



## DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Friday 20190524

Body care tips for moms-to-be

Simple body care tips for moms-to-be (The Tribune: 20190524)

<https://www.tribuneindia.com/news/health/simple-body-care-tips-for-moms-to-be/777291.html>

For some women, pregnancy brings a healthy glow but for others it may bring many skin issues like temporary acne break-outs, itchy skin and pigmentation. Have healthy and nutritious food and exercise in moderation to battle it, say experts.

Malika Sadani, Founder and CEO, The Moms Co. and Aditi Shelar, Nutritionist, Revofit and Hello Green, have shared tips to maintain a healthy body and baby during pregnancy:

- \* **Healthy, nutritious food:** Take special care of what you are eating and follow a healthy diet chart comprising green leafy fruits and vegetables, low fat dairy, nuts and seeds and pulses. Steer clear of alcohol, excess salt and sugar as they rob the natural moisture of your skin. Try and find healthier substitutes for your food cravings.
- \* **Hydration:** If you become intolerant to the taste of water, please make sure you are consuming liquids in other forms like coconut water and soups. You can also substitute water with green tea. Packed with antioxidants, it is excellent for skin repair and keeps weight gain in check. So, make sure you are drinking enough fluids to maintain healthy and blemish-free skin during pregnancy.
- \* **Exercise in moderation:** Although you cannot indulge in extensive workout plans, moderate exercise is crucial during pregnancy. Indulge in a brisk 30-minute walk, swimming, indoor stationary cycling or ask your doctor to prescribe yoga postures suitable for pregnancy.
- \* **Consume food rich in Omega 3 fatty acids** to tackle acne and pigmentation related issues. Food sources - walnuts, chia seed, flax seed and fish.
- \* **Probiotics** introduce good bacteria into the body to help clear dry patches. Probiotics can be sourced from Greek yogurt, curds, fermented milk products like yakult.
- \* **Foods like tomatoes** that are rich in antioxidant Lycopene that act as natural sun screen that helps block harmful ultra-violet rays.

\* To prevent stretch marks, increase protein intake as it helps to strengthen elastic fibres in the skin.

\* To manage morning sickness, consume small and frequent meals to avoid indigestion.

Start the day with natural dry carbohydrates like fruits, nuts and dry fruits. Incorporate spices like turmeric and cinnamon which help subside nausea.

\* Avoid milk, oily and spicy food.

\* Advance your dinner timings to keep a good time gap between dinner and sleep to prevent acid reflux which could cause nausea. — IANS

## E-cigs

E-cigs can double success rates of quitting smoking, UK study finds (The Tribune: 20190524)

<https://www.tribuneindia.com/news/health/e-cigs-can-double-success-rates-of-quitting-smoking-uk-study-finds/777259.html>

People using e-cigarettes to quit smoking are about 95% more likely to report success than those trying to quit without help from any stop-smoking aids, according to the results of a large study in England.

The research, funded by the charity Cancer Research UK and published in the journal *Addiction* on Thursday, analysed success rates of several common stop-smoking methods - including e-cigarettes, nicotine replacement therapy (NRT) patches and gum, and Pfizer's varenicline, sold as Champix in the UK.

It also adjusted for a wide range of factors that might influence success rates for quitting - such as age, social level, degree of cigarette addiction, previous attempts to quit, and whether quitting was gradual or abrupt.

Latest World Health Organization data show that smoking and other tobacco use kills more than 7 million people a year globally. Of the 1.1 billion people worldwide who smoke, around 80 percent live in poor or middle-income countries.

E-cigarettes have no tobacco, but contain nicotine-laced liquids that the user inhales in a vapour. Many big tobacco companies, including British American Tobacco, Imperial Brands and Japan Tobacco, sell e-cigarettes.

This study involved almost 19,000 people in England who had tried to quit smoking in the preceding 12 months, collected over a 12-year period from 2006 to 2018. Successful quitters were defined as those who said they were still not smoking.

As well as the 95% increased success rate for e-cigarettes, the study found that people prescribed Champix were around 82% more likely to have succeeded in stopping smoking than those who tried to quit without any aids.

“Our study adds to growing evidence that use of e-cigarettes can help smokers to quit,” said Sarah Jackson, a professor at University College London who co-led the study.

Using e-cigarettes, or ‘vaping’, is considered by many experts to be an effective way for smokers to give up tobacco, but some in the scientific community are sceptical of their public health benefits, fearing they might normalise the idea of smoking and lead young people into the habit.

Smokers who were prescribed NRT by a medical professional were 34% more likely to quit successfully, the study found. But those buying NRT from shops were no more likely to succeed than those trying to quit without any help at all.

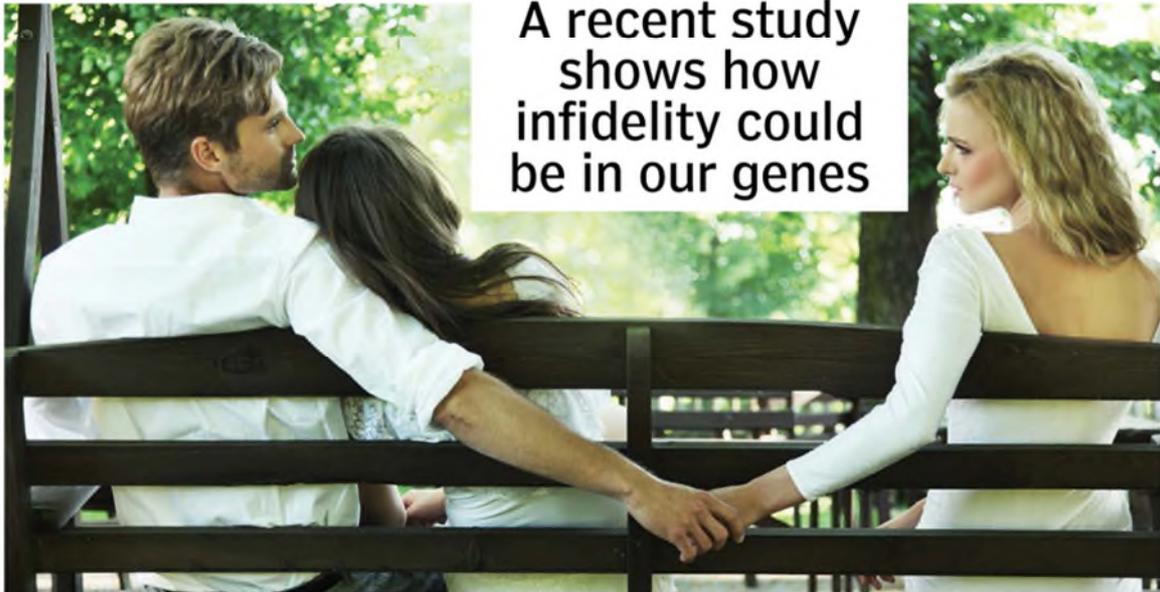
Experts said the results were robust and important.

