Methods for controlling by indication for prescriptions: application to medications for neuropathic pain

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Last updated: 02/07/2024

Study Ongoing

Administrative details

PURI

https://redirect.ema.europa.eu/resource/43386

EU PAS number

EUPAS43385

Study ID

43386

DARWIN EU® study

No

Study countries

☐ Finland

- [ ] France
- [ ] Germany
- [ ] Italy
- [ ] Norway
- [ ] United Kingdom

Study description

A large number of different medication groups are used in the treatment of neuropathic pain including gabapentinoids. Besides neuropathic pain, these medications cover a wide range of indications from epilepsy, anxiety, depression, bipolar disorder, etc. As these conditions might carry different risks for the pregnancy, independent of the medications prescribed, it is important to be able to distinguish the reason for their prescribing. Moreover, there are limited data on the safety of use of pregabalin and gabapentin during pregnancy. The project will be divided into three parts: 1. The methodological study aims to develop a general conceptual framework to disentangle the different indications of medications in large healthcare data sources. The methodology will be developed on medications used to treat neuropathic pain. 2. Drug utilisation study aims to characterize the prescription pattern of medications used to treat neuropathic pain among women of childbearing age and pregnant women, focusing on those with limited information regarding the safety profile during pregnancy such as pregabalin and gabapentin. The cohort study will be based on at least 11 data sources, covering 6 at least European countries:France, Finland, Norway, Italy, UK, Germany (approx. 17.7 million pregnancies.) A case-malformed control study will be also performed using the Euromedicat Central database (around 10,5 million pregnancies) 3. Drug safety study aims to assess the association between prenatal exposure to neuropathic pain medications (especially pregabalin and gabapentin) and adverse pregnancy outcomes, including major congenital anomalies, stillbirth, preterm birth, low birth weight, small for gestational age, and long-term

neurodevelopmental outcomes. Women aged between 15 and 49 y, from 1 January 2006 to the most recent date of each data source where medications and outcomes data are available wll be studied.

Study status

Ongoing

Research institutions and networks

Institutions

CHU de Toulouse - Hôpital des Enfants

First published: 01/02/2024

Last updated: 01/02/2024

Institution

Pharmacoepidemiology and Drug Safety Research Group (PharmaSafe), University of Oslo

Norway

First published: 19/10/2016

Last updated: 08/11/2016

Institution | Educational Institution | ENCePP partner

Clinical Practice Research Datalink (CPRD)

United Kingdom

First published: 15/03/2010

Last updated: 17/01/2025

Institution | Laboratory/Research/Testing facility | ENCePP partner

Drugs and Pregnancy, Finnish Institute for Health and Welfare (THL)

Finland

First published: 17/03/2010

Last updated: 20/03/2024

Institution | Educational Institution | Laboratory/Research/Testing facility | ENCePP partner

Ulster University

United Kingdom (Northern Ireland)

First published: 01/02/2024

Last updated: 20/03/2024

Institution | Educational Institution

University of Bordeaux

France

First published: 01/02/2024

Last updated: 01/02/2024

Institution | Educational Institution

University of Swansea Wales, UK, University of Ferrara Emilia Romagna, Italy, EUROCAT Ulster University, UK, Institute for prevention Research and epidemiology Leipniz, Germany, University of Bordeaux Bordeaux, France

Networks

ConcepTION

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Network

Contact details

Study institution contact

Christine Damase-Michel

Study contact

christine.damase-michel@univ-tlse3.fr

Primary lead investigator

Christine Damase-Michel

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 01/04/2019

Actual: 01/04/2019

Study start date

Actual: 08/05/2021

Date of final study report

Planned: 31/03/2024

Sources of funding

- EU institutional research programme

More details on funding

IMI ConcePTION

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:

Assessment of risk minimisation measure implementation or effectiveness

Drug utilisation

Main study objective:

1. to develop a general conceptual framework to disentangle the different indications of medications in large healthcare data sources. 2.to characterize the prescription pattern of medications used to treat neuropathic pain among women of childbearing age and pregnant women 3.to assess the association between prenatal exposure to neuropathic pain medications and adverse pregnancy outcomes.

Study Design

Non-interventional study design

Case-control

Cohort

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(N03AX12) gabapentin

gabapentin

(N03AX16) pregabalin

pregabalin

Medical condition to be studied

Neuralgia

Population studied

Age groups

Adolescents (12 to < 18 years)

Adults (18 to < 46 years)

Adults (46 to < 65 years)

Special population of interest

Pregnant women

Estimated number of subjects

6800000

Study design details

Outcomes

major congenital anomalies, stillbirth, preterm birth, low birth weight, small for gestational age, long-term neurodevelopmental outcomes

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Data analysis plan

Drug utilisation study: prevalence of medications of interest prescribed among women of childbearing age and among pregnant women, stratified by age, calendar year, data sources, and indication for prescribing Drug safety study: - cohort study : comparing “exposed” and “comparison” women. The analyses will be carried out using multivariate logistic regression, and survival analysis, depending on the outcome of interest to calculate unadjusted and adjusted odds ratios (ORs) and hazard ratios (HRs), along with 95% confidence intervals (CI). Advanced confounder adjustment methods (such as propensity score methods) might be used when appropriate to further mitigate measured confounding. - case-malformed control study using data from EUROmediCAT. We will conduct an exploratory analysis in which, for each analysis, we will consider a single EUROCAT subgroup of congenital anomaly to be the “case” group, excluding those with chromosomal conditions. Logistic regression will be used.

Data management

Data sources

Data source(s)

Clinical Practice Research Datalink

EFEMERIS

German Pharmacoepidemiological Research Database

ARS Toscana

EUROmediCAT central database

SAIL Databank

Data source(s), other

CPRD, NorPD, Emilia Romagna GPs drug prescription, EFEMERIS, Drugs and Pregnancy Finland, GePaRD, ARS, EUROmediCAT, SAIL databank

Data sources (types)

Administrative healthcare records (e.g., claims)

Drug dispensing/prescription data

Other

Data sources (types), other

Exposure registry

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