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GP perspectives on acne management in primary care: qualitative interview study

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Abstract

Background
Acne is a common skin condition, affecting most adolescents at some point. Guidelines recommend topical treatments as effective first-line but long courses of oral antibiotics are commonly prescribed.

Aim
We explored GPs’ perspectives on managing acne.

Design and Setting
Qualitative interview study with GPs in South West England.

Method
GPs were invited to participate via existing email lists used by GP educators to disseminate information. Purposive sampling was used to recruit a range of participants by gender, years in practice, and whether their practice was rural or urban. Semi-structured telephone interviews followed an interview guide and were audio-recorded and transcribed. Data were explored using inductive thematic analysis facilitated by NVivo 11 software.

Results
102 GPs were invited and 20 participated. Analysis revealed uncertainties regarding topical treatments, particularly around available products, challenges regarding side effects and acceptability of topical treatments. GPs generally either perceived topical treatments to be less effective than oral antibiotics or perceived patient pressure to prescribe oral antibiotics due to patients’ views of topical treatments as ineffective. GPs described a familiarity with prescribing oral antibiotics and expressed little concern about antimicrobial stewardship in the context of acne. Some seemed unaware of guidance suggesting antibiotic duration should not exceed 3 months, while others spoke about avoiding difficult conversations with patients regarding discontinuation of antibiotics.

Conclusion
GPs in this study expressed uncertainty about the use of topical treatments and either felt that treatments were of low effectiveness or perceived patient pressure to prescribe oral antibiotics.
How this fits in

- Despite rising concerns about antibiotic resistance, long courses of oral antibiotics remain the most widely prescribed treatment for acne in the UK.
- Guidelines advise that topical treatments should be first line for acne and evidence suggests they are similarly effective to oral antibiotics.
- GPs need support in prescribing and promoting effective use of topical treatments for acne, for instance through easy access to high quality information to give patients.
- Patients need to know that topical treatments work well for acne if used daily for 4 to 6 weeks and advice about how to prevent side effects such as skin irritation.

Introduction

Acne vulgaris (hereafter ‘acne’) is a very common chronic skin condition. (1) Almost all teenagers are affected to some degree, with between 15 to 20% having moderate or severe disease. (2) Acne can continue into adulthood, affecting over 40% of individuals in their thirties. (3) Psychological impact can be significant, including an increased risk of depression and suicide. (2)

UK, European and US guidelines indicate that non-antibiotic topical treatments should generally be used first line for mild, such as benzoyl peroxide, or a topical retinoid/adapalene, followed by second-line topical treatments including combination products containing antibiotics. (5-7) Adherence to topical treatments can be poor as they may cause initial skin irritation. (2) Clinician advice regarding application, for instance advising patients to start applying every other day and then increase the frequency, are thought to improve outcomes. (2, 8)

Systemic treatments include oral antibiotics and, for women, combined oral contraception or co-cyprindiol. (5) Oral antibiotics should be used for patients with moderate acne who have failed to respond to topical treatment. (5) When oral antibiotics are used, this should be alongside topical non-antibiotics and for a maximum of 3 months in order to reduce the risk of antibiotic resistance. (5-7) There have been few trials comparing topical therapies with oral antibiotics, although available evidence suggests they may be similarly effective. (9, 10)

There are growing concerns about antibiotic resistance in the treatment of acne. (11, 12) Topical antibiotics can cause the emergence of resistant bacteria at skin sites. (12, 13) Oral antibiotics can lead to resistant strains both on the skin and other body sites including the gut. (11) Antibiotic prescribing for skin conditions represents a large proportion of antibiotics amongst young people. (14) Although rates of prescribing of penicillins amongst young people are falling, prescriptions for macrolides and tetracyclines continue to rise. (14) While further investigations of these trends are needed, much of this prescribing is likely to be for acne. (Mark Lown, personal communication, 2020)

