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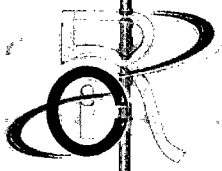

Rehabilitation Council of India
(A statutory body of Ministry of Social Justice and Empowerment)

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Dear Readers

It is informed to all readers and subscribers that due to certain technical problems we could not bring out Vol. 2, No. 1 (January to June 2006) issue that is why we have clubbed two issues Volume 2, No. 1 & 2 (January-December 2006).

WARNING AGAINST QUACKS

The Council suggests to all Government Institutions/Government hospitals/clinics/ and other Institutions working in the rehabilitation area. Please examine the status of professional qualifications of staff, working in the field. Do they really possess relevant degrees under the RCI Act 1992? If you find any non-qualified candidate working in the field inform the Council immediately.

It has come to our notice that some professionals/personnel are working in the area for which they do not have any specific qualification notified in the schedule of RCI Act, which is an offence under section 13 of the act. Registration of professionals working in the field of Rehabilitation is mandatory under the Act.

If any one perceives information regarding quacks working in the field of disability in any institution—Government/private, please do inform RCI.

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From Chairman's Desk

Twenty first century has seen a radical shift in the understanding of disability, from earlier medical interpretations of seeing disability as a deficit within the individual to that of viewing it in the context of a Rehabilitation issue.

As the last decade has seen the passing of three major legislations on disability by the Government of India: The Rehabilitation Council of India Act (1992), Persons with Disabilities Act (1995), and the National Trust Act (1999) have been enacted and implemented at both the Central and State level.

The National Policy on Education (NPE), 1986 and the Programme of Action (POA), 1992 gives the basic policy framework for education, emphasizing the correcting of existing inequalities. It emphasized on reducing dropout rates, improving learning achievements and expanding access to students who have not had an easy opportunity to be a part of the mainstream system. The NPE, 1986 envisaged measures for integrating the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence.

The 93rd Amendment of the Constitution of India has made education a fundamental human right for children in the 6-14 years age group thereby making it mandatory for all children to be brought under the fold of education. This includes children with disabilities.

India is fully agreed with the Salamanca Statement and Framework for Action on Special Needs Education (1994) that emphasizes access to quality education for all. The Statement endorses the need for fundamental policy shift to promote the approach to inclusive education, namely enabling schools to serve all children, particularly those with special educational needs by implementing practical and strategic changes.

The Government of India has enacted the legislation Persons with Disabilities (Equal Opportunities and Full Participation) Act, 1995 (PWD Act) to achieve amongst other things, the goal of providing access to free education in an appropriate environment to all learners with disabilities till eighteen years. The Act endeavours to promote the integration of learners with disabilities in mainstream schools.

The National Curriculum Framework for School Education (NCERT, 2000) has recommended integrated schools for learners with special educational needs by making

appropriate modifications in the content, presentation and transaction strategies, preparing teachers and developing learning friendly, evaluation procedures.

However, despite efforts over the past three decades by the government and the non-government sector, educational facilities need to be made available to a substantial proportion of persons with disability.

Compared to a National literacy figure of around 65 percent the percentage of literacy levels of the disabled population is only 49 percent. Therefore efforts should be made to promote education for persons with disabilities.

The thrust areas for special education in the coming years should include raising the quality of education at all levels.

Research has shown that integrated special education results in improved social development and academic outcomes for all learners. It leads to the development of social skills and better social interactions because learners are exposed to real environment in which they have to interact with other learners, each one having unique characteristics, interests and abilities. Able students should adopt positive attitudes and actions towards learners with disabilities. Thus, inclusive education lays the foundation to an inclusive society accepting, respecting and celebrating diversity.

Therefore, we have to collectively inculcate a positive attitude of what we can do for our country so that we together will be able to benefit ourselves. We have immensely benefited from what our ancestors did and left for us. We have a right and responsibility to leave a positive legacy to the posterity for which we all will be remembered.

Major General (Retd.) Ian Cardozo, AVSM, SM
Chairman
Rehabilitation Council of India, New Delhi

From Chief Editor's Desk

I am happy to inform you that first and second issue of Volume 2 of the Journal of Rehabilitation Council of India (JRCI) is on the floor which is dealing with new issues and aspects of different categories of the Disability.

The present issue contains different articles on the multiple categories; eight articles have been selected for publication, four articles are dealing with mental retardation related issues. Another four raised issues like visual impairment/learning disability/developmental delay. There is a need to work on new innovative area like spiritualism/yoga in the context of rehabilitation to find out absolute remedy for disabled people. As many researches have proved this fact that with the use of yoga, many complexities can be removed from its roots.

All these papers raised the issues from the point of view of Indian perspective, which indicates the possibilities for the future research in the related field.

However, policies and planning are important part of development in any area but in-depth research plays very vital role in the development. So need is to explore out important research areas in special education which prove more productive in coming years, we have to think and work out collectively about raising quality of special education at all levels, improvement in learner achievement, uplift of the educational status of disadvantaged groups and disabled children, removing of regional disparities, vocationalisation of education, updating/renewal of the curriculum to meet emerging challenges in information technology and support for the development of centres of excellence at all India level.

I am grateful to the authors who responded to the call for papers and cooperated to make this effort meaningful. We hope that papers will help readers in stimulate thinking and promote relevant research.

Once again I invite all rehab-professionals/personnel/researchers working in the areas of disability rehabilitation area to write on different innovative issues in the disability area.

The review of previous research papers which we have received for the JRCI reveals that most article writers are confused about approaches to write research article. In this issue nova writers will find guidelines for writing research papers in order to avoid inadequacies from the point of view of design and techniques.

As it is the universal fact that the old order changeth, yielding place to new, i.e., The Persons with Disability Act, 1995 is under review, the Eleventh Five Year Plan is in planning process. The next census is due in 2011. Therefore this is an appropriate time to take action, let us come together to make these events more significant and make collective commitment to achieve millennium goal universalization of rehabilitation services in a better psycho-social, barrier free, environment for all PWDs.

Dr. J.P. Singh
Chief Editor
Rehabilitation Council of India
New Delhi

A Study of Misconceptions Among the Parents Having Children with Mental Retardation in Relation to Demographic Variables

MADHU GUPTA[1], MUKESH KUMAR[2] & MANJU JAIN[3]

ABSTRACT

The present study is an attempt to study the misconceptions of parents having mentally retarded children who are enrolled at various institutes of mental retarded located in Haryana. 'NIMH-GEM QUESTIONNAIRE' was given individually to each parent to know his misconceptions about their mentally retarded children. The present study revealed that fathers, less educated parents and parents belonging to rural area having mentally retarded children have significantly more misconceptions than their counterparts.

Introduction

Centuries ago, the persons with mental retardation were considered as sub-human, unspeakable objects, menace to the society and objects of ridicule. The terms such as amnesia, idiocy, feeble minded, moron, imbecile were used for mentally retarded persons. On many occasions, they were abandoned in the woods and also they were killed at birth by drowsing. The birth of such child is considered a bad omen to the community and was got rid of in some manner.

Locke (1960) believed that an individual was born without innate ideas. The mind is a tabula rosa, a blank slate. This would profoundly influence the care and training provided to individuals with mental retardation. He was the first to distinguish between mental retardation and mental illness. Here it seems to lie the difference between mad men and idiots, that mad men put wrong ideas together and reason from them, but idiots make very few or no propositions and reason scarce at all (Doll, 1962).

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The plight of individuals with developmental disabilities has been depended on customs and beliefs of the era and the culture or locality. In ancient Greece and Rome, infanticide was a common practice. In Sparta, for example, neonates were examined by a state council of inspectors. If they suspected that the child was defective, the infant was thrown from a cliff to its death. By the second century A.D., individuals with disabilities, including children, who lived in the Roman Empire, were frequently sold to be used for entertainment or amusement.

Mental sub-normality, mental deficiency, mentally handicapped, mentally challenged, intellectual disability and mental retardation are the terms used to refer the same condition. American Association on Mental Retardation (AAMR), 1992 defined mental retardation as significantly sub-average general intellectual functioning with concurrent deficits in adaptive behaviors and manifested during the developmental period. According to Person with Disabilities Act, 1995, mental retardation means a condition of incomplete development of mind of a person which is specially characterized by sub-normality of intelligence.

According to National Institute for Mentally Handicapped (NIMH), Secunderabad Manual (1989), the prevalence of mental retardation in India is estimated about 2 per cent of population. According to estimate of AAMR (1992), about 2 per cent of the total population, i.e., one million out of the 200 millions are mentally retarded in the United States. In 1991 National Sample Survey of India reported that 3 per cent of children in our country have developed mental delays often associated with mental retardation. Several research studies have also suggested that 2 to 2.5 per cent children have mental retardation.

Unfortunately, mental retardation is a condition which is widely misunderstood not only by the lay man but also among those who work for their welfare. Majority of people do not have clear knowledge about the concept of mental retardation, its causes and management. They still believe that it is a result of their KARMA (a disabled child is born as punishment to the parents for the sins they have committed in their last birth), it is a result of black magic, spells, evil eye, etc., the effects of the solar eclipse during pregnancy or the time of birth results in the child being born mentally retarded. In some communities, a mentally retarded child is considered as an Avatar or reincarnation of Ganesh.

Some people are of the view that mental retardation is same as mental illness, marriage can solve this problem, person with mental retardation become normal as they grow old, mental retardation an infectious disease, etc. These misconceptions regarding mental retardation form the components of attitudes of people particularly of parents having children with mental retardation. Hopkins (1984) investigated that misconceptions persisted, especially among college students, concerning issues such as the ability of retarded individuals to adjust outside of institutional settings. Mathur et al. (1986) found that parents of mentally retarded children are as poorly informed about mental retardation as are parents of normal children. Sixty five per cent of the parents of mentally retarded children thought that the condition was curable, with cures being drugs (50%), marriage (30%), and surgery (25%). More than sixty percent of the parents of mentally retarded children overestimated the abilities of their mentally

retarded children. Particularly fathers of mentally retarded children believed that the cause of retardation was the result of Karma or of an evil spirit. In fact, in some areas, a higher percentage of parents of mentally retarded children were misinformed. However, in real sense, mental retardation is primarily not only a medical problem but an educational, psychological and social problem as well.

Keeping in view the preceding explanation, an attempt has been made to answer the problem about the misconceptions among the parents having children with mental retardation.

Objectives of the Study

The present investigation has been carried out to study the misconceptions among the parents having children with mental retardation in relation to their demographic variables, i.e., sex, education, locality and the type of family.

Sample

The sample of the present study consisted of 50 parents of mentally retarded children enrolled at various institutes of mental retarded located in Haryana. In the present study, parents were classified according to the qualification as more educated who were Matric and above, and less educated who were below Matric.

Tools

NIMH-GEM Questionnaire developed by Peshawaria, Menon and Stephenson (2000) was used to collect the data misconceptions of the parents having children with mental retardation. The NIMH-GEM questionnaire has 30 items. It has been divided into three sections namely, general information (G), etiology (E) and management (M). Items 1 to 11 identify misconceptions related to general information, items 12 to 20 on etiology and items 21 to 30 on management of mental retardation. The items are stated in the form of a statement and the respondent is expected to indicate whether she/he agrees with the statement or not. If the respondent agrees with the statement, he/she is expected to answer by making a circle with pen/pencil on "Yes" and a score of 1 is given. If the respondent does not agree with the statement, he/she is expected to encircle "No" and a score of 0 is given. The higher the scores, the higher the misconceptions among the parents regarding mental retardation.

Procedure

To collect the data, NIMH-GEM Questionnaire was given individually to each parent after establishing proper rapport with them. They were requested to answer each item freely. They were assured that their responses will be kept confidential.

Results and Discussion

The obtained results which are statistically analyzed have been presented in Table 1.

Table 1: 't' Value for the Misconceptions of Fathers and Mothers Having Mentally Retarded Children

Group (Parents)	*N*	*Mean*	*SD*	*'t' Value*
Fathers	23	15.43	4.08	2.53*
Mothers	27	12.81	2.96	

* Significant at 0.05 level.

Table 1 exhibits value between the mean scores for fathers and mothers with respect to their misconceptions having mentally retarded children is found to be 2.53 which is significant at 0.05 level. In the context of mean scores, it can be revealed that fathers have more misconceptions about mental retardation than mothers. The possible reason for this may be due to the fact that in Indian families, fathers are not supposed to take care of their children. They seem to have indifferent outlook towards their children. On the other hand, mothers are supposed to look after their children. They are much closer to their children than fathers. They understand the children and their needs in depth.

Table 2: 't' Value for the Misconceptions of More Educated and Less Educated Parents Having Mentally Retarded Children

Group (Parents)	*N*	*Mean*	*SD*	*'t' Value*
More educated parents	34	12.79	2.82	4.14*
Less educated parents	16	17.25	3.45	

* Significant at 0.01 level.

Table 2 exhibits value between the mean scores for more educated and less educated parents with respect to their misconceptions is 4.14 which is significant at 0.01 level. It may be due to the fact that more educated parents of mentally retarded children remain in constant touch with latest medical treatment and with the other professional to get proper information and guidance with regard to the causes, prevention, detection, management and facilities available for the persons with mental retardation. Moreover, education helps the people in developing positive attitudes, thereby reducing the misconceptions about mental retardation.

Table 3: 't' Value for the Misconceptions of the Parents Belonging to Rural/Urban Area Having Mentally Retarded Children

Group (Parents)	*N*	*Mean*	*SD*	*'t' Value*
Rural area parents	17	16.11	3.07	2.90*
Urban area parents	33	13.24	3.59	

* Significant at 0.01 level.

Table 3 indicates that the 't' value between the mean scores for the misconceptions of the parents belonging to rural and urban area is 2.90 which is

significant at 0.01 level. In the context of mean scores, it can be revealed that parents belonging to rural areas have more misconceptions about mental retardation than their counterparts. The possible reason for this significant difference may be due to the difference in the educational level of parents belonging to rural and urban area. However in many rural families, parents still believe that the birth of mentally retarded children is a curse on the families for some sins committed by them in their past life, nothing can be done about it, seeking the help of religious people, faith healers, going from doctor to doctor or looking for a magical cure for their mentally retarded children. Rural people have more misconceptions about mental retardation due to ignorance, lack of awareness, traditional thinking, lack of trained personnel, lack of facilities, non-availability of resources, poverty and illiteracy.

Table 4: 't' Value for the Misconceptions of the Parents Belonging to Nuclear and Joint Families Having Mentally Retarded Children

Group (Parents)	*N*	*Mean*	*SD*	*'t' Value*
Nuclear families parents	26	13.57	3.44	1.29
Joint families parents	24	14.91	3.84	

Table 4 indicates that the 't' value for the misconceptions of the parents belonging to nuclear and joint families having mentally retarded children is not significant. However, in the context of mean scores, it can be seen that parents of nuclear family have lesser misconceptions about mentally retardation than their counterparts. In joint families, family members become sympathetic towards mentally retarded children. Excessive permissiveness and over protection is possible due to the over involvement of elders and family environment cannot be changed to suit the needs of person with mental retardation. Due to religious pre-occupations and dependency on customs, scientific training for mentally retarded children in such type of families will not be carried on effectively. Moreover in nuclear families, individualized care, decreasing religious control and increasing secularity, intensive, consistent and organised training are possible due to small size of the family.

Conclusions

The present study can be concluded as follows:

- Less educated parents have significantly more misconceptions about mental retardation than more educated parents.
- Parents belonging to rural area have significantly more misconceptions about mental retardation than the parents belonging to urban area.
- There is no significant difference in the misconceptions of the parents belonging to nuclear and joint families having mentally retarded children.

Suggested Awareness Programmes to Overcome Misconceptions

To overcome all these misconceptions, awareness programmes should be undertaken from educational, sociological, psychological and medical point of view without giving any emphasis on any particular culture. Message to general public should focus on prevention, early detection, referral and acceptance, whereas message for parents should focus on prevention, early detection, management and services available for education and training. Awareness programme should not be restricted to the parents and general public, but it should also be created among those who are in power through pressure groups, may be of parents and professionals. They can pressurize the planners and policy makers with regard to the required services for the rehabilitation of persons with mental retardation.

REFERENCES

Carson, R.C. Mineka, S. and Butcher, J.M. (2003). *Abnormal Psychology an Modern Life,* Singapore; Pearson Education Publishing Co.

Doll, E.A. (1962). Trends and problems in the education of the mentally retarded, 1800-1940. *American Journal of Mental Deficiency,* 72, pp. 175-193.

Gallagher, J.J. and Veitz, P.M. (1986). *Families of handicapped persons*: Baltimore: Brooks Publishing Co.

Hopkins, G.A. (1984). Current misconceptions about mental retardation. *Psychology and Human Development,* Vol.1(1), pp. 19-23.

Langness, L.L. and Levine, H.G. (1986). *Culture and retardation Boston,* De Reidel Publishing Company.

Mathur, Shanti, Nalwa and Vanit (1987). Misconception about Mental Retardation. *Journal of Personality and Clinical Studies,* Vol. 2(1), pp. 57-60.

Peshawaria, R. Menon, D.K., Ganguly, R. Roy, S. Gupta, A. Pillay, R.P.R.S. and Hora, R.K. (1994). *Moving Forward.* Secunderabad: NIMH.

Peshawaria, R. Menon, D.K., Ganguly, R. Roy, S. Gupta, A. Pillay, R.P.R.S. and Hora, R.K. (1994). *Understanding Indian Families,* Secunderabad: NIMH.

