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Mental Retardation in Early Intervention Perspective

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AAMR – 1992 definition of Mental Retardation

"The term mental retardation refers to substantial limitation in present functioning. It is characterized by significantly sub average intellectual functioning existing concurrently with related limitation in two or more of the following applicable adaptive skill areas. Community, use, self-direction, health and safety, functional academics, leisure and work. Mental retardation manifests before age of 18".

The following four assumptions are essential to the application of definition:-

Valid assessment considers cultural and linguistic diversity as well as differences in communication and behavioral factors.

The existence of limitations in adaptive skills occurs within the context of community environments typical of the individual age peers and is indexed to the personnel in individualized needs for supports.

Specific adaptive limitations after co-exist with strengths in other adaptive skills or personal capabilities.

With appropriate supports over a sustained period, the life functioning of the person with mental retardation will generally will improve.

Mental retardation is a condition characterized by significant impairment in intellectual functions associated with or accompanied by deficits in adaptive behavior during the developmental period. As compared to children of same age, the child with mental retardation has significant developmental delay and lags behind in cognitive, language, social and occasionally motor functions. Developmental delay is considered to refer to a disability the child presently displays due to biological and environmental factors, when the child developmental abilities are compared with the expected abilities at that age level. The child is at risk because of adverse genetic, parental, prenatal, neonatal, postnatal, or environmental influences that may lead to subsequent development of a handicap or developmental deviation.

This developmental period is taken up to 18 years of age. The term development means the changes in the function of the organism and growth denotes the changes in the size. Together they imply the magnitude and quality of maturational changes. These occur in various aspects, (Physical, Intellectual, emotional growth and development and learning) at different stages (right from the time of conception) and are of different grades. The ultimate biological potential in the individual is the product of many interrelated factors or forces. These factors may be intrinsic (with in the organism) or extrinsic/environmental). Some of these are Genetic factors, Trauma of Injury, Nutritional Factors, Social and Emotional Factors, Cultural Factors. Thus the understanding of these various factors and their and their effects on the growth and development of the organism is essential. It is also important to realize that any adverse effect of these will tell upon the growth and development or the organism. The basic pathology of mental retardation is in the Nervous system. The types of insults to the nervous tissue are varied and may occur at any period of growth and development. The degree of the effect also differs. To understand the pathology some of the basic principles of biology of the biology of the brain are important.

While neurons are the transmitters of impulses and messages, they are very dependent on glial cells for their health and efficiency. One of the functions of the glial cells is to form an insulating sheath of myelin (a fatty substance) around part of the neuron. This increases the speed and efficiency where by messages are sent from one neuron to another. This process of development of myelin is called myelination. Myelination is completed by 2 years of postnatal age. At birth the infants' brain weighs on a average 350 gms. Brain achieves almost all of its mass in the first few year of life. Tanner (1978) show that some 25% of adults brain weight is reached at birth, nearly 50% at 6/12, at 2 years and 90% at 5 years and 95% by 10 years of age. During early pregnancy the brain tissue grows almost exclusively by means of an increase in brain cells (neurons) number. Later in pregnancy – chiefly during last trimester (last 7/12 of pregnancy) brain size increases as a result of both an increase in cell number and an increase in cell size. The final increase in brain size during early years of infancy and childhood occurs exclusively by means of an increase in cell size. The neurons mainly develop parentally while glial cells largely develop in the 1 to 2 year of postnatal life. The development of neurons and glial cells together with increasing complex inter connections between neurons, are the main features of the growing brain that are affected by environmental influence. Severe injuries lead to prenatal death. Mild injuries are compatible with life. The causative factors of mental retardation are varied and widespread. There are factors which affect the foetus at conception or even before conception such as, age of mother, health of mother chromosomal and genetic disorders.

The study aimed at investing the causes of mental retardation and behavior problems in individuals and suggesting their management intervention program in early intervention perspective. In the present scenario, the role of clinical psychology is growing more and more. Each Nation needs an estimate of the need for mental health care in its

population so that it can make plans for adequate services. Since there is increased awareness of its importance, the whole human community and professionals is focusing on maintaining normal mental health and proper habilitation of the mentally retarded and other disabled too so that they can also become fruitful member of the society. According to the recent available data the population of mentally retarded individuals in India is 3 to 4 % and in the world it is 4 to 5 %. Most of them have different types of behavior deficits. Behaviour problems are 4 to 5 times more in mentally retarded individuals than the normal population of the same age group. Our India is a developing country with limited resources. The disabilities and conditions like mental retardation is hindering our social productivity. Since it is a multiple condition, its management includes the joint collaboration of many related professionals and other members of the society.

