

NEWS

Regular breakfast reduces metabolic syndrome

Metabolic syndrome is a collective term for factors such as abdominal obesity, high levels of triglycerides, low levels of high density lipoprotein, high blood pressure, insulin resistance, and high fasting blood glucose levels. Metabolic syndrome is known to increase the risk of cardiovascular disorders (CVD). Researchers have reported that children and adolescents who skipped breakfast or ate poor breakfast displayed a 68% higher incidence of metabolic syndrome^[1] and other cardio-metabolic risk factors^[2] as adults, compared with those who ate more substantial breakfast in their youth. Poor breakfast in these subjects could be linked to abdominal obesity and high levels of fasting blood glucose levels, at adult age.^[1] Recently, it has been reported that the frequency of eating breakfast influences the susceptibility to cardio-metabolic risks and weight gain.^[2,3]

Though, the exact mechanisms involved in the association between poor breakfast and metabolic syndrome is not known, regular intake of breakfast is reported to be strongly associated with reduced risk of developing metabolic syndrome and CVD.

REFERENCES

1. Wennberg M, Gustafsson PE, Wennberg P, Hammarström A. Poor breakfast habits in adolescence predict the metabolic syndrome in adulthood. *Public Health Nutr* 2014;28:1-8.
2. Shafiee G, Kelishadi R, Qorbani M, Motlagh ME, Taheri M, Ardalan G, *et al.* Association of breakfast intake with cardiometabolic risk factors. *J Pediatr (Rio J)* 2013;89:575-82.
3. Odegaard AO, Jacobs DR Jr, Steffen LM, Van Horn L, Ludwig DS, Pereira MA. Breakfast frequency and development of metabolic risk. *Diabetes Care* 2013;36:3100-6.

Anti-obesity effects of ear acupuncture

Auricular acupuncture therapy is based on the understanding that the outer ear (pinna) represents the whole (all parts and organs) of the body. It was first used in France in 1956 by Dr. Paul Nogier, who noticed that a patient's backache was cured after she/he sustained a burn on the ear.^[1] Since, then this approach has been used for treating drug addiction, to quit smoking and lose weight. Recently, researchers have compared the effects of five acupuncture points which includes shen-men (divine gate), spleen, stomach, hunger, and endocrine on the pinna with the hunger point (only) and the sham treatment on weight loss in 91 overweight (body mass index [BMI] of 23 or more) adults.^[2] In this study, participants who had not received any other weight control treatment within the past 6 months were recruited and were asked to follow a restrictive (but not weight loss) diet and not to take any extra exercise during the 8 week period of their treatment.^[2] Findings of the study suggested that there was a significant decrease in BMI, waist circumference (WC), weight, body fat mass and percentage body fat after 8 weeks of treatment in five acupuncture points group when compared with one hunger point group and sham group.^[2] There were

no significant differences in blood pressure among the groups. In an earlier study, though there was no statistically significant difference in percent reduction in body weight, BMI, and WC between the groups receiving 6 weeks of auricular acupuncture and sham treatment, it was reported that there was a significant increase in ghrelin and decrease in leptin levels, in obese women following acupuncture.^[3] Studies suggest that continuous use of auricular acupuncture therapy can help reduce abdominal fat and also improve the level of the obesity-related peptide hormones such as leptin and ghrelin.^[2,3]

REFERENCES

1. Gori L, Firenzuoli F. Ear acupuncture in European traditional medicine. *Evid Based Complement Alternat Med* 2007;4:13-6.
2. Yeo S, Kim KS, Lim S. Randomised clinical trial of five ear acupuncture points for the treatment of overweight people. *Acupunct Med* 2013;doi: 10.1136/acupmed-2013-010435.
3. Hsu CH, Wang CJ, Hwang KC, Lee TY, Chou P, Chang HH. The effect of auricular acupuncture in obese women: A randomized controlled trial. *J Womens Health (Larchmt)* 2009;18:813-8.

