

Educational interventions to improve quality of life in people with chronic inflammatory skin diseases: systematic reviews of clinical effectiveness and cost-effectiveness

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Scientific summary

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Background

Inflammatory skin diseases include a broad range of disorders of the skin. The most commonly recorded conditions are eczema, psoriasis and acne. People with chronic inflammatory skin diseases experience symptoms including itching, dry skin and changes in skin appearance to varying degrees of severity and bodily involvement. For some people, these conditions lead to high levels of psychological comorbidities and reduced quality of life (QoL). Patient education – typically defined as providing patients with information about, and training in, skills for managing their condition – is a recommended part of the management of chronic inflammatory skin conditions and may improve QoL. As part of these interventions, patients are often provided with information about their condition and the use of treatments. However, it has been suggested that the inclusion of additional elements in these interventions that specifically address issues related to poor QoL may enhance the impact of educational interventions on QoL. Although such interventions are available to some people with these conditions, their clinical effectiveness and cost-effectiveness is unclear.

Objectives

To undertake systematic reviews of the clinical effectiveness and cost-effectiveness of educational interventions for improving health-related quality of life (HRQoL) in people with chronic inflammatory skin diseases and to make recommendations for future research.

Methods

Electronic bibliographic resources, including MEDLINE, EMBASE, The Cochrane Library, Cumulative Index to Nursing and Allied Health Literature, and PsycINFO, were searched for published studies from inception to July 2014 for English language articles. Bibliographies of included articles and systematic reviews were also searched for additional studies. An Advisory Group was contacted to identify additional published and unpublished evidence.

Study selection

Titles and abstracts were independently screened for eligibility by two reviewers. Inclusion criteria were applied to full texts by one reviewer and checked by a second reviewer. Inclusion criteria were as follows:

- Population: adults, young people and children with a chronic inflammatory skin condition and/or their carers.
- Intervention: educational interventions that either specifically aim to improve HRQoL or could improve HRQoL.
- Comparators: any comparator was eligible.
- Outcomes: only studies that measured HRQoL as an outcome, using a validated measure, were included. Data were also extracted on outcomes, including measures of disease severity, disease control and scratching behaviour. Patient-assessed subjective outcome measures were included if assessed by validated tools.

- Studies were included in the systematic review of clinical effectiveness if they were randomised controlled trials (RCTs). If no RCT evidence was available, prospective trials with one or more concurrent control groups were eligible.
- Studies were included in the systematic review of cost-effectiveness if they were full economic evaluations (cost-effectiveness, cost–utility or cost–benefit analyses), cost–consequence analyses or cost analyses.

Full-text papers were included only if they reported results in sufficient detail. Abstracts or conference presentations were eligible for inclusion only if sufficient details of methods and results were presented.

Data extraction and quality assessment

Data extraction and quality assessment were undertaken by one reviewer and checked by a second reviewer. Differences in opinion were resolved by discussion at each stage.

Data synthesis

Data were synthesised through narrative reviews with tabulation of the results of included studies.

Results

Clinical effectiveness

From 2628 references, 63 were retrieved for consideration. Seven RCTs were included (one additional study, a controlled clinical trial, met the inclusion criteria, but was not reviewed, in line with the review protocol). Two RCTs assessed the effects of educational interventions for adults with psoriasis, one RCT assessed an education intervention for women with acne and two RCTs assessed the effects of educational interventions in children with eczema and/or their carers. Two further RCTs focused on adults with mixed skin conditions, one on those a range of pruritic skin conditions and the second on those with either psoriasis or eczema (and results for these subgroups were provided). There were few similarities between studies in terms of the interventions. The delivery mode (e.g. group or individual; face to face, online or via text messaging), the topics covered, the provider of the education, and the duration and intensity of the education differed between studies. There were also few similarities in the choices of outcome measures employed, although all studies reported HRQoL, most often with the Dermatology Life Quality Index. Follow-up ranged from 4 weeks to 12 months. The quality of the included RCTs was generally poor. Sample sizes were generally small; in one study, there was a large sample size, but results were reported for a number of different, smaller, subgroups. Three studies were reported to be pilot studies. Only two studies were based in the UK and the findings of the majority of the trials were considered to be of limited generalisability to the UK.

