Symposium

2025年9月27日(土) 9:00 ~ 10:30 Session Room 4 (Large Hall B)

[Symposium 57] Perception and stigma, trans-ethnic genetics, virtual reality treatment of anxiety disorder, and Hyperemesis Gravidarum

Moderator: Kazuo Yamada (Toyo Eiwa University)

[SY-57]

Perception and stigma, trans-ethnic genetics, virtual reality treatment of anxiety disorder, and Hyperemesis Gravidarum

Tsuyoshi Akiyama[1], Yong-Wook Shin[2], Kazutaka Ohi[3], Junhyung Kim[4], Wan Asyikin[5]
(1.Rokubancho Mental Clinic(Japan), 2.University of Ulsan(Korea), 3.Gifu University(Japan), 4.Kangbuk Samsung Hospital (Korea), 5.Hospital Permai(Malaysia))

[SY-57-01]

Breaking the Stigma: Cultural Norms, Celebrities, and Social Media

*Yong-Wook Shin (Department of Psychiatry, Asan Medical Center(Korea))

[SY-57-02]

Transethnic Genetic Etiology of Panic Disorder: Approaches Using Polygenic Scores and Their Machine Learning-Based Classification

*Kazutaka Ohi[1], Takeshi Otowa[2], Hisanobu Kaiya[3], Tsukasa Sasaki[4], Hisashi Tanii[5], Toshiki Shioiri[1] (1.Department of Psychiatry, Gifu University Graduate School of Medicine(Japan), 2.Department of Psychiatry, Teikyo University(Japan), 3.Panic Disorder Research Center, Warakukai Medical Corporation(Japan), 4.Department of Physical and Health Education, Graduate School of Education, The University of Tokyo(Japan), 5.Center for Physical and Mental Health, Mie University(Japan))

[SY-57-03]

Enhancing Early Treatment Response Prediction in Panic Disorder Using a Virtual Reality-Based Assessment Tool: Integrating Multimodal Indicators with Machine Learning

*Junhuyng Kim (Department of psychiatry, Samsung kangbuk Hospital, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea(Korea))

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キーワード：Anxiety disorder、Stigma、Trans-ethnic genetics、Virtual reality treatment

Anxiety disorder places a substantial burden on both individuals and society. Despite its impact, an understanding of the disorder is still limited, and various debates remain. The purpose of this symposium is to highlight a few outstanding issues related to anxiety disorders. Yong-Wook Shin examines how the evolving role of social media networks is influencing public perceptions of anxiety, contributing to changing stigma dynamics, and ultimately impacting the prevalence and treatment of anxiety disorders in Eastern and Western societies. In recent years, social platforms have become spaces for increased mental health advocacy, creating both opportunities for support and visibility as well as challenges related to misinformation and online harassment. Kazutaka Ohi reports genetic studies on anxiety disorders, with a focus on trans-ethnic genetic backgrounds between Asian and European populations. Despite cultural and genetic differences between these populations, anxiety disorders in Asian population shares transethnic genetic etiologies with anxiety disorders as well as other psychiatric disorders and related intermediate phenotypes in European population. Junhyung Kim presents the development of a novel assessment method for anxiety disorders and a predictive model for treatment response utilizing virtual reality (VR) technology. Virtual reality is a promising supplemental or alternative approach for treating anxiety disorders. Focusing on the unique affordances of VR, such as immersive therapeutic settings and uniform treatment delivery, both the current applications and future potential of VR technology in treating and assessing anxiety disorders will be explored. Wan Asyikin reports a study done in a tertiary center hospital in Malaysia. The focus of this study was anxiety, depression, and marital satisfaction in Hyperemesis Gravidarum. There was no association between Hyperemesis Gravidarum (HG) and anxiety disorder, depressive disorder, and marital satisfaction.

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[SY-57-01] Breaking the Stigma: Cultural Norms, Celebrities, and Social Media

*Yong-Wook Shin (Department of Psychiatry, Asan Medical Center(Korea))
キーワード：Stigma、Celebrities、Cultural Norms、Social Media

This study examines cultural differences in the prevalence and perception of anxiety disorders across Eastern and Western societies, focusing on the role of traditional stigma and the transformative influence of digital platforms and public figures. Epidemiological studies show that lifetime rates of anxiety and depression in Western countries are four to ten times higher than those in many Asian nations, despite often greater social stress in Eastern populations. One explanation lies in cultural norms that discourage open discussion of mental health in many Eastern societies, contributing to underreporting and misdiagnosis. The rise of social media has begun to challenge these norms. Online platforms allow individuals to share mental health experiences—often anonymously—thereby reducing stigma and encouraging help-seeking behaviors. Notably, public disclosures by celebrities and influencers about their mental health struggles have further helped normalize conversations and mobilize supportive communities. However, these platforms also pose new risks. The rapid spread of misinformation, symptom normalization, and online harassment can distort public understanding of anxiety disorders and compromise care-seeking decisions. Healthcare professionals must critically evaluate the digital mental health landscape and promote accurate, culturally relevant information. This work highlights the urgent need for culturally sensitive interventions that integrate awareness of evolving digital behaviors and public narratives. Building mental health systems that bridge traditional and digital contexts is essential to ensuring equitable and effective care across diverse populations.