The majority of acne treatment in the UK is provided in general practice. (15) Despite this, relatively little research has studied the management of acne in UK primary care. A cohort study analysed consultations and prescribing for acne using the Clinical Practice Research Datalink. (16) The most common prescription given at the initial acne consultation was an oral antibiotic alone (34%), closely
followed by topical antibiotics (32%).(16) This is in line with earlier research showing that the most commonly prescribed treatment for acne is oral antibiotics.(15) 

Whilst it is unclear what the drivers for this pattern were, the data suggests significant over-prescribing of antibiotics and underuse of alternative non-antibiotic strategies. International studies also suggest that long courses of oral antibiotics are common.(17) This study sought to explore GPs perspectives of managing acne, including facilitators and barriers to prescribing treatments including oral antibiotics and topical treatments.

Method

Recruitment

GPs were invited to participate in the qualitative interview study by using existing email lists used by GP educators in South West England to disseminate information and advertise education events. Purposive sampling was used to recruit a range of participants by gender, years in practice, and whether their practice was rural or urban in order to seek diverse views. DP noted participants’ characteristics as interviews progressed and, for the later interviews, sent reminder emails selectively to GPs in under-represented groups, particularly those who had been in practice for longer or were working in more urban areas.

Interviews

Semi-structured interviews were conducted by telephone between March 2018 and March 2019 by one author (DP). The interview guide was based on the available literature(2, 18) and study aims and is shown in Box 1. The guide was developed and piloted prior to commencing interviews and minor revisions to wording made following the first two interviews. Written consent was obtained, and a reimbursement of £50 shopping vouchers was offered. Interviews lasted between 15 minutes and 37 minutes and were audio-recorded, transcribed verbatim, and checked.

Analysis

Interview data were explored using an inductive thematic analysis.(19) One author (DP) read and re-read transcripts to familiarise himself with the data. Codes were inductively derived from the data, before being grouped together to form an initial coding frame. Codes, theme and sub-themes were defined, discussed and iteratively developed by members of the research team (DP, MS, PL, IM). DP applied the coding frame to all transcripts and AS applied the coding frame to three transcripts and then compared interpretations. NVivo 11 software was used to aid data organisation and coding. Data collection continued until saturation of the main themes was reached.
Results

102 GPs were invited to take part, of whom 21 agreed and 20 were interviewed. One GP was unable to be interviewed due to a conflicting work arrangement, and was unable to reschedule. Semi-structured telephone interviews were carried out between February 2018 and April 2019. Participant characteristics are shown in Table 1. Only one of the GPs interviewed had a special interest in Dermatology.

Twenty semi-structured telephone interviews were carried out between February 2018 and April 2019. Participant characteristics are shown in Table 1.

Key themes

Thematic analysis of interview data relating to prescribing of topical treatments and oral antibiotics established four key themes:

- Uncertainties regarding prescribing topical treatments
- Perceptions regarding side effects and acceptability to patients of topical treatments
- GPs’ perceptions of lower effectiveness of topical treatments compared to oral antibiotics
- Familiarity with prescribing oral antibiotics and low concern about this for acne

This paper considers each theme in detail below, illustrated with selected quotes.

Uncertainties regarding prescribing topical treatments

Despite topical treatments being first-line for mild and moderate acne, interviewees expressed uncertainty regarding the different options available, both on prescription or over the counter, and how to choose between them. Frequently they struggled to recall names or constituents of the products during the interviews:

_I think it can be a bit confusing because particularly on the topical agents, there’s a lot of products that crossover and are similar and it can get a bit muddled between all the brands and things._ [GP6, male, 11-20 years in practice]

Many GPs reported choosing topical treatments based on familiarity and habit.

