PREVALENCE OF MENTAL RETARDATION AMONG CHILDREN IN MANGALORE

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Abstract:
Objectives: This study determines the prevalence of mental retardation among school going children in Mangalore by sex, age, religion, and location. Distribution of severity of mental retardation and its relationship with age of diagnosis is reported.

Materials and methods: The prevalence was obtained from the Inclusive Education Resource Centre reports of 2011. Sex, age, religion and living area were evaluated for each child. Parents of the mentally retarded children were interviewed to record the age of diagnosis. Intelligence Quotient was assessed using Binet Kamat Test, Seguin Form Board and Vineland Social Maturity Scale.

Results: The prevalence of mental retardation was 561 of the total disabilities recorded. The prevalence of MR was higher among males than in females (p<0.001). No notable sex difference between rural and urban areas was seen. Prevalence was higher among Hindus and between 9 to 12 years of the age group. Most of them had mild MR (48.15%). Severe and Profound MR were diagnosed at a much earlier age group than in mild and moderate types.

Conclusion: This study provides an insight to the school going children with mental retardation. Further research on study of causes for MR is needed for service planning.

Keywords: Mental retardation, Children, Prevalence, Intelligence Quotient, Mangalore

Introduction:
World Health Organization estimates that 10% of the world’s population has some form of disability. Mental retardation (MR) is one form of disability and affects 1-3% of human population. Mental disorder is a particular state of functioning that begins in childhood and is characterized by decreased intelligence and adaptive skills and also is the most common developmental disorder. According to American Association on Mental Retardation MR is defined as "significantly sub average intellectual functioning existing concurrently with related limitations in two or more of the following applicable adaptive skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure and work," with such limitations manifested “before age 18”. Intelligence quotient (IQ) is determined to quantify the level of intelligence. According to International Classification of Diseases – Tenth revision (ICD-10), the levels of severity of MR are mild (IQ of 50-69), moderate (35-49), severe (20-34), and profound (<20).

Diagnosis of mental disorders in small children is usually missed by clinicians. MR results from extremely heterogeneous environmental and genetic causes. In about 50% of the cases despite of through investigation the etiology is unknown. Addictions, accidents or infections during prenatal, perinatal or postnatal developments may cause mental disability. Genetic factors are another important causative factor for MR which accounts to about 28%. They can be divided into multifactorial, single gene and chromosomal disorders. Ganesh et al., reported 6.3% of disability in four villages of Karnataka. In another study among the same population 2.3% prevalence of mental disability was observed. A prevalence of 2.02% disability
has been stated by Pati in two villages of Karnataka. The prevalence of disability is higher among females than males. Mangalore taluk is situated in Karnataka state in Southwest India. According to the census of population 2011, the total population is 9,898,56 (2,09,578 rural vs 7,80,278 urban). The number of males 4,88,875 and females is 5,00,981. Male literacy is 86.12%, while female literacy is 80.31%. Mangalore is composed of heterogeneous population and represents a mixture of rich ethnic and cultural diversity. The present study provides an overview of children with MR in Mangalore taluk which to the best of our knowledge is not reported.

Materials & Methods:
In this descriptive study, the data were obtained from the official records of Inclusive Education Resource Centre (IERC) of Mangalore during the year 2011. The IERC is a programme by the Government of India to educate and mainstream the children with disabilities under the Sarva Shiksha Abhiyan (Education for all movement). The IERC adopts a stratified multistage sampling design for collecting the disability data. Mangalore taluk is divided into North and South block which are further divided into thirteen and fifteen clusters respectively. In the North block there are 317 schools of which 4 are special schools, similarly in the South block there are 322 schools of which 2 are special schools and one integrated school. The number of school going children in the rural area is 70,121 and 67,246 in the urban. The details of each child which includes name, date of birth, age, sex and religion from all the schools in each cluster is consolidated. Children who belong to any one of the ten disabilities as outlined by The Ministry of Human Resource Development will be listed accordingly. To know the age of diagnosis and type of MR parents of 324 children were interviewed. The parents especially the mother was informed of the study, written consent was taken, before interviewing and referring the medical records of the child to note the age of onset of diagnosis for MR. Intelligence quotient (IQ) was assessed using Binet Kamat Test, Seguin Form Board and Vineland Social Maturity Scale. This study is approved by the University Ethics committee. All the collected data were tabulated and analyzed by SPSS version 13.0 for Windows. Findings are described in terms of percentages. Chi-square test and Fisher’s exact test was carried out to test the differences between proportions. A probability level of less than 0.05 is considered significant.