Grape Seeds: Role in cancer chemoprotection

Cancer is one of the burning issues in most of the developed and developing nations. Despite the intensive search for improving early detection and treatment, cancer remission is grossly inadequate. Cancer treatment by both chemotherapy and radiotherapy is associated with long-term and pervasive side-effects on these patients. A proactive alternative to treat cancer is to prevent its occurrence and progression prior to symptomatic malignancy. One such potential alternative regimen in this regard is cancer chemoprevention, which may address the issue of escalating healthcare costs and an increasing number of sufferers.^[1] Chemical compounds with cancer preventive efficacy are identified on the basis of their historical medicinal use, correlation with reduced risk in population studies, non-toxicity, unique chemical properties, or their role in biological systems.^[1] Most of the chemopreventives are derived from natural products.^[1] Especially, a wide variety of phytochemicals, mostly flavonoids or polyphenolics, have been shown to possess chemopreventive properties, such as grape seed proanthocyanidins (GSPs), the active ingredients of grape seed extract (GSE). A recent study reported inhibition of azoxymethane-induced colon cancer by dietary GSE.^[2] This inhibition by GSE on cancer cells is mediated

through the induction of apoptosis that is associated with alterations in micro ribonucleic acid and cytokine expression profiles.^[2] Furthermore, researchers have identified gallic acid as the single major active constituent of GSE that possess the highest anti-proliferative and pro-apoptotic activity.^[3] GSP of the GSE has also been reported to reduce the formation of reactive oxygen species and cytotoxicity in tumor cells.^[3,4] This suggests a novel underlying mechanism for the chemopreventive action of GSE against various form of cancer.

REFERENCES

1. Ting H, Deep G, Agarwal C, Agarwal R. The strategies to control prostate cancer by chemoprevention approaches. *Mutat Res* 2014;760:1-15.
2. Katiyar SK, Athar M. Grape seeds: Ripe for cancer chemoprevention. *Cancer Prev Res (Phila)* 2013;6:617-21.
3. Cedó L, Castell-Auví A, Pallarès V, Macià A, Blay M, Ardévol A, *et al.* Gallic acid is an active component for the anticarcinogenic action of grape seed procyanidins in pancreatic cancer cells. *Nutr Cancer* 2014;66:88-96.
4. Ignea C, Dorobanțu CM, Mintoff CP, Branza-Nichita N, Ladomery MR, Kefalas P, *et al.* Modulation of the antioxidant/pro-oxidant balance, cytotoxicity and antiviral actions of grape seed extracts. *Food Chem* 2013;141:3967-76.

VIEWS

Effect of 'third hand smoke' on non-smokers

Smoking is not only a potential health threat to those who smoke but also to their children, spouses and co-workers surrounding them. When a person smoke, the smoke inhaled by the smoker is referred to as *first-hand smoke*; the smoke exhaled by a smoker that which has been inhaled by others is known as *second-hand smoke* and *third-hand smoke* is the second-hand smoke that gets settled on the surfaces of the object. This third-hand smoke can lead to nicotine exposure levels and can act as strong carcinogen similar to that of smoking. It has also been reported that non-smokers occupying the rented house vacated by smokers, have developed cardio-respiratory problems attributed to nicotine exposure.

Recent studies on third-hand smoke animal models have shown alterations in multiple organ systems and excreted levels of a tobacco-specific carcinogen similar to those exposed to second-hand smoke. It has been reported that children living with either one or the both parent who smoke are suffering from illness when compared to those children of non-smoking parent. Therefore, especially the children who are involuntarily exposed to the third-hand smoke are at significant risk for suffering from chronic health issues including cardiovascular morbidity in their future. Potential regulatory norms on nicotine use should be aimed to reduce the unconscious exposure of non-smokers to third-hand smoke.

Depressing effects of anti-depressants

In a recent survey, researchers have found that besides having the biological side-effects of anti-depressants, such as weight gain and nausea, there are also psychological and interpersonal effects in more than half of the population prescribed for anti-depressants. About one-third of the population prescribed for anti-depressants have reported suicidal feeling while they were on medication. These participants have also reported feelings of 'detached' and 'caring less about', which has not been informed to them while prescribing the anti-depressants. This report seems to be very alarming due to the over-prescription of these drugs

world-wide. Therefore, best alternative to reduce the use of anti-depressants is the practice of meditation and yoga that attains holistic improvement of health through body-mind homeostasis.

Address for correspondence:

Dr. Natarajan Neelambikai,
Professor and Head, Department of Physiology,
Coimbatore Medical College,
Coimbatore - 641 014, Tamil Nadu, India.
E-mail: natarajanneela@gmail.com