NEWS

Flu augments health risks in pregnant women

The mother and fetus are at increased risk for obstetrical complications of flu infection during pregnancy.[1] It has been reported that the normal changes to a pregnant woman's immune system, heart and lungs make them susceptible to increased risk of morbidity and mortality from flu infection.[2] Recent studies from Stanford university has reported that severe influenza in pregnancy is a hyperinflammatory disease rather than a state of immunodeficiency.[3] It is suggested that H1N1 virus caused pregnant women's immune cells to produce more cytokines and chemokines compared to their normal counterparts. This increased inflammatory response in turn attracts other immune cells to the site of infection, thus increasing the intensity of inflammation and therefore the mortality rates during pregnancy.[3] Also, the infection by H1N1 has been reported to be associated with low birth weights and the risk factor for mortality in pregnant womens.[4] According to U.S. Centers for Disease Control and Prevention, flu vaccines should be a routine part of prenatal care and presently only 50% of pregnant women are vaccinated for influenza.[2] Also, it was observed that the babies delivered by pregnant women who got their flu vaccines were protected from serious illness from influenza during their first six months of life.[2] They also had a lower risk of flu-related hospitalizations for chronic asthma, heart conditions, diabetes, weakened immune system, stillbirth and other health-related problems.[2] The center for drug and disease control recommends annual vaccination against flu for everyone from six months of age or older, including pregnant women.[2]

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Clinical benefits of hyperbaric oxygen therapy

Hyperbaric oxygen therapy (HBOT) involves breathing 100% oxygen in a total body chamber that has been pressurized at 1-1/2 to 3 times the normal atmospheric pressure.[1] Under normal circumstances, oxygen is transported throughout the body only by red blood cells. With HBOT, oxygen is dissolved in all body fluids, thereby increases plasma and tissue oxygen levels, where the circulation is diminished or blocked.[1] Diabetes is known to be the leading cause of amputations, due to the co-existing peripheral artery disease, which reduces the blood flow in the peripheral arteries.[2] In diabetic patients, HBOT has been reported to alter signaling pathways involved in the tissue response to hypoxia and wound repair. It mainly acts by suppressing the production of pro-inflammatory cytokines and chemokines responsible for the metabolic stress created during active inflammation and enhance the tissue repairing mechanisms.[2] Evidences have also indicated HBOT to be helpful in the prevention and treatment of delayed bone damage and soft tissue injury caused by radiation therapy.[3] The U.S. Food and Drug Administration (FDA) has approved HBOT to treat several health problems such as decompression sickness, carbon monoxide poisoning, gangrene, brain abscess, and injuries in which tissues are not getting enough oxygen.[1] Recently, HBOT has also been reported to improve cognitive functions following brain injury predominantly by increasing the brain metabolic rate and oxygen content, and by inhibiting lipid peroxidation and suppressing the generation of pro-inflammatory mediators.[4]

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Wheatgrass: A health promoter

Shoot of Triticum *aestivum* Linn. (Hindi name- gehun, kanak, Sanskrit name- godhuma) is called as a wheatgrass. Triticum is a genus of annual and biennial grasses, yielding various types of wheat, of which 8 have been reported to occur in India. Wheatgrass contains chlorophyll, calcium, iron, magnesium, zinc, vitamins (A, C, K and E) and B-complex like thiamin, riboflavin, niacin, vitamin B6 and 19 amino acids including the 9 essential amino acids and dietary fibers.[1] The major clinical utility of wheat grass in diseased conditions might be due to its biologically active compounds and minerals and its antioxidant potential which is derived from its high content of bioflavonoids such as apigenin, quercitin and luteoline.[1] Wheatgrass in general increases blood flow, digestion and general detoxification of the body. It has also shown to tremendously reduce various gastrointestinal problems like acidity, peptic ulcers, ulcerative colitis, constipation, diarrhea, etc., by restoring the alkalinity to blood, with the help of its abundance alkaline minerals. It prevents cancer by detoxifying the liver and bloodstream and helps restore healthy cells to fight against tumours.[2] Also, wheatgrass is acknowledged to reduce serum lipid[3], blood glucose[4] and improve insulin sensitivity due to its high fiber and magnesium content. It is also used as supplemental therapy for diabetic foot ulcers since it contains growth factors that could help in healing of ulcers.[4] Thus, wheatgrass is sprouting as a star ingredient with promising health benefits including its anti-cancer, anti-ulcer and antioxidant activity.