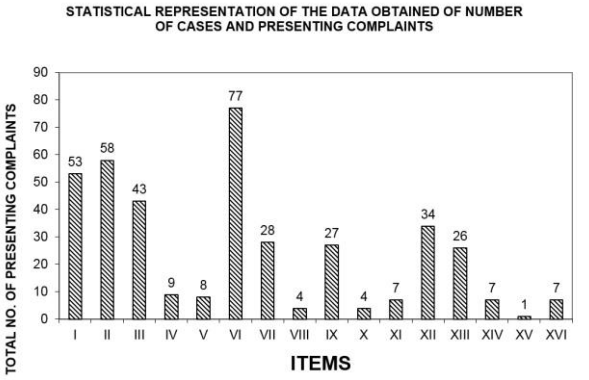
The case study of 200 cases of 0 to 3 years of age attending special services in NIMH. The medical record checklist was used to identify the causes of the developmental delay in infants. The results were discussed and inferences have been given.

The services relating to case finding, diagnosis and assessment, consultation to parents, counseling and referral are provided by the medical department. Usually parents go to a general hospital, primary health center, and dispensary or specialized services for consultation. After advised by the medical practitioner, the children are examined by specialists like Pediatrician, Psychologist, Psychiatrist or Neurologist. Psychologists help in early identification of mental retardation and screening of children with delayed developments by undertaking intellectual assessment and measurement of adaptive behavior.

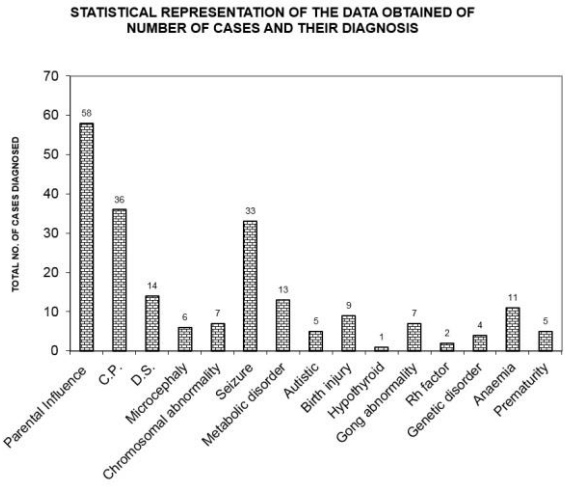
Data Collection; Analysis & Discussion on the Result Obtained

GROUP – I

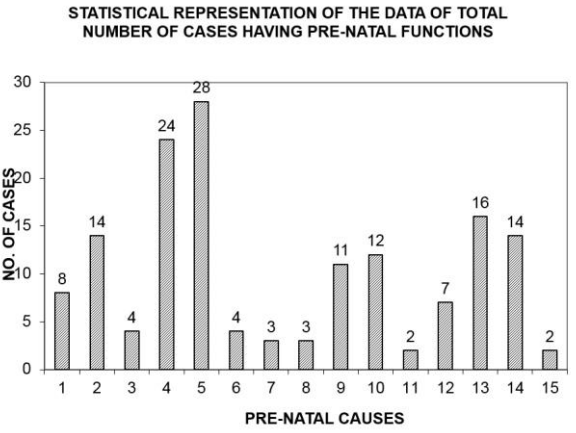
Sl. No.	Presenting Complaints	Total	Age Groups					
			0-1 Year		1-2 Year		2-3 Year	
			Male	Female	Male	Female	Male	Female
1.	Head Control	53	11	12	9	7	8	6
2.	Sitting	58	9	9	15	6	8	11
3.	Standing	43	4	5	20	3	4	7
4.	Crawling	9	2	2	4	1	-	-
5.	Drooling	8	3	-	1	-	2	2
6.	Speech Problem	77	6	3	16	13	24	15
7.	Fits	28	7	6	3	2	6	4
8.	Visual Impairment	4	2	-	1	-	1	-
9.	Walking	27	-	-	7	5	9	6
10.	Chewing	4	1	-	-	-	2	1
11.	Weak Muscles	7	2	-	1	1	1	2
12.	Does not respond	34	2	13	4	6	5	4
13.	Developmental delay	26	-	5	11	4	4	2
14.	Stiffness of body	7	3	2	-	1	-	1
15.	Fever	1	1	-	-	-	-	-
16.	Behaviour Problem	7	-	-	1	1	2	3



