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Perceived effects of a 4-Week Sensorimotor Training-Intervention in childhood cancer patients on selected physical abilities

Purpose

To determine the perceived effects of a sensorimotor training (SMT) on selected physical abilities in childhood cancer patients receiving chemotherapy.



Figure 1: A child performing variations of foot positions

Methods

A 4-week SMT-Intervention in childhood cancer patients receiving acute medical treatment (mixed diagnoses, 5-21 years) was conducted. SMT training was performed 3x/week (each 2nd session was supervised). 3-6 exercises/session were performed (5 reps à 20s followed by 20s rest, 1 min rest between exercises). Participants selected the exercise intensity by combining different exercise positions, surfaces and dual tasks using a specific card-game. Perceived effects were assessed using a self-developed questionnaire (5-point-likert scale) following the 4-week intervention.

Results

Table 1: Perceived effects of the SMT on selected physical abilities

		Disagree n (%)	Some- what, disagree n (%)	Neutral n (%)	Some- what, agree n (%)	Agree n (%)	I don't know n (%)
SMT made my feet feel stronger	(n=8)	3 (37.5)	0 (0.0)	0 (0.0)	4 (50.0)	1 (12.5)	0 (0.0)
SMT made my legs feel stronger	(n=8)	1 (12.5)	0 (0.0)	2 (25.0)	4 (50.0)	1 (12.5)	0 (0.0)
I was able to move better	(n=8)	0 (0.0)	0 (0.0)	1 (12.5)	4 (50.0)	3 (37.5)	0 (0.0)
I was able to walk/run better	(n=8)	0 (0.0)	1 (12.5)	2 (25.0)	1 (12.5)	4 (50.0)	0 (0.0)
SMT improved my balance	(n=8)	1 (12.5)	0 (0.0)	3 (37.5)	2 (25.0)	1 (12.5)	1 (12.5)
SMT increased my physical activity in general	(n=8)	1 (12.5)	0 (0.0)	0 (0.0)	4 (50.0)	3 (37.5)	0 (0.0)

Conclusions

During and after SMT, children perceived an improved strength of their lower extremities and increased mobility. Our results suggest, that SMT may increase physical activity. Thus, it might be implemented into therapy as an additional beneficial exercise strategy in pediatric oncology.

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