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A pilot project exploring the utility and acceptability of a socially-assistive robot in an assessment unit for people with neuropsychiatric symptoms

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Objectives   Socially-assistive robots have been used with older adults with cognitive impairment in residential care, and found to improve mood and well-being. However, there is little known about the potential benefits in adults with other neuropsychiatric symptoms.

Aims   The aim of this project was explore the utility and acceptability of a socially-assistive robot in engaging adults with a variety of neuropsychiatric symptoms.

Methods   Betty, a socially-assistive robot was installed in a unit which specialises in the assessment and diagnosis of adults presenting with neuropsychiatric symptoms. She is 39 cm tall, has a baby-face appearance and has the ability to engage individuals through personalised services which can be programmed according to individuals' preferences. These include singing songs and playing games. Training for the nursing staff who were responsible for incorporating Betty into the unit activities was provided. The frequency, duration and type of activity which Betty was involved in was recorded. Patients admitted who could provide informed consent were able to be included in the project. These participants completed pre- and post-questionnaires.

Results   Eight patients (mean age 54.4 years, SD 13.6) who had diagnoses ranging from depression and schizophrenia participated. Types of activities included singing songs, playing Bingo and reading the news. Participants reported that they were comfortable with Betty and did not feel concerned in her presence. They enjoyed interacting with her.

Conclusions   This pilot project demonstrated that participants found Betty to be acceptable and she was useful in engaging them in activities. Future directions would involve larger sample sizes and different settings.

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Risperidone-treated children and adolescents with behavioral disorders: Do drug dose and patients' gender and age relate to drug and metabolite plasma levels?

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Introduction   Behavioral disorders, such as conduct disorder, influence choice of treatment and its outcome. Less is known about other variables that may have an influence.

Objectives/Aims   We aimed to measure the parent drug and metabolite plasma levels in risperidone-treated children and adolescents with behavioral disorders and investigate the role of drug dose and patients' gender and age.

Methods   We recruited 115 children/adolescents with DSM-5 behavioral disorders (females = 24; age range: 5–18 years) at the Departments of Psychiatry of the Hospitals of Bolzano, Italy, and Innsbruck, Austria. We measured risperidone and its metabolite 9-hydroxyrisperidone plasma levels and the parent drug-to-metabolite ratio in the plasma of all patients by using LC-MS/MS. A subsample of 15 patients had their risperidone doses measured daily. We compared risperidone and 9-hydroxyrisperidone plasma levels, as well as risperidone/9-hydroxyrisperidone ratio, in males vs. females and in younger (≤ 14 years) vs. older (15–18 years) patients by using Mann-Whitney U test. We fitted linear models for the variables "age" and "daily risperidone dose" by using log-transformation, regression analysis and applying the R2 statistic.

Results   Females had significantly higher median 9-hydroxyrisperidone plasma levels ($P = 0.000$). Younger patients had a slightly lower median risperidone/9-hydroxyrisperidone ratio ($P = 0.052$). At the regression analysis, daily risperidone doses and metabolite, rather than parent drug–plasma levels were correlated (R2 = 0.35).

Conclusions   Gender is significantly associated with plasma levels, with females being slower metabolizers than males. Concerning age, younger patients seem to be rapid metabolizers, possibly due to a higher activity of CYP2D6. R2 suggests a clear-cut elimination of the metabolite.

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Grey matter volume patterns in thalamic nuclei are associated with schizotypy in healthy subjects

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Introduction   Schizotypy refers to a set of temporally stable traits that are observed in the general population and that resemble, in attenuated form, the symptoms of schizophrenia. In a previous work, we identified volumetric patterns in thalamic subregions which were associated with disease status, and trained a random forests classifier, accounting for such thalamic volumetric patterns, that discriminated healthy controls (HC) from patients with schizophrenia (SCZ) (81% accuracy) [1].

Objectives   i) to assess performance of random forests classifier developed by Pergola and coworkers [1], in an independent sample of healthy subjects; ii) to test whether false positives (FP), i.e. HC classified as SCZ based on such classifier would be associated with greater schizotypy compared with true negatives (TN), i.e. HC classified as such.

