Validation of real-life asthma research endpoints (Real-life asthma endpoint validation)

First published: 17/11/2013

Last updated: 04/06/2024

Study Finalised

Administrative details

EU PAS number

EUPAS4860

Study ID

31033

DARWIN EU® study

No

Study countries

☐ United Kingdom

Study description

The results of real-life respiratory studies often meet with challenges from peer reviewers who are unfamiliar with the described methods. Particularly problematic are real-life outcomes that refer to “asthma control,” as they differ from the traditional, validated clinical tools. Reviewers often challenge the endpoints, and composite endpoints, used in database studies in terms of their validity – are they truly are accurate reflections of the clinical reality they are attempting to measure. Usually these concerns implicitly assume (that the gold standard in outcome assessment are the measures used in prospective randomized controlled trial (RCTs), and thus request information regarding the association between real-life outcome assessments and RCT-used tools. The aim of this study is to validate a series of objective asthma control measures that have been used in published real-life respiratory research. The outcome measures will be compared to patient-reported outcomes and/or to validated RCT asthma measures (as appropriate). Where possible, their validity, responsiveness and predictive value will also be assessed and a rank order of outcomes (and possibly hierarchical modelling) will be established to aid in appropriate outcome selection for future database studies.

Study status

Finalised

Research institutions and networks

Institutions

Research in Real Life

First published: 01/02/2024

Last updated: 01/02/2024

Institution

Networks

Respiratory Effectiveness Group (REG)

- [ ] Belgium
- [ ] Denmark
- [ ] France
- [ ] Germany
- [ ] Greece
- [ ] Hungary
- [ ] Italy
- [ ] Netherlands
- [ ] Spain
- [ ] Sweden
- [ ] United Kingdom

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Network ENCePP partner

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Richard Martin

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 15/02/2013

Actual: 30/08/2013

Study start date

Planned: 01/01/2004

Actual: 31/12/2012

Date of final study report

Planned: 30/04/2013

Actual: 01/01/2018

Sources of funding

- Other

More details on funding

Respiratory Effectiveness Group, Research in Real Life

Study protocol

Endpoint validation_REG study proposal_26Feb13_FINAL_ADEPT APPROVED_30Sept13.pdf(1.53 MB)

Regulatory

Was the study required by a regulatory body?

No

Is the study required by a Risk Management Plan (RMP)?

Not applicable

Methodological aspects

Study type

Study type list

Study topic:

Disease /health condition

Study type:

Non-interventional study

Scope of the study:

Assessment of risk minimisation measure implementation or effectiveness

Disease epidemiology

Drug utilisation

Effectiveness study (incl. comparative)

Data collection methods:

Secondary use of data

Main study objective:

To validate a series of objective asthma control measures that have been used in published real-life respiratory research. The outcome measures will be compared and contrasted to patient-reported outcomes and/or gold-standard, validated asthma control tools and measures (as appropriate).

Study Design

Non-interventional study design

Other

Non-interventional study design, other

Validation study

Study drug and medical condition

Medical condition to be studied

Asthma

Population studied

Short description of the study population

Patients within the OPCRD dataset who:

(i) Either start, step-up or change maintenance ICS asthma therapy at an index prescription date (IPD) (i.e. the IPD for each eligible patient is the date at which they initiated, stepped-up or changed therapy)

(ii) Have ≥2 continuous years' practice data, including ≥1 year before the index prescription date and ≥1 year after the index prescription date

(iii) Have an asthma diagnostic code and/or receive ≥2 respiratory prescriptions in the year before IPD (baseline year) and ≥2 respiratory prescription in the year after IPD (outcome year) (i.e. ≥1 in addition to that prescribed at IPD)

(iv) Aged 5–60 years

Age groups

Children (2 to < 12 years)

Adolescents (12 to < 18 years)

Adults (18 to < 46 years)

Adults (46 to < 65 years)

Special population of interest

Other

Special population of interest, other

Asthma patients

Estimated number of subjects

66500

Study design details

Outcomes

• Risk Domain Asthma Control (RDAC): database composite measure• Overall control: RDAC+limited symptom relief • Severe exacerbation (composite based on ATS/ERS definition)• Clinical definition of exacerbation (extended version of 3)• Mediation possession ratio • Treatment success: RDAC + no use of additional therapy• Asthma/respiratory-related in patient admissions• Oral Thrush

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Data analysis plan

Where possible, and relevant, endpoints will be assessed in terms oftheir:• Validity: a measure of their clinical relevance, the extent to whichthey reflect the clinical reality of interest. Comparison against RCT tools will use ordinal logistic regression (univariate analysis) and binomial logistic regression (multivariate analyses). ROC curve analysis will aid identification of appropriate thresholds• Responsiveness: the extent to which they respond to appropriate(defined as guideline-recommended) treatment. NB: an endpoint can be valid without being responsive. Stats test: McNemar Test• "Predictiveness": the extent to which the measure is associatedwith risk of future asthma exacerbations. NB: not all endpoints would not be expected to (nor will be) predictive of future exacerbation risk. Analysis approach: multivariate analysis.Exploratory Analysis: Investigate internal consistency ofcomposite variables:o GINA Controlo RDACo OAC.

Documents

Study publications

Colice G, Chisholm A, Dima AL, Reddel HK, Burden A, Martin RJ, Brusselle G, Pop…

Data management

Data sources

Data source(s)

Optimum Patient Care Research Database

Data sources (types)

Other

Data sources (types), other

The Optimum Patient Care Research Database (OPCRD). OPCRD contains all records from primary care practices in the UK who subscribe to the Optimum Patient Care (OPC) respiratory review. The dataset consists of both routine primary care electronic patient records + patient-reported questionnaire data (for a subset of patients who completed disease-specific questionnaires as part of the review)

Use of a Common Data Model (CDM)

CDM mapping

No

Data quality specifications

Check conformance

Unknown

Check completeness

Unknown

Check stability

Unknown

Check logical consistency

Unknown

Data characterisation

Data characterisation conducted

No