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An appraisal of self-perceived and measured Low back flexibility of visually and hearing impaired Childrens of Karnataka state

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Abstract

In India the Persons with disabilities Act 1995 came into force to ensure equal opportunities, protection of rights, rehabilitation and employment to the people with disabilities and their participation in nation building. It also provides for education, vocational training, research, reservation, creation of barrier free environment and housing. Important provisions under the act are early detection and prevention of disabilities; comprehensive and special education; Employment; Non-discrimination in the society; research and manpower development; affirmative action; social security and grievance redressal. The cause of the present investigation was to measure the low back flexibility of visually and hearing impaired childrens of Karnataka state. Further the level of perception on low back flexibility was also correlated with their actual status. The present study was conducted on 414 visually and hearing impaired school going childrens selected through purposive random sampling technique. The study included visually impaired children (N=243) and hearing impaired children (N=171) in male category. All the subjects were residents of special schools within Karnataka state. Their age ranged between thirteen to eighteen years. The low back flexibility was done by following the standard procedure and level of perception on low back flexibility of visually and hearing impaired school childrens was done using a 3 point likert scale. The low back flexibility of 13 to 14 years with 25.39 ± 4.82 ; 27.44 ± 4.98 in 15 to 16 years; and 28.42 ± 5.75 in 17 to 18 years. On the basis of the findings of the present investigation it is concluded that the visually and hearing impaired school going childrens poor low back flexibility is an indication of low physical fitness level. Further, the visually and hearing impaired school children under investigation are unable to significantly moderate positive linear relationship their low back flexibility in particular.

Keywords: low back flexibility, sit and reach, disability, visually impaired, hearing impaired and perception

Introduction

The education is a most dominant tool of social change, and frequently initiates rising movement in the social structure. There by, serving to bridge the gap between the different sections of the public. The educational scene in the nation has undergone main change over the years, resulting in improved provision of education and improved educational practices. The learner with special educational needs is defined variously in different documents In India. For example, a child with special educational needs in a district primary education programme document is defined as a child with physically challenged, namely, vision loss, hard-of-hearing, loco motor, and intellectual. However, the nation report in the NCERT UNESCO regional workshop report titled assessment of needs for inclusive education: report of the first regional workshop for SAARC countries (2000) states that special educational needs goes beyond physical with disability. The sarva shikshana abhiyan structure for execution covers children with special needs under the section on special centre of attention groups. While separating children with physical disabilities from other groups like girls, scheduled castes, scheduled tribes and urban disadvantaged children, it makes provisions for these children under the section on special educational needs (Rajakumar *et. al.*, 2006)^[11].

Daily physical fitness activity is a most powerful indicator of health in childhood years as well as in adulthood. It is related with reduces in the risk of cardiovascular diseases and the

improvement of a healthy body weight among other aspects. In common, physical fitness tests inside the school educational system are a most important weapon to measure the achievements of the learning standards related with physical education. In this standards are set by the results of field of physical tests. These are normally used by universal schemes to assess the levels of physical wellbeing of children and adolescents in schools (Hobold *et. al.*, 2017) [6].

The flexibility is a one of the part of physical fitness component that has been broadly associated to health. The lack of hamstring muscles extensibility situation is reducing of pelvic mobility that leads to an invariable biomechanical transform in the force distribution in the spine. Hence, poor hamstring flexibility has been related with postural deformities, gait limitations, bigger in risk of falls, and susceptibility to musculoskeletal injuries. Moreover, among youth people a excellent flexibility in the hips seems to contribute to the reduce of the risk of low back pain and neck tension (Mayorga-Vega, Merino-Marban, Garcia-Romero, 2013) [9].

The objective of the study

The current study was to measure the low back flexibility of blind as well as deaf and dumb residential school children of Karnataka State. Further the level of perception on low back flexibility was also correlated with their actual status.

Methodology

Picture 1 and 2 Assessment of low back flexibility



Findings of the study

Interpretive analysis including mean and standard deviation were employed to the raw data collected on low back

flexibility of the subjects selected for the present study. The results are revealed in table 1.

Table 1: Interpretation of results on characteristics of hearing and visually impaired Childrens

Variable	Units	13 to 14 years	15 to 16 years	17 to 18 years
		Mean ± S. D	Mean ± S. D	Mean ± S. D
N		128	176	110
Age	in years	13.45 ± 0.50	15.45 ± 0.50	17.45 ± 0.50
Low Back Flexibility	in centimetres	25.39 ± 4.82	27.44 ± 4.98	28.42 ± 5.75

\bar{x} = Mean, S.D = Standard Deviation

Explanation of the table 1 apprise that the age of hearing and visually impaired children’s under investigation was 13.45 ± 0.50 in (the first score indicates mean followed by standard deviation) 13 to 14 years; 15.45 ± 0.50 in 15 to 16 years and 17.45 ± 0.50 in 17 to 18 years. The low back flexibility was

25.39 ± 4.82 in 13 to 14 years; 27.44 ± 4.98 in 15 to 16 years; and 28.42 ± 5.75 in 17 to 18 years.