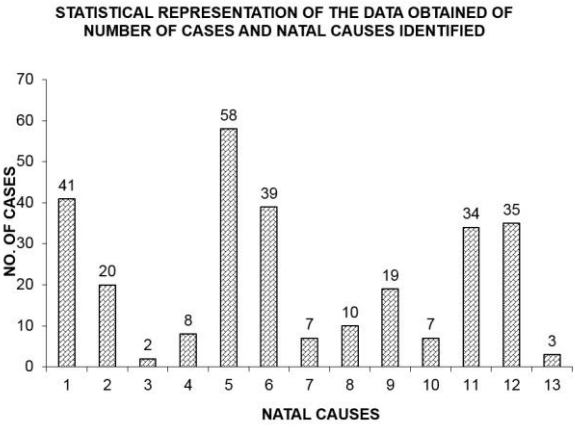
Sl. No.	Diagnosis	Total	Age Groups					
			0-1 Year		1-2 Year		2-3 Year	
			Male	Female	Male	Female	Male	Female
1.	Pre-natal influences	58	9	9	14	6	8	12
2.	Cerebral Palsy	36	3	5	9	2	10	7
3.	Down Syndrome	14	1	3	3	2	3	2
4.	Microcephaly	6	-	1	-	3	1	1
5.	Chromosomal Abnormality	7	3	-	2	-	1	1
6.	Seizure Disorder	33	4	6	8	3	8	4
7.	Metabolic Disorder	13	3	2	5	1	1	1
8.	Autistic Feature	5	1	1	-	-	2	1
9.	Birth Injury	9	1	5	-	-	3	-
10.	Hypothyroid	1	1	-	-	-	-	-
11.	Cong. Abnormality	7	2	1	1	1	-	2
12.	Rh Incompatibity	2	1	-	-	-	1	-
13.	Genetic Disorder	4	-	1	1	-	1	1
14.	Nutritional Anemia	11	1	3	2	1	3	1
15.	Pre-Maturity	5	-	2	1	-	2	-



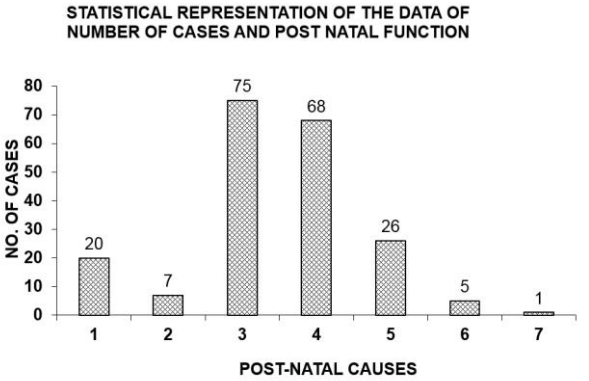
Sl. No.	Pre-Natal Causes	Total	Age Groups					
			0-1 Year		1-2 Year		2-3 Year	
			Male	Female	Male	Female	Male	Female
1.	Anti-natal Checkup not done	8	1	3	1	1	1	1
2.	Threatened Abortion	14	1	2	4	1	5	1
3.	Attempted Abortion	4	-	1	1	-	2	-
4.	Medicine Used	24	3	9	2	3	3	4
5.	High B.P.	28	2	6	10	4	4	2
6.	Fits	4	1	-	1	-	1	1
7.	Emotional Trauma	3	-	1	1	-	1	-
8.	Physical Trauma	3	-	3	-	-	-	-
9.	Infection	11	1	4	2	1	1	2
10.	Abnormal Foetal Movement	12	2	2	3	1	3	1
11.	Tumer in Breast	1	-	-	-	-	1	-
12.	Poor Nutrition	7	1	2	1	-	2	1
13.	Fever	16	1	8	1	3	2	1
14.	Teenage Pregnancy	14	1	8	3	-	1	1
15.	Jaundice	2	-	-	-	-	1	1