Peter Hajek, director of the tobacco dependence research unit at Britain’s Queen Mary University of London, said the study yielded two key findings about e-cigarettes: “They help smokers quit at least as much as stop-smoking medications, and they are used by many more smokers. This means they generate many more quitters and do this at no cost to the NHS (National Health Service),” he said in an emailed comment. — Reuters

Infidelity –Genes(The Asian Age: 20190524)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13055332>

# IS INFIDELITY IN THE BLOOD?



A recent study shows how infidelity could be in our genes

## AGE CORRESPONDENT

**B**angalore tops when it comes to infidelity, followed by Mumbai, Kolkata and Delhi. A recent survey shows how infidelity is a growing concern in India not just in metro cities but also in tier 2 and 3 cities and small towns as well.

In India infidelity is treated in a very subjective manner. Here men are often forgiven while women are always condemned. Women hardly have a say on their sexual desires, wanting and cravings. The fact that a woman could also need satisfaction in her sexual life is mostly ignored.

In many instances, their male counterparts to fulfill their own selfish desires treat women like a commodity. If by any means, a woman raises her voice or goes out of the relation to fulfill her needs and desires, it's considered a taboo.

Infidelity is prominent in society since ages; it's just that people are oblivious to its presence. The so-called taboo in the Indian cultural society has taken a leap of faith since the inception of apps like Gleeden; which has not only catered to the needs of the longing women of the society but has also helped in sparking their monotonous and dominant life. It hosts an army of 5 lakh Indian users out of which 30% are females and this constant growth of community mirrors the evolution of Indian current society in which infidelity will no

longer be considered a taboo in the nearby future. So much so that other social apps like Meetups, Facebook, Instagram have similar interested communities as closed groups.

If infidelity manages to surpass the 'taboo' tag, a major section of the society can breathe easily.

However, in this context, a question arises if infidelity is so prominent, is it inherited?

According to recent surveys and studies about different topics concerning love, sex, and relationships, 46% of unfaithful people come from families where one parent has a history of cheating on the other.

Single women tend to put out later than married women who cheat according to Gleeden. Fifty per cent of unfaithful women go to fourth base on the second date highlighting the fact they are sexually adventurous and confident.

A married woman on an extramarital dating site is likely sexually uninhibited, confident, and has prowess. Concerning men who are unfaithful, 17 per cent have a separate bank account they use to manage expenses related to their affair.

Studies reveal that, in India, cheating isn't restricted to

metro cities. Many members of extramarital dating sites live in tier 2 and tier 3 cities where taboos against infidelity, despite its legalization, are strong. Smaller cities in the countries hinterland are generally very conservative, however, societal taboos there are breaking as men and women register on extramarital dating sites.

While outside India the numbers of members on extramarital dating sites is in the millions, in India where familiarity with technology is low and societal taboos persist, the numbers are in the hundreds of thousands.

Importantly, while a significant number of women registered on extramarital dating sites live in tier 2 and tier 3 cities, the majority of women members live in tier 1 cities

where anonymity is easier and cultural taboos are their weakest.

Also, researchers at Queensland University in Australia identified in 2015 a specific gene in women that could be responsible for this infidelity.

Known as AVPR1A, it produces a hormone called "arginine vasopressin", which affects social behavior and attachment between sexual partners.

But even if the gene responsible for infidelity is yet to be studied in detail, it's safer to say that infidelity can be hereditary. Or at least, Gleeden's study seems to prove so.

Nevertheless, we need to remind ourselves that infidelity is always the signal of something bigger going on within the couple, especially the lack of something (love, desire, attention, etc.) that are then pursued elsewhere.

Genetics alone doesn't fully explain the reasons for infidelity; it often has roots in more complicated sentimental situations too.

Concerning men who are unfaithful, 17% have a separate bank account, which they use to manage expenses related to their extramarital affairs

## INFIDELITY RATE IN INDIA

- |             |              |
|-------------|--------------|
| 1 Bengaluru | 8 Gurgaon    |
| 2 Mumbai    | 9 Chandigarh |
| 3 Kolkata   | 10 Kochi     |
| 4 Delhi     | 11 Jaipur    |
| 5 Pune      | 12 Ahmedabad |
| 6 Chennai   | 13 Lucknow   |
| 7 Hyderabad | 14 Noida     |

## Eating

### Watch what you eat at work! (New Kerala: 20190524)

<https://www.newkerala.com/news/read/146805/watch-what-you-eat-at-work.html>

If you think those quick snacks during office won't have much effect on your health then you need to take note! A new study has indicated that employee who made unhealthy purchases at workplace tend to replicate the same unhealthy purchase outside work as well that can increase the risk of diabetes and heart ailments as compared to the employees who made healthy purchases.

The study published in the journal 'American Journal of Preventive Medicine', contributes to a better understanding of the relationship of eating behaviours at work with overall diet and health that can help to shape worksite wellness programs that both improve long-term health outcomes and reduce costs.