Results & discussion:
In Mangalore a total of 2,823 children were recognized with different types of disabilities. About 561 children with mental disorder were identified, with 37.3% (209) in the rural with a prevalence rate of 3 per 1000 and 62.7% (392) in the urban area having a prevalence rate of 5 per 1000. Distribution of children with MR by sex, religion, age and location is presented in Table 1. Some Indian studies have reported a prevalence rate of psychiatric disorders in children ranging from 2.6 to 35.6 percent. Prevalence rates ranging between 1/1000 – 6/1000 are reported from Ghana, Thailand, and Cuba. The prevalence of MR was higher among males than in females (p<0.001) which are in support with other studies, but there was no notable sex difference between rural and urban areas (Fig 1). Among the religions prevalence was higher among Hindus. More children were found between 9 to 12 years of the age group which is in support of other reports. Prevalence according to severity of MR and age of diagnosis is shown in Table 2. Of the 324 MR children observed 48.15% of them showed mild MR followed by 29% moderate, 14.2% severe and 8.6% profound MR (Fig 2). A study among people with mental disability in four villages of Udupi, Karnataka, India presented mild, severe, moderate and profound types of MR with 45.5%, 27.3%, 18.2% and 9.1% respectively. Severe and Profound MR were diagnosed at a much earlier age group than in mild and moderate types.

Conclusion: There is a lack of up-to-date statistics on children with mental disability in Mangalore. This study provides an insight to the school going children with mental retardation. Future research is needed to look into the causes for MR, proper classification and early intervention for capacity building and raising awareness. These estimates have major implications for service planning and warrant further study.

Keywords: Mental retardation, Children, Prevalence, Intelligence Quotient, Mangalore - Bhagya B.
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Table 1: Distribution of children with MR by sex, age, religion and location

<table>
<thead>
<tr>
<th>Location</th>
<th>Rural</th>
<th>Urban</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Rural</td>
<td>121 (57.89)</td>
<td>88 (42.1)</td>
<td>203 (57.67)</td>
<td>149 (42.33)</td>
</tr>
<tr>
<td>Female</td>
<td>78 (37.32)</td>
<td>116 (55.5)</td>
<td>15 (7.2)</td>
<td>87 (24.7)</td>
</tr>
<tr>
<td>Urban</td>
<td>5 to 8</td>
<td>9 to 12</td>
<td>13 to 16</td>
<td>5 to 8</td>
</tr>
<tr>
<td>Hindu</td>
<td>108 (51.7)</td>
<td>90 (43.1)</td>
<td>11 (5.3)</td>
<td>0</td>
</tr>
<tr>
<td>Muslim</td>
<td>24 (11.7)</td>
<td>30 (14.7)</td>
<td>6 (2.9)</td>
<td>0</td>
</tr>
<tr>
<td>Christian</td>
<td>30 (14.3)</td>
<td>7 (3.5)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>10 (4.9)</td>
<td>5 (2.5)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Percent in parenthesis

Table 2: Distribution of severity of MR by age of diagnosis

<table>
<thead>
<tr>
<th>Age of diagnosis (years)</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Profound</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to &lt; 1</td>
<td>14 (9.0)</td>
<td>6 (6.4)</td>
<td>36 (27.3)</td>
<td>20 (71.4)</td>
<td>76 (23.5)</td>
</tr>
<tr>
<td>1 to &lt; 2</td>
<td>24 (15.4)</td>
<td>10 (10.6)</td>
<td>4 (8.7)</td>
<td>8 (28.6)</td>
<td>46 (14.2)</td>
</tr>
<tr>
<td>2 to &lt; 3</td>
<td>38 (24.4)</td>
<td>30 (31.9)</td>
<td>6 (13.0)</td>
<td>0 (0)</td>
<td>74 (22.8)</td>
</tr>
<tr>
<td>3 to &lt; 4</td>
<td>60 (38.5)</td>
<td>42 (44.7)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>102 (31.5)</td>
</tr>
<tr>
<td>4 to 5</td>
<td>20 (12.8)</td>
<td>6 (6.4)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>26 (8.0)</td>
</tr>
<tr>
<td>Total</td>
<td>156 (100)</td>
<td>94 (100)</td>
<td>46 (100)</td>
<td>28 (100)</td>
<td>324 (100)</td>
</tr>
</tbody>
</table>

Percent in parenthesis

p = 0.029

Fig 1: Percent distribution of sexes in rural and urban areas

Fig 2: Percent distribution of MR children based on IQ

References:


13. www.censuskarnataka.gov.in


