Purely desi benefits!

Ever heard of 'tere mou mein ghee shakkar?' Well, here are all the reasons why you should be taking this saying literally...

HEALTH: The presence of desi ghee (clarified butter) in our daily life is humongous even today, with every foodie reaching out for a spoonful of this dairy wonder, to top their dishes. Traditionally, it's made by gently heating cow's-milk butter until its water content evaporates and its milk solids can be skimmed and strained away, leaving behind only the liquid fat. Desi ghee is an integral part of our culture. From our daal, khichri to parathas; ghee is one kitchen staple we are never getting enough of. Moreover, it is extensively used in many nutritious dessert preparations like gajar ka halwa, sohan halwa and panjeeri. In fact, swapping ghee with refined oils has perhaps been one of the biggest blunders of modern cooking.

Ayurveda defines ghee as the by-product of butter without any impurities. Desi ghee is composed of fats of which 62 per cent is saturated fats which play a prominent role in increasing HDL or good cholesterol, reduce LDL or bad cholesterol without harming the lipid profile. Ghee is also a rich source of Omega 3 and Omega 6 and is loaded with essential amino acids. While fat should be consumed in moderation, studies show that eating fatty foods such as ghee can help the body absorb some essential vitamins and minerals. Cooking healthy foods and vegetables with ghee may help you absorb more nutrients.

Research has found several potential health benefits to consuming desi ghee: Source of good fat: Are you on a weight loss spree? You may have heard a lot of people coming up with a pro-tip or two. And one of the most common weight loss tips we have all heard is- avoid fats. In a bid to lose weight, you may have even considered eliminating all fats sources from your diet. But doing so may do you more harm than good. Fats, carbs and proteins are three macronutrients that are essential for sustaining a healthy life. Removing any food group from your diet is never a sustainable way to lose weight. What you do need to do however is – choose better. Avoid all bad fats in fries, burgers and processed junk, and choose better alternatives in the form of ghee, avocados etc. Desi ghee is one of the most preferred vehicles for oleation: a process of ingesting oil over a period of time. This actually helps pull fat soluble toxins out of the cells and triggers fat metabolism, a process where the body kickstarts to burn its own fat for fuel

Good for your heart: Vitamin K2 found in desi ghee helps in preventing calcium deposits in the arteries that can lead to blockages and obstruct blood flow. It lowers bad cholesterol levels and increases good cholesterol levels, thus maintaining a healthy balance.

Great for skin: Desi ghee has been a staple part of various beauty care rituals since time immemorial. Its vital fatty acids act as a nourishing agent that can do wonders to infuse life in your dull skin. Pure desi ghee is made out of cow's milk and is said to be extremely powerful in giving you a soft and supple skin. Ghee is known to be suitable for all skin types and it also has vital fatty acids that help in hydration of the skin cells.

Improves reproductive health: Ghee is recommended for improving the functioning of male and female reproductive organs. Women of reproductive age are advised to take two teaspoons of desi ghee daily to regulate hormones while in men the same amount of ghee improves sperm quality and motility.

Melts belly fat: Desi ghee is all you need if you want to do away with that stubborn belly fat. The conjugated linoleic acid in this amazing dairy product helps in shedding those extra fat deposits. Traditionally, it is recommended to massage a little bit of camphor with desi ghee around the belly to melt it away.

Good Source of Energy: Ghee contains medium and short-chain fatty acids of which, auric acid is a potent antimicrobial and antifungal substance. Nursing mothers are often given ladoos drenched in ghee, since they are loaded with energy.

How to consume desi ghee: Having desi ghee on an empty stomach everyday has numerous health benefits. The butyric acid and medium-chain triglycerides in ghee help in mobilising stubborn body fats and flushing them out of the body leading to increase in good cholesterol. But one should not go overboard with the consumption. Here's how you need to start your day with ghee.

• Consume one teaspoon of cow's ghee with warm water in the morning.

