Working mechanisms of virtual reality based cbt for paranoia

Geraets, Chris; Van Beilen, Marije; Pot-Kolder, Roos; Van Der Gaag, Mark; Veling, Wim

DOI:
10.1093/schbul/sby018.839

the full sample. The MEMS group reported strong satisfaction with the text-messages. Recruitment has been completed, and analyses from the full sample will be ready to present at the meeting.
Discussion: Initial results indicate that MEMS is acceptable and may successfully improve motivation in people with schizophrenia-spectrum disorders. However, additional analyses with the full sample are needed to more rigorously test the feasibility and effectiveness of MEMS.

S51. MOTIVATIONAL ENHANCEMENT IMPROVES TREATMENT OUTCOMES OF MOBILE-BASED COGNITIVE REMEDIATION IN INDIVIDUALS WITH SCHIZOPHRENIA

Eun Jin Kim*[,1], YongChun Bahk[1], Kee-Hong Choi[1]
[1]*Korea University*

Background: Cognitive impairment is a core feature of schizophrenia, which limits functions of individuals with schizophrenia and negatively influences their quality of life (Green, 1993; Green et al, 2000; Heaton et al., 2001; Heinrichs, 1998). While pharmacological treatment is known to have a limited effect on impaired cognition in schizophrenia (Marder, 2006; Rund and Borg, 1999; Elie et al., 2010), a majority of literature has concluded that cognitive remediation(CR) produces small to moderate improvements (McGurk et al., 2007; Wykes et al., 2011). As the smartphone user population continues to increase, the effectiveness of CR based on mobile devices have started to be studied. While CR is effective in improving cognitive deficit, treatment adherence and engagement of participants in the real world setting is known to be poor compared to laboratory setting. Thus, in the current randomized controlled study, we aimed to investigate whether motivational intervention would enhance motivation, treatment adherence and neurocognitive function of individuals with schizophrenia.
Methods: All subjects participated in a group-based CR using mobile application (mCR) twice a week for five weeks, and were given opportunity to practice voluntarily outside the treatment sessions. While CR only group participated in usual CR with Q&A sessions, experimental group participated CR sessions integrated with motivational intervention. For motivational enhancement (ME), we employed principles (e.g., goal setting, linking of CR with life goals, etc) of the bridging group (Medalia, Revheim, & Herlands, 2009) along with key aspects of motivational interviewing (e.g., open end questions, affirmation, reflect, and summary). We hypothesized that compared to CR only group, CR+ME group would show higher levels of intrinsic motivation, attendance rate and extra voluntary training hours, and greater improvement in cognitive functions.
Results: We are undergoing the current project, and a total of 14 participants were randomly assigned to either CR+ME (n=8) or CR only (n=5). Among 14 participants, two participants dropped out (n=1 experimental group and n=1 control group).
Independent sample t-test were used to compare scores of demographics and clinical characteristics between groups, and no differences were found except for the PANSS excitement subscale ($t = 2.91$, $P < .05$) at the time of pre-treatment. Due to a small sample, we conducted paired sample t-tests to examine whether there was a significant difference between the pre and post-test for two groups, respectively. The paired t-test revealed improvements in coding, TMT-B, logical memory I and K-AVLT immediate recall performances of CR+ME ($t=-2.92$, $p < .01$; $t=-3.65$, $p < .05$; $t=-3.20$, $p < .05$; $t=-2.89$, $p < .05$), but not CR only. In addition, there were pre and post-treatment differences in motivation variables (MSQ) for CR+ME. Comparing task related motivational level of first session to the final 10th session, CR+ME showed increased identified regulation(IR) score of MSQ and decreased external regulation(ER) score (IR=22.3(3.2), 23.5(3.7); ER= 10.67 (3.88), 6.67 (3.08)).
Discussion: We conclude that ME is promising to further enhance neurocognitive and motivational outcomes of mCR. The data collection process is expected to be completed in late January 2018, and the results will be accordingly updated by the time of presentation at SIRS 2018. Limitations and future directions will be discussed.

S52. WORKING MECHANISMS OF VIRTUAL REALITY BASED CBT FOR PARANOIA: A RANDOMIZED CONTROLLED TRIAL EXAMINING COGNITIVE BIASES, SCHEMATIC BELIEFS AND SAFETY BEHAVIOR

Chris Geraets*[,1], Marije Van Beilen[1], Roos Pot-Kolder[2], Mark Van der Gaag[2], Wim Veling[1]
[1]*University Medical Center Groningen;* [2]*VU Amsterdam*

Background: Recently, the efficacy of a novel virtual reality based cognitive behavior therapy (VR-CBT) for paranoia was demonstrated. Cognitive biases, cognitive limitations, negative schematic beliefs and safety behavior have been associated with paranoid ideations and delusions. It is unknown whether VR-CBT affects these associated factors, and how changes in these factors relate to changes in paranoid ideation.
Methods: In this multi-center randomized controlled trial patients with a psychotic disorder and paranoia were randomized to VR-CBT (n = 58) or treatment as usual (TAU; n = 58). VR-CBT consisted of maximally sixteen 60-minute individual therapy sessions. Paranoia, safety behavior, schematic beliefs, cognitive biases and limitations were assessed at baseline, post-treatment (at three months) and follow-up (at six months). Mixed model analyses were conducted to study treatment effects. Mediation analyses were performed to explore putative working mechanisms by which VR-CBT reduced paranoia.
Results: VR-CBT, but not TAU, led to reductions in jumping to conclusions, attention for threat bias and social cognition problems. Schematic beliefs remained unaffected. The effect of VR-CBT on paranoia was mediated by reductions in safety behavior and social cognition problems.
Discussion: VR-CBT affects multiple mechanisms that are associated with paranoid ideation. Although maintaining factors of paranoia are likely to influence each other, targeting safety behavior and social cognitive problems seems effective in breaking the vicious circle of paranoia.

S53. COMPARISON OF RALOXIFENE AND ISRADIPINE AS AN ADJUNCTIVE TREATMENT IN COGNITIVE DEFICITS OF PATIENTS WITH SCHIZOPHRENIA

Bita Vahdani*[,1], Alireza Armani kian[1], Abdolreza Esmaeilzadeh[1], Saeedeh Zenoozian[1], Vida Yousefi[1], Saeedeh Mazloomzadeh[1]
[1]*Zanjan University of Medical Sciences*

Background: Cognitive impairment is the most important feature of schizophrenia that leads to severe social and functional disability. Improving neurocognitive physiopathologic aspect of schizophrenia is a current challenge to identify the pathway to develop goal directed clinical interventions in practice. In the current study we investigated the effect of raloxifine as a selective estrogen modulator and isradipine as a voltage gated L type calcium channel blocker on the enhancement of schizophrenic patients' cognitive deficits.
Methods: We designed a double blind randomized, parallel, placebo controlled clinical trials. 60 patients with schizophrenia randomized in 3 specific groups. The first group received isradipine 5 mg, the second raloxifine 60 mg and the third placebo for 6 consequent weeks, in the same shape capsules, 2 times a day, alongside treatment with the conventional antipsychotics. The initial and final lab tests, ECG, as well as cognitive tests in specific domains such as attention, processing speed, executive function and verbal memory were carried out.
Results: Our findings, revealed a remarkable association between adjunctive treatment of raloxifine in verbal memory deficits. moreover, isradipine treatment indicated significant improvement relative to placebo in verbal memory as well as attention dysfunction in some variables of the Stroop test. However, no effect was observed in processing speed and executive function deficits.
Discussion: The study provides the first evidence to our knowledge, which isradipine as a novel therapy was associated with improvement in verbal