Peshawaria, R., Menon, D.K. and Stephenson, L. (2000). *NIMH GEM Questionnaire,* Secunderabad: NIMH.

Effect of Teachers Counselling in Improving Scholastic Achievement of Their Pupils with Specific Learning Disabilities

DR. GITANJALI SHARMA[1]

ABSTRACT

The present study is an attempt to implement Teachers Counselling Program (TCP) for 42 Teachers of identified sample of pupils with Specific Learning Disabilities (SLD) from urban and rural elementary schools in Rayalaseema, Andhra Pradesh. Using Teachers Attitudes Questionnaire (TAQ) developed specifically for the purpose, assessed attitudes of the teachers towards the pupils with SLD and Non-SLD. Results of the study indicated a significant difference in the attitudes of the teachers of students with SLD and non-SLD. By taking account of the social, emotional and educational needs of the pupils at school, TCP was planned. The study showed a significant difference in pre- and post-intervention attitudes of the teachers and also significant differences in pre- and post-scholastic achievement tests of the SLD students. Thus, the study suggests the need for Teachers Counseling Program in improving the scholastic performance of pupils with Specific Learning Disabilities.

Introduction

General problem, teachers facing today in the classroom is the poor academic performance of healthy and normal intelligent children who are neither mentally retarded nor physically handicapped. When the child is unable to perform academic activities and sustain the expected standard from them at the age level children, that is, exhibiting the difficulty in understanding or in using spoken or written language, e.g., listening, thinking, reading, writing and arithmetical calculation, this condition is called Specific Learning Disabilities (SLD). The types of SLD are dyslexia, dysgraphia, and dyscalculia. It may be present in single or combined form. The specific learning disabled child commits some common errors such as misspelling, missing lines,

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jumbling, omission or addition of letters, hesitation and slow in reading; poor performance of certain letters, un-straight, scribble, illegible, confuse and slow in writing; misconception in recognition of certain numbers, reversing and jumbling of digits, mistakes in simple arithmetical calculation and computation.

Every classroom has an alarming proportion of non-achieving students. Examination of the etiology of pupils' non-achievement reveals incidence of slow learning, learning difficulties, specific learning disabilities, etc., which may be mostly un-noticed on the name of low or under achievement, negligence or poor motivation. It reflects the teachers' unawareness regarding the causation of their pupils' disability to learn and achieve well on par with their achieving classmate matched in intelligence. They need to be given due recognition to help these children overcome from these disabilities.

Keeping in view the above-mentioned background, an attempt was made to implement the Teachers Counselling Program (TCP) for teachers of a sample of identified Specific Learning Disabled Pupils from elementary schools.

Thus, the study was planned with the following objectives:

1. To assess the attitude of teachers in pre- and post-Teachers Counselling Program (TCP).
2. To study the effect of the Teachers Counselling Program (TCP) in improving the scholastic performance of pupils with Specific Learning Disabilities (SLD).

Methodology

Sample

A total 42 Teachers have been selected of Specific Learning Disabled (SLD) and Non-Specific Learning Disabled (NSLD) from urban and rural areas of Rayalaseema, Andhra Pradesh.

Materials

Attitudes of the teachers towards their SLD and NSLD pupils were assessed by using Teachers Attitudes Questionnaire (TAQ) developed specifically for this purpose and based on the results of this data analysis a Teachers Counselling Program (TCP) was planned.

Procedure

The attitude of the class teachers towards their identified SLD and NSLD pupils at elementary level were assessed by using the Teachers Attitudes Questionnaire. Analysis of data reveals clear-cut difference in attitude towards SLD and NSLD pupils t-value being 19.49 significant at 0.001 level (Table1). The SLD children appear to be neglected and mistaken as mischievous, unruly, rough and incorrigible. The negative attitude of teachers held towards SLD formed the basis for development of intervention program

to bring attitudinal change among teachers towards SLD. A 3-4 teachers group, who had SLD in their classes were gathered in a classroom at the specified time. In the first phase they counselled about specific learning disabilities, i.e., types, causative factors, etc., co-operation were solicited in the attempts to alleviate the problems of the specific learning disabled and to make them reach the mainstream of the class. Each teachers group were requested to check their interactions with SLD pupils and have a close watch on school achievement, study habits, social and emotional dispositions, friends, free-time activities in school and the emphasis was given to provide tension free, accepting and encouraging atmosphere in the classroom and also in the school premises was emphasized to them. After 30-40 days, following intervention were assessed towards the children using the same teachers attitudinal scale.

Table1: **Means, SDs and 't' Values for Scores on Teachers Attitudes Questionnaire**

Group	*M (N = 80)*	*SD*	*'t'*
SLD	26.65	7.28	
NSLD	44.51	9.91	19.49**

** Significant at 0.01 level.

Results and Discussion

Analysis of attitude scores obtained on pre- and post-intervention testing indicates a significant positive change in the attitude of teachers, t-value being 10.76 significant at 0.01 level (Table 2). It suggests the efficacy of the intervention program in changing the negative attitudes of teachers. A large number of studies made in the area report about bringing positive change in the attitude. (Cohen and Safran, 1981; Hilton, 1985; Jewell, 1986; Johnson and Morasky, 1974; Towel and Ginsberg, 1975).

Table 2: **Means, SDs and 't' Values for Scores on Teachers Attitudes Questionnaire**

Pre-Test		*Post-Test*		*'t'*
M	SD	M	SD	
N = 42		N = 42		
28.73	5.17	39.61	4.03	10.76**

** Significant at 0.01 level.

At the end of the Intervention subjects (SLD pupils) in the experimental group were tested again with the achievement tests used in pre-intervention testing. Achievement scores obtained for the significance of difference from the pre-intervention achievement test scores.

The means and SDs of pre- and post-intervention achievement tests scores were calculated. There are no significances found in the test performance of boys and girls, gender distinction was not observed in calculating the Mean scores of each grade. Thus, each grade had four subjects (2 boys and 2 girls).

Results reveals significant difference in the Mean scores of pre- and post-academic achievement tests of SLD children. Analysis support, other observations in the area like Jewell (1986); Johnson (1974); Cohen and Safran (1981); Cohen and Kroll (1981); Rosner (1975) who emphasized the importance of teachers' educational intervention for LD pupils to bring out the positive change in their academic performance. Thus, findings of present study invariably suggest that there is a great need for Teachers Counselling Program in improving the scholastic performance of pupils with Specific Learning Disabilities.

REFERENCES

Cohen S.B. and Safran, J. (1981). A conference-training model for learning disabilities resource teachers. *Learning Disability Quarterly*, 4(3), pp. 302-06.

Cohen R. and Kroll, R.H. (1981). Modification of a spelling disorder by increasing teachers' instruction time. *Psychological Reports*, 48(2), pp. 405-06.

Gitanjali Sharma (1992). A study of certain factors related to the learning disabilities among primary school children, *Unpublished Ph.D. Thesis*, S.V. University, Tirupati.

Jewell, T. (1985). Involving parents and teachers in individual education program. *Educational Psychology in Practice*, 2(2), pp. 16-22.

Johnson, S. and Morasky, R. (1974). Symposium strategies for teachers parent workshops, paper presented at the meeting of the association for children with learning disabilities, Houston, Texas.

Johnson, D.J. and Myklebust, H.R. (1967). Learning disabilities, *Educational Principles and Practice*. New York: Grune & Stratten.

Rosner, J. (1975). Helping children overcome learning difficulties. *A Step by Step Guide for Parents and Teachers*, New York. NY: Walker, 32/11, pp. 12-50.

Towle, M.C. and Gimsberg, A. (1975). An Educators' Mystery; where do performance problems come? *Journal of Learning Disabilities*, 80, pp. 486-89.

You are today where your thoughts have brought you. You will be tomorrow where your thoughts take you so. Always think positive and high. —*James Allen*

Mainstreaming the Disabled: A Strategy for J&K State*

DR. RENU GUPTA[1] & DR. R. BINDRA[2]

ABSTRACT

The present paper is an attempt to focus attention on mainstreaming as an effective strategy to empower the disabled children of school going age of either sex in the State of J&K. The paper discusses the current scenario with regards to disability in J&K State. The authors strongly advocate the need and relative advantages of mainstreaming in the context of its limited practice and possible pitfalls based upon an exhaustive survey of research studies. Finally, strategies have been identified to ensure success of mainstreaming at the school level in J&K State.

Introduction

The State of Jammu and Kashmir is a unique one having three distinct regions. Jammu, Kashmir and Laddakh which differ from each other on the basis of language, topography, food habits, dress, climate, religion and culture. For the last 16 years, the J&K State has witnessed unprecedented terrorism and violence which have taken a heavy toll of life and property besides throwing normal life out of gear. There has also been an increase in cases of depression, anxiety and mental illness which have incapacitated people in large numbers. This has considerably increased the number of disabled in the state making the overall scenario bleak and full of concern.

As per Census figures, in the year 2001, the number of disabled in J&K state has been estimated to be 3,02,670. To this number, can be added 20 per cent cases of disability of mild nature which usually go undetected raising the number to 3,63,204.

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If we include 30,000 cases of recorded disability among para military forces (till March 2005) and also the potentially disabled among the migrants from the areas of Kishtwar, Doda, Bhaderwah, Poonch and Rajouri districts who have suffered harrowing experiences of leaving their homes and are living in appalling conditions and victims of massive earthquake, the number of disabled swells over 4,00,000. Women and children constitute a significant chunk of disabled.

At present in the State of J&K, programmes of education/rehabilitation of the disabled are very limited. In the absence of awareness and sensitization in masses at large and especially among the disadvantaged and vulnerable groups of society living in areas where proper facilities are not available, people generally hide their disabilities for fear of ridicule and social rejection. Even if a disabled is referred to a specialized center or to an expert, the coverage to such individuals is limited as adequate facilities are not available. Coupled with this are practical problems like non-availability of low cost apparatus, equipment and gadgets; lack of resources, grants, scholarships for their education, treatment, rehabilitation and sustenance; lack of trained manpower; lack of centers for the development of educational and vocational skills and lastly lack of employment avenues. Even basic facilities like ramps and toilets are not available for such individuals. Hence, educators, social activists, community leaders and health workers need to focus their attention on ways and means to handle and rehabilitate the rising population of the disabled in J&K State.

The present paper is an attempt to focus attention on mainstreaming as an effective strategy to empower the disabled children of school going age of either sex in the State of J & K. The authors are convinced that mainstreaming or integrated or inclusive education requires to be encouraged as it will lead to the empowerment of all kinds of disabled children who otherwise would require large number of special centers for their education and rehabilitation which is not possible in the state at present due to factors mentioned above.

In the national context, mainstreaming has been recommended as an important strategy for providing equal access and opportunity to the children with special educational needs which includes children suffering from different kinds of disability, impairment and handicap (Singh, 2003). According to the estimates available, around 60,000 children are reported to be enrolled in 15,000 schools in India while only 3-4 per cent of the disabled have been able to receive coverage under Persons with Disabilities Act, 1995. Even in US and several other European countries, mainstreaming has been advocated for children with disabilities to enable such children to receive education in less restricted environment. But the experiment has not replaced special schools. In Jammu & Kashmir State in which special schools are not well established and the infrastructure for the care and rehabilitation of the disabled are not large in number, it is felt that mainstreaming can be a prominent and effective strategy for the education and rehabilitation of the children suffering from different kinds of disabilities.

What is Mainstreaming?

Mainstreaming is not a new concept. Prior to the professionally developed special schools for the disabled children, such children especially those from the privileged

families were often accommodated in the regular schools, in other words, "mainstreamed". In the nineteenth and early twentieth centuries, unfortunately, these children, who usually received no special attention, were classified as "problem children" or "dullards" and subjected to ridicule and rude treatment by teachers for lack of sufficient awareness and expertise to handle them. As knowledge about children requiring special education increased, steps were taken to handle such children in specialized centers.

Kaufman, et al. (1975), define mainstreaming as "temporal, instructional and social integration of eligible exceptional children with normal peers based on an ongoing, individually determined, educational planning and programming process. It requires the clarification of responsibilities among regular and special education, administrative, instructional and supportive personnel". Gearheart, et al. (1988), visualize mainstreaming as "maximum integration in the regular class combined with concrete assistance for the regular class teacher". Lewis and Doorlag (1995) review inclusion as a term to describe the mainstreaming process. According to Reynolds and Birch (1974), mainstreaming is based on the principle of educating most children in the same classrooms and providing special education on the basis of learning needs rather than categories of handicaps. Thus, under mainstreaming, children with learning problems can receive the expert help of special education teachers without being labelled or excluded from association with their peers. Furthermore, under mainstreaming conditions, regular and special classroom teachers share their skills and knowledge to teach the same children. Indeed, mainstreaming is distinguished by the amalgamation of regular and special education into one system to provide a spectrum of services for all children according to their learning needs. Consequently, special education is a resource for the entire school population rather than an isolated body of skills and knowledge.

Why Mainstreaming?

There are several reasons why mainstreaming requires to be recommended. Birch (1974) has comprehensively identified six reasons for supporting mainstreaming:

- Improving the capability to deliver special education services to exceptional children in regular classrooms.
- Parental demands that exceptional children be provided high-quality special education in regular classrooms.
- The general public and professional rejection of the notion that children needing special education should be socially and educationally isolated. Mainstreaming minimizes the need for labeling and eliminates many of its undesirable effects on children.
- Historically, psychological tests of intelligence and achievement are the major determinants in identifying children for special education classes and schools. Today, spokespersons of the disadvantaged have challenged the

appropriateness of such tests in placing children in special educational arrangements.

- ❖ The legal recognition that has been given to the right of all children to have a full and free education regardless of handicaps and equality of educational opportunity.
- ❖ A general recognition that non-handicapped children are deprived of important educational experience if they do not associate with handicapped children.

Teachers entrusted with the task of mainstreaming, need to understand the following principles with regards to mainstreaming:

- ❖ Mainstreaming can be done at any grade level.
- ❖ Disabled students should be selected for mainstreaming in terms of their educational needs and capabilities rather than on the basis of clinical categories or diagnostic labels such as mentally disabled, learning disabled, hearing or sight impaired, or physically disabled.
- ❖ Exceptional and disabled children are assigned to regular classes and special educational services are provided for them while remaining in the regular classroom for as much of the day as possible. Mainstreamed disabled students leave the regular classroom only for essential small group or individual special instruction or assessment.
- ❖ Regular and special education teachers, educational administrators and supervisors need to cooperate in educational planning and programming so that disabled children as well as the normal children can benefit academically and socially from participation in the regular classroom. The responsibility of each professional involved in the mainstreaming educative process should be clarified.
- ❖ If mainstreaming is followed, then regular and special education teachers need to work together to plan individual schedules and assignments needed for disabled students.
- ❖ Mainstreaming needs should be considered by school boards, educational cooperatives and administrators in planning and organizing instruction, providing materials and designing facilities.

Research Findings on Mainstreaming

Even though mainstreaming as a strategy for the education and rehabilitation of the disabled is being advocated by the RCI and other government departments, till date, this strategy has not been fully enforced in various states of the country. The same can be said about the status of mainstreaming in other countries. For this reason, research studies on mainstreaming are handful in number. A survey of the literature reveals that few research studies on mainstreaming find mention in the *Fourth Survey of Research in Education* (1991) [Jangira and Mukhopadhaya (1986)].

Bala (1985) conducted a comparative study of the mental make-up and educational facilities for the physically handicapped and normal children. Some significant conclusions of this study were that facilities available in the institutions for handicapped children were quite inadequate as compared with those provided in the schools for normal children.

Another significant finding was that normal children differed significantly from the handicapped in personality traits and values. Personality characteristics common to all physically handicapped children were that they were reserved, shy, detached, emotionally unstable, and submissive, with weak super-ego, withdrawn, dependent and apprehensive. Pathak (1984) conducted a study of disabled children in normal schools. The objective of the study besides studying adjustment and aspirations of disabled children was also to suggest ways to achieve better integration with normal children. The conclusions arrived at in terms of problems faced by the disabled were, fear of school, difficulty with classroom learning, dissatisfaction with teachers, ridicule by other children and inability to participate in co-curricular activities. These findings suggest that clubbing of the normal with the disabled is likely to make the task of educators more complicated in the normal school conditions. Rane (1983) conducted a survey on integrated education of disabled children in Maharashtra. The sample included handicapped of all categories studying in Class I but who had attended pre-primary in special schools in Maharashtra. Although the scheme suffered from many drawbacks as was evident from the conclusions, but an encouraging conclusion was that a majority of the parents/guardians found integrated education useful for their children.

Fifth Survey of Educational Research (2000)

Out of fortyeight research studies pertaining to the field of special education, only two studies have been reported on mainstreaming. While one of these by Rai (1991) pertains to cooperation-based learning strategies for disabled and non-disabled children in integrated settings, the second by Sharma (1988) deals with mainstreaming the visually handicapped. These studies indicate that mainstreaming is a practical strategy at the school stage for the disabled. However, it can prove successful only by following the cooperative learning approach involving strategies like (a) clearly specifying the objectives of the lessons; (b) decision about placing of students and size of the group; (c) explaining the task, positive inter-dependence and learning activities in students; (d) monitoring the learning groups and intervening to provide task assistance; and (e) evaluating students in their achievement. Further, the grade level at which mainstreaming can be more successful requires to be established.