"Employer-sponsored programs to promote healthy eating could reach millions of Americans and help to curb obesity, a worsening epidemic that too often leads to diabetes, cardiovascular disease, and cancer," said Dr Anne N. Thorndike, the lead investigator of the study.

Most Americans spend about half their waking hours at work and consume food acquired at work. Nearly a third of all US workers are obese, which has an impact beyond the individual's health risks. Previous research has shown that obesity contributes to higher absenteeism, lower productivity, and higher healthcare expenses for employers.

"Workplace wellness programs have the potential to promote lifestyle changes among large populations of employees, yet to date, there have been challenges to developing effective programs. We hope our findings will help to inform the development of accessible, scalable, and affordable interventions," noted Jessica L. McCurley, one of the study's investigators.

The study included 602 employees from Massachusetts General Hospital who regularly used the hospital's cafeterias and were enrolled in a health promotion study. As part of the hospital's "Choose Well, Eat Well" program, foods and beverages in the hospital cafeterias have "traffic light" labels to indicate their healthfulness green is healthy, yellow is less healthy, and red is unhealthy.

Food displays have also been modified to put healthier choices in the direct line of sight, while unhealthy foods were made less accessible to reduce impulse purchases. "Simplified labelling strategies provide an opportunity to educate employees without restricting their freedom of choice. In the future, using purchase data to provide personalised nutritional feedback via email or text messaging is another option to explore to encourage healthy eating," added Dr Thorndike.

The study is a cross-sectional analysis of worksite food purchases from cash register data; food consumption reports from surveys; and cardio-metabolic test results, diagnoses, and medication information. Using cafeteria purchasing data, the investigators developed a Healthy Purchasing Score (HPS) to rate the dietary quality of employees' overall purchases.

The investigators compared participants' HPS to the quality of their overall diet (using an online survey and tool developed by the National Cancer Institute), as well as to measures of obesity, diabetes, high blood pressure, and high cholesterol (data acquired through test results and self-reporting).

The analysis showed that employees with the lowest HPS (least healthy purchases) had the lowest overall dietary quality and the highest risk for obesity, diabetes, and high blood pressure. Healthier purchases were associated with higher dietary quality and lower prevalence of obesity, hypertension, and pre-diabetes/diabetes.

## **Pregnancy**

### **Exercising during pregnancy keeps placenta healthy, study suggests (New Kerala: 20190524)**

<https://www.newkerala.com/news/read/146788/exercising-during-pregnancy-keeps-placenta-healthy-study-suggests.html>

Do you know that exercising during pregnancy can keep your placenta healthy? A recent study shows that maternal exercise is important for fetal development in obese mothers.

The study was published in the journal, 'The Journal of Physiology'

Over 1.9 billion adults worldwide are overweight or obese, and by 2025 this is projected to increase to 2.7 billion. Obesity significantly raises the risk of developing 11 different types of cancer, stroke, type 2 diabetes, heart disease, and non-alcoholic fatty liver disease.

The placenta performs nutrient and oxygen exchanges between the mother and her fetuses, and placental function is impaired due to maternal obesity, which likely alters nutrient and oxygen delivery to the fetus.

Exercise during pregnancy is known to be beneficial for both maternal health and fetal development. This study found that exercise improved the function of the placenta, and also the metabolism of the mother. Importantly, they found that the babies were not born larger (which is frequently associated with obesity and metabolic diseases in later life) when the obese mothers exercised.

This study was conducted on animal models. In this study, female mice were fed a healthy diet (10% energy from fat) or a high-fat diet to become obese and then mated. Each of the maternal groups was further divided into two subgroups those that did and did not perform exercise during gestation.

Mice were exercised from 0 to 18.5 days of pregnancy (the term is 20.5 days) and placental function, and maternal and fetal changes were analyzed.

Further studies will focus on identifying mechanisms explaining the beneficial effects of exercise on placental development of obese mothers. Researchers will define the possible role of chemicals secreted during exercise, on blood vessel development in the placenta, which is critical for the delivery of nutrients and oxygen to fetuses, as well as their long-term impacts on the health of next generation.

Prof Min Du, senior author of the research said, "Understanding how maternal exercise might help prevent offspring from becoming obese or developing metabolic diseases will help us best guide mothers so they can ensure their babies are as healthy as possible."

## **Blood donation**

### **Do you know blood donation can reveal dangerous genetic cholesterol condition? (New Kerala: 20190524)**

<https://www.newkerala.com/news/read/146629/do-you-know-blood-donation-can-reveal-dangerous-genetic-cholesterol-condition.html>

Now, there is one more reason to donate blood as it can help detect life-threatening genetic cholesterol condition. The researchers have found that blood donation programs give an opportunity to public health portals to screen for diseases such as familial hypercholesterolemia (FH).

Familial hypercholesterolemia is a genetic condition that causes extremely high levels of cholesterol at an early age. When one person is diagnosed, other family members can be identified. However, only an estimated 10 per cent of those with FH are diagnosed, leaving many others at risk.

"For someone with FH, the risk of heart disease is higher because their clock started early. They've been bathed in high cholesterol since birth. At the same time, they may not know their kids are at risk. Sometimes by identifying one patient with FH, we find as many as eight or 10 more family members who are at risk," said preventive cardiologist Dr Amit Khera, Principal Investigator for the study.

"The blood donor screening program could be a novel strategy to detect and notify people with potential FH, particularly younger people in whom early detection and treatment is especially impactful, as well as to guide screening of family members," said Dr Khera.

According to the study published in JAMA Cardiology, if children are suspected to have the disease FH based upon their family history, then testing for FH begins at age 2. The standard treatment is diet and exercise, followed by the addition of statins in later childhood.

People who are at risk must first be identified in order to receive treatment. Dr Khera decided to try examining blood donation records to find people who appear to have FH but are less likely to see a doctor or receive statins.

"Blood donors are young, healthy, and may have less necessity to see doctors regularly," Dr Khera added.

