

YOUNG PSYCHIATRIST SESSION 1

YP01-01 (OE-1203) | Cognitive function, serum apolipoprotein A1 and apolipoprotein B levels, and apolipoprotein E variant rs429358 in patients with schizophrenia and normal controls
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Purpose: This study aimed to examine whether the ApoE polymorphism rs429358 affects cognitive function of patients with schizophrenia and to explore the relationship between serum apolipoproteins levels and cognitive function in schizophrenia patients.

Materials and method: A total of 637 patients with schizophrenia and 467 healthy controls were recruited. A well-designed questionnaire was used to collect demographic and clinical information of the participants. The Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) were employed to evaluate the cognition of the participants. ApoE polymorphism rs429358 was genotyped and the serum ApoA1 and ApoB levels were measured.

Results: Except for the visuospatial/constructional index, all RBANS total and its domain scores were significantly lower in patients than those in healthy controls ($p < 0.001$). The ApoA1 level was correlated with the RBANS total score ($r = 0.287$, $P < 0.001$) and all domain scores ($P < 0.05$), while the ApoB level was only correlated with the RBANS total score ($r = 0.175$, $P = 0.011$), immediate memory ($r = 0.161$, $P = 0.019$), language ($r = 0.171$, $P = 0.013$) and attention ($r = 0.334$, $P < 0.001$). ApoA1 levels were predictors for RBANS total score ($t = 4.359$, $p < 0.001$), immediate memory ($t = 3.790$, $p < 0.001$), language ($t = 4.924$, $p < 0.001$), attention ($t = 4.925$, $p < 0.001$), visuospatial/constructional ($t = 2.474$, $p = 0.014$) and delayed memory domains ($t = 2.934$, $p < 0.001$) and ApoB levels also were predictors for RBANS total score ($t = 2.574$, $p = 0.011$), immediate memory ($t = 2.357$, $p = 0.019$), language ($t = 2.517$, $p = 0.013$) and attention ($t = 5.120$, $p < 0.001$). When the association was examined in different ApoE polymorphism rs429358 genotype subgroups, the association between serum ApoA1 level and RBANS scores (except for the language score) or between serum ApoB level and RBANS scores (except for the attention score) were dependent on ApoE rs429358.

Conclusion: This study found that patients with schizophrenia had poorer cognitive function than the healthy controls. The levels of ApoA1 and ApoB levels were positively associated with cognitive function. The

association between higher ApoA1, ApoB levels and cognition in schizophrenia depends on the ApoE polymorphism rs429358.

YP01-02 (OP-1061) | Stay connected- COVID-19 in the context of psychiatry
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Purpose: Since the COVID-19 outbreak has devastated the world, in 2019 over 60 000 in Korea, and globally more than 80 million people were infected. The Korean government has recommended environmental protective measures to protect from the COVID-19. But, above all, "social distancing" intervention that restricts human contact has been the most critical factor of implementation.

Materials and method: Nevertheless, the "physical distancing" campaign, unfortunately, exacerbates the previously diagnosed mental illness, and even gives rise to anxiety, depression, and fear among general people. Thus, in times of the COVID-19, psychiatrists are responsible to address the current status, give shape to the fear and seek a psychiatric solution to overcome the crisis.

Results: Due to the "social distancing" implementation, schools and various businesses have been forced to close for indeterminable periods. Economic uncertainty and burden triggered the anxiety and depression and even led to a psychiatric emergency including suicidal ideation and attempt. People become unable to access community and activity including religious service. Thus, decreased social connections and supports serve as an additional stressor. Family with high of expressed emotion being forced to stay at home may intensify conflict. Furthermore, marginalized populations suffered from severe mental illness are exposed to the danger of psychiatric aggravation without appropriate psychosocial treatments. Psychiatrists should proactively screen the risk factors by subdividing the psychosocially affected suggested by the Italian mental health department. They are varied from the general population affected by restrictive measures to people subjected to quarantine because of contact with an infected person. The management of each subgroup should be different.

Conclusion: Clinicians should not only be wary of the possible future interaction between psychopharmacological treatment and COVID-19 medication, but also the limited access to the healthcare service. To meet the demands of the times, psychiatric clinicians should also strategically rethink the telepsychiatry as a transforming opportunity risen from COVID-19.

YP01-03 (OE-1016) | Disruption of cerebro-cerebellar white matter connectivity and its association with executive function in patients with schizophrenia

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Purpose: The “cognitive dysmetria” theory focusing on the disintegration of cerebro-cerebellar circuitry provides a clue for disclosing the pathogenesis of schizophrenia. Neuroimaging evidence has suggested that the cerebellum plays a pivotal role in coordinating higher cognitive functions through intense communication with the cerebrum. Therefore, white matter connectivity between the cerebrum and cerebellum is worth of investigation in relation to neurocognitive function in patient with schizophrenia.

Materials and method: Sixty-five patients with schizophrenia and forty-seven healthy controls (HCs) were enrolled in this study. Voxel-wise comparison analysis of cerebellar white matter regions between patients with schizophrenia and HCs were performed using Tract Based Spatial Statistics. Neurocognitive function was assessed using the Wisconsin Card Sorting Test (WCST) and Wechsler Memory Scale in patients with schizophrenia. The relationships between cerebro-cerebellar white matter fractional anisotropy (FA) and neurocognitive performance were explored using correlation analysis.

Results: A voxel-wise comparison revealed that white matter connectivity was significantly lower in the middle cerebellar peduncle (MCP) in patients with schizophrenia compared to HCs (mean FA: SPR = 0.66 ± 0.09 , HCs = 0.72 ± 0.09 ; threshold-free cluster enhancement-corrected, $p < 0.05$). Exploratory correlation analysis showed that increased MCP FAs were associated with poorer executive function measured by the WCST in patients with schizophrenia (total error: $r = 0.442$, $p = 0.003$; perseverative response: $r = 0.312$, $p = 0.041$; perseverative error: $r = 0.336$, $p = 0.027$; non-perseverative error: $r = 0.370$, $p = 0.014$; conceptual-level response: $r = -0.395$, $p = 0.009$). No correlation was found with memory performance ($r = -0.139$, $p = 0.379$).

Conclusion: This study suggests that disrupted cerebro-cerebellar connectivity may contribute to abnormal executive function in patients with schizophrenia. The inverse association between MCP FAs and executive function may reflect that patients with schizophrenia had dysfunctional cerebro-cerebellar white matter wiring, which disrupts normal cognitive processing. We expect that our findings could provide the neurobiological evidence regarding the coordinating role of the cerebellum in higher cognitive function in schizophrenia.

YP01-04 (OE-1088) | Effects of depression, anxiety stress (DASS21) and disgusting sensitivity (DS-R) on attitudes of marginalized groups following the COVID-19 outbreak

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Purpose: This study examines the effects of the mental health (depression, anxiety, and stress) and disgust sensitivity of the general population in the COVID-19 epidemic situation, on the negative perception of specific groups related to COVID-19, and the correlations and mediating effects between factors.

Materials and method: We used *The 2020 COVID 19-related National Hate Survey Data* (previously collected data from Dong-A Science Cop.). We systematically analyzed the impact on mental health and disgust sensitivity by the general population and social subgroups, and awareness of specific groups related to COVID-19.

This data was collected from 1,000 general citizens of the Republic of Korea during November 18-20, 2020. Participants was aged 18 years or older and proportionally distributed by gender, age group, and district. Participants were asked attitudes toward specific groups related to COVID-19 (Chinese people, citizens of Daegu, foreigners, *Shincheonji* church members, attendance of *Taegeukgi* demonstration), specifically their likelihood, reliability, distance, influence on the spread of COVID-19, and emotional temperature. And they were also asked of hate sensitivity, depression, anxiety, stress levels and demographic and social status.

Method: Disgust sensitivity and depressive anxiety stress level were set as independent variables, demographic variables were set as control variables, and attitudes toward COVID19-related stigmatized groups were set as dependent variables.

In addition to the direct effects of aversion sensitivity, depression, anxiety, or stress on the attitude toward the stigmatized groups, the mediating effect between each variable was investigated.

Results: Disgust sensitivity was significantly correlated with attitudes toward the stigmatized groups related to COVID19.

Overall, it was confirmed that aversion sensitivity influenced the attitude toward the stigmatized group, and the degree of depression, anxiety, and stress partially mediated this.

Conclusion: In this study, we identify the mental health and psychosocial vulnerable factors of the general population in COVID-19 epidemic, and predict various social and psychological reactions.

YP01-05 (OE-1201) | Prevalence of schizophrenia and its relationships with socio-demographic in Hebei province, China

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Purpose: Little is known about the epidemiology of schizophrenia in agricultural regions of China. This study examined 1-month and lifetime prevalence of schizophrenia and their socio-demographic relationships in Hebei province, China, which is a predominantly agricultural region of China.

Materials and method: A multistage, stratified, cluster random sampling method was adopted, and a two-stage assessment was performed to establish the diagnosis of schizophrenia.

Results: Altogether, 23,675 subjects were screened in this survey, of whom, 20,884 were included for analyses. The weighted 1-month and lifetime prevalence of schizophrenia were 0.5% [95% confidence interval (CI): 0.4–0.5%] and 0.6% (95%CI: 0.5–0.7%), respectively. Multiple logistic regression analyses found that unmarried status [$P < 0.001$, Odd Ratio(OR) = 2.670, 95%CI:1.767–4.036], lower education level (primary school or below: $P = 0.042$, OR = 2.447, 95% CI: 1.034–5.933; secondary school: $P = 0.002$, OR = 4.261, 95% CI:1.692–10.730), unemployed status ($P = 0.006$, OR = 1.870, 95% CI:1.198–2.920), lower income ($P < 0.001$, OR = 4.017, 95% CI:2.207–7.310) and family history of psychiatric disorders ($P < 0.001$, OR = 16.278, 95% CI:10.435–25.393) were independently associated with higher risk of schizophrenia, while greater than or equal to 60 years old ($P = 0.004$, OR = 0.440, 95% CI:0.253–0.765) was associated with lower risk of schizophrenia.

Conclusion: Schizophrenia was relatively lower in Hebei province compared to most findings in other countries and other areas of China. Developing mental health policies and interventions in this area was needed.

YOUNG PSYCHIATRIST SESSION 2

YP02-01 (OE-1029) | Obstructive sleep apnea (OSA) detection system based on fast fourier transform (FFT) algorithm on electrocardiogram

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Purpose: In this study, an Obstructive Sleep Apnea (OSA) disease detection system was created using the RR interval parameter. The design of this detection system uses backpropagation Artificial Neural Network (ANN) which is implemented using MATLAB software as a method in the classification of OSA determination.

Materials and method: The steps taken to design an OSA disease detection system in this study include data collection, feature extraction, ANN training, ANN testing, and performance determination. The feature extraction stage is performed using the Fast Fourier Transform (FFT) mathematical algorithm process. The result of feature extraction is then carried out ANN training using 10% of the entire data and ANN testing using 90% of the total data. To get the best performance results, variations in segment length features, variations in OSA definition features, and variations in frequency composition features are performed.

Results: The best performance results in this OSA disease detection system design are features that use a combination of frequency components 2, 5, and 6 with an OSA definition of 5% in the 90-segment length. This is shown from the results of ANN performance in the form of specialization, sensitivity, and best accuracy, with successive values of 79.3%, 84.6%, and 81.6%.

Conclusion: In this research, a system design has been made to detect OSA which is implemented in MATLAB software. The feature used in this detection system is the RR interval feature that has been transformed using the Fast Fourier Transform (FFT) operation. Based on the results of performance calculations, all values indicate a number exceeding 75% so that a system that can be said to be good in detecting is obtained.

YP02-02 (OE-1163) | Rare case report of bipolarity and type – II sturge weber syndrome

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Purpose: There are few reports which showed the presentation of bipolar disorder in patients with Sturge Weber syndrome.

Materials and method: Our patient was 18 years old male, 12th pass, unmarried, student, belonging to middle socio-economic status from Hindu joint family hailing from urban background presented with illness of 5 months duration with complaints of depressed mood, decreased interest in work, decreased interaction, suicidal ideations, disturbed sleep. The above symptoms lasted for 1-11/2 months, after receiving treatment patient improved with respect to above symptoms however family noted change in his symptoms. Patient started having manic symptoms. These symptoms lasted for 20 days. By October 2019, patient's symptoms subsided and medications were stopped. The patient presented to our outpatient department with former symptoms from 10–15 days in December 2019.

He had past history of depressive episode in 2017–2018.

General physical examination revealed red colored patch over right side of face, adherent earlobe, high arched palate, multiple buccal frenula, wide distance between 1st and 2nd toes, soft pliable ears and Stahl's ear. Systemic evaluation revealed no abnormality.

Mental state examination revealed ideas of hopelessness, helplessness, suicidal ideations and insight of grade 4.

All routine investigations were carried out (TSH, CBC LFT, RFT) which were within normal limits. MRI brain showed no abnormality. Patient was started on tablet Sodium Valproate and dose was optimized to 1000 mg/day over a week. High risk management was carried out with the patient. Patient was discharged after 10 days of hospital stay and is in regular follow-up with us. He is currently asymptomatic and has joined back his studies.

Conclusion: More than half of these patients have intellectual disability. Mood symptoms and psychotic symptoms are often considered to be the behavioral problems secondary to intellectual disability, and diagnosis is delayed.

