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Effects physical exercises and minor games on speed in mild mentally challenged children

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Abstract

The intention of the study was to analysis the effects of physical exercises and minor games on Speed in mentally challenged Children. To achieve this purpose of the study 45 mild category mentally challenged Children were selected from SATYA Special School Puducherry. Children chronological age from 15 to 20 and their IQ ranged from 60% to 70%. They were divided into three groups physical exercise group (PEG) was considered as Group I, minor games group (MGG) considered as group II and control group (CG) considered as Group III. Group I and II undergone training for 18 weeks. The training was scheduled for three days in a week for an hour (4pm to 5 pm) and CG was not undergone the training. Random group design was used for this study. Speed is the criterion variable which was measured by 50 mts dash. The test was taken before and after the training period. The collected data were statistically analysed by Analysis Covariance (ANCOVA). All the data were analyzed using SPSS statistical package. The level of confidence was fixed at 0.05 level of significance. From the results of the study it can be concluded that there is no significant difference between CG and PEG on speed. Thus, the above result clearly indicates that the speed in the children belonging to the MGG has considerably improved in comparison to the PEG and CG.

Keywords: Physical exercise, minor games, speed, mentally challenged

Introduction

Concept of Mental Retardation/Mentally Challenged

The AAMD defines "Mental retardation refers to a significantly sub-average general intellectual functioning resulting in or associated with concurrent impairments in adaptive behaviour and manifested during the developmental period" (Grossman, 1983) ^[1]. This is a useful meaning which was focuses on the connection among the individual's capacities, the earth in which the personal capacities, and the requirement for emotionally supportive networks. The AAMR meaning of mental impediment, showing before age eighteen, alludes to a generous confinements in present working, described by altogether sub-normal scholarly working which exists simultaneously with related constraints in two or a greater amount of the accompanying versatile aptitude territories i.e., home living, self-care, group use, correspondence, self-heading, social abilities, utilitarian scholastics, wellbeing and security, relaxation and work.

In most of the cases the persons with Mental Retardation, the intellectual functioning level is very below average and marks in considerable constraints in the individual's everyday living abilities and it proceeds for the duration of grown-up life. The analysis of mental hindrance is made if a man has a scholarly working level well beneath normal and in addition noteworthy limits in two or more versatile ability zones. State administered tests are utilized for measuring the scholarly working level regarding mental age (IQ). Generally, the persons with IQ score below 70-75 come under mental retardation. Useful abilities are the word that alludes to execution required for everyday life. A percentage of the abilities are capacity to yield and acknowledge dialect, wellbeing, recreation, home living aptitudes, social abilities, utilization of group assets, and self-care utilitarian scholarly aptitudes (perusing, composing, and number juggling); self-heading security, and occupation related abilities.

Typically, there can be dynamic turning points as talking and strolling rationally for the impeded kids than the youngsters in the widespread populace. Indications of mental impediment are perceivable either during childbirth or later adolescent.

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The tyke's age toward the starting relies on upon the questioned reason for the inability. In few cases mellow mental hindrance is not distinguished before the tyke goes to kindergarten or preschool. Offspring of this kind normally experience issues with correspondence, useful scholarly abilities and social. Kids who have a neurological issue for instance encephalitis might rapidly hint at psychological insufficiency and versatile troubles (Luckasson, *et al.* 2002).

Kale. B (2011) observed that mentally challenged is a summed up confusion and portrayed by essentially disabled intellectual working and shortages in two or more versatile practices with starting before the age of eighteen. It has been characterized verifiably as an IQ score beneath seventy. Once secured totally on cognizance, the definition now stretches out to both segments identified with mental working and one identified with persons' useful aptitudes in their environment.

Classification of Mental Retardation

Mental hindrance can be ordered taking into account in its seriousness. As indicated by the Diagnostic and Statistical Manual of Mental Disorders, fourth release, content correction (DSM-IV-TR) (2013), the investigative standard for psychological wellness care experts in the US, ordered into four unique sorts of mental hindrance to be specific mellow, direct, extreme and significant. These classes depend on the individual's level of working.

Table I: Classification of Mental Retardation

S. No.	Classification	I.Q. Level
1.	Borderline Intellectual Functioning	70 to 84
2.	Profound Mental Retardation	20 to 34
3.	Severe Mental Retardation	35 to 49
4.	Moderate Mental Retardation	50 to 69
5.	Mild Mental Retardation	50 to 70

Review of Related literature

Physical Exercises (Aerobic & Free Hand Exercises) and Mentally Challenged Children

Exercise and exercise training regularly are utilized conversely and for the most part allude to physical exercise performed amid recreation time with the basic role of enhancing or keeping up physical health, physical execution, or wellbeing (Physical Exercise Guidelines Advisory Committee, 2008).

Persons with intellectual disability (ID) and related numerous inabilities have been observed by numerous analysts to be a populace with insufficient physical fitness measures, which can be clarified by a latent way of life, a consequence of absence of attention to the constructive physical effects of physical exercise, or absence of inspiration for any engine action. Different arrangements for physical exercise have been advanced, however numerous are discovered illogical in non-research based mediation. In this study, 15 youngsters with ID on an engine working level of 7-14 months utilized a treadmill day by day for 2 months. Our discoveries demonstrated a most huge change in the level of physical fitness of the members ($p < 0.005$), as measured by pulse rate very still and amid exertion. The change in physical fitness unassumingly ($r = 0.5$), however essentially ($p < 0.05$), associated with a critical ($p < 0.0007$) change in useful capacity of the taking an interest children. Further examination a year after mediation ended demonstrated an arrival to pre-intervention pulse rate very still

values. The examination analyzed the treadmill training strategy and found that it can be worked with the backing of an untalented staff individual under the supervision of a physiotherapist. The exploration was performed under genuine conditions, empowering generally simple execution in the current states of a custom curriculum focuses. This technique is a kind of exercise that is anything but difficult to work without involving long haul budgetary costs and may enhance the wellbeing status of youngsters with ID, who are a populace at danger for creating heart-related maladies at a youthful age (Lotan M, 2004).

Grown-ups with Intellectual Disability, as appeared by a few researches, have diminished cardiovascular fitness, minor rates of physical activity and developed occurrence of stoutness contrasted with individuals without Intellectual Disability (Baynard *et al.* 2008). This debilitated fitness is connected with a few elements, for example, a stationary way of life, conceivable absence of inspiration and errand understanding, horrible eating routine, diminished muscle quality, hypotonicity, oxygen consuming limit, without fat mass, an expanded predominance of cardiovascular ailments and lower insulin affectability (de Winter *et al.* 2009; Flore *et al.* 2008).

Minor Games and Mentally Challenged Children

Minor games advance learning and development for each child who takes an interest in such games. The games have been amended and tried with a specific end goal to guarantee that every game is easy to follow and adds to the comprehensive improvement of the child.

Minor games required little equipment and it can be able to play almost anywhere. Players need a little basic knowledge and number of skills. Physical training is an arranged project of motor exercises that helps the person to create and control their body or it is a procedure from side to side which good adjustment and learning (natural, scholarly, social, social, passionate, neuromuscular, and tasteful) results from a genuinely fiery action. Physical training is a formal territory of instructive action in which the primary concern is with substantial developments that occur in an instructive foundation (Williams J. F. 1964).

Methodology

The intention of the study was to analysis the effects of physical exercises and minor games on Speed in mentally challenged Children. To achieve this purpose of the study 45 mild category mentally challenged Children were selected from SATYA Special School Puducherry. Children chronological age from 15 to 20 and their IQ ranged from 60% to 70%. They were divided into three groups physical exercise group (PEG) was considered as Group I, minor games group (MGG) considered as group II and control group (CG) considered as Group III. Group I and II undergone training for 18 weeks. The training was scheduled for three days in a week for an hour (4pm to 5 pm) and CG was not undergone the training. Random group design was used for this study. Speed is the criterion variable which was measured by 50 mts dash. The test was taken before and after the training period. The collected data were statistically analysed by Analysis Covariance (ANCOVA). All the data were analyzed using SPSS statistical package. The level of confidence was fixed at 0.05 level of significance.

Data Analysis and Interpretation
Analysis of Speed

Table VI: Analysis of Covariance Table for Pre, Post and Adjusted Post Tests on Speed of Cg, Peg and Mgg (Units of Measurements in Seconds)

	CG	PEG	MGG	SOV	SOS	DF	MS	F
Pre-test Mean	8.037	8.035	8.272	B:	0.559	2	0.279	0.084
S.D	1.354	2.378	1.557	W:	138.829	42	3.305	
Post-test Mean	8.103	7.937	7.86	B:	0.479	2	0.239	0.070
S.D	1.379	2.385	1.62	W:	143.292	42	3.412	
Adj. Post-test Mean	8.182	8.018	7.696	B:	1.823	2	0.911	18.651*
				W:	2.003	41	0.049	

*Significant at 0.05 level.

The table values required for significance at 0.05 level of confidence for 2 & 42, 41 is 3.22 & 3.23.

The above table indicates the mean values and ‘F’ values of the pretest, posttest and adjusted posttest of CG, PEG and MGG on speed. It can be observed from the table that the pre and posttest’s ‘F’ value is lesser than the table value 3.22, the degrees of freedom 2 & 42 significant at 0.05 level. Hence, it can be inferred from the result that there is no significant difference between CG and EGs on *speed* before and after the

training. But in the case of adjusted post-tests’ ‘F’ value is higher than the table value 3.23 the degrees of freedom 2 & 41 significant at 0.05 level between CG and EGs on *speed* owing to the impact of training provided to them. Hence, the results of the study reveal that there is a significant change in EGs in comparison to CG. The Scheffe’s Post Hoc test was used to compare the paired mean difference between the groups and the following table explains it.

Table VII: Scheffe’s Post Hoc Test on Speed

CG	PEG	MGG	MD	CD
8.182	8.018	-	0.164	0.21
8.182	-	7.696	1.116*	
-	8.018	7.696	0.322*	

* Significant at 0.05 level. The Scheffe’s critical difference is 0.21.

The above table explains the adjusted posttest mean differences between CG and EGs on speed. It can be noted from the table that CG and PEG mean difference is 0.164, CG and MGG mean difference is 1.116 and PEG and MGG mean difference is 0.322. Therefore, the mean differences of CG & PEG and CG & MGG values are lesser than the critical difference value of 0.21 at significant level of 0.05. Hence, there is a significant difference between CG & PEG and PEG

& MGG. But when compare to CG and PEG, their mean value is lesser than the critical difference value. Hence, it can be concluded that there is no significant difference between CG and PEG on speed. Thus, the above result clearly indicates that the speed in the children belonging to the MGG has considerably improved in comparison to the PEG and CG. The mean difference of CG, PEG and MGG on speed is showed in figure 2.

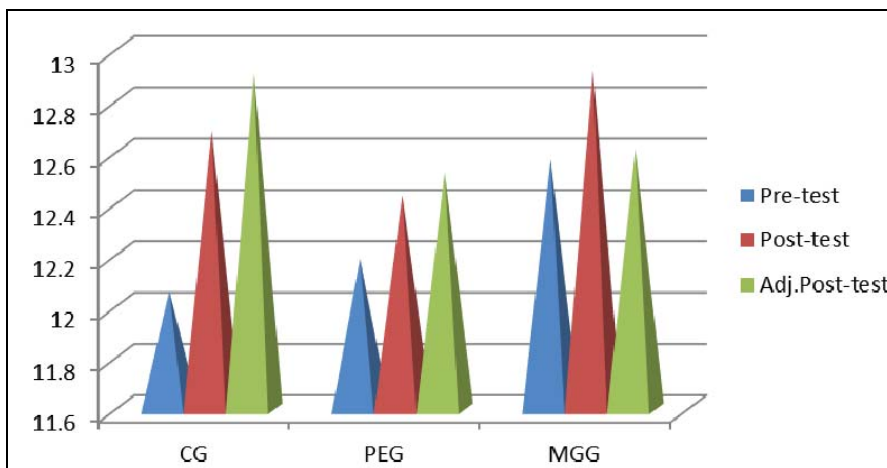


Fig 2: Linear Graphical Representation on Speed

Discussion on findings

The outcome of the study is observed that there is no significant change on *speed* in the means value of the pre-test and post-test between the CG and EGs. But the result of

Adjusted Post Hoc test point out that *speed* has significant changes between CG and EGs after the eighteen weeks training of physical exercise (combination of free hand and aerobic exercise) and minor games. The result of the study

concludes that the speed improved for the impact of the eighteen weeks training of physical exercise and minor games. It is evident from the study that the minor game training group is significantly better than the other two groups.

Inchulkar Shilpa and Venugopal Reeta, (2013) determined the effect of ten weeks of physical education program on speed for mentally retarded (MR) children and he concluded that participation in physical education program improved *speed* in mentally challenged children.

Ahmadi Rahmat, (2013) ^[2] resolute that the impact of core stability exercises program on physical fitness of children with mental retardation. Results showed that training group to be a possible and effective way to develop in significantly speed.

Conclusion

Based on the limitation and delimitation of the present study, the following conclusions are drawn,

The result of the study reveals that there is a significant change between control group (CG) and experimental groups (EGs) on all the physical fitness variables such as *speed, shoulder strength, explosive power, coordination and balance* after eighteen weeks of physical exercises (freehand and aerobic exercise) and minor games training on mentally challenged children.

References

1. American Association on Mental Deficiency, Lambert, N. M., & Windmiller, M. AAMD adaptive behavior scale. Publishers Test Service, 1981.
2. Grossman HJ. Classification in Mental Retardation. American Assessment on Intellectual & Devel, 1983.
3. Luckasson R, Borthwick-Duffy S, Buntinx WH, Coulter DL, Craig EMP, Reeve A *et al.* Mental retardation: Definition, classification, and systems of supports. American Association on Mental Retardation, 2002.
4. Kale Ravenscroft G, Miyatake S, Lehtokari VL, Todd EJ, Vornanen P, Yau KS *et al.* Mutations in KLHL40 are a frequent cause of severe autosomal-recessive nemaline myopathy. The American Journal of Human Genetics. 2013; 93(1):6-18.
5. Lotan M, Isakov E, Kessel S, Merrick J. Physical fitness and functional ability of children with intellectual disability: effects of a short-term daily treadmill intervention. The scientific world journal. 2004; 4:449-457.
6. Baynard T, Pitetti KH, Guerra M, Unnithan VB, Fernhall B. Age-related changes in aerobic capacity in individuals with mental retardation: a 20-yr review. Medicine and science in sports and exercise. 2008; 40(11):1984-1989.
7. De Winter JCF, Dodou DIMITRA, Wieringa PA. Exploratory factor analysis with small sample sizes. Multivariate Behavioral Research. 2009; 44(2):147-181.
8. Flores R, Hoddinott J, Maluccio JA, Behrman JR, Martorell R. Effect of a nutrition intervention during early childhood on economic productivity in Guatemalan adults. The lancet. 2008; 371(9610):411-416.
9. Williams JF. The principles of physical education. WB Saunders, 1964.
10. Shilpa I, Reeta V. Effect of exercise on psychomotor variables in mentally challenged children, 2013.
11. Rahmat A, Hasan D. The Effect of Core Stabilization Exercises on Factors Physical Fitness to Mental Retardation". Medicina Sportiva. 2013; 9(1):2058-2062.