

Study of epidemiological factors among the mentally challenged at a rehabilitation centre in Vijayawada

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Abstract

Research Questions: 1) What are the various etiological factors among the mentally challenged. 2) What are the associated biological and psycho-social risk factors among the mentally challenged. **Settings:** Rehabilitation centre for mentally challenged in Vijayawada city. **Study Design:** Institution based cross-sectional study. **Participants:** Parents of all 102 mentally challenged persons admitted in rehabilitation centre **Methodology:** Data was collected with pre-tested, structured questionnaire from the parents through interview technique. **Results:** Most of the mentally challenged had moderate mental retardation (81.4%). Majority (58.8%) of the mentally challenged were offsprings of the parents of consanguinous marriages and more with the first degree consanguinity. MR is inversely proportional to Socio economic status and mothers education. The factors responsible were observed during prenatal, perinatal and postnatal periods. There was positive correlation of degree of consanguinity with exclusive breast feeding and negative correlation of mother's age at conception.

Keywords: Consanguinity, etiological factors, mentally challenged.

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estimated the prevalence of mentally retardation was 5.37 %³. The prevalence varies considerably because of the varying criteria and methods used in the surveys, as well as in age range of samples used. Cognitive disabilities in childhood not only place heavy burden on the family, community and the medical care system but also impacts on quality of life and productivity. Mental retardation has posed a public health problem throughout the world, due to its highly complex, social, medical, psychological, legal and educational components⁴. Effective prevention requires better information on risk factors and causes in mentally challenged.

INTRODUCTION

Mental retardation is a developmental disability characterized by significantly sub-average general intellectual functioning, with concurrent deficits in adaptive behavior. The causes are many and include both genetic and environmental factors as well as interactions between the two. But usually defined by an IQ of below 70 to 75, combined with limitations in the skills necessary for daily living¹. Nearly 83 million of the world's population is estimated to be mentally challenged, with 41million having long-term or permanent disability². Terms which were previously used such as idiot, moron and imbecile are now discarded. In India, according to the National Sample Survey Organization Survey-2002

MATERIALS AND METHODS

Study design: Institution - based, cross sectional study.

Setting: Manasika Vikas Kendra, a Non - Government charitable Organization with a rehabilitation facility for mentally challenged in Vijayawada city. A.P

Study period: January 2015 to February 2015.

Study population: A total of 102 mentally challenged persons admitted in the centre.

Data Collection and Analysis: Ethical clearance and permission for the study was obtained from the management of Manasika Vikasa Kendra. Primary data was collected from the parents using a pre-tested and structured questionnaire after obtaining the signed

consent. In this study, intelligent quotient (IQ) was graded according to Developmental Screening Test (DST--12). DST measures mental development and is applicable to any age group of persons with intellectual disability. It yields developmental quotient (DQ). DST is loaded with speech and language items and it is widely used in the Indian context as a screening tool of intellectual disability. DST shows good correlation with

Vineland Social Maturity Scale and Indian adaptation of Binet's scale⁵. The Secondary data was collected from the centre and other government agencies and was cross checked.

Statistical analysis: The data collected was presented through tables, proportions and diagrams. The analysis was carried out with SPSS Version16.0, for Windows. Descriptive statistics and correlation analysis were done.

RESULTS

Table 1: Distribution of mentally challenged according to intelligence quotient (IQ)

Grading as per DST-12	Number	Percentage (%)
Mild (IQ 50-70)	10	9.8
Moderate (IQ 40-50)	83	81.4
Severe (IQ 30-40)	9	8.8
Profound(IQ < 30)	0	0
Total	102	100

Table 2: Distribution of mentally challenged in relation to consanguinity

Type of marriage of parents	Mild IQ (50-70)	Moderate IQ (40-50)	Severe IQ (30-40)	Total
Consanguineous	6 (10%)	48 (80%)	6 (10%)	60 (58.8%)
Non-Consanguineous	4 (9.5%)	35 (83.3%)	3 (7.14%)	42 (41.2%)
Total	10(10.2%)	83 (84.6%)	9 (9.1%)	102(100%)

Correlation coefficient(r) = 0.750 ** (Mental retardation and degree of the consanguinity are positively correlated).

