Abstract:

Cognitive deficit presents a significant problem affecting the life of schizophrenia patients. Despite the variability of the deficit, which influences almost all cognitive domains, the most profound seems to be deficit in memory and executive functioning with direct impact on daily functioning of patients with schizophrenia. As the pharmacologic interventions do not seem to bring satisfying results, the cognitive remediation seems to bet the most effective way of intervention of the deficit. Efficacy of cognitive remediation approach was repeatedly confirmed on the level of structural and functional changes of the brain. Nevertheless, often discussed are the issues of ecological validity of cognitive remediation and its controversial ability of transfer of acquired abilities and skills into the real life. In this work, we present development of a new method potentially applicable in the remediation of deficit of declarative memory in schizophrenia patients designed in ecologically valid environment of virtual supermarket. In the first two pilot studies, we tested the functionality of the task in the healthy volunteers and we compared their performance in the virtual task with the results in standard psychological memory tests. After considering the findings from the pilot studies, we verified the possibility of the task application in schizophrenia disorder. We compared the task performance in a group of 20 patients with chronic schizophrenia to the performance of 20 healthy volunteers matched for sex, age and education level. We also analyzed the association between the individual performance observed in the experimental task and that obtained from the standard cognitive tests in both tested groups. NIn addition, the clinical status of the patients was considered as possible predictor of patients performance. Furthermore, the complex data acquired in the virtual task allowed us to focus on qualitative characteristics of the performance in both groups, particularly on its relationship to the elected memory strategies.

Keywords: