health system in the Philadelphia, Pennsylvania, area.	Experiences with primary non-adherence to medications for acne and to identify physician-level factors that may improve adherence in this population	Interviews were conducted with 26 patients (19 women, 6 aged <26 years, 15 aged 26–40 years, and 5 aged >40 years)	Acne	Structured interviews Thematic content analysis	Barriers related to cost of medication and insurance coverage; poor understanding of prior authorisation process; physician–patient communication about costs; solutions offered by physicians: backup plan; reservations regarding plan of treatment

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Table 1 Continued

Study (country)	Focus	Participants (sampling)	Skin condition(s)	Data collection, methodology and analysis	Key themes presented by author
Magin *et al*[27] Australia	Views and experiences of complementary and alternative medicine (CAM) therapies in patients with acne, psoriasis, or atopic eczema	Same participants as reference.[22]	Acne, psoriasis and atopic eczema	Semistructured interviews Thematic analysis	CAM therapies in acne; CAM therapies for psoriasis and eczema
Magin *et al*[29] Australia	Views and experiences of isotretinoin	Same participants as reference.[13]	Acne	Semistructured interviews Thematic analysis	Attitudes to 'medical' treatments; perceptions regarding isotretinoin and adverse effects; perceptions of psychological effects; and experiences of psychological sequelae
Zureigat *et al*[30] Australia	General practitioners' attitudes towards acne management	20 participants in total consisting of GPs (n=15) and general practice registrars (n=5)	Acne	Structured telephone interviews with image portraying a patient Qualitative descriptive methodology	The GP experience with acne patients; the complexities of treatment and referral; and moving towards better patient outcomes

GP, general practitioner.

of it' due to the perception that their acne was caused by puberty or other underlying causes/triggers. Studies showed how people expected treatment to cure their acne as opposed to control it, suggesting that they did not view their condition as requiring long-term management, with implications for initiating and adhering to treatment (table 3).

Identifying potential causes or triggers of acne

A common perception across studies was of viewing acne as a 'normal' part of adolescence. However, most participants seemed to have followed a more chronic course with some experiencing acne as an adult, which led to frustration and confusion.[12–17] People looked for other possible causes including hygiene and diet with the hope

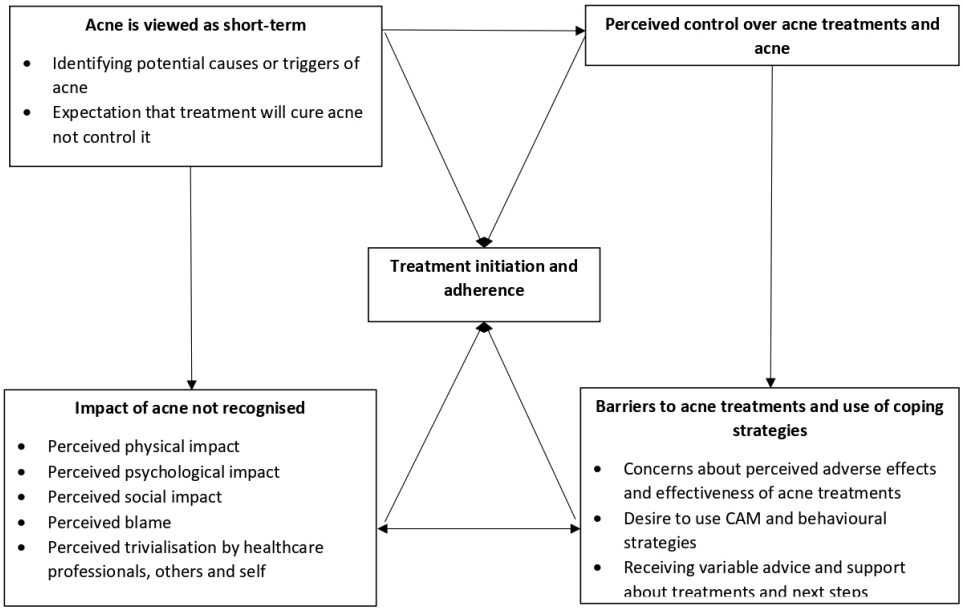

Figure 2 Model presenting the interrelationships between themes and how they influence treatment initiation and adherence. CAM, complementary and alternative medicine.