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Moderator: Kazuo Yamada (Toyo Eiwa University)

[SY-57-02] Transethnic Genetic Etiology of Panic Disorder: Approaches Using Polygenic Scores and Their Machine Learning-Based Classification

*Kazutaka Ohi[1], Takeshi Otowa[2], Hisanobu Kaiya[3], Tsukasa Sasaki[4], Hisashi Tanii[5], Toshiki Shioiri[1] (1.Department of Psychiatry, Gifu University Graduate School of Medicine(Japan), 2.Department of Psychiatry, Teikyo University(Japan), 3.Panic Disorder Research Center, Warakukai Medical Corporation(Japan), 4.Department of Physical and Health Education, Graduate School of Education, The University of Tokyo(Japan), 5.Center for Physical and Mental Health, Mie University(Japan))

キーワード：Panic disorder、Polygenic score、Machine Learning

Panic disorder (PD), one of the core anxiety disorders, is modestly heritable worldwide despite cultural differences across countries. The genetic basis of anxiety disorders overlaps with that of other psychiatric disorders, such as major depressive disorder (MDD), as well as with intermediate phenotypes such as neuroticism, particularly in individuals of European ancestry. First, we have comprehensively investigated the transethnic polygenetic features shared between European individuals with psychiatric disorders and their intermediate phenotypes and Japanese individuals with PD [718 PD and 1,717 healthy controls(HCs)] using several polygenic scores (PGSs) derived from large-scale genome-wide association studies. Second, we have examined whether individuals with PD could be reliably diagnosed by utilizing combinations of multiple PGSs-up to 48- for psychiatric disorders and their intermediate phenotypes, compared with single PGS approaches, using specific machine learning classifiers: logistic regression, neural networks, quadratic discriminant analysis, random forests, and support vector machines. Our results demonstrated that PGSs derived from European studies of anxiety disorders and MDD were associated with PD in the Japanese populations. Among intermediate phenotypes, PGSs for loneliness, neuroticism, and lower cognitive function were also associated with Japanese PD individuals. All five classifiers performed relatively well in distinguishing PD individuals from HCs, with classification accuracy improving as the number of PGSs increased. The greatest areas under the curve at the best PGS combination significantly differed among the five classifiers. Notably, random forests exhibited the lowest accuracy, while support vector machines had higher accuracy than neural networks in classification performance. Our findings suggest that PD shares transethnic genetic etiologies with other psychiatric disorders and related intermediate phenotypes. Moreover, increasing the number of PGS, up to approximately 10, effectively improved the classification accuracy. Among the classifiers tested, support vector machines exhibited the highest accuracy. However, the overall classification accuracy of PD based solely on PGS combinations remained modest.

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[SY-57-03] Enhancing Early Treatment Response Prediction in Panic Disorder Using a Virtual Reality-Based Assessment Tool: Integrating Multimodal Indicators with Machine Learning

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キーワード：virtual reality、panic disorder、early treatment response、machine learning

Background: Early treatment response (ETR) is a robust predictor of long-term outcomes in anxiety disorders, including panic disorder (PD). However, conventional assessments may lack ecological validity and sensitivity to early psychophysiological changes, limiting their utility in real-world clinical settings. **Objective:** We aimed to evaluate the predictive potential of the *Virtual Reality Assessment of Panic Disorder (VRA-PD)*—a novel VR-based tool capturing subjective and physiological responses during anxiety-provoking scenarios—for identifying ETR in patients with PD. **Methods:** Fifty-two individuals (25 PD patients and 27 healthy controls [HCs]) completed assessments every two months for six months. Measures included VR-based anxiety scores, heart rate variability (HRV), conventional clinical scales (e.g., Panic Disorder Severity Scale, Anxiety Sensitivity Index), and demographic variables. PD patients were categorized as early responders (ER, n = 7) or delayed responders (DR, n = 18) based on symptom change trajectories. **Results:** A CatBoost machine learning model incorporating both VR-based and conventional features showed improved performance in classifying ER, DR, and HCs (accuracy: 85%, F1-score: 0.71), outperforming models using only conventional (accuracy: 77%, F1-score: 0.56) or VR-only (accuracy: 75%, F1-score: 0.64) data. Performance further improved when restricted to the top 10 predictors identified by SHapley Additive exPlanations (accuracy: 90%, F1-score: 0.83). Key features included VR-based anxiety responses, HRV indices, and clinical severity ratings. **Conclusions:** The integration of immersive VR-based assessment and machine learning enables accurate ETR prediction in PD, addressing key limitations of conventional methods. These findings support the clinical utility of digital phenotyping and VR technologies in developing personalized, ecologically valid treatment strategies in anxiety disorders.