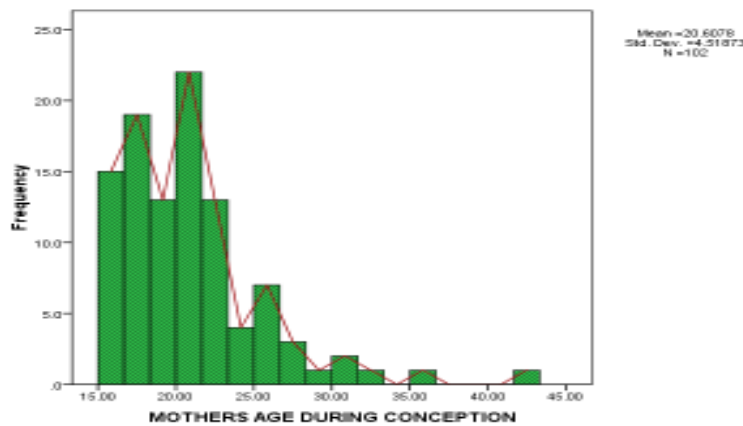


Figure 1: Mean age of conception of mothers = 20.6 yrs

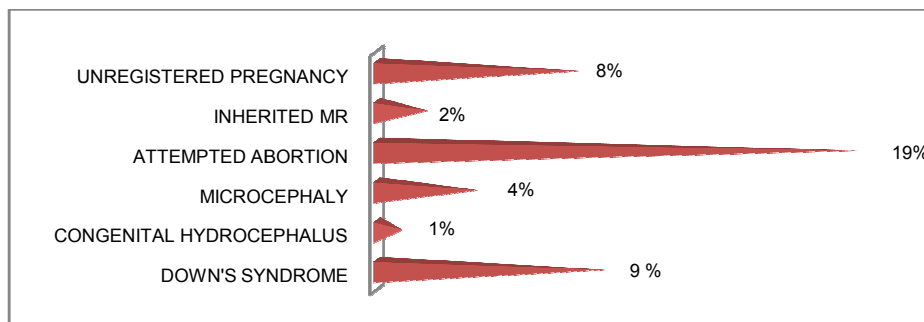


Figure 2: Pre-natal causes among the mentally challenged

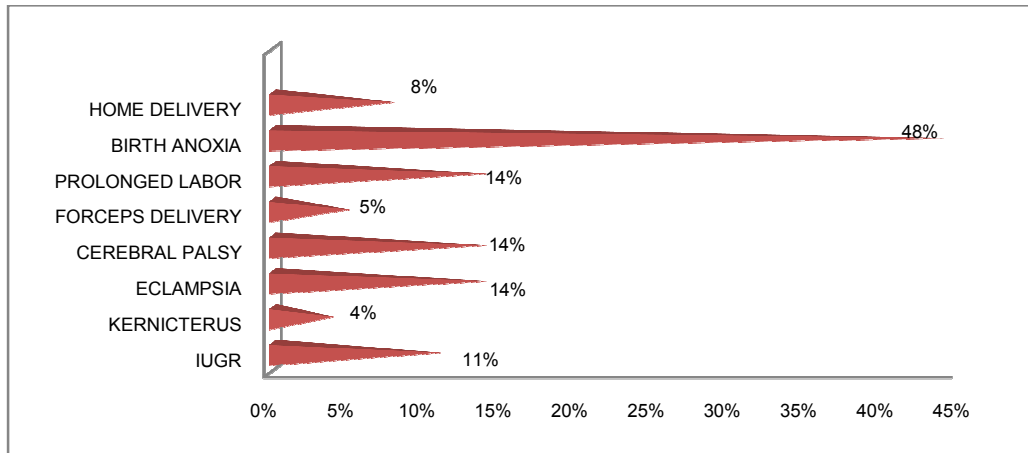


Figure 3: Peri-natal causes among the mentally challenged

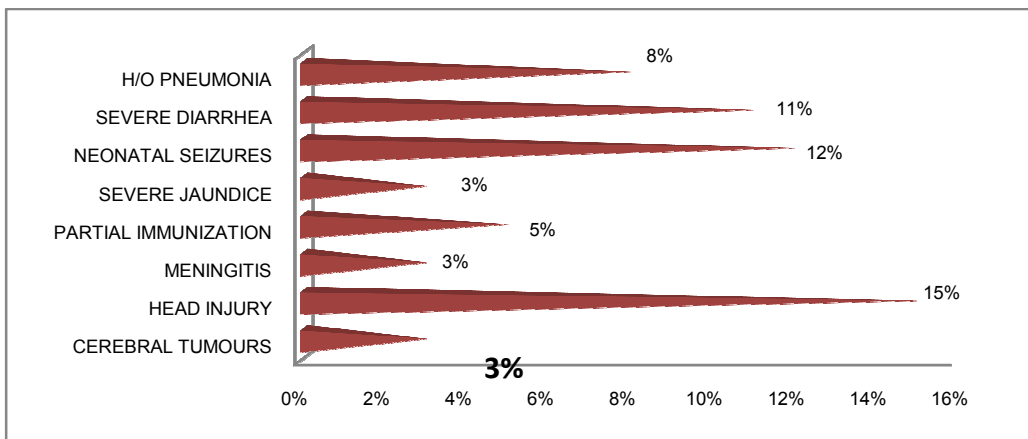


Figure 4: Post-natal causes among the mentally challenged

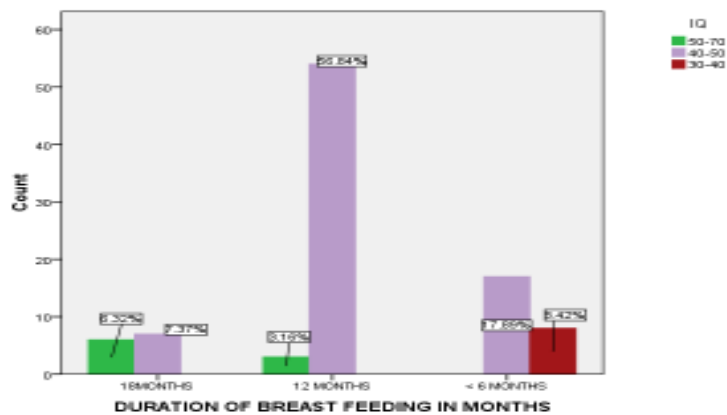


Figure 5: Correlation between duration of breast feeding and IQ of mentally challenged
 $r = 0.567^{**}$