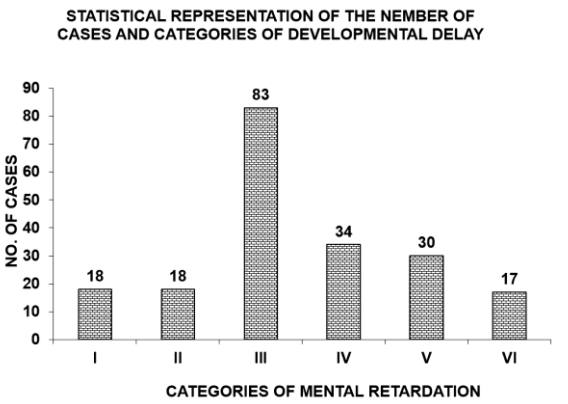
Sl. No.	Natal Cuases	Total	Age Groups					
			0-1 Year		1-2 Year		2-3 Year	
			Male	Female	Male	Female	Male	Female
1.	Full term caesarian delivery	41	15	8	9	2	7	9
2.	Pre-mature normal delivery	20	5	4	2	2	7	3
3.	Pre-mature caesarian delivery	2	-	1	-	-	1	-
4.	Forcep delivery	8	2	1	1	3	1	3
5.	Birth cry delayed	58	18	7	11	5	17	9
6.	Low Birth Weight	39	11	6	9	2	7	4
7.	Abnormal body colour	7	1	1	1	-	2	2
8.	Sluggish activity	10	5	-	2	1	1	1
9.	Jaundice	19	6	4	3	1	3	2
10.	Infection	7	1	4	-	1	1	-
11.	Fits	34	12	4	6	1	9	3
12.	Incubator used	35	12	4	5	4	8	2
13.	Post-term delivery	3	2	-	-	-	-	1



Sl. No.	Post-Natal Causes	Total	Age Groups					
			0-1 Year		1-2 Year		2-3 Year	
			Male	Female	Male	Female	Male	Female
1.	Infection	20	4	-	4	2	4	6
2.	Physical Trauma	7	1	-	3	-	-	3
3.	Delayed Development	75	15	11	17	6	20	6
4.	Fits	68	15	8	11	8	19	7
5.	Fever	26	7	2	3	3	7	4
6.	Jaundice	5	-	2	2	1	-	-
7.	Inadequate Nutrition	1	-	-	-	-	-	1



DEGREE OF RETARDATION								
Sl. No.	**Categories of Mental Retardation**	**AGE GROUP**						
		Total	**0-1 Year**		**1-2 Year**		**2-3 Year**	
			Male	**Female**	**Male**	**Female**	**Male**	**Female**
1.	Average	18	7	3	3	2	1	2
2.	Boderline	18	1	6	4	1	5	1
3.	Mild	83	15	12	11	13	16	16
4.	Moderate	34	6	3	10	3	7	5
5.	Severe	30	4	8	11	2	4	1
6.	Profound	17	2	1	4	1	4	5



Analysis of the Data Collected

The total number of data collected was 200. In order to make the study easier, the data was divided into 3 age groups, that is birth (0 year) to 1 year, 1 year to 2 years and 2 years to 3 years of age. Each age group was again divided into male and female.

First, the data includes "Presenting Complaints". These complaints were done by parents / caretakers to the doctors or professionals about their babies in the early intervention service centres or pediatricians, when they felt or realised that there is some problem or delay in development in their child.

The 1st complaint is "Head Control" total in 53 cases this item was delayed or not present in their respective age. In the age of 0-1 year, 11 male and 12 female children have shown this problem; in the age group of 1-2 year, 9 male and 7 female children, have shown this item lacking. Thus, in the 1st group, parents have reported this complaint more.

The 2nd item is "sitting". In 58 children, it was lacking or not proper. In the age group of 0-1 year, 9 male and 9 female children have shown this problem; in the age group of 1-2 year, 9 male and 7 female; in the age group of 2-3 year, 8 male and 6 female children have shown this problem.

The 3rd item is "Standing". Total 43 children have shown some problem in this item. In the age group of 0-1 year, 4 male

and 5 female children; in the age group of 1-2 year, 20 male and 3 female children; in the age group of 2-3 year, 8 male and 6 female children have shown this problem. It is shown highest in the male age group of 1-2 year.

The 4th item is "Crawling". In 9 patients there were some problem in this item. In the age group of 0-1 year, 2 male and 2 female; in the age group of 1-2 year, 4 male and 1 female; in the age group of 2-3 year, 0 male and 0 female have shown problem in this item.

The 5th item is "Drooling" parents of 8 children have reported this complaint. In the age of 0-1 year 3 male children and 0 female children, in the age- range of 1-2 year 1 male child and 0 female child, in the age- range of 2-3 year. 2 male children and 2 children have reported this problem.

The 6th item is "Speech problem". 77 children have shown problem in this area. In the age- group of 0-1 year 6 male and 3 female children; in the age- range of 1-2 year 16 male and 13 female children; in the age of 2-3 years, 24 male and 15 female children have shown problem in this area.