Dr Khera's team worked closely with Carter BloodCare in Dallas to review 1,178,102 individual blood donation records. They found 3,473 people who met criteria for FH based on their cholesterol levels, similar to the estimated prevalence in the general population. It was more common in blood donors under the age of 30, and for men versus women. There was no significant difference by race except for Asian donors who had a slightly higher prevalence.

Anyone with a cholesterol level higher than 200 should see a physician for review of their family history, a full cholesterol panel (blood test), and a physical exam. The exam can identify the disease through visible signs such as cholesterol deposits in tendons, called xanthomas.

## **Skin patch**

### **Skin patch for children may treat chronic condition triggered by milk (Medical News Today: 20190524)**

<https://www.newkerala.com/news/read/146589/skin-patch-for-children-may-treat-chronic-condition-triggered-by-milk.html>

Researchers have claimed that a skin patch could be helpful in treating a painful chronic condition called eosinophilic oesophagitis (EoE) triggered by milk in children.

The study was published in the journal 'Clinical Gastroenterology and Hepatology'.

"The study from Children's Hospital of Philadelphia (CHOP) shows great promise for immunotherapy that aims to desensitise children to milk. Our next step would be to launch a much larger study to confirm our results. Currently, there's no cure for EoE, so this would be the first strategy to treat the underlying cause of the disease," said study leader Jonathan Spergel, Chief of the Allergy Program at CHOP.

Among 20 children with EoE who wore the skin patch measuring just over an inch long containing trace amounts of milk protein - nine (47 per cent) saw an improvement in their symptoms and normalisation of their biopsies after 11 months. This is the first study to examine how this treatment, called epicutaneous immunotherapy, may help children with milk-induced EoE.

EoE is a food-based disease that causes redness, swelling and itching in the oesophagus when a patient eats food that triggers their reaction. Traditional allergy testing is not helpful. Patients may experience nausea, vomiting, or a burning sensation in the throat. If left untreated, the oesophagus may narrow due to scarring.

Currently, the only ways to manage EoE is to treat the symptoms with off-label topical steroids which may cause growth retardation or to follow a restrictive diet which may be difficult for patients to follow. Children with EoE often have other allergic disorders like asthma, seasonal allergies or eczema.

## **High education**

### **High education reduces the risk of heart attack, says study (New Kerala: 20190524)**

<https://www.newkerala.com/news/read/146586/high-education-reduces-the-risk-of-heart-attack-says-study.html>

Education is not only limited to brain but heart disorders too. A new study has highlighted that people who completed higher levels of education, were less prone to heart attack and stroke.

Previous researches have shown that every 3.6 years spent in education can reduce a person's risk of heart disease by a third.

Analysis in the study published in the journal BMJ suggested every 3.6 additional years in education was linked to a reduction in BMI of 1kg/m<sup>2</sup>, and a reduction in systolic blood pressure of 3mm/Hg.

Dr. Dipender Gill, the co-first author said, "We know from previous research that someone who spends more time in education has a lower risk of heart disease and stroke, we didn't know why."

"One possibility is that people who spend more time in education tend to engage more with healthcare services, and see their doctor sooner with any health complaints," he added.

Alice Carter, co-author explained, "By lowering BMI, blood pressure or rates of smoking in individuals who left school at an earlier age, we could reduce their overall risk of heart disease."

For the study, scientists used two types of analysis to investigate the link between education and cardiovascular risk.

In the first approach, they analyzed data from over 200,000 people in the UK and compared the number of years individuals spent in education with their body mass index (BMI), blood pressure, the lifetime amount they have smoked, and consequent cardiovascular disease events such as heart attack or stroke.

In the second approach, the research team used a type of analysis called Mendelian randomization. The team searched through data from more than one million people to investigate the link between education and cardiovascular disease risk focusing on points in the genome where a single 'letter' difference in the DNA - called a single nucleotide polymorphism (SNP) - has been linked to years in schooling.

The team assessed the link between these genetic markers for years in schooling with genetic markers for BMI, blood pressure and lifetime smoking (the researchers only assessed years in education and did not analyze intelligence in any way).

Using these two methods, they found that body mass index, blood pressure and smoking contribute to the effect of education, explaining up to 18 per cent, 27 per cent and 34 per cent respectively. Combined, these factors accounted for 40 per cent of the effect of education on cardiovascular risk.

Dr Gill said this total is less than would be expected by simply adding the individual percentages for BMI, blood pressure and smoking. This suggests the effect of the three factors have some overlap.

## **Unhealthy food**

### **Unhealthy food at work ups risk of lifestyle ailments (New Kerala: 20190524)**

<https://www.newkerala.com/news/read/146457/unhealthy-food-at-work-ups-risk-of-lifestyle-ailments.html>

: If you tend to keep guards on unhealthy foods down at workplace, you may be at an increased risk of diabetes and cardiovascular diseases, compared with those who eat healthy food, says a study.

Employees who purchased the least healthy food in the cafeteria were more likely to have an unhealthy diet outside of work, be overweight and/or obese compared with employees who made healthier choices, said the study published in the American Journal of Preventive Medicine.

The findings could contribute to a better understanding of the relationship of eating behaviours at work with overall diet. Besides, they could also help shape worksite wellness programmes that improve long-term health outcomes and reduce costs.

"Workplace wellness programmes have the potential to promote lifestyle changes among large population of employees, yet there have been challenges to developing effective programmes. We hope our findings will help in development of accessible, scalable and affordable interventions," said Jessica L McCurley from Harvard University in the US.

The study involved over 600 employees of a large urban hospital in the US who regularly used the hospital's cafeterias. Using cafeteria purchasing data, the research team developed a healthy purchasing score (HPS) to rate the dietary quality of employees' overall purchases.

The researchers compared participants' HPS with the quality of their overall diet as well as to measures of obesity, diabetes, high blood pressure and high cholesterol.