In a relatively recent study, Soni (2001) compared the attitudes of visually handicapped and sighted pupils toward integration and friendship in two countries—India (New Delhi) and UK (Manchester) and found that (1) Manchester and New Delhi pupils had different attitudes towards integration; (2) younger (11-13 year old) and older (14-16 year old) pupils had different attitudes towards integration; (3) boys

and girls in Manchester had different attitudes towards integration. The choices of parents in the educational placement of their children were also found to be crucial. Some parents preferred special school placements whereas others favoured mainstreaming.

Some studies on mainstreaming have also been reported from other countries mainly USA. Bishop (1985) examined some factors, which contributed to the successful mainstreaming of the visually handicapped. The factors included attitudes of the classroom teacher, available personnel, supply of special equipment and material, acceptance of the visually handicapped child by the school and the home, the positive attitude of the school principal and family support.

Parental attitudes towards mainstreaming have been studied by Hegarty, et al. (1981), and Swann (1984), who reported positive attitudes of the parents towards integration. However, contradictory results have been reported by Sandow and Stanfford (1986) who stated that 60 per cent of the parents had a negative attitude towards integration based on the belief that insufficient provision would be made in the mainstream to meet the needs of their children. According to Budge, et al. (1986), generally parents seem to prefer integration, although they were equally eager to state their preference for specialist placement if mainstream was unable to meet the needs of their child.

Pupils' attitudes towards peers with learning disabilities were investigated by Gottlieb (1980), and Gillies and Shackley (1988). In both cases, the attitudes were found to be positive especially as the researchers had sensitized pupils towards disability and learning difficulty before the integration had taken place. Buckingham and Mittler (1987) found a high level of resentment in the physically disabled pupils for having been educated in a special school rather than in an ordinary school.

Scruggs and Mastropieri (1996) presented a synthesis of researches from 1958-1995 on teachers' perceptions of mainstreaming/inclusion. Twenty eight investigations were identified in which general education teachers were surveyed regarding their perceptions of including students with disabilities in their classes. Overall, about two-thirds of general classroom teachers supported the concept of mainstreaming inclusion. The difference in the philosophies of teaching of general and special educators and lack of professional training in inclusive techniques have been found to be the main barriers towards the success of mainstreaming since normal teachers and special educators differ with regards to their perceptions and approaches [Schumm and Vaughn (1995), Welch (1996)]. Even though their attitudes towards mainstreaming may be positive, yet a common body of knowledge, information and skills to teach children with special needs in the integrated settings are essential [Lowden (1985), Johnson and Johnson (1986), Toon (1988), Freeman and Gray (1989), Ogonda (1990), Lewis (1990), and Mittler (1992)]. Rich, et al (1984) undertook a large-scale study and reported that disabled pupils, who had been integrated, were happy with integration as a practice and principle, but were very dissatisfied with their mainstream teachers. Stainback and Stainback in 1985 reported that the majority of educators were in favour of integrating pupils with severe disabilities in ordinary pre-schools and schools. The author further maintained that contacts with children with severe disabilities

would help to develop positive attitudes among the teachers of ordinary schools. Adequate resources in terms of special materials, technical equipment and specialist support staff would further enhance the process of integration. The attitudes of teachers in ordinary schools are vital in any integration programme.

Kartsen, et al. (2001) investigated the extent to which pupils in different forms of special primary education and regular primary education differed in their academic development and found that pupils in special education do less well in academic performance than pupils in regular education.

Conclusion

On the basis of review of literature, it can be inferred that there exists a general lack of coherent body of knowledge regarding different aspects of mainstreaming. Even though studies do conclusively indicate that there are several advantages of this strategy yet, knowledge regarding several aspects is still fragmentary and even contradictory. Nonetheless, owing to the great advantage in terms of costs and efforts and allied benefits, which emerge from the research findings, mainstreaming holds great promise for developing nations. Infact, today advocacy for mainstreaming as a strategy for the empowerment and rehabilitation of the disabled has gained momentum in the context of developing countries [Kundu (2005); Marlis van der Kroft (2005); Puri and Abraham (2004); Kilewar et al. (2004); Disability Status India (2003); Sen (2000); DFID (2000); Hussain, (2000); Lewis and Doorlag (1995)]. According to Puri and Abraham, inclusive education can be seen as the most practical and logical program required developmentally and socially to bring about the participation of the impaired of all kinds alongwith the non-impaired in the same schools and classrooms without upsetting the apple cart. It would, therefore, be appropriate to suggest some strategies to implement mainstreaming as a successful strategy in Jammu and Kashmir State for the differently abled children of school going age:

- A comprehensive state level survey of the children suffering from different kinds of disabilities should be conducted and these groups need to be categorized on the basis of age, sex, district, disability and socio-economic status, etc. In this work, the latest census report and results of local surveys may be helpful.
- A cell for the purpose of expediting mainstreaming for the differently abled and challenged children needs to be set up. The cell can also prepare special learning and other supporting material for the use of children of different age groups.
- There is an urgent need to train teachers in special education and in the methodology of mainstreaming the disabled. The start of B.Ed. Special Education (Mental Retardation) course at MIER College of Education under the jurisdiction of the University of Jammu with the approval of the RCI from the session 2005-2006 can be described as welcome and timely initiative. More courses for training teachers for children suffering from different kinds

of disabilities can be offered subsequently to have trained manpower to handle the disabled in a phased manner. Infact, such programmes can be included in the M.Ed., Nursery Teachers Training, Anganwadi training levels and even integrated with other professional training programmes for key change agents to generate manpower with better understanding, awareness and capabilities about disability management in both normal as well as special schools. Even short-term in-service programmes need to be offered through the government/ non-government agencies at different levels both by regular and distance modes utilizing modern multimedia technologies.

- Steps should be taken to improve coordination between state government departments of education, social welfare and health and municipal agencies, institutions and other voluntary organizations. Valuable feedback from and coordination between these agencies would help in generating greater awareness and cooperation which is largely lacking in J&K State at the moment. This is considered vital for the success of mainstreaming as key strategy.
- In each district, a lead institution should be identified which can coordinate the educational programmes for the disabled in normal schools. To start with, three locations one each for Jammu, Kashmir and Laddakh regions can be identified. Subsequently, one agency at each district level can be added to the above.
- Active involvement of voluntary organizations like Lions Club, Rotary Club, social organizations, philanthropic and charitable agencies should be solicited for providing monetory, infrastructural and other types of assistance so that public at large can be sensitized about the magnitude, nature of disabilities and the availability of facilities for the rehabilitation of the differently abled children in government and private schools at different locations.
- Special scholarships and other ancillary facilities like textbooks, learning material, uniforms, transport and special aids/apparatus, etc., need to be provided to the differently abled school going children thereby enabling them to join a regular school. Disabled children need to be regularly visited by field officers to monitor their welfare and progress in normal schools.
- Steps should be taken to adjust, modify and transform the existing institutional buildings and equipments to help individuals with specific disability/handicaps and create facilities for their skill development, vocational rehabilitation and placement.
- Programmes should be designed to create awareness among the parents of children suffering from disabilities to evoke parental cooperation and acceptance. Parents and public at large need to be encouraged to report cases of mild and severe disability so that these cases can be handled in a professional manner. They can also be provided adequate support along with training to look after the special needs of the differently abled wards in home environment. In this regard, the initiative taken by the RCI and IGNOU to make parents aware about disability handling through nodal centers in

different states needs to be further strengthened and supported. We need to generate confidence among the disabled and their guardians that their special needs can be fully satisfied in normal school conditions through mainstreaming.

- Encouragement should be given to start schools and provide even home based education for the differently abled groups of children in cities and rural areas by providing grants, equipments, land and other resources. Individuals and organizations donating money and other assistance can be provided incentives, awards and tax benefits. To encourage mainstreaming in normal schools, special awards be instituted for school managements and staff members. Success stories need to be widely publicized.
- Researches in the area of disability management through mainstreaming should be given priority at the hands of medical practitioners, social workers, educational researchers and specialists so that personality, behaviour and problems of the differently abled individuals can be studied in a multi-disciplinary perspective and more effective strategies on the basis of field trials and action researches can be evolved to understand and rehabilitate children with different kinds of disabilities. In particular, the use of modern information and communication technologies and new advances in biomedical engineering need to be given a boost to drastically improve the intervention strategies for the disabled and for developing new pedagogical strategies [Gupta (2005); Singh (2003)]. This approach is likely to improve the quality of education for both the normal and the disabled children as they are largely deprived of such facilities in schools at present.

For the success of mainstreaming, normal pupils studying in local schools and their parents need to be oriented to accept the presence of differently abled children in the same class so that such children are accepted as a part of the group. The best encouragement for the differently abled individuals can come through the support of the peers, teachers, parents and colleagues. This will go a long way in minimizing shyness, anxiety, depression, learning disability and poor achievement levels among the disabled all of which may otherwise contribute to high drop out, wastage and stagnation.

To conclude, it needs to be emphasized that mainstreaming, integrated or inclusive education can prove successful only if enthusiastic efforts are made by all concerned individuals and agencies to ensure coordination, cooperation, conviction and capability. The practical limitations will have to be identified with regards to (a) availability of accurate data regarding size of the target population; (b) availability of resources, human, financial, technical and material; (c) adequacy of institutional infrastructure and support system; (d) proper provision of staff development, cooperation and coordination programmes; and (e) will to implement mainstreaming in schools. Jammu and Kashmir is known as "heaven on earth". Time has come to make it a heavenly place for the differently abled children and provide the much needed healing touch to this neglected target group.

REFERENCES

Awan, M. Mohamood Hussain (2000). Mainstreaming: A Model for Special Children in Pakistan, *Pakistan Journal of Education*, Vol. 27, Issue 1.

Bala, M. (1985). A Comparative Study of the Mental Make-up and Educational Facilities for Physically Handicapped and Normal Children, Ph.D. Thesis, Kurukshetra University, Kurukshetra.

Buckingham, A. and Mittler, H. (1987). Getting Ready to Leave, *British Journal of Special Education*, Vol. 1.

Budge, A., Thomson, G., Buultiens, M. and Lee, M. (1986). *Parental Preferences in Educational Provision of the Visually Impaired*, New Beacon, LXX, Vol. 833.

Burder, Suneeta (1993). Impact of Training on a Child with Learning Disability, *Indian Educational Review*, April-July-October.

DFID (2000). *Disability, Poverty and Development*, Department for International Development, UK.

Freeman, A. and Gray, H. (1989). *Organising Special Educational Needs*, London, Paul Chapman Publishing Company.

Gearheart, B.R; Weishahn, M.W.; and Gearheart, C.J. (1988). *The Exceptional Student in the Regular Classroom* (4th Ed.), New York, Merrill Macnikam.

Ghai, Anita (2000). Towards Understanding Disability, *Psychological Studies*, Vol. 45, No. 3, November.

Gottlieb, J. (1980). *Educating Mentally Retarded Persons in the Mainstream*, Baltimore, University Park Press.

Gupta, Arun K. (2005). Disability Scenario in J&K State: Some Suggestions, Valedictory Remarks at the RCI Sponsored Workshop held at MIER College of Education, Jammu.

Gutek, Gerald L. (1983). *Education and Schooling in America*, New Jersey, Prentice Hall: Anglecliff.

Hegarty, S. Pocklington, K. and Lucas, D. (1981). *Educating Pupils with Special Needs in the Ordinary School*, Berkshire, NFERI/Nelson.

Johnson, D. and Johnson, R. (1986). Mainstreaming and Cooperative Learning Strategies, *Exceptional Children*, Vol. 52(6).

Kartsen, S.; Peetsma, T.; Roeleveld, J. and Verger, M. (2001). The Dutch Policy of Integration Put to the Rest: Differences in Academic and Psychosocial Development of Pupils in Special and Mainstream Education, *European Journal of Special Need Education*, Vol. 16(3).

Kaufman, M.J.; Gottileb, J.; Agard, V.A. and Kukie, M.D. (1975). Mainstreaming: Towards an Explication of the Construct, in: Meyen E.L.; Mayen G.A.; Vergasoon R.J. (Eds.) Alternatives for Teaching Exceptional Children (Denver, Love).

Kliewar, Christopher, *et al.* (2004). Citizenship for All in the Literate Community: An Ethnography of Young Children with Significant Disabilities in Inclusive Early Childhood Settings, *Harvard Educational Review*, 74(4), Winter.

Kroft, Marlies Van Der (2005). Disabled Children in Conflict Situations, *Early Childhood Matters*, July, No. 104.

Kumar, Girjesh (1993). Learning Disabilities: Some Causative Factors, *Journal of Indian Education*, 19(3), September.

Kundu, C.L. (2005). *Disability Scenario in J&K State*, Keynote Address at the RCI Sponsored Workshop held at MIER College of Education, Jammu.

Lewis, A. (1990). Integration, A Child's Eye View, *Child Education*, Vol. 34.

Lewis, R.B. and Doorlag Donald H. (1995). *Teaching Special Student in the Mainstream*, Eagle Wood Cliffs, N.J. Prentice Hall.

Lowden, G. (1985). The Unit's Approach to Integration, *Special Education: Forward Trends*, Vol. 12(1).

Milofsky, David (1978). Schooling the Kids No One Wants, *Readings in Education* (Annual Edition).

National Council of Educational Research and Training, (1991). *Fourth Survey of Research in Education*, Vol. II, New Delhi, NCERT.

National Council of Educational Research and Training, (2000). *Fifth Survey of Educational Research*, Vol. II, New Delhi, NCERT.

Ogonda, G.O. (1990). Integration of Children with Physical Disabilities: Who Benefits? Unpublished M.Ed. Dissertation, University of Manchester.

Pathak, A.B. (1984). *A Study of Disabled Children in Normal Schools*, NCERT Financed Project, Udaipur, V.B.G.S. Teachers' College.

Puri, Madhumita and Abraham, George (2004). *Handbook of Inclusive Education for Educators, Administrators and Planners*, New Delhi, Sage Publications.

Rai, Kamlesh (1991). Cooperation-Based Learning Strategies for Disabled and Non-Disabled Children in Integrated Settings, *Indian Educational Review*, Vol. 26(3).

Rane, A.J. (1983). Integrated Education of Disabled Children: An Evaluation of the Scheme of Integrated Education for Handicapped Children Based on a Study of the Working of the Scheme in Maharashtra, Bombay, Tata Institute of Social Sciences.

Rehabilitation Council of India, (2003). *Disability Status India*, New Delhi, RCI.

Reynolds, Maynard C. (1974). Forward in Jack W. Birch, Mainstreaming Educable Mentally Retarded Children in Regular Classes (Reston Va; Council for Exceptional Children).

Richt, Y.; Limor, M. and Shalev, M. (1984). Perceptions of School Life Among Physically Disabled Mainstreamed Pupils, *Educational Research*, Vol. 26.

Sandow, S. and Stanfford, P. (1986). Parental Perceptions and 1981 Education Act, *British Journal of Special Education*, Vol. 13.

Schumm, J.S. and Vaughn, S. (1995). Getting Ready for Inclusion: Is the Stage Set? *Learning Disabilities Research and Practice*, Vol. 10.

Scruggs, T.E. and Mastropieri, M.A. (1996). Teacher Perceptions of Mainstreaming/Inclusion, 1958-1995: A Research Synthesis, *Exceptional Children*, Vol. 63.

Sen, Arun K. (2000). Research in Mental Retardation in India: Challenges and Opportunities, *Psychological Studies*, 45(3), November.

Sharma, Sunita (1988). Mainstreaming the Visually Handicapped, *Indian Educational Review*, Vol. 23(4).

Singh, J.P. (2003). *Introduction in Disability Status India*, Rehabilitation Council of India, New Delhi.

Soni, R.B.L. (2001). *Attitudes Towards Integrated Education*, New Delhi, Rajat Publications.

Swann, W. (1984). *Conflict and Control: Some Observations on Parents and the Integration of Children with Special Needs*, A paper presented on The Annual Conference of the British Psychological Society, Education Section.

Toon, C. (1988). Integrating Children with Severe Learning Difficulties into Mainstream Schools, *Education in the North*, Vol. 24.

Welch M. (1996). Teacher Education and the Neglected Diversity: Preparing Educators to Teach Students with Disabilities, *Journal of Teacher Education* (5).

Impact of Early Intervention Programme on Developmental Delayed Children: An Observation

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ABSTRACT

Early intervention is defined as the introduction of planned programming deliberately timed and arranged in order to alter the anticipated or projected course of development. Stimulation at the early childhood stage involves efforts to activate the child's early development. It is more than a series of exercises; it is a continuous dialogue between the child and those who care for the child development, as a result of the close interaction between maturation and learning. Early intervention attempts at providing learning experiences to the child so as to enhance his or her development. The learning experiences for stimulation are so planned that they are in accordance with the child's maturational level. Three cases (two mental retardation and one orthography multiplex congenital diseases) were observed and given training of early intervention programme. It was found that in all the three cases training strategies given during early intervention programme have positive impact on developmental delayed children.

Introduction

Early intervention does not necessarily form a sequel to early detection in the Indian context. Invariably as per case records of screening, the first person to disclose the mental retardation in young children is a medical expert. However, most of them do not refer the children to early intervention centers or professionals. The non-medical aspect of special training or therapies is not discussed with parents

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often. Some of them do not convince the parents that the condition is incurable. Still other practitioners prescribe treatments or medicines for improving intelligence of "for enhancing memory", etc. However, there are instances of new diagnostic methodology that detect developmental delays and many impending disabilities from postural reactions of new born and young infants in India.