The 7th item is "fits", 28 parents have reported this complaint. In the age- group of 0-1 year, 7 male and 6 female children; in the age- group of 1-2 year, 3 male and 2 female children; in the age- group of 2-3 year, 6 male and 4 female children have shown this problem.

The 8th item is "Visual Impairment". 4 parents have reported this complaint. In the age- group of 0-1 year, 2 male and 0 female children; In the age- range of 1-2 year, 1 male child and 0 female child; In the age- group of 2-3 year, 1 male and 0 female have shown this problem.

The 9th item is "Walking". 27 children have shown problem in walking. In the age- group of 0-1 year, no child have shown any problem in this item; In the age- group of 1-2 year, 7 male and 5 female children; In the age- group of 2-3 year, 9 male and 6 female children have shown problem in walking.

The 10th item is "Chewing". 4 parents have reported problem in this item. In the age- group of 1 male and no female

child; in the age- group of 1-2 year, no child; in the age- group of 2-3 year, 2 male and 1 female child have shown some problem in chewing.

The 11th item is "Weak muscles". Total 7 children in the sample have shown some problem in this item. In the age-group of 0-1 year, 2 male and no female child; in the age- group of 1-2 year, 1 male and 1 female child have shown this problem; in the age- group of 2-3 year, 1 male and 12 female children have shown this problem.

The 12th item is "Does not respond". Total 34 children have reported this problem. In the age- group of 0-1 year; 2 male and 13 female children; in the age- group of 1-2 year, 4 male and 6 female children; in the age- group of 2-3 year, 5 male and 4 female children have shown this problem.

The 13th item is "Developmental delay". Total 26 children have been reported this problem. No male and 5 female children in the age- group of 0-1 year; In the age- group of 1-2 year, 11 male and 4 female children; In the age- group of 2-3 year, no male and 1 female child have shown this problem. It is seen highest in the age- group of 1-2 years.

The 14th item is "Stiffness of body". Total 7 children have been reported this problem. In the age- group of 0-1 year, 3 male and 2 female children; in the age- group of 1-2 years, no male and 1 female child; in the age- group of 2-3 years, no male and 1 female child have shown this problem.

The 15th item is "Fever" is reported only in male of age-group of 0-1 year.

The 16th item is "Behaviour problems" is shown by 7 children. It is not seen in the age- group of 0-1 year but seen more in the age- group 2-3 years. In the early Intervention Services, the diagnosis given by doctors to the sample group is as follows which were the causes of the problems in children of various age- groups.

In 58 children, the diagnosis given was Pre-natal influences. In the age- group of 0-1 year, 9 male and 9 female children; in the age- group of 1-2 years, 14 male and 6 female

children; in the age- group of 2-3 years, 8 male and 12 female children were given this diagnosis. 36 children were been diagnosed as having Cerebral palsy. In the age- group of 0-1 year, 3 male and 5 female children; In the age- group of 1-2 years; 9 male and 2 female children; In the age- group of 2-3 years, 10 male and 7 female children were having this problem 14 children were been diagnosed as having "Down Syndrome".
In the age- group of 0-1 year 1 male and 3 female children; In the age group of 1-2 years, 3 male and 2 female children; In the age- group of 2-3 years. 3 male and 2 female children were diagnosed as having this problem. 6 children were diagnosed as having "Microcephaly". No male and 1 female child in the age-group of 0-1 year; In the age- group of 1-2 years, 3 male and 3 female children; In the age- group of 2-3 years. 1 male and 1 female child have reported having this problem.
7 children were been diagnosed as having some kind of "Chromosomal abnormality".

In the age- group of 0-1 year, 3 male and no female child; In the age- group of 1-2 years, 2 male and no female child; In the age- group of 2-3 years. 1 male and 1 female child were diagnosed as having this problem. Therefore, male have shown this problem more than female.
33 children were diagnosed as having "Seizure Disorder". In the age group of 0-1 year, 4 male and 6 female child; In the age group of 1-2 years; 8 male and 3 female children; In the age-group of 2-3 years. 8 male and 4 female children have shown this problem.

13 children have reported having some metabolic disorder. In the age range of 0-1 year, 3 male and 2 female children; in the age range of 1-2 year 5 male and 1 female child; in the age range of 2-3 years 1 male and 1 female child have shown this problem.

5 children have shown "Autistic Features" 1 male and 1 female child in the age group of 0-1 year and 2 male children in the age range of 2-3 years have shown this problem.

In 9 children "Birth Cry" was found to be absent. 1 male and 5 female of age group 0-1 year and 3 male of age group 2-3 years have shown this problem.

