NUREN SAIF

Addiction is a condition in which a person engages in use of a substance or in a behaviour for which the rewarding effects provide a compelling incentive to repeatedly pursue the behaviour despite detrimental consequences. It is where there is compulsive seeking attitude while obtaining a substance when behaviour becomes out of control.

Addiction is recognised medically to be a disease, and is not caused by a single factor. Rather it is a combination and interaction of different forces at play.

Addiction is an outcome of genetics, environment and stress. What a person is most addicted to is actually dependent on what neurotransmitter is the most out of balance in a person's brain.

Stress is notably a key trigger for most addictions, because it imbalances the brain's natural balance called the homeostasis, which significantly increases the risk that a person will develop an addictive self medicating behaviour.

Neurotransmitters are often referred to as chemical messengers, which are the molecules used by the nervous system to transmit messages between neurons (brain cells) in the brain, or from neurons to the muscles of the body. The primary neurotransmitters involved in addiction are called Dopamine, Serotonin, Noradrenalin.



Dopamine — the reward system: Dopamine is the neurotransmitter in charge of pleasure. Whenever we experience something pleasurable Dopamine is released in a part of our brain called the the nucleus accumbus also known as the the reward centre of the brain. After which the brain desires to keep repeating the experience that created and made the pathway stronger.

But an excess of Dopamine in children causes Attention Deficit Disorder and Attention Deficit Hyperactivity Disorder. However in adults and older adolescents an elevated amount of Dopamine can cause mania and bipolar disorders.

Serotonin: It is the neurotransmitter commonly known as the mood stabiliser and for regulating

emotions. A lack of serotonin can hence actually lead to depression. For people with low serotonin levels, the drugs that they are most like to abuse are alcohol and opiates.

Both tend to mimic serotonin and tend to make the person feel great. Treatment for serotonin mimicking drugs are much trickier than for dopamine.

Noraadrenaline: It is the neurotransmitter responsible for keeping the brain informed of potential threats and danger. An overflow of Noradrenaline causes anxiety.

A massive over abundance of Noradrenaline causes extreme anxieties even in the simplest situations. It has also been shown to modulate the function of certain types of immune cells.

An overabundance of of Noradrenaline can also cause disruption of sleep cycle. Blood pressure is further raised by noradrenaline as a result of its effects on the heart muscle, which increase the output of blood from the heart.

Noradrenaline also acts to increase blood glucose levels and levels of circulating free fatty acids. Norepinephrine is used clinically as a means of maintaining blood pressure in certain types of shock. Having constant or extreme anxieties can lead to people making bad decisions.

Some drugs help to lessen anxieties but too much of it can actually lead to some detrimental conditions.

A little note about genetics: We are innately born with an

imbalance in these 3 chemicals, but it is really an individual's choice that will determine if an s/he will lead towards addiction. Genes have also been linked to certain addiction. If an individual knows that their family has a history of drug abuse, then it is best to avoid it — because there is a high chance that the particular individual may get addicted.

In fact studies have shown that children born to alcoholics have a 4 times more likelihood of becoming drug addicts compared to those born to non alcoholics

The craving effect: The brain's pleasure pathways are created from significantly repeated patterns of behaviour. For an addict even the vision or sight of a place or object they have used to do drugs can actually release dopamine down the pleasure pathways! Even odors of certain drugs can have the same response and then the brain will start craving more of what leads them to have the dopamine effect! Almost all and every relapses began from craving. Craving are the root

causes of relapses in most cases! Addicts are very sensitive, especially while their rode to recovery, because even the slightest thing like the sight of a place or even a smell of a drug could cause severe cravings leading to relapses.

The writer is a student of Psychology at the York University in Toronto, Canada. E-mail: nuren.26april@yahoo.com

SKIN CANCER

Preventing squamous cell carcinoma

MD GOLAM RABBANI (RABBI)

Squamous cell carcinoma (SSC) is a type of skin cancer that begins in the squamous cells. These cells are the thin, flat cells that make up the epidermis, or the outermost layer of the skin. When certain genetic changes occur in the DNA of any of these cells which cause them to multiply uncontrollably, skin cancer occurs.