• You can also mix a teaspoon of ghee with raw turmeric and boil it. Consuming this concoction every morning helps improve immunity and cure dry cough.

• One can also grind raw turmeric and one teaspoon ghee and make a morning drink.

• It acts as a natural moisturiser and helps the skin to glow from within.

• Ghee comes packed with essential amino acids that help in reducing belly fat. The presence of omega-3 and omega-6 fatty acids helps lose body fat.

• Lack of sleep or stress or too much work may end up leaving dark circles around your eyes. Turn to ghee to reduce them in no time. You just need to apply it lightly around the eyes before bedtime.

• Ghee is a super-rich source of fatty acids and antioxidants that makes it an excellent conditioner for dry and frizzy hair.

'China's coronavirus vaccine priced at Rs4,225 a jab by Cabinet'

ISLAMABAD: China's coronavirus vaccine manufactured by CanSinoBIO has been priced at Rs4,225 a jab while Russia's Sputnik V would be sold for Rs 8,449 for two doses after the Cabinet approved the rates for private companies. The federal Cabinet has approved the selling prices of coronavirus vaccines imported by private companies, sources said, after the Drug Regulatory Authority of Pakistan (DRAP) recommended fixing the rates for private companies. The Cabinet approved the sale prices of both coronavirus vaccines through a circular. Coronavirus vaccines are being imported from Russia and China into Pakistan through the private sector as well. **—APP**

Coffee before exercise increases fat-burning

There is proof that Caffeine increases the maximal fat oxidation rate (MFO) and aerobic capacity, which are lower in the morning than in the afternoon. A new study aims to examine caffeine intake's effect on the diurnal variation of MFO during a graded exercise test inactive men.

Scientists from the Department of Physiology of the University of Granada (UGR) determined whether drinking coffee increases oxidation or "burning" of fat during exercise. A total of 15 men (mean age, 32) participated in the research. Using a triple-blind, placebo-controlled, crossover experimental design, participants completed a graded exercise test four times at seven-day intervals. Subjects ingested 3 mg/kg of Caffeine or a placebo at 8 am and 5pm. The conditions before each exercise test were strictly standardized, and fat oxidation during exercise was calculated accordingly. The lead author of this research, Francisco José Amaro-Gahete of the UGR's Department of Physiology, said, "The recommendation to exercise on an empty stomach in the morning to increase fat oxidation is commonplace. However, this recommendation may be lacking a scientific basis, as it is unknown whether this increase is due to exercising in the morning or due to going without food for a longer period." "The results of our study showed that acute caffeine ingestion 30 minutes before performing an aerobic exercise test increased maximum fat oxidation during exercise regardless of the time of day. The existence of a diurnal variation in fat oxidation during exercise was confirmed, the values being higher in the afternoon than in the morning for equal hours of fasting." The study also shows that Caffeine increases fat oxidation during morning exercise in a similar way to that observed without caffeine intake in the afternoon. In summary, this study's findings suggest that the combination of acute caffeine intake and aerobic exercise performed at moderate intensity in the afternoon provides the optimal scenario for people seeking to increase fat-burning during physical exercise. **—Agencies**

If your gut bacteria changes over the years, you may live longer and healthier

The secret to successful ageing may lie in part in your gut, according to a new report. The study found that it may be possible to predict your likelihood of living a long and healthy life by analysing the trillions of bacteria, viruses and fungi that inhabit your intestinal tract.

The new research, published in the journal Nature Metabolism, found that as people get older, the composition of this complex community of microbes, collectively known as the gut microbiome, tends to change. And the greater the change, the better, it appears.

In healthy people, the kinds of microbes that dominate the gut in early adulthood make up a smaller and smaller proportion of the microbiome over the ensuing decades, while the percentage of other, less prevalent species rises. But in people who are less healthy, the study found, the opposite occurs: The composition of their microbiomes remains relatively static and they tend to die earlier.