1 child (male) of the age group 0-1 year has shown the problem of "Hypothyroid".

In 7 children "Congenital Abnormality" was found. 2 male child and 1 female child in the age group of 0-1 year; 1 male and 1 female child in the age group of 1-2 year; no male and 2 female children in the age group of 2-3 year have shown this problem.

1 male child in the age group of 0-1 year and 1 male child in the age group of 2-3 year have shown the problem of Rh in compatibility.

Total 4 children (1 female child in the age group of 0-1 year; 1 male child in the age group of 1-2 year and 1 male and 1 female child in the age group of 2-3 year have shown the problem of genetic disorders.

In 11 children, the problem of "Nutritional Anemia" was found. 1 male and 3 female child in the age group of 0-1 year, 2 male and 1 female child in the age group of 1-2 year, 3 male and 1 female children in the age group of 2-3 year have shown this problem.

In 5 children, "Pre Maturity" was seen, 2 female of age group 0-1 year; 1 male of age group 1-2 year and 2 male of age group 2-3 year have shown this condition.

The data obtained by mothers of children 0-3 years are as follows which are pre-natal causes of problems in children. Mothers of 8 children have not gone for regular antenatal checkup. In 0-1 year mother of 1 male child and 3 female children; in the age group of 1-2 year, mothers of 1 male child and 1 female child; in the age group of 2-3 years; mothers of 1 male child and 1 female child have not gone for regular antenatal checkups.

The condition of "Threatened Abortion" is seen in 14 mothers. In the age group of 0-1 year; mother of 1 male child and 2 female children; in the age group of 1-2 year; mothers of 4

male children and 1 female child; in the age group of 2-3 years; mothers of 5 male children and 1 female child have shown this problem.

Mothers of 4 children had "Attempted Abortion". In the age group of 0-1 year, mother of 1 female child; in the age group of 1-2 year, 1 male child; in the age group of 2-3 years mother of 2 male children have attempted abortion.

24 mothers have used "Un-prescribed Drugs". In the age group of 0-1 year, mothers of 3 male children and 9 female children; in the age group of 1-2 year, mothers of 2 male children and 3 female children; in the age group of 2-3 years, mothers of 3 male children and 4 female children have used un-prescribed drugs.

28 mothers have reported "High B.P." during their pregnancy. In the age group of 0-1 year, mothers of 2 male children and 6 female children; in the age group of 1-2 year, mothers of 10 male children and 4 female children; in the age group of 2-3 years, mothers of 4 male children and 2 female children had high B.P.

4 mothers had "Fits" during pregnancy. Mother of 1 male child, in the age group of 1-2 year, 1 female child and in the age group of 2-3 years mother of 1 male child and 1 female child were having 'fits' in the pre-natal period.

3 mothers were having "Emotional Trauma" during pregnancy. These were mothers of 3 female children of the age group 0-1 year.

3 mothers were having "Physical Trauma".

11 mothers have reported some kind of "Infection" during pregnancy. In the age group of 0-1 year, mother of 1 male child and 4 female children; in the age group of 1-2 year, mother of 2 male children and 1 female child; in the age group of 2-3 years, mother of 1 male child and 2 female children have reported the problem.

"Abnormal Foetal Movements" were reported by 12 mothers. In the age group of 0-1 year, mother of 2 male children and 2 female children; in the age group of 1-2 year, mother of 3

male children and 1 female child; in the age group of 2-3 years, mothers of 3 male children and 1 female child were having this problem.

1 mother has reported "Tumer in Breast" 7 mothers have reported "Poor Nutrition during Pregnancy". In the age group of 0-1 year, mother of 1 male child and 2 female child; in the age group of 1-2 year, mother of 1 male child; in the age group of 2-3 years, mothers of 2 male child and 1 female child have reported this problem.

16 mothers have reported "Fever" during pregnancy. In the age group of 0-1 year, mother of 1 male child and 8 female children; in the age group of 1-2 year, mother of 1 male child and 3 female children; in the age group of 2-3 years, mothers of 2 male children and 1 female child have reported this problem.

"Teenage Pregnancy" was reported in 14 mothers. In the age group of 0-1 year, mother of 1 male child and 8 female children, in the age group of 1-2 years, mother of 3 male children and in the age group of 2-3 years, mother of 1 male child and 1 female child have shown this problem. "Jaundice" was reported in 1 mother.

