RESEARCH PROPOSAL

Written in line with PRISMA-P 2015 statement (1)

Title

Uptake of the Harmonising Outcome Measures for Eczema (HOME) Core Outcome Set in atopic dermatitis systematic reviews: A systematic review

Registration

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INTRODUCTION

Rationale

Atopic dermatitis (AD)(2) is an extensively researched, prevalent and incurable dermatological disease whose pathophysiology is yet to be fully understood. Despite this until the Harmonising Outcome Measures for Eczema (HOME) initiative published a consensus in 2012(3) there was no concord on how to uniformly assess outcomes in AD research. The core outcome set (COS) produced allows for a strategy to help combat selective reporting bias and a homogeneity that permits higher tiers of research to take place, namely meta-analyses, helping expedite clinical benefits for patients in a less wasteful research landscape(4). Research by Vincent R *et. al* assessed the uptake of the HOME COS in treatment trials, the results showed a lack of universal implementation(5), it follows that the primary outcome of the proposed systematic review is to assess the uptake of the COS domains and instruments in systematic reviews of AD intervention. The four core outcome domains are: clinician-reported signs, patient-reported symptoms, quality of life and long-term control(3). The instruments, to measure the COS domains, published by the HOME initiative, as of September 2020, are: EASI for clinician-reported signs(6) and POEM(7) and NRS-11(8) for patient-reported symptoms, NRS-11 implementation will not be appraised in this systematic review due to its recent publication on the HOME website(9).

Objectives

The overarching aim is to assess the implementation of the HOME initiative's COS. To assess this we will look at:

- The uptake of the individual COS domains over time
- The uptake of the prescribed COS instruments over time: EASI for clinician-reported signs; and POEM for patient-reported symptoms

Secondary outcomes:

- Geographical variation in COS implementation
- Have meta-analyses been conducted for the domains of clinical signs and symptoms
- Whether an AD COS was referenced
- Markers of bias in relation to COS implementation

METHODS

Eligibility criteria

Systematic reviews which assess primary data of AD treatment interventions published between 01/01/2007-27/10/2020 will be included, regardless of the language. They must also be free to access in full online or be accessible through OpenAthens or UK Federation. In order to translate systematic reviews which are not accessible to the reviewer without linguistic aids (namely not English or Spanish) free online translation software will be used. It is not thought that this will introduce significant inconsistencies as the outcomes of the proposed systematic review do not relate to nuances. Reviews must have a primary focus on AD, which explains why free text words such as “atopy” do not feature in the search strategy. Grey literature will not be included due to time restraints. All AD patient groups will be included. The proposed study is a systematic review to be completed prior to the start of February 2021.

Information sources

The intended information sources will include: Epistemonikos and the Cochrane Database of Systematic Reviews. There are no intended information sources for grey literature as it is beyond the scope of this proposed systematic review. The dates that will be included in the search will be as follows: 01/01/2007 – 27/10/2020. The decisions to use these sources were reached after discussions with a specialist, Epistemonikos is an interface that collates systematic reviews from ten databases regularly: CDSR; PubMed; EMBASE; CINAHL; PsycINFO; LILACS; DARE; The Campbell Collaboration online library; JBI Database of Systematic Reviews and Implementation Reports; EPPI-Centre Evidence Library (10).

Search strategy

Numerous databases using the Epistemonikos interface will be searched to try to achieve the most comprehensive coverage. Free-text words will be used in this search matrix as Epistemonikos does not have subject headings. The proposed search matrix: ‘ eczema OR “atopic dermatitis” OR neurodermatitis ’. Advice from the HOME initiative’s information specialist Dr Douglas Grindlay will be sought were appropriate.

Study records – data management

Mendeley software will be used as a reference manager.

Study records – selection process

All selection processes will be undertaken by one reviewer that will complete both screening, eligibility and inclusion. Screening results will be compared to a list of systematic reviews independently collated by Dr Douglas Grindlay, an information specialist(11). Where the reviewer is unsure, selection process decisions will be discussed with a supervisor. Rayyan QCRI software will be used.

Study records – data collection process

Data collection will occur independently using a piloting form.

Data items

There are no pre-planned data assumptions or simplifications. No quantitative data will be collected in the proposed systematic review. All data will be graphically presented and will be collected in binary manner based on a yes/no answer. Several examples of the variables for which data will be extracted to meet the objectives (this is not an exhaustive list) are:

- Are any of the COS domains implemented, were these domains amalgamated into one outcome, e.g. signs and symptoms?
- Has the instrument EASI been used to assess clinician-reported signs?
- Has the instrument POEM been used to assess patient-reported symptoms?
- Country affiliated with the systematic review
- Was an AD COS referenced?
- Whether meta-analysis was conducted for clinical signs and symptoms, as separate domains or combined
- Markers of quality in relation to COS implementation, to do this the following questions will be addressed:
    - Were patients involved in decisions in the trial?
    - Did they search at least two databases?
    - Did they include all languages?
    - Have they declared whether a protocol was created?
    - Was there a list of excluded trials provided with justifications?

Outcomes and prioritization

Main outcomes:

- Are any of the COS domains implemented, either individually or combined?
- Has the instrument EASI been used to assess clinician-reported signs?
- Has the instrument POEM been used to assess patient-reported symptoms?

Additional outcomes:

- Geographical variation in COS implementation
- Was an AD COS referenced?
- Are meta-analyses being conducted for clinical signs and symptoms, for each outcome or combined?
- Markers of quality in relation to COS implementation, to do this the following questions will be addressed:
    - Were patients involved in decisions in the trial?
    - Did they search at least two databases?
    - Did they include all languages?
    - Have they declared whether a protocol was created?
    - Was there a list of excluded trials provided with justifications?

Risk of bias in individual studies

Individual bias at outcome and study level will not be assessed using a tool such as AMSTAR, AMSTAR-2 or ROBIS. However, in assessing the secondary variable related to quality multiple domains which feature in both AMSTAR checklists will be assessed, this will act as a surrogate to evaluate bias. The decision to not thoroughly assess bias is not believed to be of great significance to the results of this unconventional systematic review as objective binary outcomes involved in the methodology of reviews will be appraised.

Data synthesis

No statistical analysis or meta-analyses will take place.

Meta-bias(es)

There is no planned assessment of meta-bias(es).

Confidence in cumulative evidence

Not applicable.

Changes in protocol made before data analysis

Systematic reviews must include randomized control trials to meet the inclusion criteria as this is what the HOME COS was designed for. (1/11/2020)

To meet the inclusion criteria reviews must be on AD only in order to keep the workload more manageable and reviews included more focused. (1/11/2020)

Long-term will not be extracted for due to it not being sufficiently defined as a domain and it not having been defined clearly as a domain for a long time. (1/11/2020)

Inclusion dates were changed from 2007 to 2010 to make the workload manageable. (20/12/20)

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