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The role of community pharmacists in supporting self-management in patients with psoriasis

Rod Tucker, Derek Stewart

Introduction

Plaque psoriasis is a chronic inflammatory skin condition that is thought to affect up to 3% of the UK population.[1] Although in itself not life-threatening, psoriasis is associated with a significant impairment of quality of life,[2] including work, family, sexual relations as well as physical and emotional well-being.[3] Moreover, the visible nature of the condition has been reported as one of the most difficult aspects.[4] There is currently no cure and psoriasis follows a relapsing-remitting pattern hence effective self-management is important.

The majority of patients with chronic plaque psoriasis have mild to moderate disease that is amenable to treatment with topical therapies in primary care.[5] Nevertheless, the level of adherence to topical regimes for those with psoriasis has been found to be low. For instance, one study observed that 44% of patients did not redeem their initial prescription,[6] while in another, 39% did not comply with their recommended treatment regime.[7] Additionally, several qualitative studies in people with psoriasis have revealed the need for more information and advice from patients to help manage their condition. For instance, Ersser et al[8] in an exploratory focus group study of people with mild to moderate psoriasis, found an erratic and inconsistent use of topical therapies as well as a clearly recognized need for instruction on the correct use of treatments that was absent from consultations. Another study identified how patients believed that healthcare professionals lacked knowledge and expertise in the management of their condition, empathy with the impact of the disease and failed to manage psoriasis as a long-term condition.[9] The desire for greater knowledge about psoriasis such as causes, triggers, co-morbidities and treatment options was acknowledged in a focus group study from the US.[10] Finally, in a recent study with patients and GPs, both parties felt lacking in understanding about the condition and its management.[11] Consequently, patients often sub-optimally managed their condition in isolation from the GP due to the absence of adequate advice on treatments. These studies clearly illustrate the need for more effective community-based information, education and support for those with psoriasis.

The importance of addressing and meeting the treatment-related needs of patients with psoriasis was highlighted in the National Institute for Health Care and Clinical Excellence (NICE) guidance in the UK on psoriasis published in 2012. The guideline recommends that healthcare practitioners offer support and information tailored to individual needs in order that patients understand "*how to use prescribed treatments safely and effectively and how to minimize the risk of side-effects through safe monitoring of medicines*".[12]

The value of adjunctive patient education and support as a means of improving quality of life and reducing disease severity in patients with conditions such as atopic eczema has been shown to be of value in a systematic review.[13] However, more recently, a review of interventions used in randomized controlled trials, aimed at patients with psoriasis, concluded that attempts to improve disease severity and quality of life through the provision of educational information have met with limited success.[14]

The enhanced clinical and healthcare management role of the community pharmacist is high on the United Kingdom (UK) political agenda as witnessed in the white paper *Pharmacy in England* (2008) which stated that;

"*The Government wants to see pharmacies expand and improve the range of clinical services they offer to people, in particular to those with long-term conditions – through routine monitoring, screening and support in making the best use of their medicines".*[15]

The value of educational input by pharmacists has been shown in a recent review to be of benefit in the management of hypertension and diabetes though results were mixed for other medical conditions.[16] To date, only one small pilot study has examined the impact of a pharmacist-led educational intervention for adults caring for children with atopic eczema. The study revealed that the intervention produced a small, but significant improvement in itch and irritability.[17]

The aim of the present study was to determine whether educational advice on psoriasis and its management delivered by community pharmacists, could increase patient's understanding of their condition and reduce both disease severity and the negative impact on quality of life.

Methods

The study involved a pre- and post-intervention experimental design.

Ethical approval provided by the Office for Research Ethics Committees Northern Ireland (13/NI/0207).

Setting

The study was undertaken in a total of 7 community pharmacists in Cornwall (four sites) and the Yorkshire and Humber region (three sites). The pharmacies were selected based on their location (urban, rural etc.) to provide a range of different settings. The pharmacists were recruited via local comprehensive research networks and all gave informed consent to participate in the study.

Patients

Eligible patients included those who were:

- At least 18 years of age
- Prescribed topical treatments for psoriasis including:

1) Emollient products such as creams, ointments, bathing products
2) Topical steroids, combined steroid and vitamin D compounds
3) Topical vitamin D analogues
4) Dithranol-based products
5) *Any other topical psoriasis treatment*

Patients who were specifically excluded were those:

- Without good use of spoken and written English
- Prescribed oral treatments for psoriasis or undergoing phototherapy
- Those currently under the care of a dermatologist *or other specialist*.