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Table 2 Analytical and descriptive themes with study reference

Analytical and descriptive themes	Study reference																		
	12	13	14	15	16	17	18	19	11	20	21	22	23	24	25	26	28	27	29	30
Acne is viewed as short-term																				
Identifying potential causes or triggers of acne	P	P	P	P	P	P														
Expectation that treatment will cure acne not control it			P					P												
Impact of acne not recognised																				
Perceived physical impact	P			P	P		P		P	P	P									
Perceived psychological impact	P			P	P	P	P	P	P		P	P	P							
Perceived social impact (relationships/ avoidance, bullying and work/ education)	P			P	P	P	P		P	P	P	P	P	P						
Perceived blame	P				P	P	P								P					
Perceived trivialisation by themselves, healthcare professionals and others	P			P	P			P			P					P	P			P
Perceived control over acne treatments and acne		P			P	P	P		P									P		
Barriers to acne treatments and use of coping strategies																				
Concerns about perceived adverse effects and effectiveness of acne treatments	P		P		P			P	P									P	P	P
Desire to use CAM and behavioural strategies		P				P	P	P							P		P	P	P	
Concealment/ compensation	P				P	P	P		P						P					
Variable advice and support					P	P		P			P				P					
Comparisons to earlier self and others	P					P		P							P					

CAM, complementary and alternative medicine.

of 'curing' their acne. Hygiene concerns with regards to acne were related to dirty occupations, pollution, sweat, makeup and inadequate washing.[13 18] Dietary considerations around acne included foods such as chocolate, soft drinks, fast foods, coffee, yeast and alcohol.[13 15] Genetics and stress were less commonly mentioned by study participants.[13]

Expectation that treatment will cure acne not control it

People expected medical treatments to 'cure' their acne, often feeling disappointed when this was not met. Participants described treatment as 'keeping their acne at bay', being only partially effective or not working at all.[14 19] This appeared to have implications for acne management, with disappointment leading to stopping treatment early or opting for alternative treatments in the absence of 'instant' results.

Impact of acne not recognised

People across studies experienced substantial impact because of their acne and were frustrated when they felt that this was not recognised by HCPs, friends and family. Physical, psychological and social impact were common

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Table 3 Analytical and descriptive themes with representative quotes or authors' descriptions

Analytical and descriptive themes	Representative quotes or authors' descriptions
Acne viewed as a short-term condition	
Identifying potential causes or triggers of acne	I didn't like it, like it made me self-conscious, acne, and I'd rather I didn't have them. But I did see it as, you know, the thing that most teenagers get. So I was kind of cool with it.[12] (male) I think diet is important because what you put in your body, it affects how your body works and how your body looks. If you eat dodgy food your skin won't look healthy[13] (male, Leeds acne scale 0.1)
Expectation that treatment will cure acne not control it	It was kind of just sort of a keeping it at a certain level as opposed to absolutely like clearing your whole skin and making it sort of a lot better.[14] (male) I went to the doctor because my skin was upsetting me so much. I'm just praying the antibiotics they've given me will fix it.[19]
Impact of acne not recognised	
Perceived physical impact	The fact is that I cannot be normal, when it hurts and is red. It pains and oozes out at times and hurts to smile, and then I cannot feel happy, even if I want to. Also the marks that get left behind, I feel bad about it because it makes my face ugly looking.[20]
Perceived psychological impact	It was just embarrassing trying to talk to people and you've got pimples and people are looking at you and you are trying to hide it as well. It make s you feel embarrassed.[18] (female) 'Very embarrassing, not nice to look at, very self-conscious, always think people are looking at you, they probably can't see it'[21]
Perceived social impact	'Oftentimes, when I have to go to any kind of party or any kind of social event and if I have too much acne, a big pimple, I don't want to go because I don't want anyone to look at my face.'[15] 'I would really get upset when I had to go in for a job interview, and I would be afraid that the employer might think that I couldn't do the job correctly because of my appearance. It is a little bit better, now that I am older and a little bit more secure in myself, but still I find it hard if I look in the mirror and see my face broken out.'[15]
Perceived blame	'I avoid eating sweets but if I eat one piece of chocolate, my family tell me that's the reason I break out. If I leave my face towel on the couch for 1 second, they tell me that's the reason I break out.'[17] When I look in the mirror it makes me perceive myself as someone who is lazy, someone who should be out there doing something which sort of brings low self esteem between me any myself in front of the mirror.[25] (female)
Perceived trivialisation	I had one doctor who did have it when he was young, he had acne scars and that. He was(a)bit more sympathetic but there were ones that didn't. To be honest, some of the GPs they just wrote the script out and "Off! On your way.[26] (male) 'definitely have had some confused feelings regarding the medical establishment, because different practitioners have told me, "Here, take this, try this medicine," and it really hasn't worked out that well. Also, a lot of the time I felt from the doctors a kind of attitude that there really wasn't much they could do for me anyway, and this made me feel very frustrated. I felt sometimes just discounted, or like I am not really being listened to at times'.[15] Another man had been refused time off for his 'trivial' hospital appointments by his immediate superior and had had to obtain permission from the director, an act that had led to frictions.[21]
Perceived control over acne treatments and acne	
	When you get a severe bout of acne like that it does tend to reduce the sense of self control that you have over your body … and if you can gain some of that control back then it makes you feel a little bit more empowered(…)it helps with the overall self-image.[27] (about CAM) (female) 'I really can't control it. It's just no matter what I do. It's there, I can't get rid of it. I can't slow it down, or fade it away, or anything.'[11] 'With other things, you know that if you put enough effort in, you can achieve what you want, but with acne, no matter how much time you spend putting various treatments on your face, or looking at yourself in the mirror, you cannot make it go away, and that is very frustrating.'[17]
Barriers to acne treatments and use of coping strategies	
Concerns about perceived adverse effects and effectiveness of acne treatments	Antibiotics. I didn't, at first, really want to take them because I didn't want to put something in my body that wasn't natural.[27] (female) 'I'm still hesitant to use Retin-A again because it is a very harsh topical medication, and I know from [what other people] have experienced and vaguely what I had experienced…in the distant past there are a lot of harsh reactions…there're other problems that kind of come from it. So it's solving 1 problem, but then you're dealing with these other things as well.'[28]
Desire to use CAM and behavioural strategies	I probably go for the more natural stuff. I probably prefer the teatree oil face wash cause it's just a bit more natural. I guess you are not putting too many foreign chemicals in your body… When something's very chemical you never know what might happen[29] (male) I always feel better, when I suddenly feel I've got to start looking after myself again, I've got to treat myself better, [drink] more water, [eat] h ealthy, the whole lot, [look] after my face, [do] the routine.[18] (female)