Infants and young children with disabilities require access to early intervention services, including detection and identification (birth to six years old), with support and training to parents and families to facilitate the maximum development of the full potential of their disabled children. Failure to provide early intervention services to infants and young children with disabilities results in secondary disabling conditions which further limit their capacity to benefit from educational opportunities.

As the multi-disciplinary stimulations are very useful to the development of these young children, the intervention for over all development of sensory, motor, communication self-care, cognitive and pre-academic capabilities are incorporated in the early intervention programmes. The qualitative impact of early interventions on the developmental process of young children has been studied longitudinally in many centers. However, the opportunities for regular intervention with the support of families as co-therapists are accessible only to a small extent of the population. In developing countries, like India, where health services are lacking in urban, slums and deprived rural populations and where poverty is widespread, early intervention services form the basis of ensuring proper care and management of at risk infants.

Early intervention is defined as the introduction of planned programming, deliberately timed and arranged in order to alter the anticipated or projected course of development. Stimulation at the early childhood stage involves efforts to activate the child's early development. It is more than a series of exercises; it is a continuous dialogue between the child and those who care for the child development, as a result of the close interaction between maturation and learning. Early intervention attempts at providing learning experiences to the child so as to enhance his or her development. The learning experiences for stimulation are so planned that they are in accordance with the child's maturational level.

It is a combined effort of education, health and social services, in which an early stimulation and enrichment programme for infants and young children with varying types and degrees of disability are incorporated. In other words, it can be said that parents get help to assist their babies at risk, in different areas of development at an earliest possible time in order to minimize further damages.

Early intervention accessibility for children is being enhanced by appropriate guidance on counseling and information to the pediatricians and general practitioners to counsel the parents appropriately for early intervention. Para-professionals and community workers involved in early detection programmes are oriented to motivate families to undertake measures for early interventions. Home based interventions through rural grass root workers is gaining momentum in the country.

The first Indian study that has been conducted to explore the feasibility of involving mother in early intervention programmes conducted by Jeychandran (1968) was under

the Madras Project. He concluded that (a) It is feasible to train mothers in day care centers, (b) the longer the training of mothers the more positive and lasting the effect on the children, (c) the more the parental participation, the quicker is the impact on the child, (d) the lower the care of the child to start the least is the impact on the growth of the children. Gsoedi and Krenner (1989) studied parents evaluation of early special-education interventions provided for their mentally retarded pre-school children. The results showed that after their children's completion of an early intervention program, the subjects completed mailed questionnaires assessing their satisfaction with the program, their perceptions of the children's developmental progress, and changes in their attitudes toward their children's handicaps. Lanners and Carolillo (2003) suggested that the efficiency perceived by the parents depends on three factors: (i) The efficiency finds its roots in the assistance the parents got by the early intervention service to satisfy their own needs. (ii) Once the needs are satisfied, the nature and the ways of collaboration between the parents and the professionals play an important role. (iii) Only if the help was based on the concept of empowerment to find an answer to their needs, parents assess the support they received as actually efficient.

Today, early intervention is basic to the move away from institutionalization and the move towards community based care and services for persons with mental retardation. Early intervention is concerned with preventive measures as to prevent their occurrence and to reduce the severity of the handicapping conditions wherever possible.

Case Studies: Observations

Three cases of disabled children have been observed to see the positive impact of early intervention program on their development. Out of three cases observation of one case was of Arthogrypho Multiplex Congenital diseases (AGMC) and two cases of mentally challenged children. The observations of these cases of present research work have been given below:

Case 1

Shiv (not real name) was a three and half years old child having normal IQ at the time of enrollment in a special school (Haryana). He was diagnosed with Orthography Multiplex Congenital diseases. His father is a businessman maintaining a nuclear family of four members and high middle socio-economic status. The child is younger to his one elder sister. He was delayed in all the five areas of development (motor, self help, language, cognition and socialization skills). At the onset of the training, it was observed that he had loco motor problems, problem in activity of daily living and related to grasping. He did not have neck control and was not able to take spoon filled with food and liquid to the mouth. He could not even scribble and pulling self on knee position. He could not wash his face. On psychological assessment, he was found to have an normal intelligence (IQ=95). Case history revealed that his birth cry was delayed. All the milestones of development of the child were delayed.

From the very beginning of the training of early intervention program, his mother gave her full co-operation to the home advisor and professional. The parents were informed about child's condition and counseled on the need for prolonged in various areas of development such as motor, self help, communications, cognition and socialization skills. Management plans were developed for the child and the parents were guided on home training, in addition to the regular training in the institution for the mentally challenged children.

After two and half years of intensive training, a tremendous and enthusiastic positive response was observed in Shiv. The neck control was improved, upper extremity muscle strength has been improved, contracture in elbow joint has been overcome, he can walk with one gait under one attendant. Now he can write easily, he could even turn the pages of books, he could brush his teeth with some help, he could drink water with the help of glass without spilling. He could eat with spoon. He could sit and stand. He can walk slowly for 5 to 10 minutes without assistant. His mother was very happy to see the improvement in her child over the training and she is taking great care in providing relevant and stimulating environment to the child. His family was fully satisfied with the results of the training of early intervention programme.

Case 2

Pawan (not real name) was a four-year old male child. He has two elder siblings. His sister is normal and she is very active. His elder brother is also mild mentally challenged. His father is a businessman and his mother is housewife. At the time of enrollment in special school (Haryana), he has many complaints like drooling, poor concentration, stiffness of lower and upper limbs, difficulties in activities of daily living, dependent in self help skills, poor range of motion and poor grasping power. When he felt hungry, he start crying. After psychological assessment, he was found to have an I.Q. 25 to 30 (severely mentally retarded). He was prone to epilepsy consequently. He has poor bowl control. Case history revealed that his birth cry was delayed. All the developmental milestones of the child were delayed. The child obtained neck control only at the age of one year and rolled over by two years.

After detailed clinical assessment and examination, it was diagnosed that the child was affected by the condition named cerebral palsy due to birth anoxia. He was severely mentally retarded child with cerebral palsy. The assessment during special education programme revealed that he was not able to remove or put on his garments, could not feed himself and could not express his toilet needs. He could not recognize articles of every day use but he could recognize his parents by passing smile towards them. The parents were informed about child's condition and counseled on the need for prolonged speech therapy, music therapy, physiotherapy, activity for daily living and intensive training in various self help skills. Special management plans were developed for the child and the parents were guided on home training, in addition to the regular training in the institution, early intervention programme was continued (for fully development and growth of children). Caretaker was arranged for the child for fulfilling the needs of intervention. One day when the child went with his caretaker for intervention in therapeutic room, the caretaker was surprised to see that the child moved his head to

hear the voice stimulation; it was observed that the child stopped crying and started doing some activities which were meaningful. Slowly and slowly he started to stand with support and gave his expressions which were meaningful for communications. In this way he was taught many activities with the help of early intervention. After two years of intensive training, he was able to sit and stand without support and he started walking with support. A tremendous and enthusiastic positive response was observed in Pawan. At present the child is able to speak a few meaningful words like Papa, Ma, Khana, Pani, Su Su, he indicate his toilet needs by the mode of non-verbal communication, he could eat himself when food is present in front of him by the caretaker. His excess drooling had stopped and he was more cheerful than before. As a result, parents were fully aware of the child's condition, they extended their full cooperation with the professionals in training the child.

Case 3

Ram (not real name) was a boy of five years old, enrolled in special school (Haryana) belonging to joint family of low socio-economic with a diagnosis of severe mental retardation due to birth anoxia. He has one elder brother. His father is a teacher. His mother is educated upto class X and is unemployed. At the age of three years, the child has first attack of fits, which continued to occur. An overall assessment of the child's current level of functioning revealed that he could not roll over, was able to sit with support, unable to chew solid food, had excessive drooling, and could not hold objects when given in hand, dependent in toilet skills, fully dependent on her parents.

On the basis of behavioral state profiles, an early intervention programme was planned in the areas of motor skills, communication skills, cognition skills, socialization skills and self help skills with prior baseline recording. The planned programme was executed without support sitting. At the end of 8½ months, he was able to explore and manipulate objects, smile by seeing familiar person in his surrounding, turn head towards the source of light and voice. He started to indicate for his toilet needs by touching his sex organ and making a sound 'Ma'. Frequency of the seizures was reduced but the same drugs 400 mg of sodium valporate per day (as recommended by psychiatrist for epileptic seizures) was being continued. The parents were very happy over the training and they take great care in providing optimum educational and training environment for the child. His parents were fully satisfied with the results. They extended their full cooperation with the professionals in training the child.

Conclusion

In the end, it can be concluded that where early intervention services are lacking, there is every likelihood of risk infants development, i.e., mild, moderate, severe and profound setbacks.

Early intervention not only reduces the impact of handicapping conditions when identified early, but strengthens the bond between mother and her child and to learn the importance of proper care and management and the role of child development.

Pregnant mothers who are poor and lack nutrition during those months, give

birth to low birth weight babies. These babies are most at risk of being prone to the childhood diseases. Therefore, in our country such programmes which prevent infants and young children from developing handicaps and ensure their normal development have great significance. Early intervention ensure that young mothers receive anti-natal care and child is monitored after birth, than invest in special education later, as the results have long-term effectiveness for families.

Early intervention is a significant tool to help in developing the capacities which are not visible on face and also assisting in variety of activities related to therapeutic aspect, self help skills and activities of daily living, etc. Early intervention can be employed as a means of improving the academic achievement and social adjustment of mentally handicapped children and also help their parents to adjust themselves in the society with their mentally challenged children. The early intervention programme should be begun at the earliest possible age of the child. This experience will provide an opportunity for the parents and their wards to explore a variety of behaviours with positive activities led by a certified, special educators, neurologists, psychiatrists, physio and occupational therapist, ENT specialist, child specialist, eye specialist, speech therapist, audiologist (multi-disciplinary team) and board certified psychologist.

REFERENCES

Gsoedi, J.; Krenner, G.; Krenner, J. and Zirnbauer, R. (1989). Effects of early intervention in the view of parents. A catamestic inquiry of the parents of children who had early intervention. *Fruehfoerderung. Interdisziplinaer,* 8(3), pp. 116-122.

Gupta, M.; Kumar M. and Jain, M. (2005). Early intervention for development delayed infants. *EduTracks,* 4(9), pp. 18-20.

Jaychandran, P. Boay, (1968). Madras project on early intervention. Jeychandrh, P. Vimala, V. Hadris Developmental programming system (1975).

Lawners, R.; Carollillo, C.; Cappelli, M. and Lambert, J. (2003). The efficiency of early intervention, perceived by parents. *Vierteljahresschrift-fur-Heilpadogogik-und-ihre-Nachbargebiete,* 72(4).

Persha, A.J. and Sheilja Rao, V.R.P. (2003). *Early Intervention to IUGR Children at Risk for Development Delays.* Sree Ramana Process Pvt. Ltd., Secunderabad.

Simeonsson, R.L.; Cooper, D.H. and Socheiner, M.D. (1982). A Review and Analysis of the Effectiveness of Early Intervention Programmes. *Pediatrics,* 69(5), pp. 635-641.

Effect of Yoga Therapy on Persons with Mental Retardation: An Observation

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ABSTRACT

A systematic planning, regular practice of Yoga therapy for the rehabilitation of persons with mental retardation may improve ones ability to pay attention to a task, may prevent further deterioration and may bring about cures of many of the problematic conditions. Systematic practice of yoga may result in correcting postures, reducing obesity, controlling dribbling, bringing down hyperactivity, improving appetite, sleep and general health. In the present study, Yoga therapy has been applied on a few cases of persons with mental retardation. Fruitful results were observed in improving level of their concentration, eye-hand coordination and controlling dribbling. Wonderful positive effects were found in decreasing/controlling hyperactivity and aggressive behavior through regular training and practice of yoga by including in the curriculum in special schools. It also improved the self-help skills and enhances the confidence in participation among group.

Introduction

Mental retardation is a condition of impairment in intelligence of a person, which may not be cured. Delay in mental development during the developmental period of a person is one of the major features of mental retardation which leads to reduction in learning ability and lack of social and behavioural adjustment. A retarded child learns more slowly than a normal child. Therefore at maturity his capacity to understand remains less than a normal person. In this situation, he/she would require various types of assistance in carrying out his/her basic life activities. A mental retarded person

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has special needs which basically include activities of daily living, reading, writing and arithmetic skills, extra curricular activities, namely, sports and games, yoga, art and cultural activities, social activities, vocational and employment activities, independent living skills and community integration, etc.

Every activity of persons with mental retardation has a special meaning in which they have to acquire through Individualized Educational Programme supported by related services, namely, Audio logy services, counseling services, early identification and assessment of disabilities in children, medical services, occupational therapy, orientation mobility services, and parent counseling.

Many facilities for educating and training them have been expanded in recent years in many countries including India, both in private and public organizations. In India, various new ways of teaching in special and integrated settings schools/ institutions have also been developed in the field of mental retardation. In recent years, some experts argued that mental retardation is due to interplay of several genetic and ecological factors, therefore no single method may deal effectively with various facts of mental retardation. It is also recognized over time that systematically designed co-curricular activities may play a significant role in growth and development of a mentally retarded person. Therefore these days curriculum of these schools have changed and now more importance is given to the co-curricular activities including visual arts, performing arts, crafts, sports and games, yoga, and physical education in the regular timetable of these schools than reading, writing, arithmetic, etc. The ultimate aim of our educational system pertains to its effectiveness in assessing students to have a well-balanced emotional and intellectual life that includes leisure participation. In this direction Yoga Therapy may play a significant role for rehabilitation of persons with mental retardation.

What is Yoga Therapy

One of the important things of ancient Indian history which actually attracted the attention of professionals of West is the great treasures of Yoga Sutras of Patanjali (5th century BC and the works of great Sage Nathamuni in his treatise Yoga Rahasya (6th century AD). Interpretation of the works of Patanjali reveals that an excellent management system advocates a method of controlling the mind and body. In fact the Sutras depict a crystallized picture of what constitutes the mind, its functions and impediments. It is purely Indian in origin in temperament and in practice. It has been explained by Patanjali that the mind performs five main functions cognition, misapprehension, imagination, deep sleep and memory. In addition to this, he also observed that the obstacles to developmental clarity are: illness, mental stagnation, lack of foresight, uncertainty, fatigue, indulgence of the senses, illusions about oneself, lack of perseverance and regression.

Thus Yoga is one of the six schools of ancient Indian Philosophy. It is a system of mental, spiritual and physical development which originated in our country. It is a priceless 5000-year-old Indian legacy of healing and sustaining good health. It enables one to achieve a higher level of performance. In general, it means bringing two things

together, to meet, to unite, causing the movements of the mind to come together, enabling one achieve his fullest capacities. It is known for its time-tested power of increasing concentration and imparting self-discipline for children and adults. It offers enormous help to overcome various human problems, both mental and physical.

These days the system of yoga has been universalized and endowed to humanity for posterity. A person who practices yoga systematically is expected to experience the benefits given in Table 1.

Table 1: **Yoga Means**

Yoga Means	*Yoga when Applied*
Bringing two things together to unite, to meet (Vaman Shivram Apte, 1979).	To arrive at a certain level where the activities of the mind and body work as one.
To cause the movements of the mind to come together (Desikachar, 1982).	To avoid distraction and to help one focus all his attention on the activity in which he is presently involved.
To help one achieve his fullest capacities (Desikachar, 1982).	To advance towards achieving higher levels of performance that presently exists only as capabilities within the individual, which have not yet come out.

It is clear from Table 1 that the regular and systematic practice of yoga may steadily improves one's ability to pay attention to a task. It may help one to rely on one's abilities, make healthy and also help a person have a better relationship with others.

Yoga Therapy and Mental Retardation

Yoga exercises have also been incorporated in manpower development and training curriculum dealing with mental retardation and attempts are on way to make it inclusive in school curriculum. As per Desikachar and Jayachandran (1983) practice of Yoga should be aimed at improving general health, concentration, self-reliance and social relationships of the mentally retarded persons. Persons with mentally challenged experience difficulties in learning, while the non-disabled persons learn naturally. Special educators who are working in the field of mental retardation must realize the significance of yoga as a valuable tool for the development of persons with mentally challenged and they should include yogasanas practices into the individualized educational programming enriching the experiences for such persons.

A mentally challenged person needs a comprehensive teaching programme for all round development of his whole personality so that each aspect of development aids and accelerates the rest and leads to a faster all round development. Thus yoga therapy fulfills the requirement of both body and mind development. It may turn the whole body to fight against problematic conditions. Systematic yogasana practice may prevent further deterioration and also bring about cures of many of the problematic conditions in case of mentally retarded persons.

Practice of yoga involves Asana and Pranayama. These are given as under.

Asana

The word asana means posture originates from the Sanskrit word as which means 'to be', 'to stay', or 'to remain' in a particular position (Vaman Shivram Apte, 1979). Thus, the word asana refer to a posture or a particular position, which may be performed in various ways, i.e., 1. Standing. 2. Supine (lying on back). 3. Prone (lying on the stomach). 4. Sitting. 5. Kneeling (Smith, 1980).

The types of asanas, which currently being used in case of mentally challenged children for their better development and growth are Tad-asana, Parsva-utanasan, Apanasana, Urdhvapras Sarvangasana, Bhujangasana, Dhanurasana, Paschimatanasana, Cakravakasana, Utakatasana, Vajrasana, Adhomukh Svanasana, Dvipadapitham, Trikonasana, Apanasana, Sukhasana, Vinyasakarma, etc.

