STUDY MATERIAL FOR
B.A.I (PSYCHOLOGY HONS.)

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Mental Retardation (M.R.) 162·204

Definition → ~~**

(Please see at another page)

The central characteristics of mental retardation is sub average intellectual functioning that began ~~of~~ before age 18 & exists together with significant limitations in adaptive functioning. This limitations may occur in two or more of wide variety of basic skill areas.

DSM-IV divided M.R. into 4 levels- mild, moderate, severe & profound- on the basis in intelligence test's score.

Diagnostic Criteria for M.R.

(1) - Significantly below ~~that~~ - average intellectual functioning, with an I.Q of approximately 70 or below on an individually ~~administered~~ administered I.Q. test (or, for infants a clinically based judgement of significantly below - average intellectual functioning.

(2) - Deficits or impairments in the persons effectiveness in meeting the standard expected for his/her age by his/her cultural group in at least two of the following areas: (1) Communications, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, ~~pleasure~~ leisure, health & safety.

(3) These criteria must both be met before the age of 18 yrs.

Classification of Mental Retardation

The various levels of mental retardation, as defined in DSM-IV, are described in greater detail in the following sections.

Diagnosed level of Mental Retardation	corresponding I.Q. range
Mild retardation	50-55 to approx. 70
Moderate retardation	35-40 to 50-55
Severe retardation	20-25 to 35-40
Profound retardation	below 20-25

(1) Mild Retardion — Mildly retarded individuals constitutes by far the largest number of those diagnosed as mentally retarded. People in this group are considered "educable" & their intellectual levels as adults are comparable with those of average 8-11 yr old children.

The social & adjustment of mildly retarded people often approximates that of adolescents, although they tend to lack normal adolescents' imagination, inventiveness & judgement. Ordinarily they do not show signs of brain pathology or other physical anomalies, but often they require

some measure of supervision because of their limited abilities to ~~foresee~~ foresee the consequences of their actions. Individuals at a somewhat higher, "borderline" I.Q. level (about 71-84) may also need special services to maximize their potentials (Zetlin & Murtaugh, 1990)

With early diagnosis, parental assistance & special educational programmes, the great majority of borderline & mildly retarded individuals can adjust socially, master simple academic & occupational skills & become self-supporting citizens (Macleon, 1997, Schalock, Harper & Carver, 1981).

(2) ~~Moderate~~ Moderate Mental Retardation → Moderately retarded individuals are likely to fall in the educational category of "trainable" & their intellectual levels similar to those of average ~~fourth~~ 4-7 yr old children. Although some can be taught to read & write a little & may manage to achieve a fair command of spoken language, their rate of learning is slow & their level of conceptualizing extremely limited. Physically, they usually appear clumsy & ungainly & they suffer from bodily deformities & poor motor coordination. Some of these moderately retarded people are hostile & aggressive; more typically they present an affable, unthreatening personality picture. Very rarely, extraordinary specialized skills, such as outstanding musical ability are found in moderately retarded individuals, well documented empirically, these phenomena have never been adequately explained.

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In general, with early diagnosis, parental help & adequate opportunities for training, most moderately retarded individuals can achieve partial independence in daily self-care, acceptable behaviour & economic sustenance in a family or other sheltered environment.

(3) Severe Mental Retardation → Severely retarded individuals are sometimes referred to as dependent retarded. In these individuals, motor & speech development are severely retarded & sensory defects & motor handicaps are common. However, many profit to some extent from training & can perform simple occupational tasks under supervision.

(4) - Profound Mental Retardation → The term life-support retarded is sometimes used to refer to profoundly retarded individuals. Most of these people are severely deficient in adaptive behaviour & unable to master any but the simplest tasks. Useful speech, if it develops at all, is rudimentary. Severe physical deformities, central nervous system pathology & retarded growth are typical, convulsive seizures, mutism, deafness & other physical anomalies are also common. These ~~remain~~ individuals must remain in custodial care all their lives. They tend, however, to have poor health & low resistance to disease & thus a short life expectancy.