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Table 3 Continued

Analytical and descriptive themes	Representative quotes or authors' descriptions
Concealment/compensation	(You compensate [for] one physical disability by trying to look different in another way… Go to a martial arts class or go to a serious gym, not an aerobics gym, and y ou'll have your cleft palates and your stutterers and your acne sufferers.[18] (male) Subsequently, using make-up to cover acne could be a dilemma. Some participants also commented that make-up offered only partial concealment of acne, including of the skin texture such as raised lumps and flaking scabs.[12]
Variable advice and support	People used to recommend creams to get rid of it – like acne creams and face washes, yeah it's nice positive feedback – you know say 'this might work and try it out' but half the time they never work. But I thought it was quite useful.[25] (male) My mum is good getting me to doctors and try- ing all the creams… she just wanted me to be comfortable in my own skin. My mum would probably support me the best.[25] (female) "With my family, it seems to be the best. They joke about acne, accutane and the side effects. So the humour makes me feel really comfortable about it when I'm with them"[17]
Comparisons to earlier self and others	'I don't feel equal to them because they are normal and I am not. Would you rather buy an unblemished apple or an apple with lots of dents and bruises? Nobody likes damaged goods.'[17] I don't think my face is as bad as other people's. Sometimes when you see people with bad skin you think why am I being so stupid.[25] (female)

and often led to problems with forming new relationships as well as maintaining current ones. Perceptions of blame from others and self-blame were apparent in the data, sometimes relating to the myths and misconceptions around acne causation. The perceived trivialisation by HCPs and work colleagues was common across the data and appeared to have implications for acne management including consulting behaviours.

Perceived physical impact

Physical impact was commonly discussed across studies and consisted of physical appearance, itching, quality of sleep, burning, scaring, redness and pain.[11 12 15 16 18 20 21]

Perceived psychological impact

Study participants described the psychological impact of acne as feeling embarrassed, self-conscious, angry about the perceived cause of their acne, low self-esteem, suicidal, changes in personality and feeling ostracised from society due to the image of 'perfect skin' portrayed by the media.[11 12 15–19 21–23]

Perceived social impact

The social impact of acne was commonly reported across studies. People engaged in avoidance behaviours had a negative effect on relationships due to feeling self-conscious about their appearance[11 15 16 18] and a lack of confidence and worry about how they would be perceived.[12 16 17 20 21 23] Bullying and teasing appeared to increase psychological impact.[15–18 21 22 24] In terms of education and employment, participants reported missing school, feeling distracted,[16] experiencing interpersonal difficulties (insensitive work colleagues and the public) and feeling self-conscious.[15 16 21]

Perceived blame

A number of studies reported on feelings of self-blame and blame inflicted by others.[12 15 16 18 25] Family members were sometimes perceived to blame participants if they had not 'grown out of it' as expected. When participants perceived their acne to be caused by diet or hygiene, this sometimes led to self-blame as these were within their control.

