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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 costal district, as one of the prevalent area for clinical rickets (8.6%) in Bangladesh.

In response to the situation,

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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, Bhola, 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.

The writers are officials of Research and Evaluation Division, BRAC.

Tips on teeth filling

DR MD MOKERROM HASAN

Plaque a sticky almost colorless layer of bacteria that forms on your teeth and mixes with the sugars to produce decay producing acids. When decay creates a cavity, the dental surgeon usually fills it with a durable material. But this filling can only be done if the bacterial decay does not touches the pulp (soft tissue, especially when surrounded by hard tissue such as the inside of a tooth). But when it touches the pulp it requires more invasive treatment called Root Canal Treatment (RCT).

Most often metal alloy called amalgam, composite resin (a tooth colored material) or glass ionomer cement and gold is used to fill the cavity inside a tooth.

A tooth decay – whether it requires filling or root canal treatment – depends on the patient's symptoms. Usually tooth filling is done if there is no history of severe continuous pain. But the tooth may be hypersensitive to hot or cold. Finally it can be assessed by x-ray. Usually if the decay is in its primary stage and remains untreated, gradually it produces pain and need more invasive RCT.

The dental surgeons drills out the decay and shapes the tooth to the filling. The hole is then filled with the most appropriate material for the cavity's size and location in the mouth.

Mostly filling can be done in single visit. But if the symptom is confusing, it may require more visits. In that case, on the first day a treatment filling (somebody says temporary filling) is done to observe whether the tooth has become free from symptoms or not.

The life span of a filling depends on its location, the materials used, and the care you give your teeth.

Gold has the longest life span followed by amalgams and the composites.

Bacterial plaque is the single most cause for the tooth decay. So regular tooth brushing and flossing can prevent the tooth decay.

The writer is a dental and maxillofacial surgeon.

Back exercises not always the answer to low back pain

Exercise may help ease lower back pain -- just as long as the exercise is not specifically targeting the back, a new study suggests.

Researchers found that of the nearly 700 patients with low back pain they followed for 18 months, those who walked and got other forms of "recreational" exercise had a lower risk of pain over time. In contrast, those who performed exercises specifically for their backs appeared to make matters worse.

Chiropractors and physical therapists often prescribe exercises to mobilise and strengthen the lower back, but growing evidence suggests that targeting the back does not help, and may even aggravate, the pain. The new findings add to that notion and point to the benefits of general activity like brisk walking or swimming.

"Our findings suggest that general physical activity is more beneficial," Dr. Eric L. Hurwitz of the University of California, Los Angeles told. Study participants who got the equivalent of 3 or more hours of brisk walking per week had a better prognosis than those who got little to no general exercise showing improvements, Hurwitz said.

On the other hand, back exercises generally increased patients' risk of suffering pain and disability over time.

Exactly why general activity may help back pain sufferers' recovery, while back exercises may hinder it, is unclear. According to Hurwitz, the benefits of general exercise could be related to endorphins -- natural painkilling chemicals released by the brain during exertion or to the muscle toning and overall sense of well-being that comes with physical activity.

As for why back exercises may fail, Hurwitz said, it could be that people tend to perform them incorrectly, or that individuals are often not prescribed the specific exercises that could benefit them.

What does seem clear is the importance of staying active. "Sitting is not beneficial for people with low-back pain," Hurwitz noted. "Being sedentary delays recovery and makes the back more prone to (pain) recurrence."

Some people with lower back pain worry that walking and other exercise will make their pain worse, according to Hurwitz. Doctors, he said, need to get them past that fear and encourage them to be active.

SOURCE: American Journal of Public Health

DID YOU KNOW?

Sunshine helps babies sleep

Taking your baby out for an afternoon stroll or playtime in the park may help her (and you!) Sleep better at night. A study of healthy 6- to 12-week old infants found that those who slept well at night had been exposed to twice as much light between noon and 4 pm than the poor sleepers. It may be that greater exposure to daylight encourages development of the biological clock, which regulates the secretion of melatonin, a chemical that tells the body when it is time to sleep.

SOURCE: Journal of Sleep Research

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MEDICAL UPDATE

Combat Alzheimer's: Keep your brain young

You are never too young to start preventing Alzheimer's disease. And the more you stimulate your brain, the better you will fare, says Elizabeth Edgerly, a spokesperson for the US Alzheimer's Association's first-ever conference on preventing the disease suggests ways to keep your brain fit:

Feast on fruit and veggies

In a study of 1836 elderly men and women, those who drank fruit or vegetable juice at least three times a week had a 75 per cent lower risk of developing Alzheimer's than those who consumed juice less than once a week. Another study found that eating plenty of fruit and vegetables may protect against mental decline.

Stay close to friends and family

In a study of 2513 men, those with the least contact with friends and family in late life were nearly three times more likely to develop dementia than those with the most social activity. Falling out of touch with friends increased risk even more.

Get moving, and raise A toast

In a study of 471 adult children of Alzheimer's patients, moderate drinkers and those who exercised regularly scored better on memory, problem-solving and other mental tasks than those who did not drink or exercise.

SOURCE: Reader's Digest

Mental Health Corner

Schizophrenia: Early treatment improves outcome

For many years, psychiatrists have argued over whether or not early intervention after a schizophrenia patient's first episode of psychosis could improve the patient's long-term outcome. A new study concludes that early intervention can improve outcome.