As per Desikachar (1982) there are two qualities of an asana:

- The individual doing an asana should experience comfort (Sukh).
- He should also maintain a certain amount of steadiness in a given posture without much effort or tension (Sthira).

To achieve both these qualities, a long period of practice is needed. The comfort and steadiness in a posture is most often achieved through total concentration of the mind on the posture. The practice of an asana must co-ordinate with breathing.

Pranayama

Pranayama means regulated breathing. Pranayama is an extremely important part of asana practice. In pranayama, the individual deliberately controls and directs his breathing in a planned way. Pranayama is usually practiced in a comfortable sitting position (Swami Digambarji, 1970). There are certain principles, which must be observed at the time of pranayama (Desikachar, 1982).

- The posture must be comfortable.
- The body must be relaxed.
- The change from asanas to pranayama should be gradual.
- It is important that the body must be relaxed before starting pranayama.
- It should also occur in a suitable sequence.

Pranayama should be practiced over a period of time in order to do it in exactly the way it should be done. When the mind is fully focused on the different parts of the breathing cycle then it is known as Pranayama.

Benefits of Yoga Therapy

There are various benefits of yoga therapy. Some of them are summarized as under:

- Easy to understand and practice.

- Economical.
- Simple enough to be practiced even by non-professionals once the principles of Yoga are made clear to them.
- Possible to teach individually and also in groups.
- Easily adaptable to suit individual needs.
- Postures and movements as asanas, barring a few only, practiced in common usage by any person in his daily life activities.
- A rich repertoire of asanas that provide enough scope for the teacher to call the required ones only and adopt them to the individual's requirements.
- Above all this is the only time-evaluated system (5000 years of testing) that brings about the body mind coordination in a natural way.

Related Studies on Yoga Therapy in the Field of Mental Retardation

Some studies have been conducted among the retarded persons to find out the effects of yoga therapy. A significant improvement was reported in general health from yogasanas practices even in a short period of time. As a result of this gain, absenteeism had come down, thereby time available for learning has increased, and the improved general health facilitated the persons to learn more effectively without disruption and disturbance in their training schedule. Results of some other studies are summarized as under.

- Improvement in motor skills, and in postures (A study of Krishnamacharya Yoga Mandiram, Chennai and Vijay Human Services by Vimala, 1982).
- Reduction of obesity, control of dribbling (Usha 1982).
- Disappearance of facial tics (Annamma, 1982).
- Reduction in hyperactivity (Jeyachandran, 1981).
- Improvement in appetite, sleep and improved health (Pushpa, 1982).

As per Vijay Human Services, 2000, it was found that yoga has helped the mentally challenged persons in correcting postures, reducing obesity, controlling dribbling, bringing down hyperactivity, improving appetite, sleep and general health.

Thus due to the significant positive effect of yogasana practice on the mentally challenged persons, various yoga practitioners—whoever they may be, special educators, psychologists, parents or other professionals—now do realize that a systematic yoga practice may increase both the physical and mental well being of any individual (Kasthuri, 1983). Therefore for many years, they have been trying out and standardizing the right kind of yoga therapy and adapting asanas for the mentally challenged persons (Vijay Human Services and Krishnamacharya Yoga Mandiram, 1988).

Teaching Process of Yogasana

The process of teaching yogasana to the mentally retarded persons may include the following steps:

- ❖ At first, it is necessary to assess the mentally retarded persons to find out the present levels of functioning in the relevant areas of development.
- ❖ Based on the initial assessment, the next step is the proper selection of asanas and pranayama. These may be selected to either strengthen the existing skills or to attain higher skills.
- ❖ Then the selected asanas may be translated into concrete lesson plans.
- ❖ For better and early results, the educational process may be supported by appropriate rewards.
- ❖ At last the results may be evaluated to find out the achievement of pre-determined objectives of performing the asanas.

However, in some cases different methods may be used to teach the same asana to different persons depending upon their abilities. Even the selected method may not always be satisfactory for a particular person. Sometimes four or five methods may be used in order to teach just one asana to a mentally challenged person.

According to the Bender and Valletutis catalogue : the compilation of the strategies to be used in teaching yogasanas to the mentally challenged persons are age appropriate, avoidance of stereo-type judgments, cultural background, teacher behaviour, assistive devices, instructional considerations, classroom management, reward, evaluation, etc.

Case Studies: Observations

The above-mentioned process of teaching yogasana has been used on a few cases of persons with mentally retardation to see the effects on correcting postures, reducing obesity, controlling dribbling, bringing down hyperactivity, improving appetite, sleep and general health. Observation of three cases of mentally retarded persons is given below:

Case 1

Suresh (not real name) was 10 years old, male child enrolled in special school (Haryana). His medical and psychological records indicated that he was a moderately mentally challenged child with an I.Q. of 48. He was also hyperactive and was having aggressive behaviour and poor self-help skills. He could not walk properly. His vision was also poor. He was not socially adaptable and has poor eating behaviour.

From the very beginning of the training of yogasana, his mother gave her full cooperation to the professional. The parents were regularly informed about child's condition and counseled on the need of prolonged in various areas of development such as motor, self help skills, cognition and socialization skills. No physiotherapy was being provided to this case before training. On the basis of his physical and mental

abilities, management plans were developed for the child. In addition to the regular training to the child in the special school guidance was also given to the parents for the home training. One-year intensive yoga therapy programme was adhered to, being given on an individual basis. Suresh was highly involved in practicing the asanas twice a day (in special school and at home). He was practicing the asanas namely Uttanasana, Parsva Uttanasana, Chakravakasana, Apanasana & Vajrasana, and also chanting a word 'OM' twice a day for fifteen minutes. All the asanas were exposed gradually. The results were very alarming. Within one month of training, he was able to walk properly, although not with confidently. He discarded his powerful lens and used an ordinary reading glass. Improvement was also observed in his self-help skills and in hyperactive and aggressive behaviours during the training period. After one year intensive yoga therapy, it was observed that he was more socially adaptable and started participating in-group activities with confidence. He was also able to perform well in play and in other extra-curricular activities. His intimacy to the family members/other students and confidence also enhanced his self-esteem.

Case 2

Tarun (not real name) enrolled at Special Institute for Mentally Retarded Children, Gandhi Nagar, Rohtak, Haryana at the age of 8 years. The psychological & medical records indicated that he was mild retarded child with an IQ of 55 to 60.

He had a number of physical characteristics that are often seen among mentally retarded children including poor attention span, poor eye-hand co-ordination, poor concentration, very limited repertoire of manipulative, poor self-care skills, hyperactive and also had self-injurious behaviours. His speech was also limited to indistinguishable sounds. Tarun was initially placed in the early childhood programme and he was later moved to an academic pre-school curriculum.

The initial assessment was made to determine what type of work he could perform. For this, priority goals were established. After selecting the goal areas, specific objectives were set up. An intensive yoga therapy programme was given with the consultation of his family. The course was strictly adhered to, being given on an individual basis. He was practicing the asanas Uttanasana, Parsva Uttanasana, Chakravakasana, Apanasana & Vajrasana and also chanting a word 'OM' twice a day for fifteen minutes. All the asanas were exposed gradually which improved his level of concentration, eye-hand coordination and also increased the performance in self-care skills. After a period of six months, his assessment was made.

After the six months intensive yoga training, he was able to participate in all the play therapy activities with the other children. He could read in the primary level. He had developed some concept of numbers. He could perform all self-care skills. His speech was largely intelligible. He was socially adaptable. The family members feel happy to see the changes in their child.

Case 3

Surender (not real name) was 12 years old. His parents had enrolled him in a Special Institute for Mentally Retarded Children, Gandhi Nagar, Rohtak, Haryana.

The medical and psychological diagnosis reported him moderately mentally retarded along with Down syndrome and with an IQ of 35-40. He had considerable difficulty in reciting language & also in expressing himself & had deficiency in fine & gross motor skills and number of physical characteristics including hyperactivity drooling, overeating, a protruding tongue, very poor vision, lethargic and also self-injurious behaviour.

The initial assessment was made to determine what type of work he was able to perform. Specific objectives were set-up. His condition was also discussed with his parents. On the basis of his assessment the decision was made to set up a course of yoga for a period of eight months to him.

The course was strictly adhered to, being given on an individual basis. Surender practiced the asanas namely Uttanasana, Parsva Uttanasana, Chakravakasana, Apanasana, Dvipadapitham, Bhujangasana & Vajrasana, and also chanting a word 'OM' twice a day for fifteen minutes. All the asanas were exposed gradually.

After eight months he was able to participate in all the play therapy and as well as in sports & music. He was socially adaptable. He could perform all self-care skills. Drooling had almost stopped and he kept his tongue in his mouth. He could perform actively. Some diet control was introduced. In addition to the above changes, his parents and sibling claim that his self-injurious and hyperactivity behaviour considerably reduced. The acceptance developed a new intimacy among the family members.

Thus, the results of all the cases mentioned above shows the importance of yoga therapy especially in the field of mental retardation and are in tune with the findings of the study reports of Vijay Human Services, 2000 in which it was found that yoga has helped the mentally challenged persons in correcting postures, reducing obesity, controlling dribbling, bringing down hyperactivity, improving appetite, sleep and general health.

These results also confirm the findings of Manovikas Kendra, Calcutta, who gave the Yoga Therapy on about 300 children with mental retardation and found wonderful improvement in coordination of mind and body subsequently increasing the level of concentration and also increase the performance of daily life activities.

Conclusion

From the above, it can be concluded that yoga therapy is very important in field of mental retardation. If properly practiced then it may help to co-ordinate the activities of the mind and body of the mentally challenged persons. It also tend to reduce the distracted state of mind, help in mind concentration on the present activity and in improving his activities of daily living to a degree of which could not be achieved otherwise. It is also provided as an individual therapy in collaboration with the clinical departments like Physio Therapy, Occupational Therapy, Cerebral Palsy and Speech therapy, for example, speech therapy may help in controlling dribbling of the person concerned. Yoga therapy in such departments is very effective in reducing obesity, improving bilateral activities, relaxation exercises, bending exercises, promoting

attention, and concentration span, improving eye-hand coordination, etc. Special educators who are working in the field of mental retardation should also include yoga therapy while designing the individualized educational programming to enrich the experiences for such persons. Parents having children with mental retardation may also be advised to apply the yoga therapy on their children in consultation with the concerned teacher for better improvement in their children.

REFERENCES

Annamma (1982). *Teaching Yogasana to Mentally Retarded.*

Desikachar T.K.V. (1982). The Yoga of T. Krishnamacharya, Krishnamacharya Yoga Mandiram, Madras, pp. 12-13.

Desikachar T.K.V. (1987). Patanjali's Yoga Sutras. An introduction 1-21, 1-22, 1-23. Affiliated East-West Press Private Limited.

Desikachar T.K.V. and Jayachandran P. (1987). *Yoga for the Mentally Retarded.*

Jeyachandran P. (1981). *The Effectiveness of Yogasana on the Mentally Retarded.* Presented at the first National Conferences of the Indian Academy of Yoga, Bangalore.

Jeyachandran P. Vimla (1995 and 2000). Madras Developmental Programming System, Vijaya Human Science, 6, Lakhimiperam Street, Chennai-14.

Kasthuri D. (1983). *Teaching Yogasana to the Mentally Retarded.*

Pushpa (1982). *Teaching Yogasana to the Mentally Retarded.*

RCI (2003). *Disability Status*, Rehabilitation Council of India, New Delhi, pp. 303-402.

Smith, M.J.N. (1980). *An Illustrated Guide to Asanas and Pranayama*, Krishnamacharya Yoga Mandiram, Madras.

Swami Digambarji (1970). Hathapradipika 2.7, 2.8, 2.9, Kalivalyadhama, SMYM Samiti, Lonavala, Dist. Poona.

Usha (1982). *Teaching Yogasana to the Mentally Retarded.*

Vaman Shivram Apte (1979). Sanskrit-English Dictionary, pp. 458-459.

Vijay Human Services (1988). *Teaching yogasana to the mentally retarded persons.* Madras: Vijay Human Services.

Vimala V. (1982). *Yogasana for the Mentally Retarded*, presented at the Fourth Workshop for Special Educators, Organized by Krishnamacharya Yoga Mandiram, Madras.

Better Learning will not come from finding better ways for the teacher to instruct but from giving the learner better opportunities to construct. —*Papert, 1991*

A Case for World Class Rehabilitation Centre for Spinal Cord Injury in India: A Critical Study

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ABSTRACT

India has the second highest population in the world. Coupled with this burgeoning population we have high incidence of poverty and diseases. Quality of life of people is directly linked to quality of healthcare services available. Healthcare is provided in India by government, municipal and private hospitals, nursing homes and clinics. India is poised to become a hub for medical tourism in the near future. Healthcare is the fastest growing sector, growing at the rate of 13-15 per cent per annum and is estimated a Rs. 1,50,000 crores industry. No doubt we have high number of qualified doctors and para-medical faculty. Somehow, rehabilitation and post-hospital care has not been given the status it deserves. This article highlights the need for specific quality rehabilitation services in India with a focus on Spinal Cord Injury. Spinal Cord Injury leads to break up in the line of communication between the brain and the muscle due to damage to the Spinal Cord, leading to either Quadriplegia (Paralysis neck down) or Paraplegia (Paralysis waist down). It significantly alters every aspect of a person's life. The article compares the western countries like USA and UK, etc., regarding to the rehab centers models prevalent there and the need to replicate the same in this country.

Introduction

India has a very large population of persons with disabilities. Persons with various loco-motor disabilities constitute a significant proportion of the population. Spinal

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Injury is one of the most common causes of loco-motor disability. Though there is no proper epidemiological study on spinal injuries, rough estimates suggest that the incidence is around 20 per million population. At this rate, there would be around 20,000 fresh spinal injured in a year. Since such patients require monitoring and management for life, the prevalence of this disabling ailment is substantial. The profile of Spinal Cord Injury over the years has moved from the low socio-economic strata to middle and higher strata of society due to increase in vehicle accidents, air travel as well as indulgence in adventure sports.

Mumbai has one of the best health infrastructures in the country including hospitals, doctors with varied specialization, paramedical personnel and wide availability of medicines equipments, etc. But there is no rehabilitation centre with a holistic approach to curing the psychological, physical, vocational and social needs of such patients. These paraplegics have a normal lifespan and they can become contributing members of the society if given the right intervention after the spinal cord injury. In the USA, UK, Europe and Australia there are niche rehabilitation institutions catering to every need of such people.

In India so far there are only two full-fledged, sophisticated rehabilitation centers for spinal cord injury. These are The Indian Spinal Injury Centre in New Delhi and CMC, Vellore. Though the best spine surgeons, orthopedic surgeons, neurosurgeons, plastic surgeons, qualified physiotherapists, urologists, etc., are concentrated in Mumbai. There is only a charitable trust, Paraplegic Foundation in Mumbai so far taking care of a few needs of the spine injured.

Health Infrastructure

Over the last five decades, India has built up a vast health infrastructure and manpower in government, voluntary and private sectors. The health institutions are manned by professionals and para-professionals trained in the medical colleges. Currently, private sector health services range from those provided by large corporate hospitals, smaller hospitals, nursing homes, clinics and dispensaries.

However India's healthcare system barely covers half its population. The public sector health infrastructure has about 500,000 doctors, 740,000 nurses, 350,000 chemists, 15,000 hospitals and 870,000 beds. It is three-tier structure comprising some 23,000 primary health centers, 137,000 sub-centers and 3,000 community health centers, serving the semi-urban and rural areas.

The United Nations Development Programmes latest *Human Development Report* puts India's annual per capita public spending on health at $4. Of the 175 countries documented only four have a lower public spending on health than India. In sharp contrast, India ranks an impressive 18th in private health care spending (4.2% of GDP). The contrast is so stark for very few countries.

Medical Tourism

Medical tourism can be broadly defined as provision of 'cost effective' private medical care in collaboration with the tourism industry for patients needing specialized

treatment. This process is being facilitated by the corporate sector involved in medical care as well as the tourism industry—both private and public. The trend for SCI's rehabilitation is that quite a few patients travel from foreign countries especially USA and UK to India for alternate medicine treatments. They usually undergo six weeks or more for treatment for Ayurveda, Oil Massage, Homeopathy, Yoga, etc., in various places in India. This can be packaged and promoted a package aggressively.

In many developing countries it is being actively promoted by the government's official policy. 'India's National Health Policy 2002', for example, says: To capitalize on the comparative cost advantage enjoyed by domestic health facilities, the policy will encourage the rendering of services to patients of foreign origin, and on payment in foreign exchange, the services will be treated as *'deemed exports'* and will be made eligible for all fiscal incentives extended to export earnings.

Telemedicine, being a revolutionary idea, requires strong support from different arms of the Government. Close co-operation between public enterprises and private enterprises is essential—the former for generating funds, and latter for the project implementation.

