BMH MEDICAL JOURNAL

BMH Medical Journal 2016;3(1):1-4 **Editorial**

Early Intervention in Children with Developmental Disabilities

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Key Words: developmental disabilities, children, early intervention

Developmental disabilities consist of conditions that delay or impair the physical, cognitive, and/or psychological development of children. If not intervened at the earliest, these disabilities will cause significant negative impact on multiple domains of functioning such as learning, language, self-care and capacity for independent living. Common developmental disabilities include autism spectrum disorders, intellectual disabilities, developmental delay and cerebral palsy [1]. About one fourth of young children in developing countries are at risk for or have developmental delay or disabilities [2]. Inadequate stimulation has significant negative impact on physical, socioemotional and cognitive development of children [3]. Hence early scientific intervention programs are necessary in the management of children at risk for developmental delay.

Prevalence of developmental disabilities

Autism spectrum disorders

Prevalence of autism spectrum disorders among four year old children was 13.4 per thousand. Prevalence in eight year old children was 30% higher [4]. The prevalence of autism spectrum disorder in 2014 was 2.2 percent according to National Health Interview Survey (United States of America) [5].

Intellectual disabilities

Meta analysis of 52 studies have shown that the prevalence of intellectual disabilities is 10.37 per 1000 population. Low and middle income countries had the highest prevalence rates [6]. Prevalence rate of severe intellectual disability in children (IQ less than 50) was found to be about 4 per thousand on evaluating the European intellectual disability databases [7].

Developmental delay

According to the National Health Interview Survey on Disability (United States of America), 3.3 percent of infants and young children had functional delay and 3.4 percent of the children had general developmental delay [8].

Cerebral palsy

In a systematic review and meta analysis of 49 studies, it was found that the overall prevalence of cerebral palsy was 2.11 per thousand live births. The prevalence was highest among children with a birth weight between 1 – 1.5 Kg (59.18 per thousand live births). Prevalence was very high in children born before 28 weeks of gestation (111.8 per thousand live births) [9].

Significance of early developmental interventions

The quality of the environment in which the children grow up will have the most significant impact on child development [10]. The younger the age at which children are provided developmental stimulation, the better the cognitive outcome [11]. Early evidence based interventions for developmental delay and disabilities improve the life outcomes of children [12]. Advances in developmental neuroscience have shown how the early biological and social experiences can affect the brain development. Inadequate cognitive stimulation is a key risk factor which can prevent the children from attaining their developmental potential. Hence early interventions are essential to promote child development [13].

Socioemotional behavioral problems are increasingly seen in children with inadequate early stimulation [14]. Behavioral problems are common among children with developmental disabilities which can increase the functional difficulties. Family interventions reduce the behavioral problems [15]. Psychosocial deprivation has a negative impact on motor and intellectual development [16]. Children with early psychosocial deprivation also have deficits in memory and executive functioning [17]. Family intervention programs improve the cognitive development of young children [11].

Preventive interventions are essential for primordial prevention of developmental disabilities. Parenting interventions are the common preventive intervention programs in child development. Positive parental styles will lead to more adaptive child functioning. Parenting programs which promote positive parent child interactions and communications are consistently associated with better results. Early developmental stimulation programs involving the family members are effective for improving the motor, language, social and cognitive skills of infants and preschool children.

Conclusion

Children with developmental disabilities experience extensive health inequalities and face severe discrimination. The state of early child development should be improved on a global scale. Childhood experience during the early years have great influence on the entire life course. Early intervention should be provided to all children at risk for developmental disabilities. Strong nurturant environment should be provided during early child development to prevent developmental disabilities.

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