Historically, the prevailing view has been that "it just doesn't matter when you treat a person because their clinical outcome is predetermined," Dr. Diana O. Perkins from the University of North Carolina at Chapel Hill explained in a UNC statement.

This view, which holds that schizophrenia is the result of altered brain development that begins before birth and that treatment will not improve long-term outcome, is often referred to as the "doomed from the womb" theory. Many psychiatrists still hold this to be true, but more recent studies, including the current one, suggest that early treatment can improve outcome.

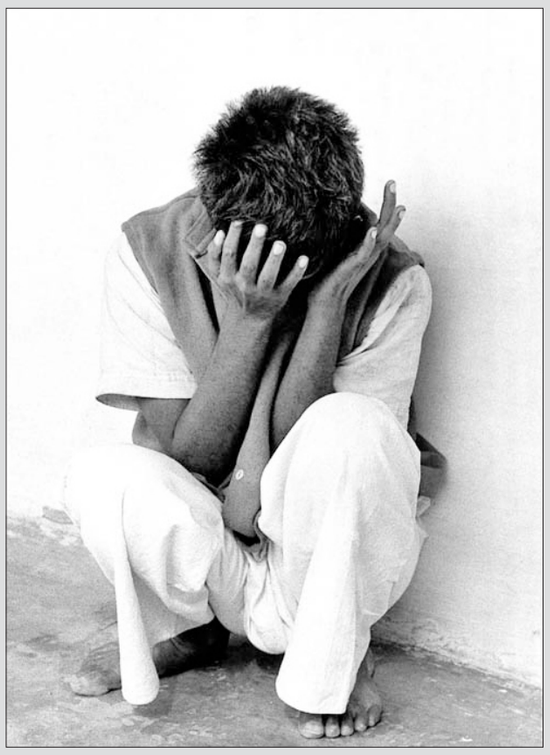
Perkins and colleagues pooled data from 43 studies addressing the question: "Does prolonged duration of untreated psychosis influence outcome?"

They reported that the greater the interval between the onset of psychosis and its treatment, the greater the severity of negative symptoms.

"On average, there is a delay of over a year -- or longer -- from the time that the symptoms of schizophrenia first emerge to the time that the person first receives treatment," Perkins disclosed. "The main result of this meta-analysis," she added, "is that the sooner treatment is started, the better the clinical and functional outcome."

A shorter duration of untreated psychosis was associated with greater response to standard anti-psychotic treatment. Thus, "ameliorating the symptoms of the initial psychosis may not only lessen the immediate suffering and burden of disease experienced by patients and their families," Perkins said, "but may also improve long-term prognosis by limiting progression of the illness and preserving a person's ability to respond to anti-psychotic medication."

SOURCE: American Journal of Psychiatry



Chromium supplements may aid some with depression

Supplements containing the mineral chromium may be useful in treating some cases of depression -- particularly when carbohydrate craving is a prominent symptom, a new study suggests.

The study, of 113 people with a disorder known as atypical depression, found that although chromium picolinate supplements were no more effective than an inactive pill in relieving depression overall, they did appear to aid certain, mainly appetite-related, symptoms.

Moreover, a subgroup of patients -- those who said they had "irrepressible cravings" for sweets and starches -- did show a general improvement in depression symptoms after taking the supplement.

The study authors speculate the improvements in the body's use of insulin, the key hormonal regulator of blood sugar, may be the reason.

"While these findings require replication in a prospective trial, they suggest that chromium picolinate may be beneficial for patients with atypical depression who are also high carbohydrate cravers," Dr. John P. Docherty and his colleagues reported.

Chromium, a mineral that the body needs in trace amounts, is found naturally in meat, whole grains and certain vegetables and fruits like broccoli, potatoes and apples. The mineral enhances the action of insulin and helps break down carbohydrates, fat and protein. Because of this, chromium supplements are being studied for the treatment and prevention of diabetes, in which the cells of the body lose their sensitivity to insulin.

Researchers have long noted associations between depression, diabetes and heart disease, Docherty and his colleagues point out. For example, people with major depression have been found to have higher rates of insulin resistance, a precursor to diabetes.

There has been speculation that insulin resistance might be behind the symptoms of overeating, carbohydrate craving and weight gain seen in some people with depression.

These symptoms characterise atypical depression, in particular -- which, despite its name, is a common form of depression that, besides overeating and weight gain, may involve excessive sleeping and a feeling of heaviness in the arms and legs. People with this form of depression also show "mood reactivity," which means they brighten in response to positive happenings in their lives.

In the new study, patients were randomly assigned to take either chromium supplements or a placebo everyday for 8 weeks. At the end of the study, the rate of improvement in overall depression symptoms was similar in both groups.

However, the chromium group did show greater improvement in hunger, overeating, carb craving and daily mood changes. And nearly two-thirds of the 41 patients with significant carb cravings saw improvements in their depression symptoms in general -- compared with one-third of those who took a placebo.

Further studies, the researchers conclude, are needed to see whether chromium specifically helps depression patients who tend to overeat and crave sugars and starch-and whether higher doses of the mineral might also aid their overall depression symptoms.

SOURCE: Journal of Psychiatric Practice