THE EFFECTS OF COGNITIVE PC-BASED TRAINING IN PARKINSON DISEASE: CONSIDERATIONS ABOUT A CASE STUDY.

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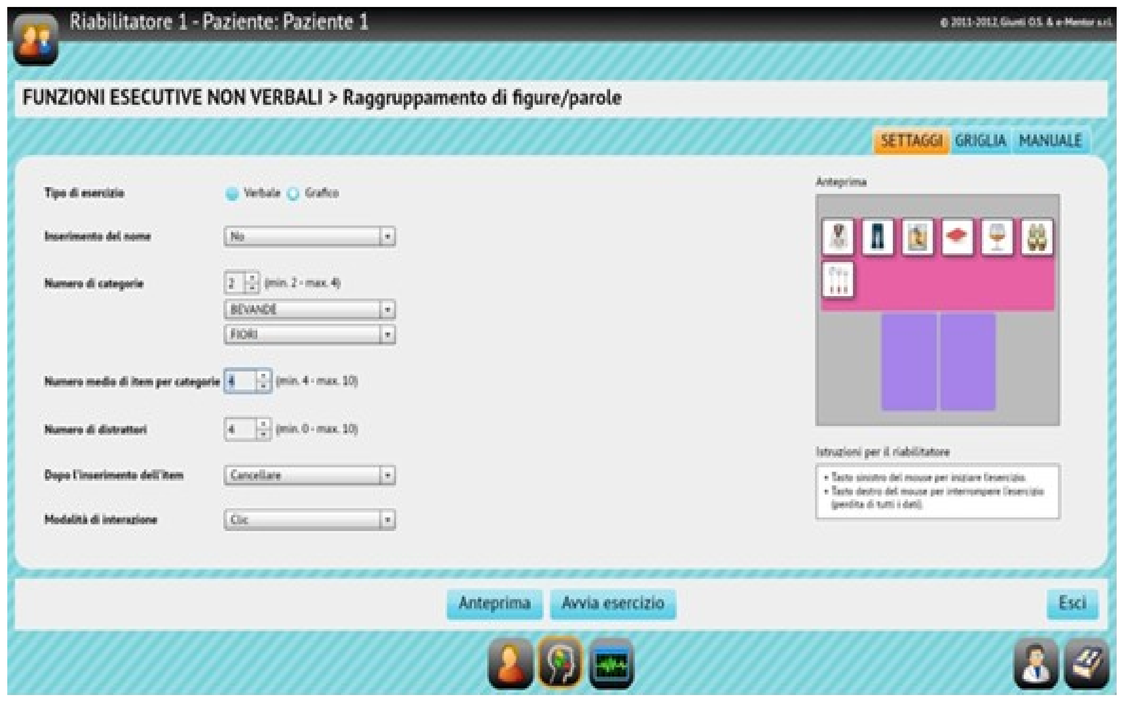
Introduction

Parkinson's disease (PD) is a neurological disorder caused by the degeneration of the Nigro-striatal System. Usually, PD arises when the patient is about 55 - 60 years old, and develops for 15 - 20 years, affecting 1 out of 1,000 of the global population (Tysnes, Storstei, 2017). PD main symptoms involve the motor system with a muscular stiffness, postural instability, tremor at rest and slow movements (Marino, Lanzafame, Sessa & Bramanti, 2010). However, cognitive - behavioral abnormalities may be also present, although often neglected. The cognitive disorders can be so serious to provide a clinical picture of insanity, with a higher prevalence of executive and visuo-spatial disorders (Aarsland, Bronnick, Larsen, Tysnes, & Alves, 2009; Elgh et al., 2009). Aim of this study was to evaluate the effects of the computerized rehabilitative tool ERICA in the cognitive recovery of a patient with Parkinson's disease (PD).

Figure 1. Example ERICA Exercises



Material and Methods. A 65-year-old man affected by PD, with motor complications, (unpredictable On-Off, dyskinesia) and severe gait impairment. Moreover, he was affected by cognitive alterations, with a reduction of attention and memory process and deficit to executive functions, besides an important depression of mood. He underwent two different intensive rehabilitation trainings, including either standard cognitive rehabilitation alone or a specific PC based cognitive training, in addition to standard treatment. We evaluated his neuropsychological profile, before and after the two different trainings, by using a specific psychometric battery. The overall PC was articulated in 3 sessions/weekly for 2 months. Pc-cognitive training was realized by using an Italian computerized cognitive tool, namely Erica (see figure 1), which consists of exercises specific finally aimed at improving 5 cognitive domains (attention, memory, spatial cognition, verbal and non-verbal executive functions).

Table 1. Evaluation carried out on the patient

Psychological Evaluation Clinical Scale	T0	T1	T3	RCI
MoCA	21	22	26	2.2
WST	8	9	13	1.9
FAB	9	9	14	2.1
HRS-D	20	15	10	
HRS-A	14	10	5	

Results. Only at the end of the PC-training, we observed an important improvement in attention and executive functions, as well as mood stabilization (see table 1).

Conclusion. Parkinson's disease (PD) is a neurodegenerative disorder that is best managed by a combination of medication and regular physiotherapy. Pc cognitive training may be a valuable tool in improving cognitive skills, wither regard to attention, memory process and executive functions, so to optimize patient's management.

References.

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