of 10000 lux would have much less impact on Indian subjects. 2. Ethnicity – in both studies the subjects were born and spent considerable time in their own respective country. 3. Cultural variations in the food consumed usually by the subjects in respective countries.

References
1. Heath TP, Melichar JK, Nutt DJ, Donaldson LF. Human taste thresholds are modulated by serotonin and noradrenaline. J Neurosci. 2006 Dec 6;26(49):12664–71.
2. Srivastava S, Donaldson LF, Rai D, Melichar JK, Potokar J. Single bright light exposure decreases sweet taste threshold in healthy volunteers. J Psychopharmacol. 2013 Oct;27(10):921–9.

PS221
Major depressive disorder and initial insulin hyposecretion in oral glucose tolerance test
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Abstract
Accumulating evidence suggests that there is a bidirectional association between major depressive disorder (MDD) and type 2 diabetes mellitus. To elucidate impaired glycemic control in MDD in more detail, we conducted the five-hour oral glucose tolerance test (OGTT) in patients with MDD.

Methods: Twenty-five outpatients with DSM-IV MDD were recruited into the study along with 28 controls. A 5-hour OGTT using 75 g of glucose was employed to assess glucose regulation based on blood samples. Samples were drawn nine times and blood pressure, heart rate and body temperature were also measured at the same time.

Results: Patients with MDD had a higher impaired glucose tolerance (IGT) rate at 52% versus 32% among the controls. MDD patients exhibited significantly lower insulinogenic index (P = 0.043) and disposition index (P = 0.020) than controls. The areas under the curve for heart rate (P = 0.017) and body temperature (P = 0.024) during the OGTT were significantly higher in MDD than in the controls.

Conclusion: MDD patients exhibited hyperglycemia, initial insulin hyposecretion, and sympathetic dominance during the OGTT resulting in IGT compared to controls.

PS222
Ketamine Exerts a Prolonged Reduction in Suicidal Ideation Independent of its Antidepressant Effects
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Abstract
Background: Subanaesthetic doses of intravenous ketamine have been shown to elicit rapid reduction in depressive symptoms and severity of suicidal ideation (SI). However, the antidepressant properties of ketamine appear to be transient. Repeated ketamine infusions may prolong the antidepressant effect. The objective of this study was to determine whether ketamine could elicit decrease in SI even in patients who do not have a reduction in depressive symptoms with prolonged treatment.

Methods: 19 patients with treatment-resistant major depressive disorder (MDD) completed a randomized controlled trial of ketamine. Patients received 7 intravenous ketamine infusions during the study, including a single infusion during the Phase 1 double-blind crossover with midazolam (used as an active placebo), and 6 ketamine infusions administered over a two-week period during Phase 2. The primary outcome measures were pre- and post-treatment changes in depressive symptoms (using the Montgomery-Asberg Depression Rating Scale [MADRS]) and suicidal ideation (using MADRS-SI scores).

Results: Patients with a 50% decrease in total MADRS scores from pre- to post-treatment were considered ketamine responders. Responders (n = 10) had a larger reduction in MADRS scores (62%) compared to nonresponders (n = 9; 17%) (p<0.001). Both groups had significant reductions in MADRS-SI scores (responders -1.9, p<0.001; nonresponders -1.6, p<0.001) and the difference in the magnitude of change in MADRS-SI scores between groups was not statistically significant (p=0.44).

Conclusions: Ketamine had a direct effect on lessening suicidal ideation even in patients who failed to show a reduction in depression severity with repeated infusions.

PS223
Validation of the Korean version of Center for Epidemiologic Studies Depression scale-Revised
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Abstract
Objectives: The Center for Epidemiologic Studies Depression scale-Revised (CESD-R) is a recently revised valid scale for the assessment of depressive symptoms. It encompasses cardinal symptoms of depression described in the Diagnostic and Statistical Manual of Mental disorders, fourth edition (DSM-IV). In this study, we assessed the reliability, validity and psychometric properties of the Korean version of the CESD-R (K-CESD-R).

Methods: Forty-eight patients diagnosed as major depressive disorder, dysthymia, or depressive disorder NOS according to the DSM-IV criteria by using Mini International Neuropsychiatric Interview (MINI) and 48 healthy controls were enrolled in this study. They were assessed with K-CESD-R, Montgomery-Asberg depression Rating Scale (MADRS), Patient Health Questionnaire-9 (PHQ-9), Korean Quick Inventory of Depressive Symptomatology-Self Report (KQIDS-SR), and State Trait Anxiety Inventory (STAI) for cross-validation. Cronbach’s alpha, Pearson correlation coefficient, Principal Component Analysis, Receiver Operating Characteristic curve (ROC curve) and optimal cut-off value were calculated for validation.