The analysis showed employees with the lowest HPS had the lowest overall dietary quality and the highest risk for obesity, diabetes and high blood pressure, said study.

Healthier purchases were associated with higher dietary quality and lower prevalence of obesity, hypertension and pre-diabetes/diabetes, said the study.

## **Sleeping**

### **How lack of sleep harms circulation (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325267.php>

Scientists have long been aware of the relationship between insufficient sleep and poor cardiovascular health. However, exactly how the lack of adequate sleep can harm circulation has remained unclear. A new study now uncovers some of the potential mechanisms.

Sleeplessness impairs crucial mechanisms that keep cardiovascular problems at bay, shows a new study.

Having a good night's sleep, which amounts to an uninterrupted 7 hours of sleep or so per night, is crucial to maintaining good overall health. Poor sleep hygiene disrupts both short- and long-term health, according to evidence from numerous studies.

One aspect of health that a person's quality of sleep can influence is cardiovascular health. For example, research findings from the start of this year showed that sleeping for less than 6 hours per night rather than for 7–8 hours could increase a person's risk of atherosclerosis — a condition in which plaque builds up inside the arteries — by as much as 27%.

Another study from this year explains how good sleep can help keep the arteries supple, thus maintaining good circulation.

Now, research from the University of Colorado Boulder has pinpointed a potential biological mechanism explaining the reverse of the medal — how lack of sleep affects circulation by promoting the buildup of fatty deposits in the arteries (atherogenesis), which can increase a person's risk of experiencing a stroke or heart attack.

The findings, which appear in the journal *Experimental Physiology*, tie sleeplessness to changes in the blood levels of micro RNA (miRNA), noncoding molecules that help regulate protein expression.

"This study proposes a new potential mechanism through which sleep influences heart health and overall physiology."

Senior author Prof. Christopher DeSouza

How poor sleep promotes vascular problems

In the current study, the researchers collected blood samples from 24 healthy participants aged 44–62 years, who also provided information about their sleeping habits. Of the participants, 12 reported sleeping 7–8.5 hours per night, while the other 12 said that they only slept for 5–6.8 hours per night.

The team found that the participants who slept for less than 7 hours per night had blood levels of three key circulating miRNAs — miR-125A, miR-126, and miR-146a — that were 40–60% lower than those of their peers who slept for 7 or 8 hours. These three miRNAs, the researchers note, suppress the expression of proinflammatory proteins.

Having low levels of these molecules is problematic, because, as Prof. DeSouza explains, "[t]hey are like cellular brakes, so if beneficial microRNAs are lacking, that can have a big impact on the health of the cell."

In this case, insufficient circulating miR-125A, miR-126, and miR-146a could lead to vascular problems, including inflammation, as well as a higher risk of experiencing cardiovascular disease-related events, such as stroke or a heart attack.

Napping may be as good as drugs for lowering blood pressure

The secret power of napping may be that it is an effective intervention for high blood pressure.

Prof. DeSouza and his team had already found another worrying pattern in a previous study, for which they recruited adult men who slept for less than 6 hours each night. The study showed that the participants' endothelial cells — which make up the lining of blood vessels — did not function properly.

As a result, their blood vessels were unable to dilate and contract properly to allow blood to flow efficiently to different organs and parts of the body. This situation, Prof. DeSouza and colleagues have explained, poses another set of risks to cardiovascular health.

7 hours of sleep for cardiovascular health

"Why 7 or 8 hours [of sleep per night] seems to be the magic number [in maintaining health] is unclear," Prof. DeSouza admits.

"However," he continues, "it is plausible that people need at least 7 hours of sleep per night to maintain levels of important physiological regulators, such as microRNAs."

Commenting on the current findings, Prof. DeSouza argues that it may be possible to diagnose cardiovascular disease by performing blood tests. Laboratory technicians could assess a person's levels of circulating miRNAs and look for the presence of the atherogenic signature that the study has identified.

At present, the senior researcher and his team are working to find out whether improving a person's sleep habits can help reestablish healthy levels of important miRNAs in the blood.

In any case, Prof. DeSouza emphasizes that the findings of the recent study corroborate what sleep studies have been suggesting all along — that sleep quality influences unexpected aspects of health.

"Don't underestimate the importance of a good night's sleep," he stresses.

## **Exercise**

### **Could exercise boost well-being among psychiatric inpatients? (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325236.php>

A recent paper describes how scientists set up a gym in a psychiatric inpatient unit to find out whether exercise could improve symptoms and general well-being in this challenging environment.

A new study asks whether exercise could, at least partially, replace medication for psychiatric inpatients.

Over recent years, there have been several investigations into the relationship between exercise and mental health.

Studies have shown that physical activity can reduce anxiety and depressive symptoms in some cases.

However, the most recent study takes this effect one step further.

The study, carried out by scientists from the University of Vermont in Burlington, investigated how an exercise regime might benefit inpatients at a psychiatric facility.

They published their findings in the journal *Global Advances in Health and Medicine*.

## A new approach to inpatients

Inpatient psychiatric populations are complex, comprising individuals with a wide range of conditions and symptoms.

When an individual arrives at a facility, doctors usually prescribe psychotropic medications. The patient also receives talking therapies, such as psychotherapy. Doctors monitor and tweak drug and therapy regimes until the patient improves enough to leave their care.

These facilities are often cramped, and patients often find them stressful. Stress can exacerbate mental health conditions, so it is essential to find ways to minimize discomfort and reduce the time people spend in these facilities.

Lead author, Prof. David Tomasi, a lecturer, psychotherapist, and inpatient psychiatry group therapist, wants to find ways to improve these facilities and, consequently, improve patient outcomes.

He designed an experiment that combined physical activity with information about healthful nutrition — building a holistic, drug-free intervention.

### Building a gym

To investigate, Prof. Tomasi and his colleagues, Sheri Gates and Emily Reynolds, installed gym equipment in their inpatient facility, including rowing machines, exercise bikes, and aerobic steps.