_I think that is one of those areas, again, because it’s – there are so many choices of what you can do and I got very familiar with what I was familiar with._ [GP13, male, over 20 years in practice]

Interviewees were most familiar with prescribing topical benzoyl peroxide and topical antibiotics. In contrast, there was lower confidence with prescribing topical retinoids:

_I’ve probably only used it [adapalene] a handful of times, but actually the handful of times I’ve used it, it has been quite successful. I suppose the reason why I don’t use it more often is probably just my own confidence about using it..._ [GP15, female, under 10 years in practice]
Perceptions regarding side effects and acceptability to patients of topical treatments

GP interviewees often associated topical treatments with frequent localised side effects, which were viewed as problematic for their patients:

> They’ve got lots of side-effects; the drying, the redness, the stained clothes, the bleaching of the sheets; there’s lots of complications that makes them socially not very usable. [GP5, female, over 20 years in practice]

Most GPs interviewed said that they felt able to offer patients basic advice regarding applying topical treatments and managing side effects. However, they did not describe routinely signposting patients to other resources, either written or online, to support them patients’ use of topical treatments. Some expressed scepticism that commonly available written formats were suitable.

> That’s something I could probably learn from and use would be online guides or written guides, but I don’t tend to use those. [GP1, male, under 10 years in practice]

> I know it’s all available as medicine information inside the pack, but, you know, realistically, when you’ve got a young person, they probably aren’t going to be reading all that bumph... some slightly more modern sort of stuff on social media, more targeted at young people, might not be a bad idea. [GP15, female, under 10 years in practice]

Perceptions of lower effectiveness of topical treatments compared to oral antibiotics

GP interviewees commonly said they thought topical treatments were less effective than oral treatments, were predominantly useful only for mild acne and that patients who were consulting the GP would not wish to be ‘completely fobbed off’ [GP18, male, over 20 years in practice] with a topical treatment:

> And generally, to be fair, patients that come in to see us have already tried a lot of the topical stuff on their own, albeit they probably have only got benzoyl peroxide in them, because that’s pretty much, as far as I’m aware, all you can really buy over-the-counter, but generally the severity that bothers most people’s skin – is severe enough that you probably need more than just topical stuff. [GP11, female, under 10 years in practice]

In contrast, oral antibiotics were viewed as more effective, and quicker acting.

> So someone who has a really good reason to reduce the lesions as quickly as they can, that might have mild, moderate, I might go with oral antibiotics quicker than someone who isn’t that bothered and has localised disease and is happy to try a topical treatment. [GP13, male, over 20 years in practice]

> I don’t know what percentage I would say, but definitely 50% of patients, probably more like 70, 75%, you know, are going to – normally tend to have success on antibiotics. [GP15, female, under 10 years in practice]
While some GPs perceived oral treatments as more effective than topical treatments, others perceived topical treatments as effective but said they felt a pressure from patients for oral rather than topical treatments, based on a belief that they are more effective:

So I would say – that it generally should be managed with topicals but we quite often go to oral because that’s what – by the time they get to us, that’s what people want. They think that is more effective, even if that’s not the case – and it’s easier for them. [GP2, female, 11 to 20 years in practice]

Concerns around difficulty with treatment adherence and side effects for topical treatments, as described above, also arose in discussions around effectiveness. This participant also links this difficulty with appropriate use to a perception of topical treatments as being ineffective:

A tablet you can just swallow and that’s it done, whereas with a cream, you’ve got to apply it and apply it appropriately and let it soak in and so on. So I guess it’s a bit more complicated a regime, so it perhaps doesn’t feel quite so effective. [GP10, male, under 10 years in practice]

Familiarity with oral antibiotics and low concerns about prolonged courses for acne

In contrast with uncertainties expressed around prescribing topical treatments for acne, many GPs reported feeling relaxed prescribing oral antibiotics for acne:

I’m really happy to and I think probably, again, rightly or wrongly, I have a low threshold to start them on oral antibiotics. I think I just feel for them. I just think if you’ve got a whole load of spots on your face, I can completely appreciate that it’s a nightmare. [GP16, female, under 10 years in practice]

Despite guidelines recommending that oral antibiotics should be used for no longer than 3 months,(5) interviewees were generally either not aware of this or viewed prolonged courses to be necessary or difficult to avoid if patients requested this:

Minimum six months would not be unusual, particularly anything above mild which you’re not going to use oral antibiotics for anyway, whereas the moderate, to moderate/severe is going to take about a year. [GP13, male, over 20 years in practice]

You know, when you put them on it, you put them on [antibiotics] – I know you’re meant to review it sort of every three months or so, but actually a lot of the time I think we tend to go – okay, you’re doing fine, let’s put it on repeat and we’ll see you in six months… [GP16, female, under 10 years in practice]

A frequently reported challenge was that of stopping oral antibiotics in patients who have taken them for a long time and where conversations about stopping were viewed as ‘difficult’.

I think it’s often difficult, because actually usually when you go through repeat prescriptions, often people are on antibiotics, I find, for years, for skin, whether it’s for acne or even
rosacea. Actually usually they’re put on repeat and I think the conversation is often avoided, about stopping it. And I find it difficult, as someone who’s suffered with their skin, I think it’s – it is difficult to have that conversation with people. [GP11, female, under 10 years in practice]

As expected, GP interviewees were aware of concerns about antibiotic resistance in general, however it was striking that most viewed it as a low priority in the context of antibiotic prescribing in acne:

Am I worried about it? In truth, probably not, actually. I mean I’m conscious of it, so I’m not going to treat people, you know, for no reason, with an antibiotic but I think if they’ve got to the point where their acne is causing significant problems and they’ve not responded to topical treatments, then, you know, or is severe enough, I don’t have any concerns about prescribing long-term antibiotics. [GP6, male, 11 to 20 years in practice]

Concerns, not really. I mean we’ve been prescribing all antibiotics for acne for a long time and I’m not aware that there’s any major issue associated with it. Although in some ways that does seem a bit bizarre because we look at our antibiotic prescribing elsewhere and of course we’re really jittery about it and I guess there’s a bit of me that becomes increasingly concerned about the impact of antibiotics on your biome... [GP18, male, over 20 years in practice]

Discussion

Summary

Despite many previous studies exploring GPs’ perceptions about prescribing antibiotics for acute illness, we are not aware of previous research exploring GPs’ perspectives on antibiotic prescribing for acne, despite this being a major cause of antibiotic use. GPs interviewed in this study described challenges to using topical treatments in terms of uncertainty about topical treatments available and difficulties for patients around adherence and side effects. GPs often perceived topical treatments to be of low effectiveness in comparison with oral antibiotics, or spoke about patient pressure to prescribe oral treatments as patients perceived them as more effective. GPs described familiarity and relatively low concern prescribing oral antibiotics, including for longer durations than the 3 months recommended in UK guidance.(5) They described conversations about withdrawing antibiotics as potentially difficult and sensitive.

Strengths and limitations

The interviewees were purposively sampled to ensure a range of characteristics including gender, years in practice and practice location. GPs were sampled through educational and research lists within South West England and only 20% agreed to take part, but it seems unlikely that a broader sample of GPs would have given very different views, although may have been less aware of recent educational or research developments. There is the potential when conducting interviews that the
views expressed do not fully represent everyday practice, and as the interviewer was a GP, it is possible that this may have contributed to interviewees offering ‘socially desirable’ responses. However, others have found professionals interviewing each other can lead to ‘richer and more personal accounts of attitudes and behaviour’. (20) The interviewer found the participants willing to share a diverse range of candid views. Furthermore, our findings regarding relatively low use of topical treatments compared with oral antibiotics for acne is in line with observed prescribing data. (16)

Comparison with existing literature

Qualitative research with people with acne has similarly found a perception of low effectiveness of topical treatments in comparison with oral antibiotics. (18) However, this paper is the first to show that many GPs also hold this view and to explore the implications of GPs’ perceptions of patient expectation on antibiotic prescribing for acne. One previous qualitative study with GPs around acne management found that GPs perceived patients’ non-adherence to topical treatments as a barrier to treatment success but that they rarely directed patients towards written information sources. (21)