Results: The Cronbach’s alpha of K-CESD-R was 0.977. Total score of K-CESD-R significantly correlated with those of MADRS, PHQ-9, and KQIDS-SR (r=0.910, 0.966 and 0.920, respectively; all p<0.001). Factor analysis showed two factors account for 76.290% of total variance. We calculated the optimal cut-off value of K-CESD-R as 13 at which sensitivity and specificity were both adequate according to the analysis of the ROC curve.

Conclusions: This study showed that the K-CESD-R is a reliable and valid scale to assess depressive symptoms. The K-CESD-R is also a useful and effective tool for screening and measuring depressive symptoms not only in outpatient clinic but also...
in epidemiologic studies for community sample or general population.

**Key Words:** Korean version of Center for epidemiologic studies depression scale-revised (K-CESD-R), depression, screening

**PS224**

Online working-memory testing: feasibility, reliability and impact of self-reported depression and anxiety.

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**Abstract**

**Introduction:** Cognitive impairment is increasingly considered a target for intervention in psychiatric conditions. Online cognitive testing may provide cost-effective screening and assessment. There is, however, a legitimate concern regarding reliability and validity of unsupervised testing. In this study we compare performance in a laboratory setting to that obtained through remote online testing. We were interested in: 1) identifying markers of inattention in online behaviour based on benchmarking in a laboratory setting 2) comparing participants with and without a self-reported history of mental health issues (depression/ anxiety) on these metrics.

**Methods:** 400 participants completed an on-line assessment of spatial working memory (SWM), a Cantab test known to be affected in a range of psychiatric disorders, such as depression and schizophrenia. Participants were asked to report whether they had a history of depression, anxiety or other neurological or psychiatric condition, and 200 participants completed the PHQ8 rating scale of depression symptoms. In addition to standard outcome measures (errors and strategy) we extracted trial-by-trial data related to timing, and browser information (whether the participant stayed on task or not). We compared performance of the online groups that of a benchmark sample of 94 participants tested in controlled laboratory conditions. Repeatability data was collected in both samples.

**Results:** Results indicated no significant performance difference between online and laboratory based testing. Within web-based testing participants with a self-reported history of depression or anxiety were not more likely than others to display off-task behaviour, and their reaction times, variability in reaction time and task performance were also comparable.

**Conclusions:** Participants with a self-reported history of depression or anxiety perform just as consistently as those with no such history in online testing, suggesting that this method of cognitive testing can be reliably used in this sample for screening into clinical trials or remote monitoring of cognitive performance.

**PS225**

High-frequency monitoring of cognition, mood and behaviour using wearable devices: proof of concept and applications

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**Abstract**

**Background:** Many psychiatric conditions are characterised by a fluctuating course, which may impact on daily functioning, but are difficult to characterise on the basis of infrequent laboratory or clinical assessments. Detecting and characterising these fluctuations may also enable timely, tailored interventions to be provided.

Wearable devices and mobile phones are equipped with increasingly sophisticated array of sensors and processing capacity. This technology is capable of generating large volumes of multidimensional data, which is increasingly being linked to changes symptoms and functional status. In this study we address the challenges in translating these data into clinically actionable information. Firstly, extraction features from such complex data. The second is the validation of the derived metrics against existing tools. Thirdly, the tolerability, acceptability and compliance, and therefore the ability to generate meaningful data need to be ascertained.

**Methods:** We describe the development and testing of a wearable device to address these challenges, allowing collection of both cognitive and mood data, alongside sensor data. Low-frequency, laboratory measurements of cognition, depression and anxiety were also collected for validation purposes, as were assessments of user experience.

**Results:** Participants (n=20) showed good compliance with data collection and agreement between testing in the new device and validated measures of cognition, indicating that this may be an appropriate method for measuring cognitive function and mood.

**Conclusions:** Initial data shows meaningful assessment of mood and cognition in alongside physiological and movement parameters. This has the potential to complement periodic in-person assessment of cognition and symptoms in the context of clinical research or interventions.

**PS226**

The efficacy of light therapy in the treatment of seasonal affective disorder: A meta-analysis of randomized controlled trials

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**Abstract**

**Objective:** The aim of this meta-analysis was to assess the efficacy of light therapy for the treatment of seasonal affective disorder in adults in comparison with placebo, meta-analyzing randomized, placebo-controlled trials.

**Methods:** We systematically searched PubMed, MEDLINE, EMBASE, PsycINFO, CINAHL and the Cochrane Central Register of Controlled Trials (CENTRAL) for literature published from January 1980 to March 2015. The primary outcome was improvement of depressive symptom levels measured by validated psychiatric symptom scales, the secondary outcome was to assess response rates. We performed a subgroup analysis comparing studies with patients free of additional psychotropic medication with trials where bright light was given adjunctive to pre-existing psychopharmacological therapy.

**Results:** 23 studies finally met our pre-defined inclusion criteria. Bright light therapy (BLT) was superior over placebo with an effect size of Hedges’s g = -0.38 (95% Confidence Interval (CI): -0.53 to -0.23, p= 0.0001) for the primary outcome (21 studies