Perceived trivialisation by HCPs, others and self

Participants in several studies perceived acne to be 'trivialised' by HCPs, for instance, leaving consultations feeling as though they were not listened to, feeling as though prescriptions were given without a second thought or feeling as though their condition was not taken seriously due to waiting for a referral to see a dermatologist.[15 16 19 26] Participants also perceived trivialisation of acne among work colleagues, for instance, ignorance about acne and the need for appointments with HCPs, or around work absence.[21] There was an element of 'self-trivialisation' as participants in some studies described feeling reluctant to take on the 'sick role' mainly due to the stigma associated with acne, believing that their condition was a cosmetic issue rather than a medical one.[12] As a result,

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people may try alternative treatments for their acne to avoid consulting the HCP.

Perceived control over acne treatments and acne

Across studies, there were two aspects of control: people's perceived control over acne and their control over treatment.[13 18 27] Their perceived control over treatment referred to people's beliefs in their chosen treatment rather than the control being in someone else's hands (HCP). For example, people in the studies opted for CAM and behavioural strategies, which they felt would alleviate the psychological impact of acne. Three studies reported on people's perceived control over their acne including feelings of powerlessness when treatments were perceived as ineffective.[11 16 17] One study (reporting findings from a commercial trial) found when people perceived increased control over their acne, this improved satisfaction with acne symptoms and alleviated the impact, regardless of acne improvement using a topical.[11] Having control over treatment or acne appeared to help alleviate the psychological impact and improve adherence.

Barriers to acne treatments and use of coping strategies

Across studies, a key barrier to use of acne treatments was concern and uncertainty regarding their effectiveness, exacerbated by variable advice and support people received from others. Studies highlighted coping strategies discussed by participants, including concealment/compensation (as described below) and making comparisons, which some participants found useful in the short-term. Participants in many studies reported a preference for using CAM and behavioural strategies to address their acne. This could be viewed as a barrier to engaging with effective acne treatment or be perceived as a mechanism for coping through seeking control over the condition.

Concerns about perceived adverse effects and effectiveness of acne treatments

Concerns around topical treatments for acne included side effects (bleaching, irritation), strength of medication, speed of onset of action, what constituted appropriate application, storage, understanding different topicals and, as mentioned above, uncertainty around their effectiveness.[14 16 28] One study found effective use of topicals increased control over acne and reduced the psychological impact, although they did not explore perceptions of treatment ineffectiveness.[11] Two studies highlighted how patients viewed oral isotretinoin as an effective treatment, although they expressed concerns around the treatment's side effects.[19 29] Perceived effectiveness of oral antibiotics varied as participants either found them effective, ineffective or partially effective where they worked temporarily. Barriers included delayed onset of action, perceived strength of treatment and adverse effects.[14 19 27] One study highlighted barriers such as cost of treatment and understanding processes used by health insurance companies.[28] This study was carried out in USA and therefore, the barriers may not be relevant to the UK population.

Desire to use CAM and behavioural strategies

Some studies explored CAM and behavioural strategies for treating acne. CAM treatments included oils, citrus washes, aloe vera, tablets and vitamins. Participants reported a preference for CAM over medical treatments due to 'natural' ingredients and fewer adverse effects.[27–29] Other reasons included sense of internal control and accessibility.[18] Behavioural strategies included dietary manipulation, face washing and sun and sea exposure (less commonly mentioned). The belief that hygiene caused or exacerbated acne led participants to excessively wash or pick their acne to resolve the issue.[13 17–19 25] Dietary manipulation included avoiding foods deemed unhealthy and increasing water intake.[13 18 19]

Receiving variable advice and support about treatments and next steps

Support from family members was appreciated and included encouragement to consult HCPs, suggestions about which products to try[25] and some felt that humour about the condition or about their treatment (isotretinoin) from friends or family could make them feel less uncomfortable.[17 21] Participants felt that support from friends with acne were useful as they were able to relate to their situation[16] and recommendations from friends such as products to try were often seen as useful particularly for male participants as some female participants found the advice unsolicited.[21 25] Advice from online discussion forums was felt to be variable and often consisted of treatment recommendations or suggestions about consulting and navigating health services.[19]