The new findings suggest that a gut microbiome that continually transforms as you get older is a sign of healthy ageing, said a co-author of the study, Sean Gibbons, a microbiome specialist and assistant professor at the Institute for Systems Biology in Seattle, a nonprofit biomedical research organisation.

"A lot of ageing research is obsessed with returning people to a younger state or turning back the clock," he said. "But here the conclusion is very different. Maybe a microbiome that's healthy for a 20-year-old is not at all healthy for an 80-year-old. It seems that it's good to have a changing microbiome when you're old. It means that the bugs that are in your system are adjusting appropriately to an ageing body."

The researchers could not be certain whether changes in the gut microbiome helped to drive healthy aging or vice versa. But they did see signs that what happens in people's guts may directly improve their health. They found, for example, that people whose microbiomes shifted toward a unique profile as they aged also had higher levels of health-promoting compounds in their blood, including compounds produced by gut microbes that fight chronic disease.

Scientists have suspected for some time that the microbiome plays a role in ageing. Studies have found, for example, that people 65 and older who are relatively lean and physically active have a higher abundance of certain microbes in their guts compared to seniors who are less fit and healthy. People who develop early signs of frailty also have less microbial diversity in their guts. By studying the microbiomes of people of all ages, scientists have found patterns that extend across the entire life span. The microbiome undergoes rapid changes as it develops in the first three years of life. Then it remains relatively stable for decades, before gradually undergoing changes in its makeup as people reach midlife, which accelerates into old age in those who are healthy but slows or remains static in people who are less healthy.

Although no two microbiomes are identical, people on average share about 30 per cent of their gut bacterial species. A few species that are particularly common and abundant make up a "core" set of gut microbes in all of us, along with smaller amounts of a wide variety of other species that are found in different combinations in every person.

To get a better understanding of what happens in the gut as people age, Dr Gibbons and his colleagues, including Dr Tomasz Wilmanski, the lead author of the new study, looked at data on over 9,000 adults who had their microbiomes sequenced. They ranged in age from 18 to 101. About 900 of these people were seniors who underwent regular checkups at medical clinics to assess their health. Dr Gibbons and his colleagues found that in midlife, starting at around age 40, people started to show distinct changes in their microbiomes. The strains that were most dominant in their guts tended to decline, while other, less common strains became more prevalent, causing their microbiomes to diverge and look more and more different from others in the population. "What we found is that over the different decades of life, individuals drift apart – their microbiomes become more and more unique from one another," said Dr Gibbons. People who had the most changes in their microbial compositions tended to have better health and longer life spans. They had higher vitamin D levels and lower levels of LDL cholesterol and triglycerides, a type of fat in the blood. They needed fewer medications, and they had better physical health, with faster walking speeds and greater mobility. The researchers found that these "unique" individuals also had higher levels of several metabolites in their blood that are produced by gut microbes, including indoles, which have been shown to reduce inflammation and maintain the integrity of the barrier that lines and protects the gut. In some studies, scientists have found that giving indoles to mice and other animals helps them stay youthful, allowing them to be more physically active, mobile and resistant to sickness, injuries and other stresses in old age. Another one of the metabolites identified in the new study was phenylacetylglutamine. It is not clear exactly what this compound does. But some experts believe it promotes longevity because research has shown that centenarians in northern Italy tend to have very high levels of it. Dr Wilmanski found that people whose gut microbiomes did not undergo much change as they got older were in poorer health. They had higher cholesterol and triglycerides and lower levels of vitamin D. They were less active and could not walk as fast. They used more medications, and they were nearly twice as likely to die during the study period.

The researchers speculated that some gut bugs that might be innocuous or perhaps even beneficial in early adulthood could turn harmful in old age. The study found, for example, that in healthy people who saw the most dramatic shifts in their microbiome compositions there was a steep decline in the prevalence of bacteria called Bacteroides, which are more common in developed countries where people eat a lot of processed foods full of fat, sugar and salt, and less prevalent in developing countries where people tend to eat a higher-fibre diet. When fibre is not available, Dr Gibbons said, Bacteroides like to "munch on mucus," including the protective mucus layer that lines the gut.

