Symposium | Psychopharmacology：[Symposium 49] Cultural Psychopharmacology: Integrating Genetics, Ethnicity, and Global Perspectives

Fri. Sep 26, 2025 4:30 PM - 6:00 PM JST | Fri. Sep 26, 2025 7:30 AM - 9:00 AM UTC Session Room 3 (Large Hall A)

[Symposium 49] Cultural Psychopharmacology: Integrating Genetics, Ethnicity, and Global Perspectives

Moderator: Kazutaka Shimoda (Tochigi Prefectural Okamotodai Hospital)

[SY-49]

Cultural Psychopharmacology: Integrating Genetics, Ethnicity, and Global Perspectives

Itsuo Asai[1], Mario Braakman[2], Ahmad Hatim bin Hatim[3] (1. Heart Clinic Medical Corporation (Japan), 2. Tilburg University (Netherlands), 3. University of Malaya (Malaysia))

[SY-49-01]

CYP2D6 Genotype, BMI, and Culture: Rethinking Antipsychotic Dosing Across the U.S., China, and Japan

*Itsuo Asai[1] (1. Heart Clinic Medical Corporation (Japan))

[SY-49-02]

Ethnicity and psychopharmacology: an overview

*Mario Hubertus Braakman[1] (1. Tilburg University, the Netherlands (Netherlands))

[SY-49-03]

The Prevalence of Tardive Dyskinesia in Patients with Schizophrenia Treated with Antipsychotics in Malaysia

*Ahmad Hatim Sulaiman[1] (1. Universiti Malaya (Malaysia))

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Keywords：Pharmacogenetics、Psychotropic Drugs、Ethnic Groups、Tardive Dyskinesia、Cross-Cultural Comparison

Cultural psychopharmacology, an emerging field at the intersection of psychiatry, pharmacogenomics, and anthropology, aims to understand how genetic and cultural factors together influence patients' responses to psychotropic medications. This symposium offers an integrated perspective covering historical roots, comparative studies, and clinical results.

Prof. Mario Braakman (Tilburg University, Netherlands), with decades of experience in psychiatry and psychopharmacology, will start with a historical and conceptual overview. He will highlight key milestones in recognizing cultural diversity in treatment responses and place cultural psychopharmacology within the broader evolution of biological psychiatry.

Dr. Itsuo Asai (Heart Clinic Medical Corporation, Japan) will share comparative findings on CYP2D6 polymorphisms, culturally influenced prescribing practices, and BMI-related dose adjustments in antipsychotics across the U.S., China, and Japan. His analysis emphasizes how genetic metabolism, cultural prescribing norms, and patient body composition interact to shape real-world treatment practices and outcomes.

Prof. Ahmad Hatim Sulaiman from Universiti Malaya, Malaysia, will present his original research on tardive dyskinesia (TD) among schizophrenia patients in Malaysia. His findings show that ethnicity and treatment duration are significant predictors of TD risk, highlighting the need for ethnically sensitive pharmacovigilance in psychopharmacology.

Together, these presentations demonstrate how biology "loads the gun," while culture "pulls the trigger." By integrating genetics, BMI, and cultural context, cultural psychopharmacology seeks to advance safer, more effective, and culturally sensitive psychiatric care worldwide.

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[SY-49-01] CYP2D6 Genotype, BMI, and Culture: Rethinking Antipsychotic Dosing Across the U.S., China, and Japan

*Itsuo Asai[1] (1. Heart Clinic Medical Corporation (Japan))

Keywords：Pharmacogenomics、CYP2D6 polymorphism、Antipsychotic dosing、Cultural psychiatry、Precision medicine

Background:
Antipsychotic dosing typically targets about 78% D2 receptor occupancy to balance effectiveness with side effects. However, average prescribed doses vary widely between countries, making explanations based solely on pharmacokinetics difficult.
Objective:
To investigate how CYP2D6 genotypes, BMI, and cultural prescribing practices together affect antipsychotic dosing in the United States, China, and Japan.
Methods:
Published CYP2D6 metabolizer distributions (Gaedigk et al., CPIC 2017) were combined with average BMI data (WHO Global Database) to estimate the chlorpromazine (CPZ)-equivalent doses required to achieve target D2 occupancy. Calculations included adjustments for enzyme activity and BMI-based volume of distribution models. Actual national averages were derived from large-scale studies involving over 15,000 patients combined (Leucht et al., 2014; Zhang et al., 2013; Inada et al., 2015).
Results:
Predicted mean CPZ equivalents were 400 mg (U.S.), 252 mg (China), and 268 mg (Japan). However, actual averages were significantly higher: 400 mg (U.S.), 452 mg (China, +200 mg vs. predicted), and 675 mg (Japan, +407 mg). Biological factors (CYP2D6 + BMI) explained about 38% of the total dose variation (variance estimate based on comparative multi-factor models), with the remainder shaped by systemic, institutional, and cultural factors.
Conclusion:
Antipsychotic dosing cannot be determined solely by pharmacokinetics. Japan’s emphasis on long-term hospitalization and physician autonomy, China’s rapid stabilization pressures in urban outpatient settings, and the U.S.’s cautious, litigation-sensitive approach show how local treatment philosophies and healthcare systems take precedence over biological expectations.Implications:
These findings highlight the need for developing culturally sensitive and contextually appropriate pharmacogenomic guidelines. Precision psychiatry should go beyond receptor occupancy by integrating systems thinking and local values. Including non-D2

mechanisms and digital phenotyping may further enhance culturally sensitive, patient-centered models of global mental health care.

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[SY-49-02] Ethnicity and psychopharmacology: an overview

*Mario Hubertus Braakman[1] (1. Tilburg University, the Netherlands (Netherlands))
Keywords：Pharmacology、cross-cultural、Psychopharmacology、Ethnicity

This introductory presentation will give the audience a historical overview of 50 years of research in the area of ethnopsychopharmacology. The classic pharmacological studies will be presented and the main phases of the research characteristics in this field. Also the main theorectical concepts and problems will be elicidated as well as solutions. We will end with the new challenges that lie ahead.

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[SY-49-03] The Prevalence of Tardive Dyskinesia in Patients with Schizophrenia Treated with Antipsychotics in Malaysia

*Ahmad Hatim Sulaiman[1] (1. Universiti Malaya (Malaysia))

Keywords：Tardive Dyskinesia、Antipsychotics、Schizophrenia、Psychopharmacology

The prevalence of TD varies widely from 20% to 50%, but is often undetected in schizophrenia patients treated with antipsychotics. This study is aimed at investigating the prevalence of TD among schizophrenia patients treated with antipsychotics and identifying the associated factors. This study also examines the association of TD with personal and social functioning performance, illness severity, and ethnicity.
Methods: This was a cross-sectional study conducted at a teaching hospital in Malaysia. Patients were assessed using the Abnormal Involuntary Movement Scale (AIMS), Personal and Social Performance Scale (PSP), and the Clinical Global Impression Scale (CGI).
Results: Seventy-eight patients were recruited in this study. The prevalence of TD was 35.9%. Older age (OR 4.079, p = 0.006), Chinese ethnicity (OR 4.486, p = 0.020), longer duration of schizophrenia and antipsychotic treatment (OR 5.312, p = 0.001 and OR 5.500, p = 0.002, respectively) were also significantly associated with TD. TD patients notably demonstrated severe impairments in the self-care domain (71.4%). The presence of TD is associated with more severe overall clinical impairment (53.6%).
Conclusion: TD remains a prevalent and concerning side effect of antipsychotic treatment in schizophrenia patients. Genetics and ethnicity may play a role.