Thus, from the above data, we find that the various pre-natal causes of mental retardation or other problems in children below 3 years in increasing order is as follows: -

Tumer in breast < Jaundice < Emotional and physical trauma < Attempted abortion and fits < Poor nutrition < Antenatal checkup not done < Infection < Threatened abortion and teenage pregnancy < Fever < Medicine used < High B.P.

Natal Causes

41 mothers have reported "full term caesarian delivery". In the age group of 0-1 year, 15 male and 8 female children; in the age group of 1-2 years, 9 male and 2 female children; in the age group of 2-3 years, 7 male and 9 female children were born by this process.

20 mothers have reported "Pre mature normal delivery". In the age group of 0-1 year, 5 male children and 4 female children; in the age group of 1-2 year, 2 male children and 2 female children; in the age group of 2-3 years; 7 male children and 3 female children were borned through this condition.

2 mothers have reported "Pre mature Caesarian delivery". 1 female child in the age group of 0-1 year and 1 male child in the age group of 2-3 years were borned by in this condition.

8 mothers have reported "Forcep delivery". 2 male children and 1 female child in the age group of 0-1 year; 1 male child and 3 female children in the age group of 1-2 years; 1 male child and 3 female children in the age group of 2-3 were borned in this condition.

In 58 babies, "Birth Cry" was delayed. In the age group of 0-1 year, 18 male children and 7 female children; in the age group of 1-2 years, 11 male children and 5 female children; in the age group of 2-3 years, 17 male children and 9 female children, birth cry was delayed.

In the age group of 0-1 year, 11 male children and 6 female children; in the age group of 1-2 year, 9 male children and 2 female children; in the age group of 2-3 years, 7 male children and 4 female children (total 39 children) had low birth weight.

"Sluggish Activity" was seen in 10 babies. 5 male children in the age group of 0-1 year, 2 male and 1 female babies in the age group of 1-2 years; 1 male and 1 female babies in the age group of 2-3 years have shown sluggish activity.

"Jaundice" was reported in 19 babies. 6 male babies and 4 female babies in the age group of 0-1 year; 3 male babies and 1 female baby in the age group of 1-2 year; 3 male babies and 2 female babies in the age group of 2-3 years have reported this problem.

7 babies were reported having "Infections". 1 male and 4 female babies in the age group of 0-1 year; 1 female baby in the

age group of 1-2 years; 1 male baby in the age group of 2-3 years were having infections in the natal perusal.

34 babies had "Fits" during the natal period. It includes 12 male and 4 female babies in the age group of 0-1 year; 6 male and 1 female babies in the age group of 1-2 years and 9 male and 3 female babies in the age group of 2-3 years.

12 male and 4 female babies in the age group of 0-1 year; 5 male and 4 female babies in the age group of 1-2 year; 8 male and 2 female babies in the age group of 2-3 years; total 35 babies were kept in "Incubator" during the natal period.

"Post term delivery" was seen in 3 babies – 2 male babies in the age group of 0-1 year and 1 female baby in the age group of 2-3 years.

Hence, the natal causes of abnormality in the sample found in increasing order are as follows: -

Pre mature Caesarian delivery < Post term delivery < Abnormal body colour < Infection < Forcep delivery < Sluggish activity < Jaundice < Pre mature normal delivery < Fits < Incubator used < Low birth weight < Full term caesarian delivery < Birth Cry delay.

Post Natal Causes of Abnormality

4 male babies in the age group of 0-1 year; 4 male babies and 2 female babies in the age group of 1-2 years; 4 male and 6 female babies in the age group of 2-3 years (total 20 babies) were having "Infections" in the post-natal period.

1 male baby in the age group of 0-1 year, 3 male babies in the age group of 1-2 years and 3 female babies in the age group of 2-3 years (total 7 babies) had "Physical Trauma".

15 male and 11 female babies in the age group of 0-1 year; 17 male and 6 female babies in the age group of 1-2 years; 20 male and 6 female babies in the age group of 2-3 years (total 75 babies) have reported "Delayed Development" in the post natal period.

15 male and 8 female babies in the age group of 0-1 year; 11 male and 8 female babies in the age group of 1-2 years; 19 male and 7 female babies in the age group of 2-3 years (total 68 babies) have reported "Fits" in the post natal period.

7 male and 2 female babies in the age range of 0-1 year; 3 male and 3 female babies in the age range of 1-2 years; 7 male and 4 female babies in the age range of 2-3 years (total 26 babies) were reported to be having "Fever" in post-natal period.

2 female babies in the age group of 0-1 year; 2 female and 1 male baby in the age group of 1-2 years (total 5 babies) have reported to be having "Jaundice" in the post-natal period.