Concealment/compensation to cope with acne

Strategies to cope with acne included concealment to take attention away from their acne such as changing clothing and hairstyles.[11 16 17] Applying makeup helped some participants cope emotionally, but for others, this emphasised their spots or wore off quickly and some viewed makeup as a cause of acne.[12 16] People reported compensating for their acne by doing activities including martial arts[18] or losing weight.[25]

Comparisons to earlier self and others

Strategies including making comparisons to others or their earlier self were seen as a double-edged sword, whereby participants either felt better about their acne or felt worse, further exacerbating the psychological impact.[12 17 19 25] Participants made comparisons to other health conditions to validate the negative impact of acne or to feel grateful that things were not worse.[12]

Key differences between GPs and patients' views and experiences

One study highlighted GP's acknowledgement of the psychological impact as well as motivation to escalate severe cases for referrals.[30] Research suggests that people's own assessment of acne severity differs from clinical assessments that may explain the contrasting views compared with people with acne in other studies, where

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they felt HCPs did not always take acne seriously.[31–33] The current study also found that GPs were uncertain about topical treatment effectiveness, which they posited may be related to patients' treatment adherence.[30]

DISCUSSION

This systematic review and synthesis of qualitative research highlighted four analytical themes that influence treatment initiation and adherence. People often viewed acne as a short-term condition resulting in implications for self-management, particularly challenges to long-term treatment adherence. The impact of acne was substantial for participants in these studies and they were often frustrated when they perceived others to trivialise their condition. The importance of perceived control was highlighted, including the wish to feel in control of acne and the wish to control treatment. Having control over either one appeared to help alleviate the psychological impact and improve adherence. People had common concerns around treatments that were further influenced by variable advice.

Strengths and weaknesses

To our knowledge, this is the first systematic review and synthesis of qualitative papers on acne. It provides a comprehensive overview of people's views and experiences of acne and its treatments. We are confident that all relevant papers were included as three independent researchers were involved with screening the title and abstracts of papers. However, there is the possibility that we may have missed some studies because of our definition of qualitative and our inclusion/exclusion criteria whereby papers needed to present qualitative data, qualitative methods of data collection and analysis and provide a sufficient amount of information about the qualitative aspect if it was part of a wider study (eg, questionnaire development paper).

A potential weakness was the limited original research available as many of the included papers (eight) were from the same author. However, although these papers used the same sample, they focused on different research questions and looked at a breadth of peoples' experiences. We found areas that were underrepresented including HCPs' experiences treating acne, studies outside of UK and Australia and men with acne. The review was also restricted by the strengths and weaknesses present in the original papers.

Comparison with other studies

The findings are consistent with a review on the impact of eczema, psoriasis and epidermolysis bullosa, which found that people with chronic skin conditions experience negative social interactions.[34]

A review of qualitative studies on adherence to medicines found that people were reluctant to take medicines partly because of concerns over its use including adverse effects and perceived effectiveness.[35] They also highlight how people wish to take control over their own treatment.[35] These findings are consistent with those in this current study, which goes further by suggesting that an increased feeling of control was felt to alleviate the psychological impact and improve adherence.

Studies exploring other skin conditions (vitiligo, psoriasis and eczema) including a paper from this current synthesis have also found that patients feel their HCP trivialises their skin condition.[26 36–39] Through synthesising the studies, we have also highlighted the role of self-trivialisation in influencing people's consulting behaviours.

A quantitative systematic review of treatment adherence in acne found similar barriers around treatment adherence including adverse effects and delayed onset of action resulting in low adherence.[6] Our qualitative synthesis explores this further, suggesting that treatment adherence is influenced by the variable advice received, desire to use CAM and behavioural strategies and perception around the causes of acne, particularly perception that it is a short-term condition.

CONCLUSION

This synthesis suggests the need for further research exploring HCPs' views and experiences with people with acne as certain areas (eg, perceived trivialisation, treatment choice, acne as a short-term condition and the psychological impact of acne) could be better addressed from both sides. The findings highlight the importance of communicating the long-term management of acne and the importance of control over acne or control over treatment. Further research around providing support for people with acne is needed, with emphasis on the need for mitigating psychological impact. Finally, people need reliable information about acne treatments including how to use them appropriately, time taken until onset of action and how to manage side effects to help them to effectively manage the condition.