Table 2 provides results on low back flexibility of hearing and visually impaired school children’s with reference to available norms.

Table 2: Norms based results on low back flexibility of special population in Karnataka

Normative values	Normative category	13 to 14 years		15 to 16 Years		17 to 18 Years	
		f	%	f	%	f	%
37 and above	Excellent	1	0.78	7	3.98	6	5.45
34.80 to 36.99	Good	3	2.34	8	4.55	11	10
29.60 to 34.79	Average	21	16.41	42	23.86	31	28.18
21.00 to 29.59	Fair	84	65.63	103	58.52	53	48.18
20.99 & below	Poor	19	14.84	16	9.09	9	8.18
Total		128		176		110	

F = frequency, % = Percentage

It is clear from the table 2 that in hearing and visually impaired children’s of 13 to 14 years (14.84%) were poor in low back flexibility; fair in low back flexibility (65.63%); average in low back flexibility (16.41%); good in low back flexibility (2.34%) and (0.78%) excellent in low back flexibility. In hearing and visually impaired children’s of 15 to 16 years it is observed that (9.09%) were poor in low back flexibility; fair in low back flexibility (58.52%); average in low back flexibility (23.86%); good in low back flexibility

(4.55%) and (3.98%) excellent in low back flexibility. Further, in hearing and visually impaired children’s of 17 to 18 years it is found that (8.18%) were poor in low back flexibility; fair in low back flexibility (48.18%); average in low back flexibility (28.18%); good in low back flexibility (10%) and (5.45%) excellent in low back flexibility. The norms for the present per cent analysis were obtained from (Ministry of Youth affairs and sports, 2012). The above results are graphically depicted in figure 1.

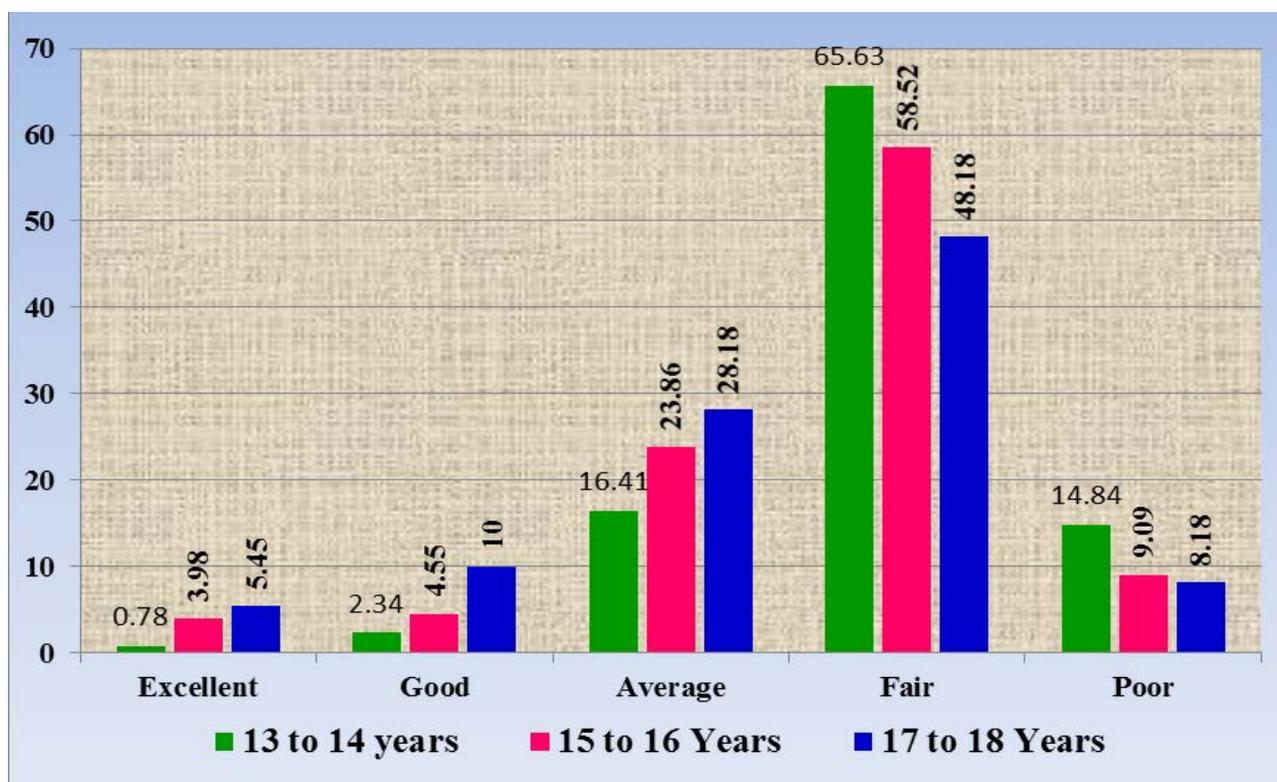


Fig 1: Norms based results on low back flexibility of visually and hearing impaired children