In all, they recruited 100 patients to take place in the trial. There was a cross-section of conditions represented in the sample, including bipolar affective disorder, borderline personality disorder, depression, generalized anxiety disorder, schizophrenia, and psychosis.

Each participant carried out 60-minute sessions of structured exercise. According to the authors, "Each 60-minute exercise session consisted [of] a combination of cardiovascular training, resistance training, and flexibility development."

### The key to brain health: Light but frequent exercise

Scientists conclude that even low-intensity, casual physical activity can boost brain health.

The researchers also held 60-minute education sessions on nutrition, which explained how to identify food groups and discussed healthful food choices, budgeting, and meal preparation.

To gauge the impact of the gym activity, the researchers gave questionnaires to the participants just before and after the sessions. The surveys asked about levels of self-esteem, mood, and self-image.

### A well-being boost

Overall, the findings were encouraging. After completing the bouts of physical activity, 95% of participants showed improvements in mood and self-esteem, compared with the questionnaire scores before the sessions.

Also, 91.8% of participants said that they were happy with how their bodies felt after the sessions. They also reported reductions in depression, anxiety, and anger.

"The general attitude of medicine is that you treat the primary problem first, and exercise was never considered to be a life or death treatment option. Now that we know it's so effective, it can become as fundamental as pharmacological intervention."

Prof. David Tomasi

Importantly, 97.6% of participants said that following the session, they would like to exercise more often.

Medical News Today recently spoke with Prof. Tomasi. We asked whether he was surprised by the findings. He said, "We were certainly surprised by the percentages, especially given that they were consistently high, irrespective of the specific diagnostic backgrounds."

In other words, the level of positivity was comparable between people with very different types of mental condition, from schizophrenia to major depressive disorder.

Prescribing exercise

We also asked Prof. Tomasi whether doctors might prescribe exercise regimes to patients in these types of facilities in the future. He said, "It is my true hope that this would be the case."

Prof. Tomasi explained that because the risks and costs associated with exercise are minimal, it would be an ideal intervention.

The study does have limitations, however. Primarily, as the authors note, they had a relatively small sample size. Also, the study did not follow patients over the coming hours, days, or weeks, which would have yielded further insight.

Additionally, the windows of the newly built gym let in a large amount of natural light, something that the rest of the facility lacked. Natural light itself might have some impact on mood levels. However, that said, this study aimed to look at a holistic experience — exercise, a welcoming environment, and education wrapped into one.

The important takehome message, as far as the authors are concerned, is that the intervention boosted self-reported levels of happiness and well-being without using any drugs.

"The fantastic thing about these results is that if you're in a psychotic state, you're sort of limited with what you can do in terms of talk therapy or psychotherapy. It's hard to receive a message through talk therapy in that state, whereas with exercise, you can use your body and not rely on emotional intelligence alone."

Prof. Tomasi

A fascinating follow-up

MNT also asked Prof. Tomasi about any future research he might be planning. He explained, "One of the biggest problems with exercise prescription is [the] possible biophysical limitation of patients in the case of injuries, other medical comorbidities, or sensorimotor/neurofunctional impairment."

To approach this issue, Prof. Tomasi and his team have designed a system he calls Olfactory Virtual Reality (VR). He explains how "this device combines cutting edge research in standard

VR technology [...] with olfactory bulb stimulation through an attached device which secretes [instant] aromatherapy scents in the context of virtual scenery."

He explains that patients could "interact with a natural environment," such as woods, plants, and trees. This, he hopes, would benefit those individuals who cannot engage in physical activity.

Although researchers will need to do follow-up work to identify precisely how much difference this type of holistic intervention can make, the findings are encouraging. It would be a significant step forward if doctors could assist individuals with the most challenging psychiatric conditions without using drugs.

## **Depression**

### **Depression: Esketamine trial leaves 'more questions than answers' (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325254.php>

A phase 3 clinical trial testing esketamine nasal spray in the treatment of severe depression found the spray mostly safe and effective. The findings led to the recent FDA approval of this treatment. Despite this, other researchers caution that "more questions than answers" remain.

A phase 3 clinical trial found esketamine nasal spray safe and effective in the treatment of severe depression.

Esketamine is a form of ketamine, which doctors typically use as an anesthetic. Recent research has accumulated evidence that this substance can also quickly reduce the symptoms of severe depression, such as suicidal ideation.

These were the findings of a randomized, double-blind, placebo-controlled study from 2018, which suggested that an esketamine nasal spray could produce quick and positive short-term effects for individuals at risk of depression for whom traditional antidepressants had failed.

However, the authors of that study also expressed a worry that without proper risk assessment, using esketamine for depression could lead to unwanted side effects, such as psychosis and depersonalization.

Since then, the Food and Drug Administration (FDA) have approved an esketamine nasal spray for the treatment of severe depression, specifically for use alongside an orally administered antidepressant, and only in adults in whom other treatments had failed.

The American Journal of Psychiatry has finally published the findings of one of the studies that stood behind this FDA approval. The study in question built on the results of a 2018 trial, qualifying as a phase 3 clinical trial, which is a study that assesses the effectiveness and the safety of the proposed treatment.

"This trial of esketamine was one of the pivotal trials in the FDA's review of this treatment for patients with treatment resistant depression," notes one of the study's authors, Dr. Michael

Thase, who is a professor of psychiatry at the Perelman School of Medicine at the University of Pennsylvania in Philadelphia.

### Study confirms effectiveness and safety

The researchers conducted their trial at 39 outpatient referral centers across five countries: the Czech Republic, Germany, Poland, Spain, and the United States. In the trial — which lasted for approximately 2 years — the team worked with almost 200 adults with moderate to severe depression who had not responded to at least two antidepressants.

As part of the study, the investigators randomly split the participants into two groups:

One group received esketamine nasal spray in doses of 56 or 84 milligrams (mg) twice a week, as well as an antidepressant that the participants had never taken before (duloxetine, escitalopram, sertraline, or extended-release venlafaxine).