Only 1 female baby in the age group of 2-3 years has reported to be having "Inadequate nutrition" in the post-natal period.

Hence, the post-natal causes of abnormalities in the sample of 200 children of age groups 1-3 years in increasing order is as follows: -

Inadequate nutrition < Jaundice < Physical trauma < Infection < Fever < Fits < Delayed development.

Therefore, the Delayed Development in the post-natal period is the main cause of abnormalities in children.

Degree of Retardation

In the sample, 7 male and 3 female babies in the age group of 0-1 year; 3 male and 2 female babies in the age group of 1-2 years; 1 male and 2 female babies in the age group of 2-3 years (total 18 babies) were found to be in average category.

1 male and 6 female babies in the age group of 0-1 year; 4 male and 1 female baby in the age group of 1-2 years; 5 male and 1 female baby in the age group of 2-3 years (total 18) were found to be in "Borderline" category.

15 male and 12 female babies in the age group of 0-1 year; 11 male and 13 female babies in the age group of 1-2 years; 16 male and 16 female babies (total 83 babies) were found to be in "Mild" category.

6 male and 3 female babies in the age group of 0-1 year; 10 male and 3 female babies in the age group of 1-2 years; 7 male and 5 female babies in the age group of 2-3 years (total 34 babies) were found to be in "Moderate" category.

4 male and 8 female babies in the age group of 0-1 year; 11 male and 2 female baby in 1-2 years; 4 male and 1 female baby in the age group of 2-3 years were found to be in "Severe Category".

2 male and 1 female child in the age group of 0-1 year; 4 male and 1 female child in the age group of 1-2 years; 4 male and 5 female children in the age group of 2-3 years (total 17 children) are found to be in "Profound" category.

Hence, increasing order of categories of mental retardation (developmental delay) found in the samples is as follows: -

Profound developmental delay < Average intelligence < Borderline intelligence < Severely developmental delay < Moderate developmental delay < Mild developmental delay.

Hence, most of the cases in the age group 0-3 years come under mild mental retardation.

In 13 male and 8 female of age group of 0-1 year; 15 male and 4 female in the age group of 1-2 years, 9 male and 5 female in the age group 2-3 years (total 54) have hypertone of muscles.

In 7 male and 9 female of age group of 0-1 year; 10 male and 3 female of age group 1-2 years; 6 male and 9 female of the age group 2-3 years (total 44) Hypotone was found.

In 69 babies, power of muscles found to be low.

In 15 male and 6 female of age group of 0-1 year; 9 male and 7 female of age group 1-2 years; 13 male and 3 female of age group 2-3 year, nutrition was found to be poor.

In 21 male and 14 female of 0-1 year group; 10 male and 4 female of age group 1-2 years; 11 male and 8 female of age group of 2-3 years (total 68), co-ordination was found to be poor.

In other individuals – muscles were found to be normal.

Discussion on Result Obtained

"Regular antennal checkups" is very much essential for pregnant mothers because even minute complication may lead to serious injury to the brain of the infant.

If "threatened abortion" or "attempted abortion" is not proper, that is abortion is not successful and the infant survives, then there might be serious injury to the development of brain of the infant. "Un-prescribed medicines" may also cause serious injury to the infant due to "high B.P" the infant may not get proper blood supply- that is, proper nutrition which may cause serious malnutrition in the infant. "Fits" in mothers is also a neurological disorder which affects the baby in the womb. "Emotional trauma" or any "stress" and "depression" in the mother may also affect the baby. Due to "physical trauma" or "fever" in mother, the baby may get hurt or injured. By "infection" or "jaundice" bacteria's and viruses may attack the infant's brain and other body systems and may cause problems in them. "Teenage pregnancy" is one of the most prominent problems in India for various problems in children. During this period, mothers are not enough mature and her physical system is not enough ready to give birth to baby. In India, most of the people and especially women are belonging to "low socio economic status" which may lead to poor nutrition in mothers, which may interfere in the development of the baby.

From data, we see that "un-prescribed medicines" is much common in India. In most of the cases we found that Pre-natal causes are prominent. These causes are preventable. So, mother should take care during this period in order to avoid future complication in the infant.

In the full term caesarian delivery (FTCD), pre-mature normal delivery (PND) or pre-mature caesarian delivery (PCD), there is greater chances for the injury to the brain by any forcep used by doctors or improper handling during the process of delivery Abnormal Presentation of the body like breech presentation or discharge of amniotic fluid, prolonged labour

pain etc. may cause injury to the infant and may cause mental retardation and other disabilities.

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