Our findings are in line with previous research in the UK and US showing that oral antibiotics are widely used for acne (16, 17) and that average courses are, in practice, often longer than 3 months. (17)

Our findings echo previous literature on doctors’ behaviours around prescribing and referral, where perceived patient pressure is a predictor of prescribing behaviours. (22, 23) Similarly, in antibiotic prescribing for other conditions, doctors’ perceptions of expectations for antibiotic is a predictor of prescribing, although doctors often overestimate patients’ expectations for receiving an antibiotic. (24)

Implications for future research and practice

There is a need to promote alternative management strategies and clearer guidance in order to address the high levels of antibiotic prescribing for acne. Although most guidelines state duration of antibiotics for acne should generally be limited to 3 months (5, 7) unfortunately other sources of reference continue to suggest longer courses may be needed, (25) such that some confusion and lack of adherence to guidelines amongst prescribers is unsurprising.

A greater understanding of GPs perspectives on acne management provides potential behavioural targets for a training intervention to reduce antibiotic prescribing in acne. Interventions to reduce antibiotic prescribing in primary care for respiratory tract infections have been effective in a number of countries (26) and similar interventions may be effective in reducing antibiotic prescribing in acne. Promoting the use of alternatives to antibiotics in acne includes effective communication with patients about how to mitigate against side effects of topical treatments in mild or moderate acne and widening access to timely prescribing or oral isotretinoin for severe acne.
Additional information

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**Ethical approval** was obtained from University of Southampton Faculty of Medicine Ethics Committee reference number 31115.

**Competing interests** - none

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**References**

Box 1 – Interview guide questions and prompts

1. How do you feel about managing acne as a GP?
   Are there any particular challenges?

2. What are your thoughts on why patients with acne come to see you?

3. How do you assess patients with acne?
   What questions do you ask?
   What assessment do you make when you look at the appearance of the skin?
   Anything that is particularly important?

4. What are your general thoughts about treatment options for acne?
   How do you choose which to prescribe?

5. How are your thoughts on topical treatments for acne?
   Please specify treatment names
   Any that you particularly prefer to prescribe? Why?
   Any you that particularly avoid? Why?
   What advice do you give?
   How do you think patients feel about using topical treatments? (Please specify the treatment’s name)

6. What are your thoughts on prescribing oral antibiotics for acne?
   How do you think patients feel about taking antibiotics for acne?
   What advice do you give?

7. What are your thoughts on prescribing the combined contraceptive pill for acne?
   How do you think patients feel about using the contraceptive pill for acne?
   What advice do you give?

8. What factors are important for you in choosing to refer patients with acne?

9. What other advice do you routinely offer patients with acne?

10. Are there any supporting materials either written or online that you use to:
    Support your management of acne?
    Support your patients’ management of their acne?

11. Are there any supporting materials not currently provided that you feel could:
    Support your management of acne?
    Support your patients’ management of their acne?
**Table 1 – Participant characteristics**

<table>
<thead>
<tr>
<th>Number of Interviewees</th>
<th>n = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>10 (50%)</td>
</tr>
<tr>
<td><strong>Years in practice</strong></td>
<td></td>
</tr>
<tr>
<td>• Under 10y</td>
<td>9 (45%)</td>
</tr>
<tr>
<td>• 11 to 20y</td>
<td>6 (33%)</td>
</tr>
<tr>
<td>• Over 20y</td>
<td>5 (25%)</td>
</tr>
<tr>
<td>Dermatology GPSI (current or previous)</td>
<td>1</td>
</tr>
</tbody>
</table>
**GPs’ perceptions of acne treatments**

**Topical treatments**
- Uncertainty about options*
- How to avoid side effects?
- Available patient information?

**Oral antibiotics**
- Familiar
- ‘More effective’
- ‘Easier’ for patients

**Perception of patients’ views**
- Wouldn’t consult unless desperate
- Have probably tried ‘all’ topicals
- Want oral treatment

*What is available for prescription or over-the-counter? How to choose between options?