Rickets: An emerging public health problem
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Rickets is a crippling disease of growing children. The symptoms of rickets are emerged with the growth of children. Rickets can develop as early as 6 months of age. Vitamin D deficiency is the primary cause of the disease. The typical negative impacts of the disease are retarded physical growth and skeletal deformities due to a disorder in bone calcification.

Rickets has emerged as a serious public health problem in some areas of Bangladesh. The primary cause of rickets in Bangladesh may be something else than vitamin D deficiency, since the children are sufficiently exposed to sunlight that helps produce vitamin D in the body. Studies carried out in the Chakaria, the southeastern area of Bangladesh, suggested a food system with lower level of biologically available calcium could be the primary cause of rickets.

Identification of rickets
Children with rickets look very fickle, pale and petulance temperament. Their manifest very soft body muscle, frequent sweating in the head area, and enlargement of liver and spleen. They will also have breathing difficulties and frequent indigestion. The physical growth is delayed or stunted. Consequently, ability of learning to crawl, sit, stand and walk is also delayed. The skull, hand, leg, waist, joints and chest become swollen. The spine becomes bent and wrists become widen. Varying types of leg deformities include bow-leg, knock-knee and sabre tibia.

The rachitic children have also some problems in the teeth, such as, delayed eruption of teeth, easily broken teeth, mal-alignment of teeth, swollen gums and abnormally white teeth. Around fifty percent of the old aged (approximately early 20's) rachitic patients develop gum disease.
Prevalence in our country
During the mid nineties and late twenties, an expert team from Cornell University and a pediatricians of Institute for Child and Mother Health (ICMH) conducted studies among the children aged 1-15 years and claimed Chakaria Upzila of Cox's Bazar, a coastal district, as one of the prevalent area for clinical rickets (8.6%) in Bangladesh.

In response to the situation, BRAC in 1999, in collaboration with Bangladesh Rickets Prevention Consortium (BRPC), conducted a community-based rapid prevalence assessment of rachitic leg among 25,891 children/adolescents aged 1-20 years in Cox's Bazaar District and found visible rachitic leg signs among 490 children.

After evaluation, the prevalence rates for rachitic leg signs were calculated to be 931 per 100,000 population, with the highest in Kutubdia Upazila and lowest in Moheshkhali. The prevalence was highest in children aged 1 4 years and lowest amongst 17 to 20 year olds. Females had lower prevalence than males. To get a rough picture of the prevalence of the disease in other parts of the country.

A quick investigation using the similar methodology was performed in five other districts (Sunamganj, Noakhali, Bholo, Jessore and Gaibandha), and rachitic leg signs were found in Sunamganj and Jessore. This indicates that rickets is endemic, not only in Cox's Bazaar but also in some other parts of Bangladesh. BRAC spent about US$ 4000 for this rapid assessment.

Treatment and prevention
Some scientists and pediatricians from Cornell University of USA and Bangladesh involved with BRPC suggested that vitamin D, calcium and phosphorus needs to be provided to the rachitic children, although the age and severity of the disease should be considered before administering vitamin D. Generally, careful administration of 200 to 3000 I.U. of vitamin D per day and including excessive quantities of calcium and phosphorus related food, for example, milk, eggs and small fish with bones are usually effective. It is necessary to provide continual vitamin A and vitamin E related foods (i.e., beans). Also children should be provided with a half-liter of milk per day.

Children with 'bow legs' should have their legs wrapped and bent with cloths to keep the two knees bent inward. Pillows or other round soft cushions should be kept in between the knees of the 'knock-knee' child to keep one knee away from the other. Surgical treatment of the disease might be possible. To prevent rickets, it is recommended that food system approaches should be adopted to address the
problem of calcium-deficiency rickets. Various types of calcium supplementation will be effective in preventing the disease among. The healthy and clean environment is an additional preventive factors.

Conclusion
If rickets is not prevented, while being a preventable disease, it may be a continuing source of physical disability for life time in our country. In this way, it robs individuals of human dignity, families and communities of resources, and nations of human capital.

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