Investigation of DNA medication passport for antidepressants in primary care.

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Investigate the effect of having CYP2C19 and CYP2D6 genotypes at start of antidepressant therapy and it’s cost-effectiveness in the primary care setting.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	Depressed mood disorders and disturbances
Study type	Observational invasive

Summary

ID

NL-OMON27432

Source
Nationaal Trial Register

Brief title
PGx-DEP

Condition

- Depressed mood disorders and disturbances

Health condition

mild to moderate depression and anxiety disorders

Research involving
Human

Sponsors and support

Primary sponsor:	Erasmus University Medical Center, Dept. Clinical Chemistry Dr. Molewaterplein 40, 3015 GD Rotterdam
Secondary sponsors:	Humo voor huisartsen, Wethouder van Eschstraat 50, 5342 AT Oss, BrabantFarmac ApothekersZorggroep, Mr.

	Goselingstraat 8 5481 BX Schijndel.
Source(s) of monetary or material Support:	CZ Wilhelminastraat 39 6131 KM Sittard

Intervention

- Other intervention

Explanation

Outcome measures

Primary outcome

The primary objective of this study is to investigate if PGx-guided treatment with antidepressants (N06A drugs) for mild to moderate depression and/or anxiety disorders is improving therapy (less stops due to inefficacy or side effects) within the first 3 months after start treatment.

Secondary outcome

The secondary objectives are:

· to monitor how often dose or drug adjustments are made after the PGx test is performed for antidepressants (exclusively analysed in intervention group)

· to assess the implications of the PGx tests for other drugs

· to assess what the consequence of PGx-guided treatment is on the trial-and-error treatment with antidepressants (N06A drug switches),

· to assess what the consequence of PGx-guided treatment is on the referral to the secondary mental health care,

· to determine if the PGx-guided antidepressants treatment before start therapy is cost-effective,

· and retrospective analysis of primary and secondary objectives in control group,

· retrospective analysis effect CYP3A4 on preterm stops, switches antidepressants and referral secondary mental health care

Study description

Background summary

Anxiety disorders as a group are the most common mental health problems, occurring in 1/5 of the Dutch population. Whereas, depression is the most frequently occurring isolated psychiatric disorder, with an incidence of 135.600 newly diagnosed individuals per year in the Netherlands [www.trimbos.nl]. The pharmacological treatment of these psychiatric disorders is characterized by low efficacy and high incidence of side effects, both resulting in the need to switch from type of antidepressant in 30% of the patients [The Swedish Council]. Ineffectiveness and adverse drug reactions are partially caused by interindividual variation in drug metabolism. Pharmacogenetic (PGx) analysis can predict this variability in drug metabolism by analysing DNA of a patient. The Royal Dutch Pharmacogenetics Working Group (KNMP) has established evidence-based genotype-guided dosing advices for over 90 drugs, which are currently available in every pharmacy in the Netherlands and clinically used. This PGx diagnostic analysis can be used before start of antidepressant therapy, to maximally benefit from the genetic information in getting patients as quickly as possible on the right medication/dosage, and are currently used to adjust dosing of clinical patients. Erasmus MC received 14,000 PGx test requests (2018, prognosis 2019: 22,000), from which 9,000 in 2018 were related to psychiatric drugs. We see a trend in requesting a full DNA passport, making that an increasing number of patients will have DNA information prior to start of drug therapy. However, there is limited information on what the effects are of this knowledge implementation. The primary care setting is a suitable environment to monitor knowledge implementation, being the effects of using PGx information at start of antidepressant therapy. Important factors that will be addressed are evidence for improved treatment in the pre-emptive setting and cost-effectiveness.

Study objective

Investigate the effect of having CYP2C19 and CYP2D6 genotypes at start of antidepressant therapy and it’s cost-effectiveness in the primary care setting.

Study design

Stepped wedge cluster randomized prospective implementation study

Intervention

pharmacogenetic test for start treatment with antidepressant

Study burden and risks

Written informed consent will be asked from all participants. Collection of buccal swab material will be performed once in all participants at start of treatment, which poses no additional risk. For participants in the intervention group, PGx outcome and advice will be

delivered prior to therapy. Material of patients in the control group will be stored at Erasmus MC and genotyped at the end of the study, so that both groups will have their DNA information (ethical aspect) and this retrospective analysis of endpoints in the control group will be possible. Participants in de intervention group will not have more visits compared to the individuals in the control group. Data will be extracted from the medical records of the patients. Information on quality of life will be collected in both allocation groups with the EQ-5d-5L questionnaire, which will performed at baseline (before start N06A drug) and 1 year after start treatment. The questionnaire will require 5 minutes per assessment (10 minutes total per participant).

Contacts

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Eligibility criteria

Age
Adults (18-64 years)
Adults (18-64 years)
Elderly (65 years and older)
Elderly (65 years and older)

Inclusion criteria

· ≥18 years

· first prescription N06A drug (no N06A prescription 1 year before start N06A drug)

· diagnosis mild to moderate depression or an anxiety disorder

Exclusion criteria

CYP2C19 and CYP2D6 pharmacogenetic diagnostics is already known, or requested for participant in the control group before end follow-up

Study design

Design

Study phase:	N/A
Study type:	Observational invasive
Intervention model:	Other
Allocation:	Randomized controlled trial
Masking:	Single blinded (masking used)
Control:	N/A , unknown
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-05-2023
Enrollment:	280
Type:	Actual

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion

Date:	04-04-2023
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL8807
Other	METC Erasmus MC : MEC-2019-0770

Study results