



Fitness activities for disable children

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Introduction

Those disable children often have the problem of motor deficits and physical task learning difficulties. Motor competence always can show the difference of physical fitness in those kids from regular children. Due to health inequality, the disable children always have less physical activity than normal children, also have lower physical fitness. On the other hand, poor level of physical fitness will impact the kids' both physical growth of skeletomuscular system and health of cardiopulmonary function, and mental health.. Decrease of energy consumption and muscle strengthening in performance of daily activities may increase the risk of over weight, social withdraw, low self-esteem , even behavioral problem and many chronic disease. The aim of our project is to design of a group therapy programs to challenge and promote 1) motor competence and 2) physical fitness in disable children over six months. 44.

Method

During January 2008 – November 2009, thirty disable children participated our treatment program, and fifteen children have finished the treatment over six months. These fifteen children (nine boys and six girls) aged between 4-7 years and included twelve children diagnosed as developmental coordination disorder (DCD), one child diagnosed as cerebral palsy, one child diagnosed as Down's syndrome and one child of Marfan syndrome. In this project, we used the test Movement Assessment Battery for children (MABC) to evaluate the fine motor and gross motor coordination and some motor competence in daily life. We measured the muscular strength and endurance, flexibility, cardiopulmonary endurance and body composition(BMI) for physical fitness components. Those subjects were treated by a physical therapist and a occupational therapist, 30-50mins a session, once per week, over a period of six months. To contrast the initial assessment and outcome assessment of every subject shows the effect of our treatment.



Result

In this part of physical fitness, every child got improvement in cardiopulmonary endurance, and muscular strength and endurance. Ten of fifteen children got improvement in body flexibility. But in the body composition , we didn't see good effect after treatment. In motor competence, the average mABC impairment scores are declined , especially in the aspect of balance from 10 to 7, others including ball skills from 6.9 to 5.4, and manual dexterity from 6.7 to 5. There are significantly statistic differences in those aspects of cardiopulmonary endurance, muscular strength and endurance and mABC total score after treatment.(P<0.05, T test , 2-tailed).

Conclusion

This program for disable children who usually inactive were had well effect. Most of these children got improvement in fitness and motor performance. However the treatment not only treat the children's insufficient ability but also increasing their exercise motivation.

	Mean	SD	t	Sig
Muscular endurance				
Sit -up (before)	3.333	4.677	-3.654*	.000
Sit -up (after)	5.416	5.991		
Flexibility				
Sit & reach (before)	9.500	7.317	-1.536	.153
Sit & reach (after)	12.916	8.959		
Muscular strength				
Hand grip (before)	5.833	3.613	-1.059*	.000
Hand grip (after)	7.500	4.421		
Cardiopulmonary endurance				
Run / walk (before)	402.250	202.995	-3.665*	.004
Run / walk (after)	635.833	155.496		

P<0.05

