Editorial

Impact of environment on development and mental health of children

Iqbal A. Memon [1], Arit Parkash [2]

Author's Affiliation:
1- Department of Paediatric Medicine, Lahore General Hospital, Pakistan.

Correspondence:
Iqbal A. Memon, Email: prof.iqbalahmadmemon@gmail.com

Received on: 30-Sep-2022 Accepted for Publication: 30-Sep-2022

Children are their nation's future and it is the society's responsibility to ensure their healthy growth and development. Normal growth and development only when we provide them with adequate nutrition and a safe environment to live in. Amongst the few important markers of development, stunting is considered a well-known marker of poor development. It affects millions of children globally and is considered a major risk factor for paediatric morbidity and mortality. [1]

According to the Child Growth Standards set by the World Health Organisation, one in four children under the age of five years are failing to grow along the optimum trajectory. [1]. This failure to grow is known as stunting, a term given to impaired linear growth (length/height for age) in the early years of life, which results in failure to reach a height by adulthood implied by genetic potential. [1] It is also defined as malnutrition causing impaired linear growth in the initial 2 years of life. [1]

Nutritional status is the major reason behind stunted growth but environmental risk factors have also found to be associated with stunting. [1] In 2015, 5. 9 million children expired due to preventable causes of death and undernutrition accounts for 45% of under 5 deaths. [3]

Stunting cannot be reversed easily and leads to physical and cognitive impairments. These then undermine child's educational attainment and ability to learn in their lives later. [5]

Globally, persistent efforts have been made to decrease childhood stunting over the last few years; however, there is high prevalence of stunting still in many low- and middle-income countries. [5]

Amongst many researches, primary causes of childhood stunting remain continued exposure to recurrent infections and inadequate nutritional intake, during the first 1000-days of life. [5]

In addition, there are many risk factors affecting growth and development that act independently of nutritional intake. [1]

Day by day, climatic challenges are worsening with their impacts extending far beyond the environmental damage and are affecting global health in general. [2]

According to the current flood situation in Pakistan, children from affected areas are bound to live in shelters. Researchers suggest that children who must live in shelters could be more vulnerable to develop mental health problems due to their exposure to various adverse environmental risk factors like poverty, unstable home life and inadequate care.

Amongst the many risk factors that have been studied for stunting, foodborne mycotoxins, an inadequate sanitation, dirty home floors, sub-standard cooking fuels, and lack of adequate local waste disposal were found topping the list. [1]

Out of many problems, the three pandemics—obesity, undernutrition, and climate change—represent The Global Syndemic which has affected people worldwide. They constitute a syndemic, or a synergy of epidemics due to their interaction with each other. As a result, they produce complex sequelae and share common underlying societal drivers.

Climatic changes can also be considered a pandemic because of their disastrous effects on the health of humans and the natural systems we depend on. [2]

Environmental factors were studied to correlate with nutritional status. 30.7%, 46.2% and 7.5% of children were found to be underweight, stunted and wasted respectively. Open defecation, having access to unsafe water and children living in kuccha houses were found to be more underweight. [3]

Multiple factors indicate a child's poor diet quality, amongst which total and passive screen time at 24 months of age were found to be important ones affecting child's mental health. [4]

Another interesting factor was children who had twice the risk of being stunted if they had working mothers as compared to children with non-working mothers. [5]

Amongst the slum areas, maternal employment has been found to be associated with a substantial increase in the odds of child stunting. This seems to arise in the absence of adequate family support. Therefore, integrating appropriate childcare support measures for low-income urban working mothers might be an effective strategy to help reduce the prevalence of chronic undernutrition among slum children. [5]

Another study revealed that amongst 819 extremely poor children, 325 (39.7%) were stunted, 135 (16.5%) were underweight and 27 (3.3%) were wasted. In addition, stunting and underweightness were negatively associated with developmental skills. It was also observed that in extremely poor children, limited play activities, limited child-to-child interactions and mother-child relationships were negatively related mainly to gross motor and language performances of children. [6]

Undernutrition and psychosocial factors were negatively related to the developmental outcomes of children belonging to a poor socio-economic status. Hence, trying to integrate home-based play-assisted developmental stimulation and nutritional rehabilitation can help in normal development. [6]

Maternal education is an important factor in a child's growth and development. Hence, families with stronger family meal policies, where mothers did not work for pay or were less educated, exhibited higher child "junk" food intake scores. [7]

Low parental education levels have been associated with poorer child diet quality and increased child obesity. Similarly, maternal employment status (full time, part-time or unemployed) and work hours affect children's healthy lifestyles and the family food environment to varying degrees. [7]

Summarising it all, children are exposed to multiple risk factors for poor growth and development. This negative impact on their development and mental health results from the complex interaction between biological, psychological and environmental risk factors. Amongst all, the main factors influencing their development are the social and psychological environmental factors. Therefore, efforts regarding decreasing the cumulative risk effect are very important to ensure adequate growth and development in this population.

REFERENCES

1. Vilcins D, Sly PD, Jagals P. Environmental risk factors associated with child stunting: a systematic review of the literature. Annals of global health. 2018;84(4):551
2. https://blogs.worldbank.org/health/climate-change-and-malnutrition-must-be-tackled-together
3. Jain P, Virk A, Khan ZA, Mittal A, Singh H, Nazir M. A Study of Environmental Factors Affecting Nutritional Status of under 5 Children in Rural Area of North India. Indian Journal of Public Health Research and Development. 2018 Sep;9(9):94-9.4 McMath A, Khan N, Fiese B, Donovan S. Screen Time is Related to Dietary Intake in Children at 24-Months-of-Age. Current Developments in Nutrition. 2020 Jun;4(Supplement_2):1035-.
4. Win H, Shafique S, Mizan S, Wallenborn J, Probst-Hensch N, Fink G. Association between mother's work status and child stunting in urban slums: a cross-sectional assessment of 346 child-mother dyads in Dhaka, Bangladesh (2020). Archives of Public Health. 2022 Dec;80(1):1-6.
5. Worku BN, Abessa TG, Wondafrash M, Vanvuchelen M, Bruckers L, Kolsteren P, Granitzer M. The relationship of undernutrition/psychosocial factors and developmental outcomes of children in extreme poverty in Ethiopia. BMC pediatrics. 2018 Dec;18(1):1-9.
6. Østbye T, Malhotra R, Stroo M, Lovelady C, Brouwer R, Zucker N, Fuemmeler B. The effect of the home environment on physical activity and dietary intake in preschool children. International Journal of Obesity. 2013 Oct;37(10):1314-21.