The India Advantage

India offers a great advantage to travellers seeking quality healthcare at competitive prices. Non Resident Indian doctors have been recognized as the best in the business in their countries; 33,000 doctors working in US alone, i.e., 1 in every 6 doctors are of Indian origin. Therefore the credibility of Indian medical personnel has never been in doubt. In addition to highly skilled medical personnel with excellent communication and English speaking skills, the other advantages India offers are:

1. **Significantly lower medication cost:** It is for the following reasons:
   - ❖ Strong Pharmaceutical Sector.
   - ❖ India is fast emerging as a major drug R&D centre.
   - ❖ Strong generic drugs business.
   - ❖ Low cost of drug development.
2. **Different Value Proposition:** 'Satisfaction = Expectation + Experience' India offers a unique incentive to patients arriving from different countries:

Type of Care	*Target Segment*	*Value Proposition*
Tertiary Care	Patients from US, UK, Japan, etc.	World Class quality at low cost expenditure on treatment not covered under medical insurance
	Patients from Africa, CIS, Asia and Middle East	Lack of comparable facilities and expertise in their own country
Indian System of Medicine	Tourists	'Exotic' experience of traditional healing methods combined with holidays

3. **Zero Waiting Lists:** Unlike their counterparts in the West, Indian hospitals offer immediate admission and treatment to their patients.
4. **Connectivity:** The recent approval given by the civil aviation ministry, permitting several domestic airlines to fly to overseas destinations is expected to significantly improve the connectivity with several countries.
5. **Tax Incentives:** Successive Finance Ministers have sought to extend concessions and benefits to the healthcare industry, the prominent ones being, Direct Taxes, Indirect Taxes, Excise Duty and Custom Duty.

Definition of World Class

An organization is 'world class', if it performs on the following six eligibility criteria:

Prepared to compete globally, Universal flexibility, Versatile entrepreneurship at the top & middle level, Systemic strength of the organogram, Global leadership in at least two of the eight value-driving areas, Unending search for better benchmarks.

The areas of eligibility are:

(a) Global Competitiveness
- Product
- Cost
- Delivery

(b) Universal Flexibility
- Cultural
- Legal
- Infrastructural

(c) Versatile Entrepreneurship
- Universal Vision
- Workable Ideas
- Strategic Leadership

(d) Systemic Strength
- Monitoring System
- Knowledge Management System
- Operational System

Parameters for a World Class SCI Rehabilitation Centre

- Providing quality care for SCI persons with physical disabilities.
- Rehabilitation hospital with personnel capable to provide adequate care to patients.
- Outpatient clinics available to meet the individuals needs of the patient.
- Trained nurses cooperating closely with other members of the rehabilitation team to help the patient achieve maximum independence which includes teaching the patient and family the skills, attitudes, and techniques needed to adjust to the home environment.

- Social workers to assist the patient and family in solving social, emotional, and financial adjustment problems.

World Class Rehabilitation Services Cover

- Specialized Medical Personnel,Teams of social workers, Occupational Therapists O.T., Physio Therapists P.T., Recreational Therapists, Rehab Nurses, Psychologists, Vocational Counselors, Nutritionists, Patient centered approach of rehab, Life long process for the person with SCI, Transition from inpatient to outpatient to community based services, Live a full, active, productive life

Facilities Offered by World Class SCI Rehabilitation Centers

Physiotherapy, Electro diogonisis Neuro-urological evaluations and management of neurogenic bladder Occupational Therapy, Psychological Support, Independent Living including implements, Independent Medical Evaluations, Managing Skin Conditions, Education and Support Groups, Dental services on-site, General health promotion, Swimming pool therapy, Stress management, Women's health services and information, Tutoring for school-age patients, Computer Access, Home Accessibility, Environmental Controls, Spiritual Counseling, Individual and group counseling to patients and families by clinical psychologists, Vocational counseling and training, Chemical dependency counseling, Peer Counseling, Adaptive equipment training (voice-activated computer, environmental control, emergency call systems, etc.), Airline travel training, Attendant care training, Social Services, driving evaluation and training, Therapeutic Recreation, Innovative wound management, Augmentative and non-vocal communication, Assistive technology assessment and training, wheelchair and seating assessment, Medicines, Recreation, Respiratory management (especially for Quads), Sexual and fertility counseling, Regimen of post-rehab medical check-ups, vaccinations, Visits to public places outside rehab centre during rehab handling and management of wheelchair and other assistive and prosthetic equipment, Pain Management, Spasticity Management, Counseling about state and private resources for facilities, financial aid and vocation, Vehicles and transport.

Analysis of International Rehabilitation Centres

There are 16 Model Spinal Cord Injury Systems which are funded for the 2000-2005 project period in USA. These Model SCI Centers across the United States work together to demonstrate improved care, maintain a national database, participate in independent and collaborative research, and provide continuing education relating to spinal cord injury.

Projects are currently located in the following states:

Alabama, California, Colorado, Florida, Georgia, Massachusetts, Michigan, Missouri, New Jersey, New York, Pennsylvania, Texas, Virginia, Washington.

The Model Spinal Cord Injury Systems (MSCIS) Dissemination Center is a collaborative effort between the Model Spinal Cord Injury Centers and the spinal cord injury collaborative research projects. The MSCIS Dissemination Center provides information on MSCIS research and publications via the Internet to any inquirer. Center staff members also respond to telephone or mail inquiries.

The National Spinal Cord Injury Statistical Center (NSCISC) supervises and directs the collection, management and analysis of the world's largest spinal cord injury database.

Major Services Offered by these Major SCI Centers are:

- Rehabilitation Nursing. Occupational Therapy. Physical Therapy. Rehabilitation Psychology. Speech and Language Clinic/Hearing Clinic. Airline travel training. Attendant care training. Driver's training. adaptation. car and van clinics. General health promotion. Spasticity clinic. Stress management. Swimming pool therapy. Wellness promotion programs. Women's health services and information. General Rehabilitation Medicine. Independent Medical Evaluations. Inpatient Rehabilitation. Life Care Planning. Outpatient Therapy Services. Outpatient Medical Care. Pediatric Rehabilitation. Peer Support Group. Spiritual Counseling. Wheelchair & Equipment Evaluation. Wheelchair Seating Clinic. Support Groups, Ventilator Weaning. Dependent Program. Computer Access. Home Accessibility. Environmental Controls, Patient & Family Education. Housing. Schooling. Psychological Support. Physical therapy. Psychological therapy. Discharge planning issues. Recreational programs. Employment. Bridge Program. Individual and group counseling is provided to patients and families by clinical psychologists. Peer support groups made up of former or current patients, to offer support during rehabilitation and in the community after discharge. Outreach clinics conduct follow-up visits for individuals with spinal cord injuries at multiple outreach clinic locations throughout northern California. The Outreach Emergency Medical Services Program teaches emergency medical technicians, firefighters, police, ski patrol and E.R. personnel the proper identification and management of trauma victims to prevent or reduce further spinal cord damage. Patient/Family Education Program presents an educational series including guest speakers, videos, slides and discussions on patient physical changes, concerns, and lifetime care after SCI. Comprehensive inpatient rehabilitation therapies six days a week that emphasize individual treatment as well as group sessions. Program for persons with SCI who are ventilator dependent. Structured rehabilitation program for patients with concomitant traumatic brain injury. Peer support and mentoring program. Opportunities to participate in a wide variety of research related to SCI cure, care, and rehabilitation, including studies of new drugs, equipment, etc. Innovative wound management. Augmentative and non-vocal communication, driving evaluation and training. Assistive technology

assessment and training, wheelchair and seating assessment and electrodiagnosis.

The person with Spinal Cord Injury after rehabilitation is in a position to live life with dignity and become an economic contributor to the country. Physically, emotionally and financially by being independent, they are rehabilitated completely, and are an active tax payer in USA.

Conclusion

India can be a very good health care destination especially for Spinal Cord Injury Rehabilitation. Despite the lack or inadequacy of space in Mumbai, given the other infrastructure and facilities, it is imperative that a world-class Spinal Cord Injury Rehabilitation Centre be setup with both public and private enterprise. It will be a win-win situation both for the patients and the city and it is worthwhile leveraging the advantages offered by Mumbai.

REFERENCES

Spinal Cord Injury, Hope through research by National Institute of Neurological Disorders and Stroke, National Institute of Health.

Paralysis Resource Guide by Christopher and Dana Reeve Paralysis Resource Centre by Sam Maddox.

SCI, *A guide to functional outcomes in physical therapy management by* Vickie Nixon, An Aspen Publication.

Emergencies in Chronic SCI Patients, Ibrahim M. Ettorai and James K. Schmitt.

Clinicians Guide to Assistive Technology by Don Orlson, Frank Deruyter, A Mosby Publication.

Physical Therapy—Journal of the American Physical Therapy Association, October 2005, Vol. 85, No. 10.

Nina Foundation's *One World Voice of Paraplegics.*

Shepherd Rehabilitation Centre—"Physical Medicine and Rehabilitation"—Randall L. Braddom

World Class Organizations by Dr. Geeta Piramal and Dr. Sumantra Ghonshal.

Internet Website:

www.CIIonline.rog, www.expresstravellandtourism.com, www.indiastat.com, www.indian-medicine.com, www.aahsr.org, http://www/metrohealth.org/clinical/NORSCIS/systems.asp, www.ninafoundation.org, One World—Voice of Paraplegics

Biological and Psycho-social Predictors of Developmental Delay in Persons with Mental Retardation: Retrospective Case File Study

DR. A. PERSHA[1]

ABSTRACT

Mental retardation is one of the commonest disabilities during the developmental period. It is often associated with several factors. The present study was designed to identify the biological and psycho-social factors associated with developmental delay resulting in mental retardation. The study consisted of reviewing of 438 case files of persons with mental retardation. Results indicated that maternal age at conception, fetal presentation, neonatal seizures and infections were the best indicators of developmental delay characteristic of mental retardation. Psycho-social variables such as emotional trauma during pregnancy, economic status and education of parents had no significant impact on development.

Introduction

Mental retardation is associated with several biological and psycho-social factors. The biological factors are further divided into genetic and non-genetic factors (Baroff, 1986). The risk factors may be singular or multiple. Several studies have well documented the role of intrauterine environment, consanguinity, hazards of prematurity and birth process and postnatal factors that could arrest development (Narayanan, et al., 1987; Singh, et al., 2002; Persha and Rao, 2003). Among the non-genetic biological factors, maternal age at conception, infections, neonatal seizures and dietary deficiencies were found to be detrimental to the overall development (Sells and Bennett, 1977; Kaur, et al., 1985; Baroff, 1986; Udan, 1992; Packman, 1996; Persha and Rao, 2003). Similarly, several psycho-social factors such as psychological trauma, impoverished environment, low socio-economic status and cultural sanctions of child rearing were identified to be detrimental to development

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further leading to mental retardation (Sethi, 1976; Persha and Rao, 2003). Some of the latest surveys have also identified few probable causes of mental retardation such as illness during pregnancy, birth related factors and illness or head injury during childhood (National Sample Survey Organization, 2003). The risk of developmental delay depends on the interaction between biological and psycho-social variables (Persha and Rao, 2003) therefore it is difficult to identify specific etiology (Mathew, 2002). From the review of literature it appears that mental retardation can have multiple causes and more the risk factors greater is the chance of significant developmental delay. Nevertheless it is notable that majority of the factors are preventable.

Although there are several developmental scales through which at risk population could be identified, this approach is not always feasible due to lack of expertise and availability of tools and limited predictive value. Therefore, identifying the probable causes will help in identifying children at risk and initiate early intervention strategies to minimize the risk of developmental delay (Persha and Rao, 2003).

The aim of the study was to find out biological and psycho-social predictors of developmental delay in persons with mental retardation.

Methodology Participants

The study was conducted at NIMH Regional Centre, Kolkata. Data were collected from the case files. The report taken from the case files is authentic as data were collected by clinical staff having at least a graduate degree in the field of mental retardation and minimum of four years experience thereafter. They recorded relevant medical, psycho-social and educational information by interviewing parents as well as from relevant anecdotal records. At the next level the information was verified and detailed assessment was conducted individually by consultant psychiatrist, clinical psychologist and a special educator. Case files of individuals between one and 18 years with data reported by first degree relatives and development quotient (DQ) of below 70 on Developmental Screening Test (DST; Bharat Raj, 1977) were included in the study. Age limit was decided on the premise that perceptible changes in various areas of development could be seen by age one and that developmental assessment loses its relevance in diagnosing mental retardation after 18 years. DQ cutoff was chosen corresponding to intelligence quotient in standard practice of diagnosing mental retardation (World Health Organization, 1992). Cases where DST score did not match with other psychological tests of adaptive behaviour and intelligence were excluded from the study.

Tool

Though detailed psychological assessment was carried in most of the cases, the present study has taken only the scores of DST, as it was not feasible to apply comprehensive intelligence scales in certain cases due to nature of mental retardation or associated disabilities. DST measures development from 0 to 15 years in general population and is applicable to any age group of persons with mental retardation. It yields developmental quotient (DQ). Despite the criticism that DST is loaded with speech and language items, it is widely used in the Indian context to assess overall development

and also as a screening tool of mental retardation. DST shows good correlation with Vineland Social Maturity Scale and Binet's scales of Indian adaptation (Jayashankarappa,1986).

Statistical Analysis

The analysis was done with Statistical Package for Social Sciences (SPSS Version 12.0) for Windows. Descriptive statistics and linear regression analysis was done as per their basic assumptions.

Result

There were 712 new cases registered with the institute from August 2004 to July 2005 from which 204 files were excluded due to lack of sufficient data and another 70 as per the age limit. The final sample was 438 in which majority was males (64.1%) and the mean age was 8.17 (SD 4.80). Mild and moderate retardation had equal distribution (31.7%), which was followed by severe retardation (25.3%). Hundred percent of fathers had gainful occupation or employment though only 82.4 per cent were literates. Among the mothers, 79.2 per cent were literates and 96.8 per cent were housewives. The mean age of conception of mothers was 24.86 years (range: 15-48 years; SD 5.54). Majority was from urban area (52.7%) followed by rural (25.6%) and semi-urban areas (21.7%).

Table 1 indicates the frequency of several prenatal and postnatal factors. Table 2 indicates the maternal age at conception, fetal presentation, neonatal seizures and cerebral infections were found to be detrimental to the overall development.

Table 1: **Frequency of Fisk Factors***

Variables	*n (%)*
Prenatal factors	
Emotional trauma	58 (13.2%)
Malnutrition	33 (7.5%)
Physical trauma	27 (6.2%)
History of abortion	12 (2.7%)
Infections	12 (2.7%)
Prescribed drugs	6 (1.4%)
Epilepsy	2 (0.5%)
Natal and postnatal factors	
Delayed birth cry	224 (51.1%)
Neonatal seizures	141 (32.2%)
Low weight	123 (28%)
Premature birth	73 (16.7%)
No immunization	51 (11.6%)
Infections	32 (8.2%)
Head injury	29 (6.6%)
Overweight	22 (5.0%)
Abnormal colour	13 (3.0%)
Post-term birth	13 (3.0%)

* Given in descending order.

Table 2: **Biological and Psychosocial Predictors of Development.**

Independent Variables	*Unstandardized Coefficients (ß)*	*Standard Error*	*Standardized Coefficients (ß)*	*t*
Constant	29.250	58.522	—	.500
Biological Factors				
Maternal age at conception	.633	.206	.267	3.065**
History of abortion	2.686	7.392	.019	.363
Self-medication	–.742	6.786	–.006	.109
Malnutrition	–6.664	3.840	–.096	1.735
Maternal infections	–1.196	1.105	–.082	1.082
Prescribed drugs	–11.466	6.808	–.090	1.684
X-Ray	–2.928	11.574	–.013	.253
Gestation	.872	2.213	.022	.394
Type of delivery	–.554	.917	–.036	.604
Normal fetal presentation	38.018	16.601	.173	2.290*
Prolapsed cord	–3.704	17.628	–.012	.210
Delayed birth cry	–1.411	1.707	–.051	.827
Abnormal birth weight	–.746	.923	–.050	.808
Colour	.167	.627	.016	.266
Neonatal seizures	–5.038	1.930	–.140	2.611**
Cerebral infections	–7.237	3.306	–.117	2.189*
Head injury	1.115	.775	.078	1.438
Family history	.847	.818	.056	1.036
Psycho-social Factors				
Psychological trauma	–1.268	.998	–.069	1.270
Father's education	1.852	1.412	.110	1.312
Mother's education	.612	1.414	.035	.433
Socio economic status	.002	.000	.045	.679
Rural/urban	.655	.678	.052	.966

* $P < .05$. ** $P < .001$.

Dependent Variable: Developmental Quotient.

Discussion

Mental retardation is a condition associated with significant intellectual delay and deficits in adaptive behaviours. In general this condition is caused by interaction of several biological and psycho-social factors (Persha and Rao, 2003). Contrary to previous studies (Packman, 1996; Singh, et al., 2002), the present study revealed that higher the age better was the development of children. This finding could be understood from the fact that approximately 50 per cent of the maternal population in this study had conceived between 20 and 28 years of age, a period which is biologically and psychologically conducive for gestation and child rearing. This finding indirectly supports few earlier studies in which older mothers were found to be more interactive and showed inventiveness and tolerance in child rearing thereby facilitating conducive environment for growth and development (Von Windeguth and Urbano, 1989; Culp, et al., 1991). Psycho-social implication of this finding is that teenage couple should

be given appropriate information on consequences of conception with reference to the age of the mother, need for regular antenatal checkup, nutrition and strategies to secure social support to guide them in child rearing.

Normal fetal presentation at the time of delivery was found to be indicative of normal development. The present study also revealed that high proportion of individuals had neonatal seizures (32.2%), which emerged a predictive factor. The incidence of neonatal seizures is much higher than earlier reports (Richardson, et al., 1981) however it corroborates with earlier studies on general population that the incidence is high in developing countries (Shorovon and Farmer, 1988). In the context of neonatal seizures a question may arise that the study population was developmentally delayed therefore possible neurological defects could have lead to seizures rather than vice versa. Though there are such possibilities, it could be noted that all neonatal epileptic seizures except typical absence seizures may in itself aggravate the brain injury responsible for the seizures (Dam, 1990). However, physicians should consider whether there were any neurological abnormalities in the first one year of life before the onset of seizures, as this combinations may indicate poor prognosis of cognitive development (Ellenberg, et al., 1984).