SSC of the skin most often occurs on sun-exposed skin, such as in scalp, the backs of hands, ears or lips or anywhere like as, on the body, including

inside the mouth, on anus and on genitals. Signs and symptoms of SSC of the skin include: A firm, red nodule and flat sore with a scaly crust

A red sore or rough patch inside your mouth A red, raised patch or wart-like sore on or in the anus or on the genitals

UV radiation is the most common cause of the DNA mutations that lead to skin cancer. Factors that may increase the risk of SSC of the skin include:

Having fair skin, light-coloured hair and blue, green, or gray eyes Long exposure to UV radiation or history of

sunburns Weak immune system and rare genetic disorder

To help reduce the risk for SCC, follow these tips: Limit your sun exposure; avoid the sun during the hottest part of the day.

Wear sunglasses with UV ray protection and cover your skin

Protect your skin during winter as well because

winter rays can be especially dangerous Check your skin for any new/abnormal growths

The writer is a student of Department of Pharmacy at Bangabandhu Sheikh Mujibur Rahman Science

and Technology University. E-mail: rabbi.bsmrstu@gmail.com

HEALT Hulletin



Gastric bypass surgery causes type 2 diabetes to go into remission

A new study published in Diabetologia (the journal of the European Association for the Study of Diabetes [EASD]) has found that three quarters of individuals with type 2 diabetes (T2D) who were treated with obesity surgery known as Roux-en-Y gastric bypass surgery (RYGB) experienced diabetes remission within one year of treatment.

Predictors for higher likelihood of success include the patient being younger, lower glycated haemoglobin levels (HbA1c, which is an indication of lower blood glucose levels and thus blood sugar control), shorter duration and lesser severity of diabetes, and the individual being male. Emerging long-term follow-up data have also revealed a considerable risk of the disease reappearing after the initial remission period.

This study analysed the effect of RYGB on diabetes remission and the factors that predict it, together with the likelihood of relapse. It also studied the risk of surgical complications, and the incidence of microvascular and macrovascular complications.

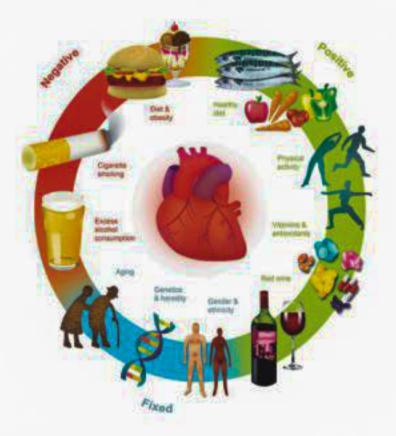
Ways to reduce the burden of CVD risk factors

PROF MOHSIN ZILLUR KARIM

Exposure to known risk factors for cardiovascular diseases (CVD) remains alarmingly common and presents one of the largest barriers to improved global health. Most CVD-related premature deaths are linked to these common risk factors. The vast majority of CVDs is a result of the continuation of preventable behavioural and metabolic risk factors. Globally, CVD prevention emphasises on healthy life behaviours and optimal biologic factors those are called the modifiable cardiovascular risk factors.

Hypertension: Alleviated blood pressure is estimated to be the single largest contributor to the global burden of disease and mortality. The development of hypertension is associated with dietary exposure such as excess intake of salt, saturated fats and alcohol, reduced exercise and inadequate intake of fresh fruit and vegetables. High blood pressure is also positively associated with lack of physical activity and being overweight. There are gaps in awareness, treatment and control of hypertension globally.

Obesity: There has been a global rise in obesity among adults as well as adolescents and children. Overweight is defined as a Body Mass Index (BMI) greater than or equal to 25 kg/m² and obesity is defined as BMI greater than or equal to 30 kg/m2. The number of people who are overweight and



obese is increasing.

