Automated speech analysis in psychosis

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Ethical review	Approved WMO
Status	Pending
Health condition type	Schizophrenia and other psychotic disorders
Study type	Observational non invasive

Summary

ID

NL-OMON51301

Source
ToetsingOnline

Brief title
SPEECH

Condition

- Schizophrenia and other psychotic disorders

Synonym
psychosis, schizophrenia

Research involving
Human

Sponsors and support

Primary sponsor: psychiatrie
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: psychiatry, psychosis, speech

Outcome measures

Primary outcome

Automatic quantified acoustic aspects of speech (e.g duration of pauses, changes in pitch and mean sentence lengths) and complex tests scores at the different linguistic levels phonology, semantics and syntax selected for language production and comprehension.

Secondary outcome

We will relate speech characteristics and test scores from the DIMA to the severity of positive, negative and cognitive psychosis symptoms.

Study description

Background summary

Currently, the field of psychiatry is lacking reliable biomarkers to provide reproducible information on (early) diagnosis and relapse prediction. This translates to treatment delay. In addition, relapses are difficult to predict and therefore can currently not well be prevented. Analysis of spontaneous speech can provide such a marker. Speech parameters reflect important brain functions such as motor speed (acoustic analyses), emotional status (sentiment), cognitive functioning (use of grammar/syntax), and formal thought disorder (coherence). An impairment of verbal communication is one of several diagnostic features of psychiatric disorders, including depression, psychosis and autism.
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Study objective

The aim of this study is to combine acoustic characteristics from spontaneous speech and results from tests at different linguistic levels e.g. the Diagnostic Instrument for Mild Aphasia (DIMA), to determine which aspects in speech are most indicative for psychosis.

Study design

An observational study of automatic quantified acoustic aspects of speech (e.g duration of pauses, changes in pitch and mean sentence lengths) and complex tests scores at the different linguistic levels phonology, semantics and syntax selected for language production and comprehension.

Participants have to fill in one questionnaire, and to perform two speech tasks. A psychiatrist will perform a structured interview (PANSS) to assess psychotic symptoms. The total duration the assessments will be around 75 minutes.
Potential confouders will be taken into account.

Study burden and risks

Subjects will be evaluated and provide written informed consent. The task does not cause a significant discomfort or risk for the subject. There is no direct benefit for the participant. The participant receive a financial compensation for participation.

In a recent survey, individuals with psychiatric symptoms (n=675) were positive about the implementation of automatic speech analysis (Brederoo et al., 2021). Respondents indicated a preference for speech recordings in the presence of a clinician as opposed to a recording made at home given the privacy sensitive nature of this measure.

Contacts

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Selecteer

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Scientific
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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (16-17 years)
Adults (18-64 years)

Inclusion criteria

1. All participants must give signed informed consent;
2. Participants have a psychotic disorder classified according to DSM-5;
3. Participants are 16-46 years

Exclusion criteria

1. Unable to give informed consent to all aspects of the study;
2. Unable to speak and be interviewed in Dutch;
3. Neurological comorbidities affecting speech, e.g. brain haemorrhage.

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-07-2022
Enrollment:	25

Type:	Anticipated

Ethics review

Approved WMO Date:	28-07-2022
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
CCMO	NL80809.078.22