

Supplementary materials

Table 1. Study characteristics.

EG, experimental group; CG, control group; VRT, virtual reality training; NA, not available.

<i>Author</i>	<i>Years</i>	<i>n</i>	<i>Age</i>	<i>TBI severity</i>	<i>Time since TBI</i>	<i>Intervention type</i>	<i>Intervention specifics</i>	<i>Outcomes variables</i>	<i>EF measure</i>	<i>Results</i>
De Luca et al.	2019	100 EG=50 CG=50	39.9±10.05	mild to moderate	3-6 months	EG – semi-immersive VRT CG – standard rehabilitative care	EG – 60 mins/session; 3x/week; total 8 weeks CG – 60 mins/session; 3x/week; total 8 weeks	Sustained attention; Spatiotemporal orientation; Visuospatial function; Executive function; Verbal memory; Language; Naming; Abstract thinking Complex attention; Cognitive flexibility; Inhibition; Working memory	Montreal Cognitive Assessment (MoCA); Trail Making Test	<i>EG vs. control</i> Sustained attention↑; Spatiotemporal orientation↑; Visuospatial function↑; Executive function↑; Verbal memory↑; Language↑; Naming↑; Abstract thinking↑ Cognitive flexibility↑; Inhibition; Working memory↑

De Luca et al.	2022	30 EG=15 CG=15	43.56± 16.04	NA	3 months	EG – non-immersive VRT CG - standard rehabilitative care	EG – 60 mins/session; 3x/week; total 8 weeks; CG – 45 mins/session; 3x/week; total 8 weeks;	Sustained attention; Spatiotemporal orientation; Visuospatial function; Executive function; Verbal memory; Language; Naming; Abstract thinking; Cognitive flexibility; Inhibition; Working memory	Montreal Cognitive Assessment (MoCA); Trail Making Test	<i>EG vs. control</i> Sustained attention↑; Spatiotemporal orientation↑; Visuospatial function↑; Executive function↑; Verbal memory↑; Language↑; Naming↑; Abstract thinking↑; Cognitive flexibility↑; Inhibition↑; Working memory↑
De Luca et al.	2023	20 EG=10 CG=10	44.6 16.13	moderate to severe	≥6 months	EG - non-immersive VRT CG - standard rehabilitative care	EG – 60 mins/session; 3x/week; total 8 weeks; CG – 60 mins/session; 3x/week;	Sustained attention; Spatiotemporal orientation; Visuospatial function; Executive function; Verbal memory;	Montreal Cognitive Assessment (MoCA); Trail Making Test; Go-No-Go Test	<i>EG vs. control</i> Sustained attention↑; Spatiotemporal orientation↑; Visuospatial function↑; Executive

							total 8 weeks;	Language; Naming; Abstract thinking; Cognitive flexibility; Inhibition; Working memory		function↑; Verbal memory↑; Language↑; Naming↑; Abstract thinking↑; Cognitive flexibility↑; Inhibition↑; Working memory↑
Jacoby et al. 2013	2013	12 (8 males, 4 females)	19-55	NA	NA	EG - non-immersive VRT CG - standard rehabilitative care	EG – 45 mins/session; 3-4x/week; total 8 weeks; CG – 45 mins/session; 3-4x/week; total 8 weeks;	Executive function	Multiple Errands Test – Simplified Version Executive Function Performance Test	EG vs. control Executive function↑;
Man et al.	2013	40 EG=20 CG=20	NA	mild to moderate	NA	EG - non-immersive VRT CG - standard rehabilitative care	EG - 20–25 mins/session 12x/NA; CG - 20–25 mins/session 12x/NA	Executive planning; Goal-oriented behaviour; Cognitive reasoning	Card Sorting Test	EG vs. control Cognitive reasoning↑

Sharma et al.	2024	80 EG=40 CG=40	18-60	mild to moderate		EG - non-immersive VRT CG - standard rehabilitative care		Sustained attention; Spatiotemporal orientation; Visuospatial function; Executive function; Verbal memory; Language; Naming; Abstract thinking; Cognitive flexibility; Inhibition; Working memory; Executive planning; Goal-oriented behavior	Trail Making Test	<i>EG vs. control</i> Sustained attention↑; Spatiotemporal orientation↑; Visuospatial function↑; Executive function↑; Verbal memory↑; Language↑; Naming↑; Abstract thinking↑; Cognitive flexibility↑; Inhibition↑; Working memory↑
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