Table 3: Correlation between perceived and actual low back flexibility in 13 to 14 years

Actual low back flexibility		
Perceived low back flexibility	Pearson Correlation	.366**
	Sig. (2-tailed)	.000
	N	128

** Correlation is significant at the 0.01 level (2-tailed)

It is clear from the table 3 that the levels of perception on low back flexibility showed significantly moderate positive linear relationship when correlated with actual low back flexibility in visually and hearing impaired children’s of age 13 to 14 years. Table 4 provides information on association between perceived and actual low back flexibility of visually and hearing impaired children’s in the age group 15 to 16 years.

Table 4: Correlation between perceived and actual low back flexibility in 15 to 16 years

Actual low back flexibility		
Perceived low back flexibility	Pearson Correlation	.517**
	Sig. (2-tailed)	.000
	N	176

** Correlation is significant at the 0.01 level (2-tailed)

Analysis of table 4 depicts that the levels of perception on low back flexibility showed significantly moderate positive linear relationship when correlated with actual low back flexibility in visually and hearing impaired children’s of age 15 to 16 years. Table 5 provides information on association between perceived and actual low back flexibility of visually and hearing impaired children’s in the age group 17 to 18 years.

Table 5: Correlation between perceived and actual low back flexibility in 17 to 18 years

Actual low back flexibility		
Perceived low back flexibility	Pearson correlation	.349**
	Sig. (2-tailed)	.000
	N	110

** Correlation is significant at the 0.01 level (2-tailed)

Introspection of table 5 reveals that the levels of perception on low back flexibility showed significantly moderate positive linear relationship when correlated with actual low back flexibility in special population of age 17 to 18 years.

Discussion

In 13 to 14 years, (65.63%) of visually and hearing impaired children's in Karnataka were below average in low back flexibility and (14.84%) were poor. In 15 to 16 years, (58.52%) were below average and (9.09%) were poor. In 17 to 18 years, (48.18%) were below average and (8.18%) were poor. (Abdullah *et al.*, 2015) ^[1] Identified the 130 differences of fitness profile between students with hearing impairment and students with visual impairment at secondary schools. The findings showed that students who are visually impaired performed better in sit and reach test than students with hearing impairment. (Ghosh and Banerjee, 2015) ^[5] Compared the flexibility between the Deaf and Dumb and Normal school girls of west Bengal. Significant difference was observed between the Normal and Deaf and Dumb Girls in Flexibility. (Al-Rahamneh, Dababseh and Eston, 2013) ^[2] Assessed the flexibility level of 10 to 13 year old deaf students in Jordan. It was concluded that deaf students should exercise more and should be included in ordinary schools to benefit of the exercise programmers in these schools; especially as deaf students can perform equally to hearing students if given the chance. (Madhu and Amarpreet, 2015) ^[8] analyzed the flexibility in relation to sedentary, active and deaf and dumb school going girl students. The result of flexibility leads to the significant difference between sedentary, active and deaf and dumb school going girl students. (Atan and Ayca, 2015) ^[3] examined the effect of three-month goal ball sport on physical performance of visually impaired students and was found that audial reaction time, standing long jump, grip strength, 10 m speed running time, vertical jump and flexibility levels of the group doing goal ball exercise was statistically better than that of the control group. Thus, it can be said that the subjects under investigation with lower flexibility can be benefitted by regular physical activity. (Feng, *et al.*, 2011) ^[4] investigated normal Spiro metric reference values for the Korean Chinese children and adolescents. The predicted values of forced vital capacity and forced expiratory volume in 1 second were higher than values obtained by using Caucasian and other Asian equations.

Levels of perception on low back flexibility showed significantly moderate positive linear relationship when correlated with actual low back flexibility in special population of Karnataka of all age groups under investigation. Hence, it is clear that the subjects having less back flexibility are aware of their limitations. This result will be certainly helpful in overcoming stiff back and other low back ache problems in future.

Conclusion

The present study visually and hearing impaired children's having poor low back flexibility. The visually and hearing impaired children's are not fully aware of their condition. The

situation is not very favorable and needs to be given due attention. The levels of perception on low back flexibility showed that significantly moderate positive linear relationship in 13 to 14 years, 15 to 16 years and 17 to 18 years group when correlated with actual low back flexibility.

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