In the present study 8.2 per cent had cerebral infections including meningitis and encephalitis although there was no data to suggest whether they were primary or secondary. Nevertheless, cerebral infections emerged a predictor of developmental delay supporting earlier studies that these infections will cause wide range of impairments particularly related to cognitive development (Sells and Bennett, 1977). As early detection is crucial in treating these infections effectively, young parents should be educated about the commonest signs while they are under neonatal care so that they can utilize appropriate health facilities when emergency arises. Contrary to earlier studies, lack of significant effect of psycho-social variables in this study could be due to well matched sub-categories.

Based on the above findings it could be concluded that age of mother at the time of conception, abnormal fetal presentation, neonatal seizures and cerebral infections could be risk factors for development. Wherever appropriate health facilities are not available, this information could be imparted to families through grassroot professionals such as "anganwadi" teachers and health workers, as applicable. These findings can be generalized with due consideration to certain limitations intricate to any retrospective study as lack of anecdotal records in all cases and hence possibility of recall bias by the informants.

REFERENCES

Baroff, G.S. (1986). *Mental Retardation: Nature, Causes, and management,* Washington, Hemisphere Publishing Co.

Bharat, Raj, J. (1977). *Developmental Screening Test,* Mysore, Swayam Sidha Prakashanam.

Culp, R.E., Culp, A.M., Osofsky, J.D., Osofsky, H.J. (1991). Adolescent and older mother's interaction patterns with their six-month-old infants. *Journal of Adolescence,* 14, pp. 195-200.

Jayashankarappa, B.S. (1986). Intellectual tests and social-adaptive behavioural scales used for the assessment of the mentally handicapped in India. *Journal of Personality and Clinical Studies,* 2, pp. 89-98.

Kaur H., Singh S., Malhotra D. (1985). Malnutrition and cognitive development. *Journal of Personality and Clinical Studies,* 1, pp. 23-25.

Mathew A. (2002). Prenatal psychological stress: a significant factor in mental retardation. *Disabilities and impairments,* 16, pp. 42-46.

Narayanan H.S., Rao B.S.S.R., Rao P.M., Subbukrishna D.K. (1987). Observation of mentally retarded cases with special reference to consanguinity. *NIMHANS Journal,* 5, pp. 121-123.

Packman S. (1996). Diagnostic evaluation of the child with mental retardation, in: A.M. Rudolf, J.I.E. Hoffman, C.D. Rudolf, (Ed.) Rudolf's Pediatrics (Stanford, Appleton and Lange).

Persha, A.J. Rao, V.R.P.S. (2003). Early intervention—A service model: Early intervention to IUGR children at risk for developmental delay, Secunderabad, National Institute for the Mentally Handicapped.

Richardson Sa, Koller H., Katz M. (1985). A functional classification of seizures and its classification in a mentally retarded population. *American Journal on Mental Deficiency,* 90, pp. 1-8.

Sells C.J., Bennett F.C. (1977). Prevention of mental retardation: the role of medicine. *American Journal on Mental Deficiency,* 82, pp. 117-29.

Sethi B.B. (1976). Nutrition and mental retardation. *Indian Journal of Psychiatry,* 21, pp. 97-99.

Shorovon S.D., Farmer P.J. (1988). Epilepsy in developing countries. A review of epidemiological, socio-cultural and treatment aspects. *Epilepsia,* 29 (Suppl. 2), pp. 185-194.

Singh H., Nizamie A., Jahan M., Jagadheesan K., Nizamie S.H. (2002). Profiles of individuals with mental retardation in Ranchi: A community study. *Indian Journal of Clinical Psychology,* 29, pp. 178-85.

Udan P.M. (1992). Protein energy malnutrition (PEM), brain and various facets of child development. *Indian Journal of Pediatrics,* 59, pp. 165-186.

Von Windeguth B.J., Urbano R.C. (1989). Teenagers and the mothering experience. *Pediatric Nursing,* 15, pp. 517-520.

World Health Organization (1992). The ICD-10 classification of mental and behavioural disorders: Clinical Descriptions and Diagnostic Guidelines. Geneva, World Health Organization.

Mental Health of College Students with Visual Impairment

DR. SUSHIL KUMAR[1]

ABSTRACT

Psycho-social life of an individual is influenced by the condition of visual impairment. Consequently it may also affect his/her mental health. The present study is an attempt to investigate the effect of visual impairment on mental health of college students. The study was planned, designed and carried out to find out the difference between mental health of college students with visual impairment (VI) and their seeing counterparts. Two comparable purposive samples of 60 visually impaired and 60 seeing college students were selected from Haryana and Delhi. Mental Health Inventory (MHI) developed by Jagdish and Shrivastava was used to measure mental health of college students. Data was collected by personally administering MHI on individual basis. "t test" was employed to analyze the data. Visually impaired and seeing college students differed significantly on total mental health and its all the six dimensions, viz., positive self-evaluation, perception of reality, integration of personality, autonomy, group oriented attitude and environmental mastery. Seeing college students were found better than college students with VI in terms of their total mental health. However, college students with VI were found better on autonomy in comparison to their seeing counter parts.

Introduction

Health is an indispensable quality in human being. It has been described as soil from which the finest flowers grow. Health indicates psychosomatic well-being. According to Bhatia (1982) "Health is a state of being hale, sound or whole in body and mind". The preamble of the World Health Organization's Charter defined health as a state of complete physical mental and social well-being, not merely the absence of disease or

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infirmity. Thus, health is a broader concept including physical, social, and mental health. Mental health has been reported as an important factor influencing individual's various behaviours, activities, happiness, and performance. Before the second half of the twentieth century, mental health was considered as the absence of mental disease but now it has been described in its more positive connotation, not as the absence of mental illness. Mental health has been mentioned as the ability of person to balance one's desires and aspirations, to cope life stresses and to make psycho-social adjustment.

As specified and categorized by Jahoda (1956), mental health includes positive self-evaluation, perception of reality, integration of personality, autonomy, group oriented attitudes and environmental mastery.

Positive self-evaluation (PSE): It includes self-confidence, self-acceptance, self-identity, feeling of worthwhile-ness, realization of ones potentialities, etc.

Perception of Reality (PR): It is related to perception free from need distortion, absence of excessive fantasy and a broad outlook on the world.

Integration of Personality (IP): It indicates balance of psychic forces in the individual and includes the ability to understand and to share other people's emotions, the ability to concentrate at work and interest in several activities.

Autonomy (AUTNY): It includes stable set of internal standards for one's action, dependence for own development upon own potentialities rather than dependence on other people.

Group-Oriented Attitudes (GOA): It is associated with the ability to get along with others, work with others and ability to find recreation. *Environmental Mastery (EM):* It includes efficiency in meeting situational requirements, the ability to work and play, the ability to take responsibilities and capacity for adjustment. It is evident from the concept of mental health that physical and psycho-social status of an individual determines his/her mental health. Visual impairment is a physical condition, which relates to sensory deficit of vision. The senses are the gateway to the knowledge and vision is the most actively used sense by man, hence knowledge grows chiefly of his visual experiences. The resulting effects of blindness or loss of vision have been widely discussed but the most accepted interpretation has come from Lowenfeld. According to him, "Blindness imposes three basic limitations on the individual:

1. In the range and variety of experiences.
2. In the ability to get about.
3. In the control of the environment and the self in relation to it."

Besides these three limitations on independence and self fulfillment of blind individuals, several characteristics of the visual impairment, viz., age of onset, etiology, type and degree of vision, prognosis, etc., also influence psycho-social life of persons with visual impairment. Individual who acquire visual impairment adventitiously find it difficult to cope with emerging situation. Consequently, they may suffer from anxiety, feeling of insecurity, depression and other psychological problems. Deteriorating eye condition also precipitate emotional disturbance. Parents, teachers and the community

tend to expect more from children with low vision, thus placing more stress and pressure on them to perform as a person with normal vision. In case of not meeting such expectations, they may be frustrated. Finally, the child with limited vision may view himself as belonging to neither the sighted nor the visually handicapped world, which may result in alienation and poor mental health.

Some Related Studies

Hastings (1947, cited by Barker, 1953) compared the emotional adjustment, as measured by the California Test of Personality and Mental Health Analysis, of blind and sighted children in grades one through 12. The blind were found to be more disturbed on the self-adjustment scale and to have more mental health liabilities, but not to score worse on the social adjustment scale. Brieland (1950), in a study primarily concerned with speech characteristics, administered the Bell Adjustment Inventory by tape recording to blind and sighted subjects, age range 12 to 18. The overall difference on the inventory was significantly in favor of the sighted group.

Sub-scales involving health, social, and emotional adjustment were in favour of the sighted, while there was no significant difference in home adjustment. Bauman (1964) investigated differences between residential and non-residential blind students using the Adolescent Emotional Factors Inventory (AEFI). Residential school group showed more problems of social and emotional adjustment. Greenberg et al. (1957), found blind adolescents from grades six to 12 in a residential school to score high on the neuroticism scale. Zahran (1965) used the Junior Maudsley Personality Inventory with blind and sighted children, age nine to 14. Although the blind showed somewhat higher neuroticism scores, the difference was not significant.

McGuire and Meyers (1971) found a strikingly high incidence of various kinds of aggressiveness directed toward the mother, including hostility toward mother doll or mother figure in therapy (73 per cent of cases), negative or hostile verbalization towards mother (87 per cent), and physically punitive behavior toward the mother (73 percent). The sample include 23 blind children arranged in age from middle childhood through adolescence. Jeppson-Grassman's (1985), study of the working conditions of adults with low vision found that despite rehabilitation interventions and attempts to cope with the new situation, they had a lower sense of satisfaction and of the meaningfulness of work than their counterparts with normal vision.

Karlsson (1998) reported an association between visual impairment and perceived low level of happiness in life, difficult periods or crisis, and symptoms of distress like, depression, sleeping difficulties and tiredness, intrusive thoughts especially about vision, isolation and loneliness, worries and tension distress about economic conditions, poor health, attribution, depressive feelings, ruminationer, etc.

Edik (2005) studied the Mental Health problems of Dutch youth with hearing loss as shown on the youth self report. The prevalence rates of externalizing problems, internalizing problems and moderate to severe over all mental health problems were found to be 2-3 times higher than in normative sample. Deaf participants scored significantly higher than hard of hearing participants.

Need and Significance of the Study

Most of the college students are characterized by state of transition from adolescence to adult life. Therefore, they face problems of adolescence as well as of adult life. College students with visual impairment may have difficulties in accepting themselves as being handicapped with certain capacities and limitations as defined by the impairment. Further, the more limited range of peers and peer experiences may have a retarding effect on the development of the self concept. Often parents attempt to protect the child from negative feedback concerning appearance and behavior which may result in his developing an unrealistic view of himself. Emotional maladjustment may be the outcome of such an unrealistic view of oneself. Generally, peer group desire for conformity segregates the college student with visual impairment who realistically cannot be like his/her peers in all respects. Such a situation may result in a feeling of loneliness and alienation. Various psycho-social implications of visual impairment as discussed in preceding paragraphs, coupled with general problems of college students may adversely affect mental health of such students. Review of literature does not yield sufficient evidences in support of the said proposition because not much research work has been done in this area. Although some studies have been carried out on certain allied psychological variables such as emotional adjustment, neuroticism, aggression, depression, loneliness, happiness, etc., among persons with visual impairment. In view of these facts, investigator has decided to design and conduct the present study with specific objectives in mind.

Purpose of the Study

The study was planned and carried out to realize the following objectives:

1. To study the mental health of college students with visual impairment.
2. To study the mental health of seeing college students.
3. To compare the mental health of seeing and visually impaired college students.

Sample

Purposive sampling procedure was followed to select 120 college students from Haryana and Delhi. A purposive sample of 60 under graduate male college students with visual impairment was drawn from Haryana and Delhi. Out of which 20 students belonged to Haryana and 40 to Delhi. Similarly another comparative sample of 60 seeing college students was drawn from these two states.

Tool Used

Mental health inventory (MHI) developed by Jagdish and Srivastava was used to measure mental health of college students. It consists of 54 items spread over six areas of mental health, viz., positive self-evaluation, perception of reality, integration of personality, autonomy, group oriented education and environmental competence. Out of these 54 items, 23 are positive whereas 31 are negative statements. Each item of the

inventory is in the form of the statement provided with four alternative responses. The alternative responses are always, often, rarely and never.

The positive statements with four alternative responses ranging from always to never were scored four to one, where negative statements were scored from one to four. Split half reliability coefficient of the inventory is 0.73. Construct validity of the inventory was determined by finding coefficient of correlation between scores on mental health inventory and general health questionnaire (Gold Berg, 1978). It was found to be 0.58.

Collection of Data

Data for the study was collected by personally administering mental health inventory (MHI) on college students. Each student selected in the sample was contacted individually. Before using research tool a rapport was established with students and they were told as what to do. Purpose of the study was also explained to them in order to get free and fair responses. Investigator also read the instructions for them. There was no time limit and students were given desire time to think and respond. Seeing students filled the inventory themselves whereas the responses of students with visual impairment were noted by the investigator. After collecting all the response sheets, scoring was done according to the manual and data was subjected to statistical treatment.

Results

In order to realize the objectives of the study t test was employed to find out the significance of difference between mental health of seeing and visually impaired college students. The results are presented in Table 1.

It is evident from Table 1 that obtained t value for TMH is 4.37, which is more than the table value at .05 level of significance, therefore, null hypothesis is not excepted. It means the groups of students differ significantly on TMH. It is further seen from the table that the mean TMH score of seeing students is more than that of honest students with V.I. It means total mental health of seeing college students is better than that of college students with V.I. Table 1 further reveals that obtained t values for all the six dimensions of mental health, viz., PSE, PR, IP, AUTNY, GOA and EM exceed the table value at .05 level of significance, i.e., 1.96, therefore, respective null hypotheses are again not accepted, and one can say that seeing and visually impaired college students differ significantly in terms of all the six dimensions of mental health. It is observed from the relevant entries in the table that mean score of PSE, PR, IP, GOA and EM for seeing students are more than those of college students with V.I. It means seeing college students are better than college students with V.I. on these five dimensions of mental health. However, table shows that mean autonomy score of college students with V.I. is more than that of seeing students. Now, it may be interpreted that college students with V.I. have better autonomy in comparison to their seeing counterparts. It is observed that majority of college students with visual impairment live in hostel for their education. Therefore, they have to take independent decision in day today

life. Perhaps the circumstances of staying away from their homes foster autonomy among such students.

Table 1: Difference Between Mental Health of Seeing and Visually Impaired College Students

S. No.	*Variable*	*M1*	*M2*	*SD1*	*SD2*	*'t' Value*	*Significance at .05 Level*
1.	TMH	147.04	157.76	13.61	13.28	4.37	Significant
2.	PSE	27.87	30.70	4.72	2.26	4.64	Significant
3.	PR	22.77	24.40	4.48	3.52	2.27	Significant
4.	IP	31.10	35.33	5.12	4.32	4.86	Significant
5.	AUTNY	17.90	15.33	3.96	3.46	3.78	Significant
6.	GOA	25.00	27.67	4.54	3.53	3.61	Significant
7.	EM	22.40	24.33	4.18	3.06	2.88	Significant

Number of seeing college students = 60.
Number of college students with visual impairment = 60.
M1 = Mean mental health score of seeing college students.
M2 = Mean mental health score of college students with visual impairment.
SD1 = Standard deviation of mental health scores of seeing college students.
SD2 = Standard deviation of mental health scores of college students with visual impairment.
TMH = Total mental health.
PSE = Positive self evaluation.
PR = Perception of reality.
IP = Integration of personality.
AUTNY = Autonomy.
GOA = Group oriented attitude.
EM = Environmental Mastery.

Conclusion

Visual impairment adversely affect mental health and its five dimensions, viz., positive self evaluation, perception of reality, integration of personality, group oriented attitude and environmental competence of college students with visual impairment because seeing college students were found better than visually impaired college students in terms of their mental health along with its said five dimensions. However, college students with visual impairment were found better on autonomy in comparison to their seeing counterparts.

Implication of the Study

The findings of the study have simple implications for parents, teachers, educationists, administrators, social workers and clinical psychologists. The present study revels that the mental health of college with V.I. is less than that of their seeing counterparts. Parents and teachers are required to carefully address their special needs especially psycho-social needs and develop favorable and healthy attitude toward such students. Special remedial programs may be designed by researchers to enhance mental health

of college students with V.I. The present study underlines the need and importance of such empirically tested remedial programs. College and special hostel authorities can provide services of clinical psychologists to such students so that the students can get appropriate counsel to improve their mental health. The students can also be encouraged to practice yoga to keep them mentally healthy.

REFERENCES

Barker, R.G. (1953). Adjustment to physical handicap and illness: A survey of the social psychology of physique and disability. *Social Science Research Council Bulletin,* 55.

Bauman, M.K. (1964). Group differences disclosed by inventory items. *International Journal for the Education of the Blind,* 13, 101-106.

Bhatia, B.D. (1982). Mental hygiene in education. In B. Kuppuswamy (Ed.) *Advanced Educational Psychology.* New Delhi: Sterling Publishers Pvt. Ltd.