Methods   A total of 167 HC participated in the MRI study and filled the Schizotypal Personality Questionnaire (SPQ). We pre-processed MRI data with SPM8 and DARTEL. Then, we used thalamic grey matter volumes (GMV) as features in the random forests prediction of disease status at the single subject level. Finally, we tested SPQ scores differences between FP and TN with Mann-Whitney test.

Results   The classification accuracy was 71%. FP had greater SPQ scores compared to TN ($P = 0.007$).

Conclusions   Classification accuracy of our classifier in an independent sample suggests that thalamic GMV patterns are reproducible markers of disease status. Furthermore, the present results also suggest that variability of thalamic GMV patterns in HC may have relevance for subclinical phenotypes related to schizophrenia spectrum.

Disclosure of interest   The authors have not supplied their declaration of competing interest.

Reference

[1] Pergola et al. in press. Schizophr. Res. DOI: 10.1016/j.schres. 2016.07.005.

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The impact of relapses in acute schizophrenia's clinical outcome: A descriptive cross-sectional analysis

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Introduction   Recent studies suggest that most of schizophrenia's first-episode patients have the potential for long-term remission. Conversely, some meta-analysis estimate the actual median recovery rate to be 13.5% [1]. Relapses may contribute to the emergence of increased morbidity and treatment resistance.

Objectives   To evaluate possible relationships between the numbers of previous admissions, years of diagnosed disease and hospitalization length.

Methods   A cross-sectional retrospective study on all patients ($n = 202$, 150 men and 52 women) admitted at an acute inpatient unit throughout the year of 2015, diagnosed with schizophrenia (ICD-9, 295). Collection of socio-demographic data, number of previous admissions (PA), years of diagnosed disease (YDD) and hospitalization length (HL). Descriptive statistical analysis, Spearman rank correlation and Mann-Whitney U test.

Results   Overall, the sample's mean age was 44.3 years old (std 12.7), being lower in men (42.5 versus 49.7). The average of admissions was 1.2 per year. PA and YDD were significantly associated ($P < 0.0001$). Contrarily, there was no statistical association between the number of PA and HL ($P > 0.1$), as well as between YDD and HL ($P > 0.1$) was found.

Conclusion   This study provides additional evidence for schizophrenia's early onset in men. There seems to be no association between relapses and treatment resistance, considering PA, YDD and HL as valuable soft outcomes. Future understanding of

relapses' pathophysiological mechanisms is warranted in order to explain schizophrenia's low median recovery rate.

Disclosure of interest   The authors have not supplied their declaration of competing interest.

Reference

[1] Catts SV, O'Toole BI. The treatment of schizophrenia: can we raise the standard of care? Aust N Z J Psychiatry 2016;50:1128–38.

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Functioning in schizophrenia: Similarities and differences between clinical, patient and expert perspectives

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Introduction   In 2001, the World Health Organization (WHO) created the International Classification of Functioning, Disability and Health (ICF) to offer a comprehensive and universally accepted framework to describe functioning, disability and health. The ICF Core Sets (ICF-CS) are a selection of categories that serve as a minimal standard for the assessment of functioning and disability in a specific health condition. The ICF-CS for schizophrenia was created in 2015 based on four preliminary studies that intend to capture different perspectives.

Objectives   The aim of this study is to describe the similarities (i.e. overlap) and discrepancies (i.e. unique contribution) between the clinical, patient and expert perspectives on the most relevant problems in functioning of individuals with schizophrenia, being focused on the European WHO region.

Methods   Forty-four experts from 14 European countries participated in an expert survey, patients with schizophrenia were involved in four focus groups, and health professionals assessed 127 patients in relation to daily life functioning. Information gathered from these three preliminary studies was linked to the ICF.

Results   Data showed that although a considerable number of second-level ICF categories agreed on the three preparatory studies ($n = 54$, 27.7%), each perspective provided a unique set of ICF categories. Specifically, experts reported 65 unique ICF categories, patients 23 and health professionals 11.

Conclusions   Even though there were similarities between perspectives, each one underlined different areas of functioning, showing the importance of including different perspectives in order to get a complete view of functioning and disability in individuals with schizophrenia.

Disclosure of interest   The authors have not supplied their declaration of competing interest.

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