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Organic Retardation Syndromes.

Mental retardation stemming primarily from biological causes can be classified into several recognizable clinical types.

1. Down Syndrome → first described by Langdon Down in 1866, Down Syndrom is the best known ass of the clinical conditions associated with moderate & severe mental retardation. About 1 in every 600 babies born in the United States is diagnosed as having Down syndrome, a condition that creates irreversible limitations on survivability, intellectual achievement & competence in managing life tasks. In fact, among adults with this disorder, adaptive abilities seem to decrease with increasing age, especially after 40 (Collacott & Cooper, 1997). The availability of amniocentesis & of chorionic villus sampling has made it possible to detect in utero the extra genetic material involved in Down Syndrome, most often a trisomy of chromosome 21, yielding 47 rather than the normal 46 chromosomes.

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The characteristic physical features of Down Syndrome make this disorder easy to recognize. These include a flat face & a small nose, eyes that appear to slant upward because of small folds of skin at the inside corners; slightly protruding lips & tongue, small ears & small square hands with short fingers & a curved fifth finger. Children with Down Syndrome tend to be shorter than average, with especially short arms & legs in proportion to their bodies. They also are likely to be somewhat obese in childhood & adolescence & have congenital heart abnormalities.

Children with Down Syndrome are usually able to learn self-help skills, acceptable social behaviour & routine manual skills that enable them to be of assistance in a family or institutional setting.

(2) - Phenylketonuria (PKU) → In phenylketonuria, a baby appears normal at birth but lacks a liver enzyme needed to break down phenylalanine, an amino acid found in many foods. The genetic error results in retardation only when significant quantities of phenylalanine are ingested, something that is virtually certain to occur if the child's condition remains undiagnosed. If the condition undetected, the amount of phenylalanine in the blood increases & eventually produces brain damage.

The disorder usually becomes apparent between 6 and 12 months after birth, although such symptoms as vomiting, a peculiar odor, infantile ~~eczema~~ eczema & seizures may occur during the early weeks of life. Often the first symptoms noticed are signs of mental retardation, which may be moderate to severe depending on the degree to which the disease has progressed. Lack of motor co-ordination & other neurological problems caused by the brain damage are also common & often the eyes, skin & hair of untreated PKU patients are very pale.

The early detection of PKU by examining urine for the presence of phenylpyruvic acid,

dietary treatment such as the elimination of phenylalanine-containing food & related procedures can be used to prevent the disorder.

Cranial Anomalies

Mental retardation is associated with a number of conditions that involve alterations in head size & shape & for which the causal factors have not been definitely established (Maclean, 1997; Robinson & Robinson, 1976).

① Macrocephaly (large headedness) → There is an increase in the size & weight of the brain, an enlargement of the skull, visual impairment, convulsions & other neurological symptoms, resulting from the abnormal growth of glia cells that form the supporting structure for brain tissue.

② Microcephaly (small headedness) → The most obvious characteristic of microcephaly is the small head, the circumference of which rarely exceeds 17 inches, as compared with the normal size of approximately 22 inches. Microcephalic children fall within the moderate, severe & profound categories of mental retardation but most show little language development & are extremely limited in mental capacity.

(3) Hydrocephalus → Hydrocephalus is a ~~rarely~~ relatively rare condition in which the accumulation of an abnormal amount of cerebrospinal fluid within the cranium causes damage to the brain tissues & enlargement of the skull. In congenital cases, the head is either already enlarged at birth or begins to enlarge soon thereafter, presumably as a result of a disturbance in the formation, absorption or circulation of the cerebrospinal fluid. The disorder can also develop in infancy or early childhood, following the development of a brain tumor, subdural hematoma, meningitis or other conditions. In these cases the condition appears to result from a blockage of the cerebrospinal pathways & an accumulation of fluid in certain brain areas.