YP02-03 (OE-1126) | Screening major depressive disorder using vocal acoustic features in the elderly by sex

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Purpose: Vocal acoustic features are potential biomarkers of elderly depression. Previous automated diagnostic tests for depression have employed unstandardized speech samples, and few studies have considered differences in voice reactivity. We aimed to develop a voice-based screening test for depression measuring vocal acoustic features of elderly Koreans while they read a series of mood-inducing sentences (MIS).

Materials and method: In this case-control study, we recruited 61 individuals with major depressive disorder and 143 healthy controls (mean age [SD]: 72 [6]; female, 70%) from the community-dwelling elderly population. Participants were asked to read MIS and their variation pattern of acoustic features represented by the correlation distance between two MIS were analyzed as input features using the univariate feature selection technique and subsequently classified by AdaBoost.

Results: Acoustic features showing significant discriminatory performances were spectral and energy-related features for males (sensitivity 0.95, specificity 0.88, and accuracy 0.86) and prosody-related features for females (sensitivity 0.73, specificity 0.86, and accuracy 0.77). The correlation distance between negative and positive MIS was significantly shorter in the depressed group than in the healthy control ($F = 18.574$, $P < 0.001$).

Conclusion: While reading MIS, spectral and energy-related acoustic features for males and prosody-related features for females are good discriminators for major depressive disorder. These features may be used as biomarkers of depression in the elderly.

YP02-04 (OE-1224) | Old age, female sex and subjective dry mouth as risk factors to xerostomia

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Purpose: To explore risk factors of xerostomia in patients visiting psychiatric outpatient clinics and examine the potential utility of heart rate variability (HRV) test in xerostomia prediction.

Materials and method: From May 2019 to April 2020, the medical records of every new outpatient, who underwent both unstimulated salivary flow test and HRV test in Eunpyeong St. Mary's Hospital, were reviewed. Demographic variables and clinical variables, and HRV parameters were collected. After excluding 7 patients (two patients for severe medical conditions and five patients for missing data), 48 patients were finally included in this study. Patients were classified based on salivary flow rate per minute as normal (≥ 0.2 mL/min, $n = 21$), mild to moderate xerostomia ($0.1 \leq < 0.2$ mL/min, $n = 14$), and severe xerostomia (< 0.1 mL/min, $n = 13$). We performed group comparisons by chi-squared or Fisher's exact test for categorical variables and Kruskal-Wallis test for continuous variables using SPSS 19.

Results: The identified risk factors to xerostomia were old age ($p = 0.004$), female sex ($p = 0.022$), low anxiety ($p = 0.003$), and subjective dry mouth ($p < 0.001$). However, xerostomia was not associated with depression severity or any HRV parameters. There was a tendency of hypertension to be associated with xerostomia but not at a statistically significant level ($p = 0.068$).

Conclusion: Old age, female sex, and subjective dry mouth were identified as significant risk factors to xerostomia and these findings are in line with the literature. Surprisingly, low anxiety was associated with a low salivary flow rate, and further investigation in a large sample is required to verify our finding. Clinical attention will be required to patients with the aforementioned risk factors to improve both quality of life and treatment adherence. Although the HRV test is often used to examine autonomic function, it did not demonstrate any clinical utilities in predicting xerostomia.

YP02-05 (OE-1040) | Effect of virtual reality (VR) on stress reduction and change of physiological parameters including heart-rate variability in people with high stress: An open randomized cross-over trial

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Purpose: In this study we aimed to identify the stress-reduction effect of virtual reality (VR) relaxation compared to that from biofeedback after exposure to stress in people with high stress, as measured by psychological scales and physiological parameters including heart-rate variability indexes.

Materials and method: Participants consisted of 74 healthy adult volunteers with high stress, which was defined as a score of 20 or more on the Perceived Stress Scale-10 (PSS-10). This study used an open, randomized, cross-over design with baseline, stress, and relaxation phases. During the stress phase, participants were exposed to a shaking and dizzy immersive VR video and serial-7 subtraction, and then were randomly assigned to a VR relaxation video or to biofeedback for the relaxation phase. We compared the State-Trait Anxiety Inventory-X1,X2 (STAI-X1,X2), the Numeric Rating Scale (NRS), and physiological parameters including heart rate variability (HRV) indexes in the stress and relaxation phases. Responders to VR were defined as having a decrease in NRS after a relaxation session.

Results: Of the participants, 52.7% (39/74) were responders to VR relaxation. The median age of participants was 39 years, STAI-X-1 was 47.27 (SD = 9.92), and NRS was 55.51 (SD = 24.48) at baseline. VR significantly decreased STAI-X-1 and NRS from the stress phase to the relaxation session, while the difference of effect with biofeedback was not significant. However, there was a significant difference in electromyography, LF/HF ratio, LF total and NN50 between VR relaxation and biofeedback.

Conclusion: VR relaxation was effective in stress reduction in individuals with high stress, and it improved muscle tension and sympathetic tone more than conventional biofeedback did, which reflects the reduction of stress.

YOUNG PSYCHIATRIST SESSION 3

YP03-01 (OE-1036) | Psychotropic drug prescription and psychosocial intervention in university students during the crisis of suicide copycat in 2019: A 6-month follow-up study

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Purpose: To survey patterns of psychosocial intervention, psychotropic drug prescription and their association with suicidal risk, among Thai university students during the crisis of suicidal height in March 2019 and 6-month follow up.

Materials and method: This time-series cross-sectional study has 2 phases: each duration for 4 weeks, in March and September 2019. All who were university students and accessed the service of the

psychiatric out-patient unit at Songklanagarind hospital (PSU hospital), will be enrolled by the system automatically. The patients' information, diagnosis, drug prescription, psychosocial intervention, and suicide screening score (Thai-version 8Q) were collected from the hospital's database. Descriptive data analysis with chi-square and logistic regression were conducted by Program R.

Results: During the crisis of suicide copycat in March 2019 and 6-month following, most of the outpatients were diagnosed with depressive disorders (45% and 59.5%). They mostly prescribed antidepressants (73.8% and 78.6%) and received only psychoeducation (67.5% and 61.9%). However, psychoeducation was found associated with decreased suicidal risk in a 6-month duration (p -value = 0.019). In March 2019, depressive disorders, bipolar disorders, and mood stabilizer prescription were significantly associated with increased suicidal risk (p -value = 0.002 and 0.01 respectively). Only the prescription of antipsychotic agents was shown statistically significant association 6-month following the crisis (p -value = 0.031).

Conclusion: Most psychiatric outpatients, who were university students, were prescribed antidepressants and received psychoeducation during the period of suicidal height in March 2019, and 6-month following. Depressive disorder, bipolar disorder, and mood stabilizer prescription were significantly associated with increased suicidal risk in March 2019, whereas the prescription of antipsychotic drugs was at 6 months later.