"Maybe that's good when you're 20 or 30 and producing a lot of mucus in your gut," he said. "But as we get older, our mucus layer thins, and maybe we may need to suppress these bugs." If those microbes chew through the barrier that keeps them safely in the gut, it is possible they could trigger an immune system response. "When that happens, the immune system goes nuts," Dr Gibbons said. "Having that mucus layer is like having a barrier that maintains a detente that allows us to live happily with our gut microbes, and if that goes away it starts a war" and could set off chronic inflammation. Increasingly, chronic inflammation is thought to underlie a wide range of age-related ailments, from heart disease and diabetes to cancer and arthritis.

One way to prevent these microbes from destroying the lining of the gut is to give them something else to snack on, such as fibre from nutritious whole foods like beans, nuts and seeds and fruits and vegetables. Other studies have shown that diet can have a substantial impact on the composition of the microbiome. While the new research did not look closely at the impact of different foods on changes in the microbiome as we age, Dr Gibbons said he hopes to examine that in a future study. "It may be possible to preserve the ageing mucus layer in the gut by increasing the amount of fibre in the diet," Dr Gibbons said. "Or we might identify other ways to reduce Bacteroides abundance or increase indole production through diet. These are not-too-distant future interventions that we hope to test."

In the meantime, he said, his advice for people is to try to stay physically active, which can have a beneficial effect on the gut microbiome, and eat more fibre and fish and fewer highly processed foods.

"I have started eating a lot more fibre since I began studying the microbiome," he said. "Whole foods like fresh fruits and veggies have all the complex carbohydrates that our microbes like to eat. So, when you're feeding yourself, think

Scientists developed antibacterial gel bandage using during husk

Hydrogels synthesized from naturally derived raw materials are attracting increasing attention as compared to synthetic hydrogels. By using waste products such as durian husks and glycerol, which are currently discarded in large quantities, scientists could turn waste into a valuable biomedical resource that can enhance the speedy recovery of wounds and reduce chances of infections.

Considering the idea, scientists from Nanyang Technological University, Singapore (NTU Singapore) used durian husk and glycerol to create an antibacterial gel bandage. The tropical fruit durian is also known as King of Fruits" in Southeast Asia. It has a thick husk with spiky thorns. There is the sweet flesh surrounding the seeds on the inside. Its spiky thorns are discarded in large quantities. Scientists extracted high-quality cellulose from the hosts and then combined it with glycerol to create a soft gel. They then cut the gel into bandages of different sizes and shapes.

By adding the organic molecules produced from natural yeast phenolics, scientists could make the bandage deadly to bacteria. The wild yeast phenolics in the bandage will help prevent bacteria's growth, such as Gram-negative E. coli and Gram-positive S. aureus. and the subsequent formation of biofilm. Being non-toxic and biodegradable, the organic gel bandage is also expected to have a smaller environmental footprint than conventional synthetic bandages.

Associate Professor Andrew Tan, Vice Dean (Faculty) from NTU's Lee Kong Chian School of Medicine, who is an expert in metabolic disorders, said, "there are existing natural and synthetic hydrogels on the market now, where their usefulness in the healing of some types of wounds are well-recognized." "Hydrogel bandages are known for their non-toxicity, ability to rehydrate the wound bed, and can facilitate autolytic debridement (where the body enzymes and natural fluids act to soften bad tissue and remove it). The innovative and unique part of Prof Chen's current work is the upcycling of the durian rind to obtain cellulose. It's also unique given that the thorns of the durian can hurt, but the materials from the rind can heal."

Scientists tested their bandages on an animal skin. They applied the bandage- by simply laying it across the wound. They found that the bandage showed good antimicrobial effects for up to 48 hours. **—Agencies**