Recruitment

Eligible patients were either approached opportunistically when presenting at the pharmacy with prescriptions for any of the above treatments or via a letter of invite sent to those identified by the pharmacy computer records who met the above treatment criteria. In each case, the pharmacist determined whether the prescribed treatment was in fact for plaque psoriasis

Intervention

The pharmacist intervention comprised two face-to-face consultations separated by a 6 week interval. Pharmacists provided patients with information about the study and gained written informed consent. Once a patient was enrolled, the initial consultation was conducted either at the time of recruitment or at a mutually convenient time. All patients were recruited and seen between March and December 2 After the initial consultation, the individual pharmacists arranged with patients a suitable date and time for a follow-up appointment, approximately 6 weeks later. Pharmacists were also asked to contact the patient a few days before the pre-arranged appointment.

All participating pharmacists were provided with a training pack which contained information on psoriasis and advice on how to complete the study paperwork. Links to on-line patient leaflets provided by the Psoriasis and Psoriatic Arthritis Alliance (the sponsor) were also available for pharmacists to download and give to patients

At the follow-up consultation, pharmacists would repeat the PEDESI questions to check retention of knowledge and re-score the patient accordingly. Patients were also asked to complete a second SAPASI and DLQI form. In addition, the second appointment provided patients with an opportunity to raise any further questions with the pharmacist.

Primary and secondary outcomes

The primary outcome measure was the change in the PEDESI score and secondary outcomes were changes in SAPASI and DLQI scores (see below).

Data collection

Patient knowledge

Patient's level of knowledge about psoriasis and its management was assessed using the person-centered dermatology self-care index (PEDESI) tool.[18] This questionnaire is designed to evaluate the education and support needs of those with long-term skin conditions and consists of 10 questions

(see box). During the consultation, pharmacists asked patients each of the PEDESI questions and subjectively assigned an "ability" score for each question which reflected patients' understanding of the question topic. Ability was defined as either "no ability", "some ability", "sufficient ability" or "full ability" with a score of 0, 1, 2 and 3 respectively. The values for each question were then summed to give an overall score ranging from zero (worse state) to 30 (best state).

Since patient knowledge was potentially variable, the educational advice provided by pharmacists was tailored to suit the needs of the individual. For example, for the first question, if the pharmacist felt that a patient had no understanding of their condition (scored as "no ability"), they would provide verbal and supplementary written information on psoriasis to help raise their knowledge to "full ability".

Disease severity and quality of Life

Patient's disease severity was measured using the self-assessed psoriasis area and severity index (SAPASI).[19] The SAPASI score has a range between zero and 72 and disease severity is defined as in remission when SAPASI = 0, mild (score < 3), moderate (> 3 and < 15) and severe (> 15).

Quality of life was determined by self-completion of the dermatology quality of life index (DLQI)[20] which has a range between zero (best state) and 30 (worse state).

Patients were asked to complete these two forms at the start of the initial and follow-up consultation.

The scoring system for both tools is described in the supplementary files.

Sample size

As this was a pilot study, no formal sample size calculation was conducted and funding for the study was limited. Since the intervention had not been tested before among these patients, we had no accurate estimate of the impact of the intervention on patient knowledge and felt that a target of 50 patients would be reasonable. Therefore, an additional purpose of the study was to partly estimate the likely effect size in order to plan a larger, definitive trial.

Analysis

We compared the change in values for the outcome measures between the baseline and follow-up visits using a two-tailed paired Student's t-test and performed the analysis using SPSS (SPSS Inc., Cary, NC version 21.0).

Results

Patient characteristics

A total of 47 patients (25 males and 22 female) were recruited. The mean age was 59 years (SD ± 17.01) with a range of 20 to 90 years. In total, 66 % of patients had psoriasis affecting both the trunk and scalp, 28% had truncal psoriasis only and the remaining 6% had only scalp psoriasis. The most commonly prescribed topical treatments were a combined product containing betamethasone 0.1% and calcipotriol 0.05% (Dovobet®) 54%, Calcipotriol (20%), topical steroids only (18%) and others (8 %) which included coal tar products and tazarotene.

Although 47 patients were initially recruited, 5 were lost to follow-up. The mean length of time between the two consultations was 47.8 days (SD $\pm$ 21.7) which represents an average of 6.8 weeks.

The values for the outcome measures at baseline and the follow-up visit are shown in Table 1.