YP03-02 (OE-1134) | Development and validation of deep learning-based software using brain magnetic resonance imaging for Alzheimer's disease diagnosis

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Purpose: The classification of Alzheimer's disease (AD) using deep learning methods has shown promising results, but successful application in clinical settings requires a combination of high accuracy, short processing time, and generalizability to various populations. We aimed to develop and validate deep learning-based software using brain magnetic resonance imaging (MRI) for AD diagnosis.

Materials and method: We developed a convolutional neural network (CNN)-based AD classification algorithm using MRI scans from AD patients and age/gender-matched cognitively normal controls from two populations that differ in ethnicity and education level. These populations come from the Seoul National University Bundang Hospital (SNUBH) and Alzheimer's Disease Neuroimaging Initiative (ADNI). For each population, we trained CNNs on five subsets using coronal slices of T1-weighted images that cover the medial temporal lobe. We evaluated the models on validation subsets from both the same population (within-dataset validation) and other population (between-dataset validation).

Results: Our models achieved average areas under the curves of 0.91–0.94 for within-dataset validation and 0.88–0.89 for between-dataset validation. The mean processing time per person was

23–24 s. The within-dataset and between-dataset performances were comparable between the ADNI-derived and SNUBH-derived models.

Conclusion: These results demonstrate the generalizability of our models to different patients with different ethnicities and education levels, as well as their potential for deployment as fast and accurate diagnostic support tools for AD.

YP03-03 (OE-1045) | Long-term benefits of mindfulness on white matter tracts underlying the cortical midline structures in panic disorder

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Purpose: Mindfulness-based cognitive therapy (MBCT) as an adjuvant to pharmacotherapy (PT) has been suggested as an adequate treatment option for panic disorder (PD). However, its long-term benefits on white matter tracts of the brain remain to be established. Here, we aimed to examine the two-year white matter plasticity in the cortical midline structures (CMS) after MBCT in patients with PD receiving maintenance PT, compared to patients maintained on PT alone and healthy controls (HCs).

Materials and method: Twenty-one patients who received MBCT as an adjuvant (MBCT+PT), 18 patients treated with PT alone (PT-alone), and 22 HCs underwent diffusion tensor imaging (DTI) scans of the brain at baseline and after 2 years. Fractional anisotropy (FA) were measured in white matter regions underlying the CMS.

Results: Two-year FA changes observed in MBCT+PT patients significantly differed from those in PT-alone patients. In HCs, white matter FAs in the anterior cingulate cortex were significantly reduced over time. The MBCT+PT group showed a pattern of FA changes similar to HCs, but the PT-alone group did not. Instead, significant FA increases were observed in white matter regions of the dorsomedial prefrontal cortex, posterior cingulate cortex, and precuneus. Furthermore, in each group of patients with PD, the percentages of two-year FA reductions with significant between-group differences were distinctly associated with the decreased severity of state and trait symptoms.

Conclusion: This is possibly the first study that demonstrated the long-term benefits of MBCT on white matter plasticity in patients with PD. Our findings suggest that the alleviation of excessive anterior cingulate connectivity after MBCT could lead to improvements in not only clinical symptoms but also trait vulnerability in patients with PD. We expect that this study provides clinical and neurobiological evidence for the clinical application of MBCT as a robust treatment modality for PD.

YP03-04 (OE-1053) | Structural brain alterations in cortical thickness, volume and surface area in patients with bipolar types I and II

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Purpose: Bipolar disorder is a recurrent and destructive mental disease, characterized by fluctuating mood episode of depressed, hypomanic, or manic state with a lifetime prevalence of 1%. Most of the past structural brain studies have focused on bipolar I disorder, while bipolar II disorder has little attention. There is a perspective that bipolar II disorder is not a mild form of bipolar I disorder, characterized by more recurrences, chronicity, shorter remission period and lower quality of life, which prompts physicians to differentiate bipolar type I and II as different disease entity. The aim of our study is to investigate structural differences of cortical thickness, volume and surface area in patients with bipolar type I and II, which are needed to understand pathophysiology.

Materials and method: We used MRI to measure cortical thickness, volume and surface area in patients with bipolar I and II patients with healthy controls. We adjusted age, gender, educational level, and estimated Total Intracranial Volume (eTIV) as confounding factors.

Results: We included 30 patients with BD I, 44 patients with BD II and 112 controls in our analysis. Lower thickness, volume and surface area in patients with BD I and BD II compared with HC were present in diverse area including both frontal, temporal, occipital, parietal regions and cingulate gyrus. There were no significant area differentiating between BD subtypes in thickness and volume except that smaller surface area of right insula in BD II compared with BD I was significant, which suggests to be important region understanding the differences between BD subtype.

Conclusion: Our findings suggest different neurobiology between bipolar subtypes, which can be potential to be diagnostic biomarkers that could differentiate BD I and II.

YP03-05 (OE-1232) | The efficacy of computerized cognitive training program in preschool children with and without developmental disabilities

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Purpose: For children with developmental disabilities, early intensive intervention is known to have paramount importance. However, access to services and interventions are still limited many preschool children with developmental disabilities, due to limited number of trained professionals, cost, and geographic location etc. Thus, mobile-based cognitive training could be an alternative, but its efficacy is not yet verified. In this study, we aimed to examine the efficacy of a

mobile-based cognitive training program application, named the Dobrain, in preschool children.

Materials and method: We recruited 200 children, aged 34 to 77 months, from community-based daycare centers, kindergartens, and special education centers. At baseline visits, neuropsychological tests and questionnaires were administered. Children were randomly assigned to the Dobrain group ($n = 100$) or to a usual educational application, the Junior Naver/KakaoKids group ($n = 100$), and each group were encouraged to use the assigned application according to a predetermined schedule. After six months of application use, a follow-up visit was scheduled, with identical neuropsychological tests and questionnaires.

Results: Of the 200 participants, 166 completed the follow-up visit (Dobrain group, $n = 85$; Naver/Kakao group, $n = 81$). When comparing the baseline and the follow-up visit, the Psychoeducational Profile-Revised Quotient did not show significant improvement in both groups. Vineland Adaptive Behavior Scales score showed significant improvement in the Dobrain group ($p = 0.013$) but not in the Naver/Kakao group ($p = 0.057$), but the magnitude of improvement was not different between the two groups ($p = 0.730$). Similarly, the Dobrain group showed improvement in Developmental Coordination Disorder Questionnaire Fine Motor ($p = 0.001$) and General Coordination ($p = 0.024$), and parent rated Center for Epidemiologic Studies Depression Scale Revised ($p = 0.002$), but the magnitude of improvement was not different between the two groups.