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VIEWS

ABO blood type determines cardiovascular risk

Recent studies have suggested that having blood type O may convey some protection against heart attack and stroke, whereas the most common AB blood type appears to increase risk for the development of cardiovascular (CV) diseases. According to the reports of the prospective cohort study from the Harvard School of Public Health, Boston, compared to the individuals with O blood type, individuals with blood group A, B, or AB had a respective 5%, 11%, and 23% increased risk of developing coronary heart disease in an age-adjusted model. Though the exact mechanism at play is unclear, CV risks in blood group AB has been linked to higher inflammation, which plays a vital role in arterial damage. Evidences suggest blood group A to be associated with higher levels of the low density lipoprotein (LDL) cholesterol that can lead to atherosclerosis. Also, in AB blood type, plasma levels of von Willebrand factor (vWF), an identified risk factor for coronary artery disease was reported to be approximately 25% higher than the individuals with O blood type. Therefore, evaluating the biological processes underlying blood type and cardiac risk may help physicians better understand those who are at the risk for developing CV diseases. Also, future research should assess whether individuals with different blood group respond differently to lifestyle interventions.

Sleep-diet prevents obesity

Studies have demonstrated a link between sleep and weight loss that is both sleep deprivation and excess sleep leads to weight gain by altering the circadian rhythm. Sleep restriction is associated with alterations in the endocrine functions causing an increase in hunger and appetite mainly by affecting the level of leptin and melatonin. There are several possible ways by which sleep deprivation could increase the chances of becoming obese. Sleep-deprived people may be too tired to perform physical activity, decreasing the energy expenditure. Also when awake longer at nights the level of leptin and melatonin drops making us alert and hungry, we have more opportunities to eat and increased craving for sweets, salty and starchy food. Consuming these high calorie food in evening have a negative impact on the following day, reducing appetite for breakfast or totally skipping leading to alterations in the appetite, hormonal and neural signals that control food intake. A positive relationship has also been observed between hyperphagia and sleep deprivation. Establishing good sleep habits, following a proper bedtime, performing exercise to enhance energy expenditure and promote sleep, taking balanced breakfast and replacing carving for food with low calorie foods, will not only help in managing weight but also in maintaining the hormonal homeostasis.

Fats: Foe of food world to plead not guilty

Fats are subjected to lot of negative press due to its role in life threatening disorders like heart attacks, strokes, obesity, hypertension, type 2 diabetes, etc., Fats are not always the bad guys and they should not be avoided completely in the diet, as fatty acids such as linoleic and linolenic acids play a vital role in energy source, regulate cholesterol metabolism, prostaglandin production, and the supply or absorption of fat-soluble vitamins A, D, E, and carotenoids. Fat (9 calories per gram) provides more than twice as many calories as carbohydrates and proteins (4 calories per gram). However, most of the fat in the body is stored in adipose tissue (cellular fat) for insulating the body and cushioning of organs. Researchers have demonstrated that the type of fat may be as important as the amount of fat you consume. Regarding diet, an increase in body weight occurs when we take in more calories than we expend. Fats, because they have twice the calories of proteins or carbohydrates, may lead to weight gain if the excess calories are not balanced by physical activity. But excessive intake of calories from any source (fats, proteins, or carbohydrates) can lead to weight gain. Intake of unsaturated fats (canola, olive, mustard, rice bran, flaxseed, nuts, cod liver oil) which can be easily digested by the body is recommended, whereas the saturated (red meat and full-fat dairy products) and trans fatty acids (fats that are re-used multiple number of times) should be avoided. Studies have also reported that monounsaturated fats and omega fatty acids lowered LDL cholesterol and the tendency of forming oxidized LDL, which increases the risks of heart attack and stroke. Hence, rather than blaming fat for the adverse effects adapting to a balanced diet, which contain high levels of monounsaturated fats (replacing the trans and saturated fat) could provide a healthier living.

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