Eldik, T.V. (2005). Mental Health Problems of Dutch Youth with hearing loss as shown on the youth self report. *American Annals Journal the Deaf,* 150(1), 11-16.

Greenberg, H.M.; Allison, L.; Fewell, M. and Rich, C. (1957). The personality of junior high school students attending a residential school for the blind. *Journal of Educational Psychology,* 48, 406-410.

Hastings, H.J. (1947). *An investigation of some aspects of the personality of the blind.* Unpublished manuscript, University of California.

Jahoda, M. (1958). *Current concepts of positive mental health.* New York: Basic Books Inc., Publishers.

Jeppson-Grassman E. (1985). *Processes of rehabilitation and marginalization at the workplace in adults with low vision.* Stockholm: Synskadades Riksforbunda.

Karlsson, J.S. (1998). Self-report of psychological distress in connection with various degrees of visual impairment. *Journal of Visual Impairment and Blindness,* 92, 483-491.

Lowenfeld, B. (1974). *The visually handicapped child in school.* London.

McGuire, L.L. and Meyers, C.E. (1971). Early personality in the congenitally blind child. *New, Outlook for the Blind,* 65, 137-143.

Monopolis, S.; Moraitis, J.; Kouvaris, M.; and Galanopoulos, P. (1977). Health as a human value. *Transnational Mental Health, Research Newsletter,* 19(4), 5-9.

Zahran, H.A.S. (1965). A study of personality differences between blind and sighted children, *British Journal of Educational Psychology,* 35, 329-338.

Research Needs in Rehabilitation

Introduction

Rehabilitation aims at using various measures at reducing the impact of the disability for an individual, enabling him or her to achieve independence, social integration, a better quality of life and self-actualization. It includes not only training of persons with disability but also interventions in the general systems of society, adaptations of the environment and protection of human rights.

Speech and hearing disability poses a greater threat to the individuals afflicted in terms of acquiring communication skills, which is basic to their educational and occupational attainments in life. Rehabilitation of these individuals is a challenge to the professionals involved, as it requires long term, intensive management by a team of qualified professionals.

There are no nation-wide surveys to identify different types and extents of speech and hearing handicapped in our country. As per some small-scale studies the estimates range around 5-6 per cent of the population, which is an enormous figure considering the population of the country. Rehabilitation of these individuals is facilitated if the problems are identified and intervened very early. Knowing the magnitude of disability prevalence is essential for the Government in planning its resource allocation for the purpose of rehabilitation.

There are various bottlenecks in the service delivery for the disabled individuals. These are basically in terms of availability of standardized screening, assessment and training materials to suit different age groups, disorder and language speaking population, availability of adequate number of qualified professionals in the multi-disciplinary team, appropriate educational and vocational training and placement. Thus, large scale and more focused research on all these issues are very crucial to streamline the rehabilitation programs for the disabled population at large.

Bottlenecks in Service Delivery

1. **Non-availability of incidence and prevalence figures for various disabilities:** There are a few sporadic studies, restricted to smaller geographic locations,

on the incidence and prevalence of disabilities in our country. It is important to know the incidence and prevalence figures for various disability groups and sub-groups which will enable the Government to mobilize resources and plan for the management in a global manner instead of using a piecemeal approach,

2. **Inadequate early identification and preventive measures:** Prevention is better and cheaper than cure. Early identification of the problem is a crucial first step in reducing the impact of the disability in most cases through successful preventive strategies at the primary, secondary and tertiary levels.
3. **Dearth of appropriate, standardized, low cost screening/assessment procedures:** There is a dearth of materials available for screening or assessment of various disabilities and unless it is done systematically, objectively and uniformly across the set ups the intervention planning will not be adequate to meet the challenges involved.
4. **Dearth of appropriate, standardized, field tested, low cost training materials:** It is essential to provide early, intensive disability management programs to the handicapped individuals by the professionals and caregivers. This requires development of appropriate and specialized training materials. In India, with its wide cultural and linguistic diversity this poses a greater challenge to address these factors in developing tools for training these individuals, with specific reference to speech, hearing and language disorders. These individuals require intensive, one-to-one treatment planning, which increases the demands for development of low cost aids to be affordable by the vast majority of people.
5. **Scarcity of trained professional/para-professional/non-professional workers:** The number of trained professionals available at present is highly inadequate to meet the challenges of rehabilitating the huge population of the disabled. Various levels of rehabilitation workers including special educators, teachers, Anganvadi workers, parents and other grassroot workers need to be trained to meet the demands. Services provided by theses individuals vary to a great extent depending on the duration of training, curriculum contents, minimum qualifications and experience required to learn the skills in imparting training. Short-term intensive training programs, refresher courses and adequate monitoring systems are required to maintain the efficacy of these programs.
6. **Inadequate educational opportunities:** The recent policy of the Government to promote inclusive education for the disabled children as against the segregated or institutionalized care for them has increased the demands on the normal school teachers. Adequate adaptations in the curriculum content, instructional practices, learning environment, evaluation procedures, time management, etc., are required to be made.
7. **Inadequate vocational training and placement:** The handicapped individuals are required to be trained in various vocational skills depending on their residual capacities, interests and motivation. Proper placements in shelter workshops and suitable jobs are to be planned with periodic monitoring

and guidance for the rehabilitation to be complete and effective. These vocational training and placement needs of the disabled are at present highly inadequate.

8. **Inadequate knowledge about treatment outcome:** There is not much emphasis on the post-treatment evaluation of the disabilities and as a result the effectiveness of treatment rendered is not available for many of the disabilities. This is especially true with the speech and language disorders like phonological, voice or fluency problems.

These bottlenecks in rehabilitation of the handicapped can be adequately addressed to by undertaking comprehensive research programs focusing on all these issues. In particular, research programs addressing the following aspects need to be undertaken on a priority basis.

Research Requirements

1. **Incidence and prevalence:** There is an urgent need to undertake nation-wide large scale surveys & screening programs to arrive at incidence and prevalence figures for various disabilities in order to:
   - Identify various disabilities.
   - Identify nature and causative factors.
   - Estimate extent/degree of handicap caused.
   - Classify disabilities and their sub-groups (Develop uniform approaches like ICD 10/DSM IV).
2. **Early identification and prevention:** Research study is required to implement early identification and preventive measures in the management of disabilities. This should be focused to:
   - Study the identification procedures for various disabilities—Develop uniform, low cost, large scale approaches.
   - Develop appropriate preventive measures at primary, secondary and tertiary levels for various disabilities.
   - Monitor identification and preventive measures through sample surveys.
3. **Screening/assessment materials:** There is a need for developing appropriate, standardized, low cost screening/assessment procedures for early identification of disabilities and field testing the utility of these procedures with regard to:
   - Different disabilities.
   - Different language groups.
   - Different age groups.
   - Different professionals/workers.
4. **Development of training materials:** It is also very essential to develop appropriate, standardized, field tested, low cost training materials for:

- Different disabilities.
- Different language groups.
- Different age groups.
- Different professionals/workers.
- Different racial, ethnic and culture groups.

5. **Training of para-professional/non-professional workers:** Manpower development is an important aspect of rehabilitation programs for the disabled. There are acute shortcomings in this, as training the professionals in the field requires lot of time and funding. Parents, teachers and other health care workers will have to be imparted training and guidance to promote intensive management plan for the disabled. Research is required to:
   - Study the manpower training programs for disabilities
   - Formulate course curriculum and practicum content
   - Analyze the adequacy of duration of the programs
   - Developing cost effective programs and their monitoring
6. **Educational management:** Handicapped children are often not provided adequate, appropriate need-based education. These children are also entitled to Government's "Education for All" policy. The available special schools are too inadequate to cater to the disabled population so also for all varieties of disabilities for example autism. Although the new inclusive education policy for the disabled is theoretically very good, it poses great challenge for the concerned teachers, parents and children. Sound research based information for the educational management of children with various disabilities is the need of the hour. It is important to study the following educational adaptations for various disabilities:
   - Normal versus special schools.
   - Training requirements for teachers.
   - Curriculum content.
   - Evaluation procedures.
   - Modification of peer/group involvement.
   - Identifying and removing physical/environmental and social barriers.
7. **Vocational training and placement:** As the disabled children are not educated or educated inadequately, employment opportunities for them are very restricted. Because of this they are often left with no options but to be dependent, although most of them are capable of fending for themselves. There are many vocations in which some of the handicapped individuals fare better than their normal peers. Research can throw light on some of the specific issues in the vocational training and placement of disabled individuals like:
   - Identifying vocations to suit different disabilities.
   - Studying the vocational training requirements.

- Placement opportunities in sheltered workshops, public and private sector agencies.
- On-job training/monitoring schemes.

8. **Treatment outcome research:** It is very essential to undertake research to study and develop appropriate procedures or techniques in the management of disabilities. Some of the disorders (for instance, stuttering) are treated on a symptomatic approach and by a variety of techniques by various professionals without much benefit. There is a need to streamline the management options for the disabled with more focused research on identifying the following aspects of treatment:
   - Identify factors contributing to recovery/progress.
   - Management options for various disabilities.
   - Treatment outcome with regard to:

     Various techniques/procedures adopted

     Optimum duration of treatment

     Professionals involved

     Maintenance of recovery/progress

Conclusions

There is an urgent need to initiate vast scale research strategies in the disability management issues. This will provide the essential database to face the challenges of rehabilitation with a more holistic approach in terms of allocation of funds, resource mobilization with regard to utilizing the public and private sectors along with the State and Central Government organizations, formulation of policies for the welfare of the disabled and the like. However, data and information obtained from many such studies and projects should be pooled and compiled to create the database required.

REFERENCES

Geetha, Y.V. (2001). *Intervention program for children with cerebral palsy and mental retardation—A multi-disciplinary approach*—An epidemiological study. Principal investigator of project funded by the KRPLLD, CDS, Trivandrum—An unpublished report.

Geetha, Y.V. and Jayaram, M. (2002). *Associated problems as a basis for sub-grouping disfluent children,* an All India Institute of Speech and Hearing Research Fund Project.

Geetha, Y.V. and Prema, K.S. (2000). *Classification of Developmental Language Disabilities* (DLDs) using Artificial Neural Network: Paper presented at the International Conference on Language, Neurology and Cognition, held at Trivandrum on December 20, 2000.

Geetha, Y.V.; Pratibha, K.; Ashok R.; and Shetty, R. (2000). Classification of Childhood Disfluencies Using Neural Networks, *Journal of Fluency Disorders*, 25(2), pp. 99-117.

Karanth, P.; Manjula, R.; Geetha Y.V.; and Prema, K.S. (1999). *With a little bit of help*: A manual and 634 cards for language training. An UNICEF Project on Production of Language Training Materials in ten major Indian Languages.

Guidelines for Writing Research Paper

In this paper an attempt has been made to point research paper inadequacies from the point of view of design and techniques along with suggestions and improvements. The review of the previous research papers which was sent for the JRCI, reveals that most article writers are confused about approaches to write research article. It has been found that in many papers approaches adopted is casual comparative which comes under descriptive research while writer has described it as experimental type. Similarly, corelational studies have described as experimental type. Content analysis, documentary surveys, information analysis and activity analysis are quite often confused with either historical research or field studies while all these come under survey type of research which again is a kind of descriptive research.

Field studies and field experiments which are quasi experimental are very much confused with true experiments. It is very essential to know the distinction existing among these various approaches as the specific methodology techniques, particularly the research designs are very much determined by the approach adopted. For example, case study method when used as a kind of descriptive approach will have entirely different design as compared to that which is warranted by the case study when it is used as a quasi-experimental design as compared to that which warranted by the case study when it is used as a quasi-experimental design. The evaluation of result obtained is also linked with the approach adopted in the research.

The inferences drawn should always be evaluated by the kind of research approach adopted by the researcher. The point that is being emphasized here is that the research designs as used in many researches are not appropriate the reason perhaps being lack of clear understanding of various approaches to write research paper. One thing that every writer has got to remember is that realism, precision and generality are all very much desirable in every research but also there cannot be research design which maximizes all of them at the same time.

All of these three qualities are most wanted rather essential, yet all of them at the same time cannot be maximally achieved in single study. Therefore a great insight is required for selecting the most appropriate approach which in turn may help in identifying the most appropriate research design here. This paper is focused on the inadequacies of

the experimental design most frequently used in articles. It has been found after reading various articles that the fundamental principles of experimental designs are frequently violated while writing experimental research paper.

After reviewing different papers an impression is gathered that there is lot of confusion about hypothesis writing. Author of the research paper should bear in mind that it is only null hypothesis which can be tested statistically. There is no statistical method which can test directly any hypothesis other than the null hypothesis.

In many research papers it has been found that the hypothesis stated is directional but the statistical test used is one which is relevant to non-directional hypothesis-testing.

Randomization is an important principle of experimental design. In a number of studies of experimental nature it is found that it is not present at any stage. Randomization ensures uniformity. Similarity and equalization on all other variables except the independent variable of the groups to be compared. Absence of it, in the design of the experimental research creates a serious difficulty. The results, thus obtained cannot be evaluated as the theory of probability on the basis of which we come to know the extent of chance error will not be applicable and significance of the result cannot be tested. When samples are drawn randomly the systematic errors get reduced and the accuracy of the result increases. Error held in all experimental studies because by conditions pertaining to the measurement of variables. The psychological tools used in these researches are, by and large, not reliable and valid. In many cases the reliability of these tools is not worked out. In case of standardized tools the original reliabilities are quoted and it is assumed that these will hold for the new research-related population also which is wrong. Same is the case with the validity of the tools that are used in these researches. In most of the cases the tests used are not valid. For example, adjustment inventories, organizational climate questionnaires and many personality inventories used in these papers cannot be considered valid random and systematic errors of measurement caused by the use of unreliable or less reliable tools used increase the error component and reduce the precision of the result obtained. This is the case with most papers. Misuse rather than abuse of statistical designs is another glaring fault of designs used in experimental research in education conducted in the area.

To sum up, it seems pertinent to say that looking from the point of view of research designs or research techniques the article written and sent for JRCI, remains far away from being adequate or relevant the design part of the paper has been, by and large, inappropriate and poor. There is therefore, the need to make efforts on upgrading the level of awareness of the researcher in this area at the national as well as institutional levels.

Qualities of a Good Research Paper

- ❖ Clarity of thoughts.
- ❖ Good organization and satisfactory method of presentation.

- Careful use of terminology and concepts.
- Succient formulation and proper clarification of the research problem.
- Natural flow of language.
- Inclusion of essential data comprehensiveness.
- Authenticity of the report data on reliability and validity.
- Highlight on the practical aspects of research findings.

Book Reviews

Name of the Report	:	National Programme on Orientation of Medical Officers in Primary Health Centres to Disability Management
Authors	:	Dr. Hemlata and Dr. J.P. Singh
Published by	:	Bengal Offset Works, New Delhi.
Pages	:	278
Year of Publication	:	2006

The Rehabilitation Council of India has published report on National Programme on Orientation of Medical Officers in Primary Health Centres to Disability Management. This report is an effort to jot down experiences based on a National Programme, which was launched in July 1999 and concluded in March 2004. Council has oriented 18,519 PHC Medical Officers and 678 Master Trainers on disability issues and disseminated knowledge about prevention, promotion, early intervention and rehabilitation for all types of disabilities. This was the first time in medical history that a linkage was built up at the primary health centres.

The author has divided this report in seven chapters: First chapter dealt with the genesis of the programmes, the need for training of officers in primary health centres, launching of the programme, programme implementation, strategies of implementation, execution and criteria for selection of agencies, and how this training programme strengthens the institutional capacity.

While in second chapter writer has presented a statistical view of the programme implemented. Third, fourth and fifth chapters are based on state reports, and impact studies of the programme. Sixth and seventh chapters deal with references and abbreviations. Chapterization of the book is very systematic.

I hope this report will prove useful to all policy makers, medical practitioners/ rehab. professionals in planning such programmes of vast magnitude in the field of rehabilitation.

This report is an effort to disseminate and share experiences gained during training programme.

CALL FOR PAPERS

The Rehabilitation Council of India (A Statutory Body under the Ministry of Social Justice and Empowerment) is bringing out a Bi-Annual Journal, which carries articles on issues and trends on rehabilitation research, human resource development, technological developments, innovations, news and events, editorials, book reviews, etc. The Council deems privilege to invite articles for JRCI from all eminent rehabilitation scientists/professionals/researchers, and an honorarium of Rs. 1000 will be paid for each contribution.

The manuscript should reflect original contribution based on actual field work to be covered in the articles, should relate to mental retardation, hearing impairment, visual impairment, locomotors and associate disabilities and multiple disabilities.

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For Articles	:	EDWARDS, D.S.(1997)Dismantling the Disability/Handicap Distinction, *the Journal of Medicine and Philosophy,* 22, pp. 589-606.
For Edited Books	:	Word, L. (1988) Developing Opportunities for an Ordinary Community Life, in: D.TOWELL (Ed) An Ordinary Life in Practice (London, King Edwards Hospital Fund).
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Kind Attention

Attention is invited from the professionals (Registered with the RCI) with minimum of 5-10 years working in the area of Special Education and Disability, for rendering their valuable services to the Council for the following purposes:

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3. Willingness to work as an examiner, paper setter, evaluator, etc., for RCI recognized diploma and certificate level courses.
4. Willing to write Manual, Study materials for RCI recognized courses.
5. Contribute to Tele-lecture services on specific topics.

Interested professionals/experts may please send their brief biodata to the Council, with their interest clearly specified.

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