Conclusion: Our study suggests that Dobrain improves adaptive behavior and motor coordination, and decreases parental depression, but the improvement is not significant when compared to pre-existing educational application.

YOUNG PSYCHIATRIST SESSION 4

YP04-01 (OP-1202) | Impact of the COVID-19 pandemic on older adults living in long-term care centers in Thailand, and risk factors for post-traumatic stress, depression, and anxiety

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Purpose: To study how COVID-19 affected life and psychological stress of the elderly in long-term care centers. Prevalence and risk factors for post-traumatic stress, depression, and anxiety were investigated.

Materials and method: A semi-structured interview of COVID-19 impact on life and psychological stress was performed at two government long-term care centers three months after the first wave remission of the COVID-19 outbreak. The 17-item Posttraumatic Stress Disorder Checklist (PCL-17), the 9-item Patient Health Questionnaire (PHQ-9), and the 7-item Generalized Anxiety Disorder Scale (GAD-7)

were rated to evaluate post-traumatic stress, depression, and anxiety, respectively.

Results: Two hundred elderly were analyzed. Most elderly reported a moderate or severe impact on areas of life. The three most impact areas were financial issues due to decreased support from outside the center, limited freedom of living due to inability to go outside the center, and health impact due to difficulty seeing doctors. Seventy percent of the elderly reported no/mild psychological stress from COVID-19. Eleven elderly (5.5%) had post-traumatic stress, 14 (7%) had depression, and 24 (12%) had anxiety. At a significance level of $p < 0.05$, binary logistic regression revealed higher psychological stress level from COVID-19 and having upper respiratory tract infection (URI) symptom to be independently associated with post-traumatic stress, depression, and anxiety; receiving COVID-19 news through social media is associated with post-traumatic stress and depression; and having psychiatric comorbidity is associated with anxiety.

Conclusion: The elderly in long-term care centers had a moderate or severe impact on life during the COVID-19 pandemic, especially financial issues, freedom of living, and health. Despite a high impact on life, they reported relatively low psychological stress. Receiving COVID-19 news through social media, having URI symptoms, and high psychological stress are risk factors for psychological disorders.

YP04-02 (OE-1035) | Alteration of surface area and cortical thickness in drug-naïve adults with major depressive disorder

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Purpose: Brain magnetic resonance imaging (MRI) has played a crucial role in examining the structural abnormalities in major depressive disorder (MDD), and advances in surface-based morphometry (SBM) method made it possible to decompose cortical volume into cortical thickness and surface area. Although alteration of cortical thickness in MDD has been clarified in numerous studies, few research showed significant findings in alteration of surface area in MDD. The goal of our study is to analyze surface area in MDD and compare with cortical thickness to further evaluate the potential utility of surface area as a complimentary biomarker of MDD.

Materials and method: Major depressive disorder patients without any history of medication ($n = 77$) and healthy controls ($n = 111$) underwent structural magnetic resonance imaging. Cortical surface area and cortical thickness were measured and analyzed between groups using FreeSurfer. The correlation between morphometric indexes and clinical measures (Hamilton depression rating scale score and illness duration) was also calculated.

Results: We found that cortical surface area was smaller in drug-naïve MDD patients than healthy controls in left superior occipital gyrus,

and significant negative correlation was found with Hamilton depression rating scale score. In comparing cortical thickness, bilateral fusiform gyrus, left middle occipital gyrus, left temporal superior gyrus and right posterior cingulate region showed thinner cortex, while cortical thickness of bilateral superior occipital gyrus, right rectus, right cingulate, and left lingual gyrus were increased in MDD.

Conclusion: The left occipital cortical region may have a role in pathophysiology in major depressive disorder. Surface area, when compared to cortical thickness, can be a more specific biomarker in presenting state-dependent structural alteration in MDD.

YP04-03 (OE-1095) | The psychological impact of COVID-19 pandemic in quarantine population

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Purpose: Coronavirus disease 2019 (COVID-19) pandemic sweeps across the world. Government policy to control the outbreak is to quarantine. The purpose of this study was to assess the psychological impacts of quarantine during COVID-19 outbreak.

Materials and method: Self-report questionnaire was conducted from March 17, 2020, to April 20, 2020 including the outburst period in Daegu, Republic of Korea. Two-thousand and eighty subjects were participated. The online link was sent to the subjects who were now quarantined (NQ) or past-quarantined (PQ). The self-report questionnaire included patient health questionnaire-9 (PHQ-9), generalized anxiety disorder-7 (GAD-7), primary care post-traumatic stress disorder screen for diagnostic and statistical manual-5 (PTSD-PC), state-trait anger expression inventory (STAX-I), and P4 suicidality screener scale(P4).

Results: Among 2080 subjects 52.5% (95% CI, 50.3%-54.7%) for PHQ-9, 44.5% (95% CI, 42.4%-46.7%) for GAD-7, 39.4% (95% CI, 37.3%-41.6%) for PTSD-PC, 31.6% (95% CI, 29.6%-33.6%) for STAX-I, and 10.9% (95% CI, 9.6%-12.3%) for P4 exceeded cutoff value. NQ group (n = 608, 29%) show more anger than PQ (n = 1472, 71%) (aORs, 1.417 [95% CI, 1.119-1.796]). Especially subjects who were quarantined for more than 28 days in NQ (n = 238, 39%) had high risk for symptoms of PHQ-9 (aORs, 1.428 [95% CI, 1.081-1.886]), GAD-7 (aORs, 1.326 [95% CI, 1.008-1.744]), PTSD-PC (aORs, 1.427 [95% CI, 1.083-1.879]), and STAX-I (aORs, 1.354 [95% CI, 1.017-1.802]) than PQ.

Conclusion: Our result suggest that quarantine have negative psychological effects such as depression, anxiety, post-traumatic stress disorder, anger. In particular NQ experiences more anger than PQ and the longer the period, the more depression, anxiety, PTSD, and anger. The result of this study will contribute to identify high risk individuals for mental health during quarantine.

YP04-04 (OE-1056) | The perceived barrier to visiting psychiatrists in Korea: Findings by text mining analysis on social media big data

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Purpose: •Treatment gap is one of the biggest challenges in psychiatry worldwide. Although Korea is a developed country economically, the gap is still huge.

•However, existing research on the barrier causing the gap has concentrated on limited populations.

•Our aim was to explore the question of what prevents people with mental illness from visiting psychiatrists by using the text mining technique.

Materials and method: •Subject

•Texts written in Korean on the internet including blogs, social network services, social media platforms and web communities from January 1, 2016 to July 31, 2019.

•Analysis process

•Original texts with meta-information were collected, of which those including words relevant to psychiatry were selected as valid articles, proceeding to the natural language process.

•After stopwords were removed, the articles were dismantled into morphemes tagged with word classes.