Another group received a nasal spray containing a placebo, as well as a novel antidepressant.

After 28 days, the participants who received the intranasal esketamine still showed significantly higher improvements than people who received the placebo, suggesting that the esketamine treatment is effective.

Since one of the main concerns of the researchers was that of safety, they also recorded any adverse effects. The team saw that individuals who received esketamine experienced symptoms of dissociation, as well as some effects on perception that started shortly after the administration of the drug.

These effects reached their peak of severity after 40 minutes but resolved after 1.5 hours. They also happened less and less as the treatment continued.

### How ketamine can change the brain to fight depression

Recent research explains ketamine's effect on the brain, and why it can reduce depression.

The researchers report "no symptoms or adverse events of psychosis." Some of the other most common side effects were nausea, vertigo, alterations to the sense of taste, and dizziness. Among the people who received esketamine, 7% pulled out of the trial because of the adverse effects they were experiencing.

Considering all of these results, Dr. Thase and colleagues conclude in their study that the esketamine and antidepressant combination is not just effective but also "safe and tolerated."

"Not only was adjunctive esketamine therapy effective, the improvement was evident within the first 24 hours," says Dr. Thase. He adds that "[t]he novel mechanism of action of esketamine, coupled with the rapidity of benefit, underpin just how important this development is for patients with difficult to treat depression."

### Many questions remain unanswered

Even with these encouraging results that prompted the FDA to approve this therapy option for individuals with severe depression, some researchers still argue that this treatment requires an immense amount of caution.

In a commentary that accompanies the study paper, Dr. Alan Schatzberg from the Stanford University School of Medicine in California — who was not involved in the research — notes that the drug has the potential for abuse, and misuse and that there is much that researchers still do not know about its administration.

"So, where are we? Intranasal esketamine represents an easier method of administration than intravenous administration of ketamine. Do we have clear evidence of efficacy? Maybe? How strong is the efficacy? Apparently mild. Do we have a real sense of how long and how often to prescribe it? It's not entirely clear," he writes.

"Taken together, there are more questions than answers with intranasal esketamine, and care should be exercised in its application in clinical practice. Only time will tell how useful it will be."

## **Endometriosis**

### **Endometriosis: Are scientists making any headway? (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325249.php>

Endometriosis is a gynecological condition that causes debilitating pain and a heavy flow of one's period, as well as many other symptoms that lower quality of life. This condition often requires regular surgical interventions, and it has no cure. Some researchers hope to find out more about it.

Researchers hope that small steps will take them closer to understanding endometriosis.

Endometriosis is a chronic condition that can affect girls of adolescent age and women up until menopause.

In this condition, endometrial tissue, which is normally present only inside the uterus, grows in other parts of the body — for instance, on the ovaries and fallopian tubes, on or inside the bladder, or on the kidneys.

Although there are no clear statistics indicating how many people live with endometriosis, this condition seems to be very widespread.

Estimates from the Office on Women's Health suggest that more than 11% of biologically female people aged 15–44 in the United States may have this chronic condition.

Despite the numbers, research on endometriosis is still limited — currently, researchers do not know what causes this condition.

As for treatment, more often than not, doctors will advise people with endometriosis to have the extra endometrial tissue removed through regular surgical interventions, as the tissue tends to grow back.

The main reason why it is unclear how many people actually have endometriosis is that doctors often find the condition difficult to diagnose. Symptomatic diagnoses can lead to wrong conclusions, since doctors may mistake the symptoms of endometriosis for those of other conditions, such as pelvic inflammatory disease.

One way of spotting endometriosis-associated cysts is by performing an ultrasound, but this technique is not foolproof either.

The only way to diagnose the condition beyond a doubt is by conducting a laparoscopy — a minimally invasive surgery in which the surgeon introduces a laparoscope (a thin instrument with a micro light and a camera) that allows them to see inside the abdomen.

During this procedure, the physician can also collect tissue samples that they can send to a laboratory for analysis.

Working to eliminate inaccuracies

In a new study, researchers from institutions in Estonia and Finland — including the University of Tartu and the University of Helsinki, respectively — have aimed to find out how to make the diagnosis of endometriosis more precise.

"Today, the disease is mainly diagnosed surgically. In general, patients have to undergo a laparoscopic procedure in which lesions are surgically removed from the abdominal cavity. Small pieces of this tissue are taken for histological analysis that helps to confirm the diagnosis," notes first study author Merli Saare, Ph.D.

In their study — the findings of which appear in the journal *Biology of Reproduction* — the researchers explain that studying gene expression in endometrial tissue is important in determining the correct biomarkers associated with endometriosis.

Moreover, identifying endometriosis-related biomarkers can help doctors better understand any changes in this chronic condition and their possible biological causes, which may allow them to address these changes more appropriately.

However, the team notes that gene expression in endometrial tissue is dependent on hormonal activity, which changes with a person's menstrual cycle stages. If doctors collect sample tissue at the "wrong" phase of the cycle, this may render inaccurate or even false results.

How to cope with endometriosis

What strategies can help manage the symptoms of endometriosis?

Inching closer to finding 'causal changes'

In the current study, the researchers analyzed endometrium samples from about 80 women. They compared each woman's estimate about the phase of the menstrual cycle when a doctor had collected the tissue with the results from minute molecular analysis.

The researchers found that, more often than not, the information provided by the women was inaccurate, as the molecular profile established in the lab indicated different phases of the cycle.

"Our study helps to precisely determine the phase of the biopsy samples taken from the endometrium," says Saare, adding that "This way, we can avoid examining the endometrium in different phases of the cycle," which may be unhelpful.

While the current findings may not have yielded groundbreaking information, the study authors believe that, small as it may be, this step forward helps bring us closer to a better understanding of the causes and factors that shape the development of endometriosis.

"All small steps and discoveries take us closer. If our studies become more precise and we are able to eliminate side factors, it is much easier to find causal changes of the disease."