Diet: Ideal diet as defined by the American Heart Association involves eating a balanced diet that includes a variety of fruits and vegetables daily, whole grains, fat free and low fat dairy products, fish, legumes, poultry and lean meats and limited intake of salt (sodium chloride <5 gm/day), alcohol (no more than one drink per day for women and two drinks per day for men), saturated fats and cholesterol. Low fruit and high salt consumption are significant contributors to overall cardiovascular disease.

Dyslipidaemia: The excessive level of serum cholesterol contributes to 2.6% of total global Disability adjusted life years (DALY). The awareness, treatment and control of levels for hypercholesterolaemia mirror the suboptimal patterns of poor diet as well as limited access to treatment

with effective therapy such as statin medications.

Air pollution: Multiple mechanisms have been considered as the cause for association between air pollution and CVD, including inflammation, autonomic nervous system imbalance, and changes in vascular responsiveness and compliance, altered cardiac structure and promotion of atherosclerosis. Air pollution has now been known to increase preclinical risk factors such as atherosclerosis, endothelial dysfunction and hypertension.

Physical inactivity: Physical inactivity has become a leading risk for CVD globally. There is an increased risk of death associated with physical inactivity contributing to 1.8% of total DALY, much of which appears to be via its contribution to increased body weight and abdominal fat deposition.

Mental illness: The relationship of mental health disorders with CVD is complex, but receiving increased attention as important comorbid condition. Those with CVD are at a higher risk for developing depression while simultaneously; those with mental disorders are at a greater risk for developing risk factors, as well as CVD. There is evidence for casual association between depression and CVD even after adjustment of traditional CVD risk factors.

The writer is a Consultant at the Cardicare Heart and General Hospital.

How to tackle motion sickness during travel

PROF M KARIM KHAN

I travel regularly by bus and often find some of my travel mates are vomiting 20-30 minutes after commencing the journey. It is really cumbersome for the other passengers but unfortunately it is irresistible by the victims. This condition we designate as the motion sickness.

Very simply motion sickness means nausea, vomiting caused by motion, especially by travelling in a vehicle. More scientifically we can say — motion sickness is a sensation of wooziness. Our body's sensory organs send mixed messages to the brain causing dizziness, lightheadedness, or nausea. Some people learn early in their lives that they are prone to the condition. Children and women are more prone to develop motion sickness. A person with motion sickness may become pale or complain of a headache.

Any form of travel on land, in the air, or on the water, can bring the uneasy feeling of motion sickness. Sometimes, amusement rides can induce motion sickness. It has been observed that people who develop motion sickness while travelling by bus, do not develop so while travelling by train. So train journey is safer and comfortable for the motion sickness victims.

Sometimes window seats helps them to prevent the sickness. On boats, or buses sit in the front and try to avoid facing backward. On a ship, ask for a cabin at water level and close to the front or the middle of the vessel. Open a vent for a source of fresh air if possible, and avoid reading.

It is important to get plenty of rest the night before travelling and avoid drinking alcohol or consuming heavy food. Some drugs like promethazine, domperidone, ondansetron, cetirizine etc. may be taken at least one hour before travel, which may prevent motion sickness.

The author is a Professor of Paediatrics at Community Based Medical College (CBMC), Mymensingh. E-mail: mmukkhan@gmail.com



How the order you eat your food affects your health! Carbohydrate

"Starting your meal with vegetables and protein and finishing with carbohydrates could help maintain body weight"



Recent Research Reveals)

Starting a meal by eating vegetables and protein, and finishing it with carbohydrates, keeps us fuller than if we ate same foods in reverse order

Protein slows down release of sugar from carbohydrates into the blood stream

When diabetics ate vegetables and proteins first, their blood sugar levels were 29% lower 30 minutes later compared to when they ate the carbohydrates first



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