•The morphemes were categorized by meaning, with synonyms transformed to representative plain words, and the degree of linkage among the extracted key words was analyzed quantitatively.

•Among words stated with psychiatry, those implying barriers were selected, then categorized.

Results: •Among 97,730,360 original articles, 6,097,369 containing key words relevant to psychiatry were included in the analysis.

•The word most frequently stated with psychiatry was information, in contrast to internal medicine and surgery in which the word, symptom, predominantly ranked first.

•The Structural discrimination was presented as the most prominent barrier. Public stigma was found to be the second biggest barrier, followed by concern on medication and cost.

•While the younger generation expressed more concern on the structural discrimination, the older generation pointed out the public stigma as the biggest obstacle.

Conclusion: •The institutional and legal endeavor to end the discrimination is first and foremost to lessen the treatment gap in Korea.

•Along with this, fight against stigma on mental illness should be going on.

•Further study is needed to investigate barriers comprehensively.

YP04-05 (OE-1097) | Correlation between smart phone app use patterns and athlete performance of professional golfers

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Purpose: Smartphone use could affect athlete performance and life pattern. We hypothesized that smartphone app use patterns would predict athlete performance in professional golfers, especially use time of serious apps would be closely associated with improved performance.

Materials and method: This longitudinal 4-week observation of 79 professional golfers assessed golf handicaps and smartphone app use patterns at the start of the Korean professional golf season and two and four weeks after. Total smartphone use time and total use time of each app were recorded and sent to the research team every Friday night (9 pm) for 4 weeks. Considering the use time and frequency based on Xu's genre classification, all apps were classified into four categories: social networking, entertainment, serious apps, and others.

Results: There were no significant differences in total smartphone use time and the time spent using SNS between improved and non-improved golfers ($F = 1.28$, $p = 0.28$ / $F = 1.03$, $p = 0.36$). However, there were significant differences in the changes of use time of entertainment and serious apps between improved and non-improved golfers. During 4 weeks period, the use time of entertainment apps of non-improved golfers increased, although that of improved golfers did not change ($F = 4.43$, $p = 0.02$). Furthermore, improved golfers' use time of serious apps increased, while that of improved golfers decreased ($F = 4.48$, $p = 0.02$). The changes in the modified golf score from the baseline to four weeks were positively correlated with changes in entertainment app use time ($r = 0.33$, $p < 0.01$) while the changes in modified golf scores were negatively correlated with changes in serious app use time ($r = -0.33$, $p < 0.01$).

Conclusion: Sports performance was not associated with smartphone use time, but the genre of smartphone apps was for professional golfers. Future studies should focus on the management of smartphone app use to encourage sports performance in athletes.

YOUNG PSYCHIATRIST SESSION 5

YP05-01 (OP-1025) | Psychological impact of COVID-19 and other viral epidemics on frontline healthcare workers: A systematic review

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Purpose: Large-scale disease epidemics pose various challenges to individuals of all ages and cultures but the emotional stress experienced by frontline health care workers (HCWs) is severe, and can be enduring. The impact of 2019 novel coronavirus (COVID-19) on mental health and well-being on HCWs is still emerging. Evidence from studies during COVID-19 and similar past epidemics can help inform this, and how best to address it.

Materials and method: A systematic review using PRISMA methodology was used to investigate the psychological impact on HCWs facing epidemics or pandemics, using three electronic databases (PubMed, MEDLINE, and CINAHL), dating back to 2002 until the 21st of August 2020. The search strategy included terms for HCWs (e.g., nurse and doctor), mental health (e.g., wellbeing and psychological), and viral outbreaks (e.g., epidemic and pandemic). Only studies with greater than 100 frontline HCWs (i.e. doctors or nurses in close proximity to infected patients) were included.

Results: A total of 55 studies were included, with 53 using quantitative methodology and 2 were qualitative. The studies were conducted across various countries and included people with SARS (13 studies), Ebola (1), MERS (3) and COVID-19 (38). Findings suggest that the psychological implications to HCWs are variable with several studies demonstrating an increased risk of acquiring trauma or stress-related disorders, depression and anxiety. Coping strategies varied amongst the contrasting sociocultural settings and appeared to differ amongst doctors, nurses and other HCWs. The need for greater psychosocial support and clearer dissemination of disease-related information was consistently highlighted.

Conclusion: This review can inform current and future research priorities in the maintenance of well-being amongst frontline HCWs. Change needs to start at the level of policy-makers to offer an enhanced variety of longer term supports to HCWs who play a critical role during largescale disease outbreaks.

YP05-02 (OP-1015) | Identifying genomic risk for autism spectrum disorder using whole-genome sequencing

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Purpose: Three-dimensional chromatin structures regulate gene expression across genome. The significance of *de novo* mutations (DNMs) affecting chromatin interactions in autism spectrum disorder (ASD) remains poorly understood. Here, we address a question on whether noncoding DNMs contribute to the genetic architecture of

ASD, especially focusing on chromatin interactions implicated in pathogenesis of the disorder.

Materials and method: We generated 931 whole-genome sequences of whole blood DNA acquired from 276 Korean simplex quad families to detect DNMs, and identified target genes that have the chromatin interactions with the noncoding DNMs in regulatory elements. To validate the noncoding DNMs' impact on the target genes, we tested the expression levels of the target genes at the stage of neural stem cells derived from induced pluripotent stem cells established from two Korean families consisting of parents and ASD subjects.

Results: Noncoding DNMs that affect chromatin interactions exhibited transcriptional dysregulation implicated in ASD risks. Correspondingly, target genes were significantly involved in histone modification, prenatal brain development, and pregnancy. Both noncoding and coding DNMs collectively contributed to low IQ in ASD. Indeed, noncoding DNMs resulted in alterations, via chromatin interactions, in target gene expression in primitive neural stem cells derived from human induced pluripotent stem cells from two ASD subjects. The emerging neurodevelopmental genes, not previously implicated in ASD, include *CDK5RAP2*, *ARHGEF2*, *CTNNA2*, *GRB10*, *IKZF1*, *PDE3B*, and *BACE1*. Our results were reproducible in 517 probands from MSSNG cohort.

Conclusion: This work reveals the contribution of the novel genomic risk for ASD via the chromatin interactions, using massive whole-genome sequences.

YP05-03 (OE-1096) | The improvement of brain activity and movement efficacy in response to virtual reality stimulations

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Purpose: Many studies have suggested that virtual reality showed wonderful benefits for human behaviors and cognitive enhancement. With the immersion, interaction, and imagination, virtual reality was thought to be a good modality to improve human quality of life. However, there were few solid evidence with scientific reports including brain activity and physical scales. We hypothesized that exercises in response to virtual reality stimulation would be more effective on activating brain and movement, compared to offline stimulations.

