Exploring differences in asthma disease severity and pathways: variation by ethnicity and socioeconomic status

First published: 28/11/2019

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Study Planned

Administrative details

EU PAS number

EUPAS32482

Study ID

32483

DARWIN EU® study

No

Study countries

☐ United Kingdom

Study description

This is a retrospective cohort study using data from English general practices registered with the OPCRD. The specific aims are to:• Explore differences in asthma severity, asthma control and asthma phenotype by ethnic and socioeconomic groups• Explore patterns of medication usage and healthcare utilisation (scheduled and unscheduled) for asthma in different ethnic and socioeconomic groups• To identify determinants of asthma severity in different ethnic and socioeconomic groups• Investigate disparities in referral patterns for patients from different ethnic and socioeconomic groups thnicity will be identified from GP ad/or HES records. Socioeconomic Status will be measured using Index of Multiple Deprivation. Asthma severity (assessed using medications), lung function, blood eosinophils, medication adherence, healthcare utilisation and specialist referral will be ascertained from GP records.Descriptive statistics will be calculated for the entire cohort and for each ethnic and socioeconomic group separately. Multivariable analysis accounting for differences in demographic and lifestyle factors (e.g. BMI, Smoking) will be conducted using appropriate regression models.

Study status

Planned

Research institutions and networks

Institutions

Queen's University Belfast

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Institution | Educational Institution

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Busby John

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 28/11/2019

Study start date

Planned: 06/01/2020

Date of final study report

Planned: 01/07/2020

Sources of funding

- Other

More details on funding

No external funding

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 type:

Non-interventional study

Scope of the study:

Disease epidemiology

Main study objective:

• Explore differences in asthma severity, control and phenotype by ethnic and socioeconomic groups• Explore patterns of medication usage and healthcare

utilisation in different ethnic and socioeconomic groups• Identify determinants of asthma severity in different ethnic and socioeconomic groups• Identify disparities in referrals for patients from different ethnic and socioeconomic groups

Study Design

Non-interventional study design

Cohort

Study drug and medical condition

Medical condition to be studied

Asthma

Population studied

Age groups

Adults (18 to < 46 years)

Adults (46 to < 65 years)

Adults (65 to < 75 years)

Adults (75 to < 85 years)

Adults (85 years and over)

Estimated number of subjects

100000

Study design details

Outcomes

Asthma severity will be ascertained using medication prescription data. Patients will be categorised according to the treatment steps described by GINA, Lung function measurementsBlood eosinophil countsHospital admissions A&E attendancesGP consultationsAsthma exacerbationsMaintenance medication adherence Time to treatment escalationTime to specialist referral

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Data analysis plan

Descriptive statistics: Descriptive statistics will be calculated for the entire cohort and separately for each ethnic and socioeconomic groupSeverity prevalence: appropriate 95% confidence intervals calculated using the multinomial distribution. Multivariable analysis will be conducted using ordinal logistic regression.Care pathways: The number of hospital admissions, A&E attendances, GP consultations and asthma exacerbations will be analysed using Poisson regression. Lung function measurements, blood eosinophil counts and the prescription possession ratio will be analysed using linear regression. Patients who have their treatment escalated following a loss of control will be investigated using logistic regression. The time between eligibility for specialist referral and attendance will be analysed using Cox regression.Unadjusted analyses and adjusted analysis (accounting for difference in demographics, lifestyle factors etc.) will be presented

Data management

Data sources

Data source(s)

Optimum Patient Care Research Database

Data source(s), other

Optimum Patient Care Research Database (OPCRD)

Data sources (types)

Electronic healthcare records (EHR)

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