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Supplementary material

A: Comprehensive search strategies for each database

MEDLINE

1. (acne*).ti,ab,af
2. exp "ACNE VULGARIS"
3. (ethnograph*).ti,ab
4. (Qualitative).af
5. "QUALITATIVE RESEARCH"
6. "FOCUS GROUPS"
7. "GROUNDED THEORY"
8. (grounded theor*).ti,ab
9. (focus group*).ti,ab
10. (thematic analysis).ti,ab
11. (content analysis).ti,ab
12. "OBSERVATIONAL STUDY"
13. (observation* method*).ti,ab
14. (interview*).af
15. INTERVIEW
16. (meta-ethnograph*).ti,ab
17. (constant comparative method*).ti,ab
18. (field note*).ti,ab
19. (participant* observation*).ti,ab
20. (narrative*).ti,ab
21. (field stud*).ti,ab
22. (audio recording*).ti,ab
23. "OBSERVATIONAL STUDIES AS TOPIC"
24. 1 OR 2
25. 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23
26. 24 AND 25

EMBASE

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3. (qualitative).af
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5. "QUALITATIVE STUDY"
6. "QUALITATIVE RESEARCH"
7. "THEMATIC ANALYSIS"
8. "CONTENT ANALYSIS"
9. "OBSERVATIONAL STUDIES"
10. "OBSERVATIONAL STUDY"
11. "OBSERVATIONAL METHOD"
12. INTERVIEW
13. "SEMI STRUCTURED INTERVIEW"
14. "STRUCTURED INTERVIEW"
15. "TELEPHONE INTERVIEW"
16. "UNSTRUCTURED INTERVIEW"
17. INTERVIEWS
18. ETHNOGRAPHY
19. (ethnograph*).ti,ab
20. (meta-ethnograph*).ti,ab
21. (constant comparative method*).ti,ab
22. "CONSTANT COMPARATIVE METHOD"
23. (field note*).ti,ab
24. "PARTICIPANT OBSERVATION"
25. (participant* observation*).ti,ab
26. NARRATIVE
27. (narrative*).ti,ab
28. "FIELD STUDY"
29. (field stud*).ti,ab
30. "AUDIO RECORDING"

31. (audio recording*).ti,ab
32. (focus group*).ti,ab
33. 1 OR 2
34. 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29 OR 30 OR 31 OR 32
35. 33 AND 34

PubMed

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3. “ANTHROPOLOGY, CULTURAL”
4. (ethnograph*).ti,ab
5. “QUALITATIVE RESEARCH”
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12. INTERVIEW
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18. (field note*).ti,ab
19. (participant* observation*).ti,ab
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21. (field stud*).ti,ab
22. (audio recording*).ti,ab

23. "FOCUS GROUP"
24. "FOCUS GROUPS"
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27. 25 AND 26

PsychINFO

1. (acne*).af
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4. (qualitative).af
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7. (thematic analysis).ti,ab
8. "CONTENT ANALYSIS"
9. "DISCOURSE ANALYSIS"
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11. INTERVIEWS
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14. (constant comparative method*).ti,ab
15. (field note*).ti,ab
16. (participant* observation*).ti,ab
17. NARRATIVES
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20. (audio recording*).ti,ab
21. (focus group*).ti,ab
22. (ethnograph*).ti,ab

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25. 23 AND 24

CINAHL

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4. "GROUNDED THEORY"
5. "QUALITATIVE STUDIES"
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7. (qualitative research*).ti,ab
8. (grounded theor*).ti,ab
9. "CONSTANT COMPARATIVE METHOD"
10. "DISCOURSE ANALYSIS"
11. "CONTENT ANALYSIS"
12. "THEMATIC ANALYSIS"
13. AUDIORECORDING
14. NARRATIVES
15. INTERVIEWS
16. "FOCUS GROUPS"
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18. "OBSERVATIONAL METHODS"
19. (constant comparative method*).ti,ab
20. (audio recording*).ti,ab
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25. (observation* method*).ti,ab
26. (ethnograph*).ti,ab
27. (qualitative stud*).ti,ab
28. (field stud*).ti,ab
29. (meta-ethnograph*).ti,ab
30. 1 OR 2
31. 3 OR 4 OR 5 OR 6 OR 7 OR 8 OR 9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 28 OR 29
32. 30 AND 31