The increased mean PEDESI scores at the follow-up consultation, was due to a rise in "full ability" scores across all questions as illustrated in Figure 1. At the initial consultation, only a small percentage of patients were subjectively rated as having "full ability" for each of the questions, whereas at the follow-up visit, the proportion of those with "full ability" increased considerably. *However, the increase in full ability scores for questions 9 and 10 was small and it is clear from Figure 1 that the majority of patients already had sufficient understanding of the topics covered in both questions as reflected by the high initial full ability scores.*

Disease severity

At the follow-up consultation, the proportion of patients with mild disease had increased from 15 % to 29% and the proportion of those with severe disease decreased from 32 % to 19%. However, the proportion of those with moderate psoriasis remained unchanged (53 vs 52%). Nonetheless, as shown in Figure 2, most patients with moderate disease severity experienced a decrease in absolute SAPASI score, although for three patients, disease severity worsened.

Quality of life

A change of at least four points on the DLQI scale is deemed to be clinically *important*[21] *and Figure 3 shows the difference in DLQI values obtained at the follow-up and initial consultations. These results demonstrate that* 17 patients experienced a clinically meaningful and positive difference at the follow-up consultation. In contrast, 3 patients' DLQI score worsened and for one patient this change was clinically meaningful.

At the end of the study, pharmacists were contacted and asked to provide some indication of the length of time required to undertake the intervention. Although not formally documented, pharmacists felt that both consultations lasted between 10 and 20 minutes, implying that a relatively brief educational intervention could have a significant impact on disease burden.

Discussion

The main findings from this study are that educational advice on psoriasis provided by community pharmacists enhanced patients' knowledge and led to a significant reduction in disease severity and improvement in quality of life. The PEDESI tool is a therefore a potentially useful instrument for use in clinical practice as it provides health professionals with a "toolkit" to guide consultations to ensure that the educational needs of patients are met. As several aspects of the tool are treatment-related, the instrument is amenable to use by community pharmacists, whose enhanced clinical role is focused on medicine optimization.

A major strength of this study is that it appears to be the first exploration of the role of pharmacists in supporting self-management in patients with psoriasis and as such adds to the limited body of information that is currently available on this topic. Nevertheless, the present study does have some

recognized limitations. The sample size was small and in the absence of a control group, it was impossible to establish the precise impact of the intervention compared to standard counselling by pharmacists. *Furthermore, we were unable to determine the content of the information exchange during consultations at each of the pharmacies. Nevertheless, despite this limitation, information exchange at each site was likely to be sufficient given that all outcome measures improved significantly.* Finally, the use of a convenience patient sample means that we cannot avoid the problem of non-respondent bias.

There do not appear to be any studies using the PEDESI tool in practice and very little is known about the role of pharmacists in the management of patients with skin problems. Two small community pharmacy based studies have considered the role of pharmacists in helping patients with atopic eczema. In the first, which is available only as an abstract, Tinkler et al,[22] investigated the contribution of pharmacists in meeting the needs of patients with atopic eczema. The study found that pharmacists identified a total of 1597 problems of which the most common (20%) were related to topical steroid concerns. The second most common problem (15%) related to lifestyle advice. Pharmacists made a total of 1747 interventions, of which verbal advice (76%) was the most common. The authors concluded that many of the concerns or problems experienced by patients with eczema could be addressed by pharmacists. In the second study, described earlier, Carr et al[17] found that advice from community pharmacists on the appropriate use of emollients, gave rise to a small, but statistically significant reduction in itch and irritability but no change in either sleep disturbance or appearance of the skin. *One particular problem in psoriasis is poor adherence[7] and there are many factors associated with poor adherence.[23] Although we did not specifically address this issue in the present study, we believe that question 4 in the PEDESI tool, considers the use of treatments and pharmacists were likely to tackle the importance of adherence during their consultation.*

The white paper, *Pharmacy in England*[15], recommends that pharmacists expand and improve the range of clinical services they offer, especially to those with long term conditions such as psoriasis and the present study has identified a possible avenue through which this objective could be achieved. Moreover, the study has clearly identified an unmet need for those with psoriasis which could conceivably be addressed by an educational intervention within a time-frame that is in line with the requirements for existing clinical pharmacy services such as the medicines use review.[24]

Conclusion

The present study tentatively suggests that educational advice from pharmacists may help facilitate effective more self-management in those with psoriasis and that this advice is associated with improvements in disease-related outcomes and quality of life. Based on these findings, it is conceivable that community pharmacists could make an important contribution to the care of patients with psoriasis and as such, should be more closely integrated into the primary care team responsible for the management these patients. Further studies such as a randomised controlled trial utilising a health economic component are required to more clearly define the impact of enhanced pharmacist input into the care of patients with psoriasis compared with usual care.

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