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General Summary

Our research activities cover a wide range of topics: disorders at the psychological and biologic levels, from childhood and adolescence, through adulthood, to the senile period. Sociologic, psychological, physiologic, and biochemical methods were used.

Research Activities

Psychopathology, psychotherapy and child study group

We have performed research in psychotherapy, psychopathology, and child psychiatry. Our child psychiatry group has investigated care systems for developmental disorders in the psychiatry unit. The treatment of children and adolescents with psychiatric disorders has been limited to a few specialized facilities in Japan. However, cases of psychiatric disorders among children have become common in general outpatient units. Thus, such cases should also be treated in general psychiatric inpatient units. However, the treatment of such cases requires particular strategies. Therefore, since 2000, we have been investigating various treatment strategies for 156 cases in general psychiatric inpatient units. On the basis of observations from this investigation, we have devised new treatment strategies for these cases in general psychiatric inpatient units.

We then began to study the attention problems of developmental disorders and psychotic disorders. This study found that the quality of attention was maintained more in autistic spectrum disorders than in schizophrenia but also found that when many tasks were added, the quality of attention tended to decrease. In the field of psychotherapy, we attempted to develop a prototype of dialectical behavior therapy for Japanese patients. The functional levels of patients with autism spectrum disorder (ASD) without intellectual disability (ID) are extremely diverse. Therefore, methods to implement simple psychotherapeutic approaches on an outpatient basis for ASD without ID are needed. We have, therefore, developed The Jikei Diary Training for ASD as a therapeutic approach for people who have ASD without ID.

Morita therapy group

In cooperation with psychotherapists of other schools for such treatments activities as cognitive-behavioral therapy and psychoanalysis, we have been developing programs and materials to train young psychiatrists to master the basic techniques of the clinical interview. We undertook practical research towards obsessive-compulsive disease with ASD.

We started practical research towards the application of Morita therapy to adolescent patients and patients with *hikikomori* (withdrawal). In addition, we continued the following studies: the psychopathology of social anxiety disorders, factors in the recovery of patients with depression through inpatient Morita therapy, and the application of Morita therapy in the field of palliative medicine.

Psychopharmacology group

In basic research, we performed the following studies in rodents: 1) effect of novel psychotropic on monoamine neurotransmission using microdialysis and radioimmunoassay technique, 2) formation mechanism of drug addiction, 3) neural basis of addiction-related impulsivity, and 4) development of a novel anticraving agent (the final 3 subjects were performed in collaboration with the NTT Communication Science Laboratories and the Department of Psychology, Senshu University). In clinical research, we performed the following studies in humans: 1) the developmental and the psychological and social predictors of recovery in patients with schizophrenia study, 2) effects of antipsychotics on dopamine transporter binding using positron emission tomography, 3) regulation of the salience network with antipsychotic agents via dopamine D2/3 receptors, 4) qualitative research on adherence in patients with schizophrenia, 5) the effect of modified electroconvulsive therapy on regulatory factors for gene expression, and 6) symptomatology in menstruation-related mental disorders, atypical psychosis, and acute psychosis. Integration between basic and clinical research is a fundamental concept of the Psychopharmacology group.

Psychophysiology group

Our studies included: 1) a study of changes in sleep structures and cognitive function with the menstrual cycle by means of the cyclic alternating pattern method, 2) empirical research regarding the efficacy of group cognitive behavioral therapy for primary insomnia and depression, 3) clinical research with the multiple sleep latency test of hypersomnias of central origin, and 4) an investigation of biomarkers of fatigue for obstructive sleep apnea syndrome.

Psychogeriatric group

We are performing several studies investigating the neural basis of neuropsychiatric symptoms and social function in patients with neurodegenerative disorders and other psychiatric disorders among elderly persons using neuropsychological evaluation and neuroimaging methods, such as brain magnetic resonance imaging and single-photon emission computed tomography. One study focused on the compensation mechanism for anosognosia in Alzheimer's disease (AD) and investigated the neural correlates of anosognosia in AD. We found that anosognosia in AD could be correlated for with executive dysfunction and functional compensation through the semantic memory system. Another study focused on the effect of DNA methylation on the pathogenesis of AD. Our results suggest that DNA methylation in the non-SMC condensin II complex subunit H2 gene (*NCAPH2*)/lipase maturation factor 2 gene (*LMF2*) promoter region can be a useful biomarker for the diagnosis of AD and amnesic mild cognitive impairment, which is associ-

ated with hippocampal atrophy through apoptosis. We are planning to perform a longitudinal study and investigate further effects of these symptoms on the daily lives of patients and the burden on caregivers.

General hospital psychiatry group

In a study of interventional therapy based on cognitive-behavioral therapy aimed at preventing recurrences of depression, a computer system and sleep evaluation methods were introduced in addition to a previous evaluation system for more effective presentations and for more precise estimation, respectively. Furthermore, an investigation of new indications for this intervention for atypical depression, bipolar depression, and insomnia was performed. Another study investigated the issues associated with mental care services for patients with digestive tract cancers.

Clinical electroencephalography group

We attempted an interpretation based on the Neojacksonism theory of Henri Ey about cases that presented with psychotic symptoms associated with epilepsy. Furthermore we reported changes in serum concentrations of antiepileptic drugs (especially new ones) during pregnancy of epileptic patients. A study was performed to prevent the recurrence of depression in patients with epilepsy. We examined the safety and efficacy of psychotropic drugs in several forms of psychosis associated with epilepsy.

Clinical psychology group

We have continued to discuss and study psychotherapeutic processes and the treatment techniques of cognitive behavior therapy, Morita therapy, relief care, psycho-oncology, and social skill training. We have also examined the characteristics of developmental disorders and higher brain dysfunctions through psychological assessments. We invited Dr. Satoshi Yoshimura to an annual conference to give a talk entitled "Understanding developmental disorders and mental disorders - approach through the Rorschach test." Then we discussed how to assess them. Furthermore, we trained graduate students of a clinical psychological course.

Publications

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