The clinical picture in hydrocephalus depends on the extent of neural damage. This damage leads to intellectual impairment & such other effects on convulsions & impairment or loss of sight & ~~hearing~~ hearing. The degree of intellectual impairment varies, being severe & profound in advanced cases.

Several other well known forms are as follows.

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Clinical Type	Causes	Symptoms
(1) No. 18 trisomy Syndrome	Autosomal anomaly of chromosome 18	Peculiar pattern of multiple congenital anomalies, the most common being low-set malformed ears, flexion of fingers, small jaws & heart defects.
(2) Tay-Sachs disease	Disorder of lipoid metabolism, carried by a single recessive gene	Hypertonicity, listlessness, blindness, progressive spastic paralysis & convulsions (death by the third year)
(3) Turner's Syndrome	Sex chromosome anamoly (XO), mental retardation may occur but is infrequent	In females only, webbing of neck, increased carrying angle of forearm & sexual infantilism
(4) Klinefelter's Syndrome	Sex chromosome anomaly (XXY)	In males only features vary from case to case, the only constant finding being the presence of small testes at puberty.

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Clinical Type	Causes	Symptoms
(5) - Niemann-Pick's disease	Disorder of lipoid metabolism	Onset usually in infancy, with loss of weight, dehydration & progressive paralysis
(6) - Bilirubin encephalopathy	Often Rh (ABO) blood group incompatibility between mother & fetus	Abnormal levels of bilirubin (a toxic substance released by red cell destruction) in the blood, motor incoordination frequent
(7) - Rubella, congenital	The mother's contraction of rubella (German measles) during the first few months of her pregnancy	Visual difficulties most common, with cataracts & retinal problems often occurring together & with deafness & anomalies in the valves & septa of the heart.

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Causes of Mental Retardation

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1. Genetic chromosomal factors →
2. Infections & Toxic Agents →
3. Prematurity & Trauma (Physical Injury)
4. Ionizing Radiation
5. Malnutrition
6. Organic brain Pathology
7. Unknown prenatal influence
8. Socio cultural deprivation
9. Cultural-familial factor

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Treatment & Prevention of Mental Retardation

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Efforts to prevent mental retardation & to help those affected by it live up to their full potential take many forms. These include primary prevention (preventing the disorder from occurring in the first place), secondary prevention (treating the problem so that its effects are minimized), & tertiary prevention (helping the individual make the best use of his or her capabilities).

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1. Primary Prevention → Some types of mental retardation can be prevented from occuring.

One outstanding example of such a primary prevention programme is the campaign to inform women that using alcohol in pregnancy is potentially harmful to the developing child.

Another type of public health effort is aimed at reducing the chances of brain damage to children after birth.

Probably the measure that has the most widespread effect in preventing mental retardation is educating people about the importance of prenatal care for pregnant women.

Another type of primary prevention associated with prenatal care was made possible by the increasing ability to detect genetically based & developmental problems during pregnancy through the use of amniocentesis & ultra sound scanning. Information from these procedures allows the parents & the physicians to discuss potential problems & to explore the desirability of terminating the pregnancy.

New techniques in genetic research have been able to identify gene locations related to a variety of disorders. This genetic information can help prospective parents evaluate their risks of conceiving a child with mental retardation or another disorder so that they can make an informed decision about initiating or terminating a pregnancy.

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(2) Secondary Prevention → Secondary prevention efforts focus on providing treatment. For example, PKU screening is now done routinely for new born infants so that if the problem exists, dietary control can begin at once to prevent damage to the central nervous system.

(3) Tertiary Prevention → Tertiary prevention is aimed at improving an already existing situations. Intervention programmes have been developed for specific disorders, as a way of increasing children's skills early in the developmental cycle. Other examples are school-based educational programs, community living programmes & vocational & social skills training programmes.

An additional type of tertiary prevention is an increased recognition of the importance of treatment of psychological & family relationship problems for people who are mentally retarded.

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