Materials and method: With 20 healthy adults, brain activity and 32 exercise movements in response to virtual reality stimulation were compared to offline stimulations. 32 exercise movement included tilt right, tilt left, and tilt backward with light arm lifting, etc. 20 participants conducted 32 exercise movement following leader's instruction at offline and they also conducted 32 exercise movement in response to virtual reality stimulations. Before and after exercise movement, brain activity were corrected using a NIRSIT, which consisted of 24 laser diodes (sources) emitting two wavelengths (780 nm and 850 nm) of light and 32 photodetectors with a sampling rate of

8.138 Hz. The data of exercise movement was recorded and analyzed using the experimental tool, Dartfish.

Results: The brain activity within left dorsolateral prefrontal cortex in response to virtual reality stimulation was 8.4% higher compared to offline stimulation. In addition, total length of exercise movement and total calories during exercise in response to virtual reality stimulations was significantly increased, compared to offline stimulation. The hemodynamic changes with left dorsolateral prefrontal cortex was positively correlated with the changes of total calories in response to virtual reality stimulation ($r = 0.46$, $p = 0.01$).

Conclusion: To the best of our knowledge, the current study, for the first time, would assess the efficacy of brain and physical activity in response to virtual reality stimulation. Virtual reality could enhance the efficacy of human movement and cognitive flexibility.

YP05-04 (OE-1111) | Association between dissociative symptoms and morning cortisol levels in patients with post-traumatic stress disorder

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Purpose: Patients with post-traumatic stress disorder (PTSD) showed inconsistencies in their cortisol level, an index of the hypothalamic-pituitary-adrenal (HPA) axis function. This study examined the relationship between dissociation, childhood trauma, and morning cortisol levels in PTSD patients.

Materials and method: This study included 69 (23 males and 46 females) patients and 82 (22 males and 60 females) healthy controls (HCs). Clinical assessments, including the Childhood Trauma Questionnaire (CTQ) and Peri-traumatic Dissociative Experiences Questionnaire scores (PDEQ), and morning cortisol levels were evaluated. The morning cortisol levels were compared between PTSD with high dissociation (PTSD-HD) and low dissociation (PTSD-LD) groups. The effect of CTQ subtype on morning cortisol levels was analyzed.

Results: The PTSD with high dissociation group showed significantly lower cortisol levels than that of the PTSD-LD and HC groups. A significant inverse correlation was found between cortisol levels and dissociation. A significant positive correlation was found between dissociation and physical abuse and sexual abuse scores. Morning cortisol levels showed a significant positive correlation with emotional abuse, emotional neglect, and physical neglect, respectively. There was no moderating or mediating effect of CTQ on the relationship between cortisol level and dissociation.

Conclusion: These findings suggest that dissociation is a significant factor related to hypocortisolism in PTSD patients. Additionally, basal morning cortisol levels and dissociation scores were closely associated with childhood trauma.

YP05-05 (OE-1223) | Subthreshold depression and anxiety are associated with increasing suicidal attempt: A Korean nationwide study

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Purpose: Subthreshold depression and anxiety have been highly prevalent and known to be associated with functional limitations and future onset of major depression or anxiety disorder. But studies regarding suicidality in subthreshold level of depression and anxiety are limited. This study is to investigate the association of suicidal attempt according to the level of depression and anxiety in nationwide sample of Korean population.

Materials and method: 17,639 Korean participants aged from 18 to 74 responded to the Korean version of the WHO-composite international diagnostic interview (K-CIDI) version 2.1 between 2006–2016. Participants were divided according to the level of depression and anxiety; no symptom, subthreshold symptoms and threshold disorders. Subthreshold symptom groups were defined who had core symptoms of each depressive or anxiety disorder but did not fulfill full criteria. Multivariable logistic regression was used to examine the odds of lifetime suicidality in each group.

Results: The risk of suicidal attempt was increased incrementally according to the level of depression and anxiety. Compared to group without any level of anxiety, subthreshold anxiety group increased the odds about threefold (OR = 3.15, 95% CI 3.12–3.18) and threshold anxiety disorder group increased the odds about fivefold (OR = 5.33 95% CI 5.27–5.38) of suicidal attempt in subthreshold depression group. In threshold depressive disorder, subthreshold anxiety group showed about 1.8-fold higher odds (OR = 1.76, 95% CI 1.75–1.77) and threshold anxiety disorder group showed about threefold higher odds (OR = 2.93, 95% CI 2.92–2.95) of suicidal attempt. When divided according to the level of depression and anxiety, 'threshold depression/threshold anxiety' group increased highest odds of suicidal attempt (95% CI 22.63–23.81) with reference to the 'no depression/no anxiety' group.

Conclusion: Subthreshold levels of depression and anxiety were prevalent among Korean and associated with increased risk of suicidal attempt. Detailed assessment of depression and anxiety symptoms according to their level should be made on diagnostic continuum to prevent suicide.

YOUNG PSYCHIATRIST SESSION 6

YP06-01 (OE-1209) | Lewy body dementia with premorbid depression: A case report

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Purpose: We report a case of dementia with Lewy bodies (DLB) who had a long history of premorbid depression.

Materials and method: A 71-year-old female admitted to psychiatric ward because of severe disturbing behavior manifested by vivid visual hallucination with insects and small animals for 2 weeks, and visuospatial impairment and disorientation toward the evenings. Three months ago, she received surgery for compression fracture of lumbar spines and was prescribed with hypnotics and antidepressants in addition to analgesics for her insomnia and mood change after the surgery. On admission, she has no impaired consciousness but limitation in locomotion. There were no abnormal findings in physical and serological examinations, except a lower level of folate (3.22). Her brain CT showed widening sulcus over right parietal lobe, and bilateral nigrosome on functional MRI scans. She has an obsessive personality and suffered from major depression and was treated with escitalopram between late 40s and 65, prior to the state of complete remission being medications free in recent 6 years.

Results: Despite drug-free for a week (to rule out ADR of drugs), her condition did not improve. Her MMSE score was 25/30 (CDR = 1). We prescribed rivastigmine 3 mg/day under the impression of DLB, and she gradually improved with no symptoms of visual hallucinations after 2 weeks of treatment and the following 3-month maintenance treatment, scoring MMSE (30/30) and CDR (0.5) at follow-up.

Conclusion: Depression has been reported as a risk factor for dementia in general. However, this report showed that premorbid major depression is at risk for developing DLB despite an absence of then comorbidity with depression. The relationship of precedent depression with DLB suggested that dopamine and acetylcholine might play important roles more than that of serotonin or norepinephrine in dementia, specifically in those with old age depression.

YP06-02 (OE-1058) | Effect of suicide prevention law and media guidelines on copycat suicide of general population following celebrity suicides in South Korea, 2005–2017

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Purpose: To prevent copycat suicides following media reporting of celebrity suicides, the South Korean government enacted a "suicide prevention law" in 2012 and revised the media guidelines for suicide reporting in 2013. In this study we examine how these two regulatory measures affected suicide trends among the general population in South Korea.

