DEVELOPMENTAL DELAY

- Delay in the age at which developmental milestones are achieved by a child or delay in the development of communication, social, and daily living skills.
- Developmental delays can involve either a single domain or multiple domains of the child's functioning
- Global Developmental Delay is defined as significant delay in two or more domains.

DEVELOPMENTAL DELAY

CAUSES

PRENATAL

- before birth; during pregnancy.

PERINATAL

- usually a number of weeks, immediately before and after birth.

POSTNATAL

- the period after childbirth.

DEVELOPMENTAL DELAY: CAUSES

PRENATAL

- DOWN SYNDROME (TRISOMY 21)
- FRAGILE X SYNDROME
- INBORN ERRORS OF METABOLISM (PHENYLKETINURIA & PRENATAL HYPOTHYROIDISM
- ABNORMALITIES OF BRAIN DEVELOPMENT
- FETAL DEPRIVATION (FETAL ALCOHOL SYNDROME)
- FETAL INFECTIONS

DEVELOPMENTAL DELAY: CAUSES

PERINATAL

- PRETERM BIRTH
- LOW BIRTH WEIGHT

DEVELOPMENTAL DELAY: CAUSES

POSTNATAL

- BRAIN INJURIES
- POSTNATAL MALNUTRITION

DEVELOPMENTAL DELAY: IDENTIFICATION

- During routine developmental screening: Primary care physicians play a pivotal role in early identification of developmental delays through developmental screening and surveillance.
- Following parental concern over delay in development/achievement of developmental milestones
- Following third party concerns such as, school teachers or nursery care professionals

DEVELOPMENTAL DELAY: OTHER ASSESSMENTS

- Head to toe examination including child's weight, height and head circumference
- Hearing assessment in case of language delays
- Vision assessment if the child (≥ 6 weeks)

  - has a history of frequent bumping into objects (for a mobile child),

  - may have delayed fine motor skills
- Full blood count for diagnosing

  - possible iron deficiency

  - vitamin D deficiency

  - thyroid function tests (specially with GDD and growth deficits)

  - electrolyte and urea levels

DEVELOPMENTAL DELAY: INTERVENTION

- parents can be advised about appropriate stimulation activities in case of mild delay
- For significant delays, immediate referral to a developmental paediatrician

  - preterm children (without follow up)

  - children with chronic medical conditions

  - children in challenging circumstances, such as under the care of someone with mental health issues

- Long term family support for the families with a child having developmental delay

PHENYLKETONURIA

possible to detect its presence before the onset of symptoms and, more importantly, in time to let parents avoid passing the lethal gene to their children.

Merely possessing a particular gene, however, does not always mean that a specific effect will follow. Genes do not control behavior or other aspects of life directly. Rather, they exert their influence indirectly, through their impact on chemical reactions in the brain or other organs. These reactions, in turn, may depend on, or be strongly influenced by, environmental conditions. One example is **phenylketonuria** (**PKU**), a genetically based disorder in which persons lack the enzyme necessary to break down *phenylalanine*—a substance present in many foods. Affected persons on a normal diet tend to accumulate phenylalanine in their bodies. This, in turn, interferes with normal development of the brain and leads to mental retardation, seizures, and hyperactivity. Altering environmental conditions, however, can prevent this chain of events. Hospitals now routinely screen infants' blood for high levels of phenylalanine. If PKU is detected during the first few weeks of life, babies placed on a diet low in phenylalanine do not develop the PKU symptoms. Dietary restrictions can then be relaxed in late childhood after the majority of brain development is complete. So, as we'll note repeatedly in the rest of this book, biology is not necessarily destiny where human beings are concerned. Our genes do predispose us toward showing certain patterns of behavior or developing certain physical conditions or characteristics, but the environments in which we live play a major role in determining whether, and to what extent, such tendencies become reality. Moreover, most human traits are determined by more than one gene. In fact, hundreds of genes, acting in concert with environmental forces, may be involved in shaping complex physical or cognitive abilities (Lerner, 1993; McClearn et al., 1991). So, while there is increasing evidence for the role of genetic factors in many aspects of human behavior, heredity is only part of the total story.

Phenylketonuria (PKU): A genetically based disorder in which persons lack the enzyme to break down phenylalanine, a substance present in many foods. The gradual buildup of body phenylalanine levels contributes to subsequent out-comes that include retardation.

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