DISCUSSION

In the present study MR (mental retardation) was observed more among males (61.8%) in comparison to (38.2%) females. Majority of mentally challenged (57.8%) were adolescents followed by 1-9 year age group

(34.3%) and less in 30-39 year age group (2.0%). The mentally challenged persons in majority were with moderate mental retardation (81.4%) followed by mild (9.8%) and severe cases (8.8%) as per the Intelligence Coefficient. No one is with profound degree of mental retardation and similar results have been reported in the

study of Madhavan T *et al* (1989)⁶. MR was inversely proportional to Socio economic status , as (44.10%) of mentally challenged belonged to class IV followed by (28.4%) in class III, (13.70%)in class II, (11.80%) in class V and (2%) to class I.The same has been observed in World Bank Report, 2007⁷. MR was found more in the offsprings of the parents of consanguinous marriages (58.8%) and among the consanguineous parents, MR was more (79%) with the first degree of consanguinity. There was positive correlation between MR and degree of consanguinity which was statistically significant.The same has been reported in the study of Nadeem *et al* (2009)⁸ In this study,mean age of conception of the mothers was 20.6 years and (40.6%) of the mentally challenged were first born.MR is inversely propotional with the literacy of the mother which signifies the findings of ICMR study.(2007)⁹ Among the pre-natal causes,observed that attempted abortion (19%) was followed by Down's Syndrome (9%), unregistered pregnancy (8%), microcephaly (4%), heredity (2%) and congenital Hydrocephalus (1%). In the peri-natal causes, birth anoxia was (48%) followed by prolonged labor,cerebral palsy and eclampsia (14%), IUGR (11%), home delivary (8%), forceps delivary (5%) and kernicterus (4%) and the same has been observed by Stewart *et al* in Germany (1989)¹⁰. Among the post-natal causes head injury (15%) followed by neonatal seizures (12%), severe diarrhoea (11%), pneumonia (8%), partial immunization (5%), severe jaundice, meningitis and cerebral tumors (3%). Severe mental retardation was observed only with the less duration of breast feeding (< 6 months). There is a positive correlation between the degree of mental retardation and duration of breast feeding which was found statistically significant.

CONCLUSION

People should be made aware of genetic counseling,ill-effects of consanguineous marriages and such marriages are to be discouraged. People should be promoted for utilization of RCH services and encouraging institutional deliveries. Young parents should be educated about the common signs while their childrens are under neonatal care so that they can utilise appropriate health facilities when emergency arises.Where ever appropriate health facilities are not available, this

information could be imparted to families through grass root professionals such as health care workers.Government should enhance the social welfare activities for mentally challenged. NGOs and voluntary organizations are also suggested to involve in the counseling of parents of mentally challenged and in provision of rehabilitative services to the mentally challenged.

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REFERENCES

1. Linton S,Disability Studies Vs Disability policy studies (1994) 14(2) p 23-26.
2. WHO (1985), SEARO; MCH Paper no. 5, NewDelhi.
3. Government of India, Ministry of Statistics and Programme Implementation, National Sample Survey Organization: NSS 58th Round (July 2002 – Dec 2002), report no. 845. Disabled Persons in India, July – December 2002.
4. Psycho-social problems and needs of parents in caring mentally retarded children:The impact of level of mental retardation of children. Indian Journal Social Science Researches Vol. 6, No. 1, March, 2009, pp. 103-112.
5. Amarjyothi persha, Biological and psychosocial predictors of developmental delay in persons with intellectual disability: retrospective case-file study, Asia Pacific Disability Rehabilitation Journal, Vol-18, Issue-1, Pg-93-100
6. Madhavan, T, Mental retardation: A manual for psychologist: National Institute for mentally handicapped, 1st edition 1989.
7. World Bank Report, 2007.
8. Nadeem Ahmed *et al*, A study of health status and etiological factors of mentally challenged children in school for mentally challenged at Sangamner, Calicut Medical Journal 2009; 7(3):e38) Calicut Medical Journal 2009; 7(3):e38)
9. ICMR (2007): ICMR Bulletin, Vol. 37, No. 4-6, April - June 2007.
10. Stewart, A.L.—the baby under 1000 grams, outcome, Harvey, D (Eds).331-339, Wright, 1989.

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