Merli Saare, Ph.D.

## **Insulin resistance**

### **How fasting may prevent obesity-related insulin resistance (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325243.php>

New research adds to the mounting evidence that fasting may be helpful in the fight against obesity and its related conditions. By increasing certain proteins, the practice may protect against metabolic syndrome, diabetes, and liver disease, but the 'timing of and duration between meals' is key.

Fasting from dawn to sunset for 30 days could help treat conditions relating to obesity, a new study suggests.

The health benefits of fasting have been the subject of much hype in recent years. More and more people now fast, not just for religious purposes but also to lose weight and boost metabolism.

Restricting food intake may increase metabolic activity more than researchers used to believe, studies suggest, and the practice may even help fight aging.

Fasting may also improve gut health, according to other research, and strengthen circadian rhythms, thus boosting overall health.

New research adds to this body of evidence by zooming in on a specific type of fasting and its benefits for obesity-related conditions.

Dr. Ayse Leyla Mindikoglu, who is an associate professor of medicine and surgery at Baylor College of Medicine in Houston, TX, and her colleagues used the Islamic spiritual practice of Ramadan to study the benefits of fasting from dawn to sunset.

The researchers found that practicing this type of fasting for 30 days raised the levels of certain proteins that can improve insulin resistance and stave off the adverse effects of a diet rich in fats and sugar.

Dr. Mindikoglu and team presented their findings at the Digestive Disease Week, a conference that took place recently in San Diego, CA.

'Timing and duration between meals' is key

Dr. Mindikoglu and colleagues studied 14 people who were healthy at baseline and who fasted for 15 hours each day from dawn to sunset as part of Ramadan.

While fasting, the participants did not consume any food or drink. Before the start of the fast, the researchers took blood samples from the participants. The scientists also tested the participants' blood after 4 weeks of fasting and 1 week after fasting ended.

The blood samples revealed higher levels of proteins called tropomyosin (TPM) 1, 3, and 4. TPM is "best known for its role in the regulation of contraction of skeletal muscle and the heart."

However, TPM is also key for maintaining the health of cells that are important to insulin resistance and repairing them if they sustain damage.

Keto diet: Scientists find link to diabetes risk

Scientists question the health benefits of the keto diet.

TPM3, specifically, plays an important role in improving the body's sensitivity to insulin. Better insulin sensitivity means better blood sugar control.

The current study found that the levels of TPM1, 3, and 4 "gene protein products" increased considerably between the baseline and 1 week after fasting had ended.

The study's lead author comments on the findings, saying: "Feeding and fasting can significantly impact how the body makes and uses proteins that are critical to decreasing insulin resistance and maintaining a healthy body weight."

"Therefore, the timing of and duration between meals could be important factors to consider for people struggling with obesity-related conditions."

"According to World Health Organization data, obesity affects over 650 million people worldwide, placing them at risk for any number of health conditions," continues Dr. Mindikoglu.

"We are in the process of expanding our research to include individuals with metabolic syndrome and [nonalcoholic fatty liver disease] to determine whether the results are consistent with those of the healthy individuals," notes the researcher.

"Based on our initial research, we believe that dawn-to-sunset fasting may provide a cost-effective intervention for those struggling with obesity-related conditions."

Dr. Ayse Leyla Mindikoglu

**'Mediterranean diet**

**'Mediterranean diet may protect against depression symptoms' (Medical News Today: 20190524)**

<https://www.medicalnewstoday.com/articles/325240.php>

Evidence indicates that following a Mediterranean-style diet, rich in fruit, vegetables, nuts, and cereals, can bring many health benefits, including protection against cardiovascular and metabolic problems. Now, a study also presents a link between this diet and a lower risk of depression later in life.

New research finds a link between Mediterranean-style diets and a reduced depression risk later in life.

Mediterranean diets feature meals that are high in vegetables, legumes, nuts, fruit, whole grains, with less fish, dairy, and poultry-based foods, and as little red meat as possible.

Moreover, people who follow Mediterranean-style diets use olive oil for cooking, which is a good source of monosaturated fat.

Anecdotally, this is a healthful, nutritious diet, and many studies seem to support this claim. In recent years, researchers have shown that Mediterranean diets can significantly reduce cardiovascular risk, may slow down bone loss in osteoporosis, promote anticancer mechanisms, and support brain health.

Some research has even found an association between Mediterranean-style diets and a reduced risk of depression.

Now, the findings of a new study — which its authors presented at this year's Annual Meeting of the American Psychiatric Association (APA) in San Francisco, CA — add support to these claims.

At the APA Annual Meeting, Dr. Konstantinos Argyropoulos and colleagues from the Hellenic Open University in Patra, Greece showed that people who adhere to a Mediterranean diet appear less likely to develop symptoms of depression later on in life.

A link that warrants further study

The research team worked with members of day-care centers for older people from the East Attica region of Greece. Of all the study participants, 64% had a moderate adherence to the Mediterranean diet, while 34% reported a high adherence.

Among the entire cohort, almost 25% of the individuals presented symptoms of depression, and more women than men experienced them.

The researchers found that participants who had a high adherence to a Mediterranean diet — specifically one that had a high vegetable content, but little poultry products, and low alcohol consumption — had a lower likelihood of developing depression or symptoms associated with depression.

A diet rich in fiber and vegetables can relieve depression

A recent study asks whether a healthful diet should be part of managing and reducing depression symptoms.

"Our results support that depression in older adults is common and strongly associated with several risk factors," note the study authors. Nevertheless, they emphasize that those who followed the plant-rich diet seemed to experience a lower risk, saying that:

"Adherence to a Mediterranean diet may protect against the development of depressive symptoms in older age."

However, Dr. Argyropoulos and colleagues also caution that their study was observational and did not seek to prove a cause and effect relationship.

For this reason, they caution that the causality may lie either way: eating a healthful Mediterranean diet may lead to better mental health, but equally, depression could affect a person's ability to follow a nutritious diet and lead an ov