

Impact of EU label changes and revised pregnancy prevention programme for medicinal products containing valproate: utilisation and prescribing trends

First published: 07/01/2020

Last updated: 04/12/2025

Study

Finalised

Administrative details

EU PAS number

EUPAS31001

Study ID

49706

DARWIN EU® study

No

Study countries

- ☐ Denmark
- ☐ Italy
- ☐ Netherlands

- ☐ Spain
 - ☐ United Kingdom
-

Study description

This study will address the research question, “What was the effect of the EU label changes and the revised pregnancy prevention programme (2018) on utilization of valproate containing medicinal products and to what extent did prescribers and patients comply with recommendations?”.

Study status

Finalised

Research institutions and networks

Institutions

Division of Pharmacoepidemiology & Clinical Pharmacology (PECP), Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht University

☐ Netherlands

First published: 01/03/2010

Last updated: 23/05/2024

Institution

Educational Institution

ENCePP partner

Electronic Health Records (EHR) Research Group, London School of Hygiene & Tropical Medicine (LSHTM)

☐ United Kingdom

First published: 19/04/2010

Last updated: 30/10/2024

Institution

Educational Institution

ENCePP partner

Fundació Institut Català de Farmacologia (FICF)

☐ Spain

First published: 29/03/2010

Last updated: 17/09/2019

Institution

Outdated

Educational Institution

Hospital/Clinic/Other health care facility

Not-for-profit

ENCePP partner

University Medical Center Utrecht (UMCU)

☐ Netherlands

First published: 24/11/2021

Last updated: 22/02/2024

Institution

Educational Institution

Hospital/Clinic/Other health care facility

ENCePP partner

The PHARMO Institute for Drug Outcomes Research (PHARMO Institute)

☐ Netherlands

First published: 07/01/2022

Last updated: 19/12/2025

Institution

Non-Pharmaceutical company

ENCePP partner

Pharmacoepidemiology Research Collaboration (PRC), University of Copenhagen

☐ Denmark

First published: 18/04/2017

Last updated: 24/03/2023

Institution

Educational Institution

ENCePP partner

Agenzia regionale di sanità della Toscana (ARS)

☐ Italy

First published: 01/02/2024

Last updated: 12/03/2024

Institution

EU Institution/Body/Agency

ENCePP partner

Agencia Española de Medicamentos y Productos Sanitarios (Spanish Agency for Medicines and Medical Devices, AEMPS)

☐ Spain

First published: 01/02/2024

Last updated: 04/09/2024

Institution

EU Institution/Body/Agency

Not-for-profit

Regulatory Authority

ENCePP partner

Networks

EU Pharmacoepidemiology and Pharmacovigilance (PE&PV) Research Network

☐ Netherlands

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Network

Contact details

Study institution contact

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Study contact

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Primary lead investigator

Olaf Klungel

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 25/02/2019

Actual: 25/02/2019

Study start date

Planned: 01/10/2020

Actual: 01/10/2020

Data analysis start date

Planned: 01/11/2020

Date of final study report

Planned: 25/02/2022

Actual: 15/08/2022

Sources of funding

- EMA

Study protocol

[Protocol Valproates V0.5 SEP2019_uploadversion.pdf](#) (971.82 KB)

[AMEND Protocol Valproates V1.1 03DEC2021.pdf](#) (1.27 MB)

Regulatory

Was the study required by a regulatory body?

Yes

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

Not applicable

Other study registration identification numbers and links

[Link to EU PE&PV website](#)

Methodological aspects

Study type

Study type list

Study topic:

Human medicinal product

Study type:

Non-interventional study

Scope of the study:

Assessment of risk minimisation measure implementation or effectiveness

Drug utilisation

Data collection methods:

Secondary use of data

Main study objective:

This study will address the research question, “What was the effect of the EU label changes and the revised pregnancy prevention programme (2018) on utilization of valproate containing medicinal products and to what extent did prescribers and patients comply with recommendations?”.

Study Design

Non-interventional study design

Cross-sectional

Study drug and medical condition

Anatomical Therapeutic Chemical (ATC) code

(N03AG01) valproic acid

valproic acid

(N03AG02) valpromide

valpromide

Population studied

Short description of the study population

Female subjects of childbearing potential aged 12-55 years using valproate-containing medicinal products identified from the data sources of Netherlands, UK, Denmark, Italy and Spain between 01 January 2010 and 21 December 2020.

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

8000000

Study design details

Outcomes

- valproate use (dispensing/prescription) (objective 1) - pregnancy test (objective 2) - contraceptive use (objective 2) - pregnancy (objective 3) - use of alternative medicines (objective 4), - reason for discontinuation of valproate (objective 1)

Data analysis plan

1. Descriptive and hypothesis testing (objectives 1 and 4) - Incidence rates and quarter-year prevalences of outcomes will be calculated. - Interrupted time series analysis will be performed to test changes in outcomes before vs. after implementation of PRAC intervention. 2. Overall evaluation (objective 5) - The results of objectives 1-4 will be summarized qualitatively.

Documents

Study results

[EUPAS31001 Summary.pdf](#) (125.72 KB)

[Lot4_Valproates_FinalReport_v3.1_SUMMARY.pdf](#) (176.83 KB)

<https://zenodo.org/records/7074588>

Study publications

[Abtahi S, Pajouheshnia R, Durán CE, Riera-Arnau J, Gamba M, Alsina E, Hoxhaj V,...](#)

[Klungel O, Sturkenboom M, Abtahi S, Pajouheshnia R, Durán Salinas C, Riera Arna...](#)

Data management

ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

This study has been awarded the ENCePP seal

Conflicts of interest of investigators

[DoIForm_v1.6 valproate klungel.pdf](#) (903.47 KB)

Composition of steering group and observers

[Information DoI and steering group EUPAS31001.pdf](#) (92 KB)

Signed code of conduct

[2019-0058_Annex 3_Compliance declaration_completed + handtekening.pdf](#)
(68.74 KB)

Signed code of conduct checklist

[2019-0058_Annex 2_CoC Checklist_completed + handtekening.pdf](#) (397.46 KB)

Signed checklist for study protocols

[2019-0058_ENCePPChecklist_Valproates_22AUG2019 FINAL.pdf](#) (165.57 KB)

Data sources

Data source(s)

Clinical Practice Research Datalink

Danish registries (access/analysis)

PHARMO Data Network

BIFAP - Base de Datos para la Investigación Farmacoepidemiológica en el
Ámbito Público (Pharmacoepidemiological Research Database for Public Health
Systems)

ARS Toscana

Data sources (types)

Administrative healthcare records (e.g., claims)

Disease registry

Electronic healthcare records (EHR)

Use of a Common Data Model (CDM)

CDM mapping

Yes

CDM Mappings

CDM name

ConcepTION CDM

CDM website

<https://www.imi-conception.eu/>

CDM release frequency

6 months

Data quality specifications

Check conformance

Yes

Check completeness

Yes

Check stability

Yes

Check logical consistency

Yes

Data characterisation

Data characterisation conducted

Yes

Data characterisation moment

after extract-transform-load to a common data model

after creation of study variables