Materials and method: We analyzed the individual effect estimates on the general population within 30 days following reporting of 24 celebrity suicides using multiple linear regression. We performed a meta-analysis to compute the combined effect size of the two

regulations. We examined the trends in daily suicides by month during three time intervals before and after enactment using an autoregressive model and tested their significance using piecewise linear regression.

Results: Total suicides increased by 6.27 daily in the 30 day period after celebrity suicides. The combined effect size of the suicides was 4.66 (95% confidence interval, 2.11–7.21; $p = 0.003$), showing a significant increase in suicides in the general population. Entertainers' suicides had a 1.66 times greater effect than those of non-entertainers. There was a significant downward trend in the average daily suicide deaths, and no significant increase in suicide rates, after the enactment of the suicide prevention law ($p < 0.001$) and revision of the media guidelines ($p = 0.014$).

Conclusion: The suicide prevention and media guidelines were effective in reducing the effect of celebrity suicides. In addition to regulating media reporting of celebrity suicide, measures are needed to address viral republication on social media and to prevent suicide among entertainers.

YP06-03 (OP-1128) | Spousal caregiver burden in patients with cognitive impairment: Effects on nutrition and other related factors with cognition

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Purpose: With the rapid aging process, the number of elderly couple household is increasing. Accordingly, when a patient with cognitive impairment occurs, the elderly spouse tends to take care of patient, and undergoes physical and psychological stress and changes in nutritional status due to the care, which can be a risk factor for cognitive decline. Therefore, this study aims to evaluate the spousal caregiver's lifestyle, psychosocial factors and nutritional status related with cognition according to the burden of care for elderly couples.

Materials and method: From May to December 2020, clinical evaluation and blood tests were conducted for patients who visited Chungnam National University Hospital Geriatric Neuropsychiatric Clinic with their spouse. A total of 39 subjects were included in the analysis. As clinical assessment, we evaluated the care burden (Zait burden interview), depression (Geriatric-Depression-Scale), sleep quality (Pittsburgh-Sleep-Quality-Index), cognitive function (Mini-Mental-state-examination), and subjective cognitive decline, physical activity (International-Physical-Activity-Questionnaire), and dietary habits (Mini-Nutritional-Assessment). And, serum total protein, albumin, Hemoglobin and Lipid panel was measured.

Results: As the patient's cognitive function declined, the burden of care increased ($p < 0.001$). In univariate analysis, the spousal caregiver's burden was significantly associated with the worse the dietary habits ($p = 0.003$) and increased level of depression ($p = 0.001$) and subjective cognitive decline ($p = 0.038$). The spousal caregiver's burden showed

trend level association with sleep quality ($p = 0.074$), but there was no significant relationship with physical activity ($p = 0.653$). When the age, sex, and caring assistant type were adjusted, dietary habits ($p = 0.002$), depression ($p = 0.003$), and sleep quality ($p = 0.023$) worsened as the spousal caregiver's burden increased.

Conclusion: Even if cognitive function in the older adult was normal, the higher the burden among spousal caregivers of patients with cognitive decline, the lower the diet habit and sleep quality, and the higher the level of depression. All of these factors could lower cognitive function. Early intervention on these factors is necessary to prevent the cognitive impairment in spouse due to the burden of care.

YP06-04 (OE-1158) | The electrophysiological change related to childhood trauma in patients with major depressive disorder: An event-related potential study

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Purpose: Childhood trauma has been known as the important pathological factor related with the occurrence and severity of psychiatric disorders. The depressed patients with childhood trauma appears to have severe symptoms and frequent recurrence. Previous studies have suggested that childhood trauma causes a wide range of structural changes in the brain. This study aimed to investigate whether depressed patients with childhood trauma show decreased Nogo event-related potentials (ERP) and source activity during response inhibition tasks (Go/Nogo tasks).

Materials and method: 44 patients with major depressive disorder (MDD) were participated. The Childhood Trauma Questionnaire (CTQ), Beck Depression Inventory, State-Trait Anxiety Inventory, Barratt Impulsivity Scale and Affective Lability Scale were applied. All participants were divided into two groups based on their total CTQ score: low CTQ, and high CTQ. All participants instructed to perform a Go/Nogo task during electroencephalography recording. Sensors and Source activities of N2 and P3 of Nogo ERP were analyzed.

Results: The participants in the high CTQ group had significantly decreased Nogo P3 amplitude at frontal, frontocentral, central and parietal electrodes than those with low CTQ group. In Nogo-P3, the high CTQ group showed significantly lower the source activities of the right cuneus, right posterior cingulate cortex, right precuneus, left supramarginal gyrus, and left lingual gyrus than the low CTQ group. The total scores of CTQ showed a significant negative correlation with activities of significantly lower activated source regions in Nogo-P3 conditions.

Conclusion: The present study revealed that depressed patients with high childhood trauma may have difficulty on behavioral inhibition and dysfunction in regions related to Nogo-P3.

YP06-05 (OE-1135) | The effects of personality traits and resilience on quality of life in breast cancer survivors

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Purpose: As survival outcomes in breast cancer patients improved, quality of life (QoL) becomes an important issue for breast cancer survivors (BCS). Personality traits and resilience can affect individual's QoL by mediating one's way of dealing with stressful situations. However, limited studies explored the association between personality traits, resilience, and QoL in BCS. This study aimed to identify the effect of personality traits and resilience on QoL of BCS.

Materials and method: This prospective study included 476 patients with newly diagnosed BCS. The Functional assessment of cancer therapy (FACT) was used to explore their QoL, the Big Five inventory (BFI) was used to explore their personality trait, and the Korean resilience quotient 53 (KRQ-53) was used to measure resilience levels.

The survey was done prior to surgery, at post-operative 6, 12 and 18 months after surgery. Cluster analysis was performed to identify subgroup with specific personality profiles. Kruskal-Wallis test and Generalized Estimating equations were used to assess association between cluster and change in quality of life after surgery. Additionally, regression model was used to identify moderating effect of resilience between cluster group and quality of life.

Results: Cluster analysis generated three clusters based on their personality patterns. Three cluster shows main differences on neuroticism level (cluster 1: low; cluster 2: medium; cluster 3: high). Patients in cluster 1 appear to exhibit significantly lower QoL score at baseline compared to other clusters. Changes in QoL 6-month after surgery were not significantly different among clusters. Resilience significantly moderated the relationship between personality profiles and QoL after surgery.

Conclusion: Personality profiles were associated with QoL in breast cancer survivors. Resilience moderated association between QoL and personality profiles. Personality profiles and individual resilience should be considered in planning interventions targeted improving QoL of BCS.