Three RCTs found statistically significant improvements in HRQoL. In RCTs of participants with psoriasis, the effect of the educational interventions on HRQoL appeared to be positive in two trials (one was a subgroup) when this was measured at the end of the 3-month interventions, with positive effects on one of two HRQoL measures used persisting 6 months after the intervention in the one RCT with a longer-term follow-up. In a pilot RCT of participants with mild-to-moderate psoriasis there was no statistically significant impact on HRQoL at 6 weeks' follow-up. One RCT investigated the impact of an educational intervention on children and their carers and adolescents with eczema in three age-related subgroups. HRQoL appeared to be improved in the carers of children in two age groups (3 months to 7 years and 8–12 years). HRQoL was not measured in the adolescent group (participants or carers). Another RCT evaluating an educational website for carers of children aged up to 5 years with eczema found no effects on HRQoL. An additional RCT reported on a small subgroup of adults with eczema. In this trial, there were

no significant differences between those in the educational intervention group and those in the usual care control group. In one RCT of participants with acne the educational intervention did not demonstrate positive effects on HRQoL. In an educational intervention aimed at people with chronic pruritic skin diseases (including atopic dermatitis, psoriasis and chronic urticaria) the focus was to help participants cope with the associated itch of the condition. No benefit in terms of HRQoL was demonstrated at the 9-month follow-up period. Other outcomes reported in the included studies, such as disease severity outcomes, showed mixed results.

Cost-effectiveness

Three studies were included in the systematic review. Two were cost-effectiveness studies and one was a cost analysis. The nature of the interventions and comparators varied and the populations of interest across the included studies were children and adolescents in two studies and in adults in one study. None of the studies reported HRQoL in terms of quality-adjusted life-years (QALYs) gained. The two cost-effectiveness studies were based in the Netherlands and the cost analysis study was conducted in the UK. In general, the studies provided detailed information on the resources used and unit costs. Two of the three included studies provided resource use data that could be used to inform a future de novo cost-effectiveness model. The UK-based cost analysis was conducted from the NHS perspective; however, details of data inputs in terms of QALYs and costs were not reported. It is therefore difficult to draw conclusions on the results of the analysis.

Owing to the limitations in the included studies, it is uncertain whether educational interventions are cost-effective in the treatment of chronic inflammatory skin diseases.

To inform future modelling in this area, these three included studies, and four additional studies that had been retrieved for screening for inclusion into the systematic review of cost-effectiveness but not included, were scrutinised in more detail to determine the resources and costs used. There was heterogeneity between these studies; however, the range of relevant resources can be grouped under three broad categories – interventional, service use, non-service use – and these are discussed. A second area of focus from the overview of these seven studies to inform future modelling was in terms of the choice of outcomes. Again, heterogeneity between the studies meant that making conclusions was difficult; however, the report makes recommendations for the choice of outcome measure in any future studies that include the use of preference-based generic measures of HRQoL or disease-specific measures of HRQoL that can be mapped to generic measures.

Discussion

Commonalities between effective interventions were a long delivery period (ranging from 6 weeks to 3 months) and delivery by a multidisciplinary team; however, this was not tested in any way and it remains uncertain from the current evidence base which elements of educational interventions may be associated with improvements in HRQoL. Our review has identified a number of gaps in the clinical effectiveness and cost-effectiveness evidence base. In particular, no studies focused on the less common skin conditions. In addition, approximately one-third of the evidence that met our eligibility criteria did not provide adequate information about the results and could not be included. Few of the studies that were included reported adequate details of the intervention, such as the aim or the theoretical basis. This indicates the need for better reporting in this research area.

Strengths of our research are that the systematic reviews were conducted in line with good practice following a published protocol. A limitation to the review is that the application of the inclusion criterion around whether the interventions were aimed at improving HRQoL, or the inference that they could improve HRQoL, was rarely reported.

Conclusions

Overall, there is uncertainty over whether or not educational interventions addressing issues that could improve HRQoL in people with chronic inflammatory skin conditions are effective. Tentative conclusions about the best approach to delivering these kinds of interventions are that face-to-face, group sessions may be beneficial; however, evidence also suggests that text messages may be effective. There are some indications that delivery over a period ranging from 6 weeks to 3 months and delivery by a multidisciplinary team may also be associated with positive outcomes. Based on available evidence, there is uncertainty over whether or not educational interventions are cost-effective in terms of improving HRQoL. Priorities for research are high-quality, adequately powered RCTs that evaluate theory-based interventions and include an adequate long-term follow-up in all chronic inflammatory skin conditions. Ideally, such RCTs should include an economic evaluation and a process evaluation.

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