ARBiT
it happens here...

Animal Cruelty / Human Violence Awareness Week

Animal Cruelty / Human Violence Awareness Week is observed annually to shed light on the undeniable connection between abusing animals and harming humans. This observance week creates awareness of the need to understand the intersectional nature of these issues, and for societal change, to end the cruelty. It also promotes education about better treatment for both, animals and people, and supporting local non-profits that work to protect and heal those at the 'highest risk' of abuse and violence.

राष्ट्रदूत
TUESDAY
16 April 2024
A-B

#SELF-CARE

Checking Your Own Blood Pressure

Self-monitoring of blood pressure has the potential for better outcomes and cost benefits compared to traditional care.

A new study shows that when patients regularly monitor their blood pressure outside of the clinic, they tend to have better quality of life and lower healthcare expenses. Researchers reviewed literature on the costs, benefits, and efficacy of self-monitoring of blood pressure by patients with hypertension.

The study in *JAMA* can help inform decisions by patients, healthcare providers, and policymakers on the value of self-monitoring programs.

"We collected peer-reviewed English language articles that included patients with high blood pressure, excluding studies that included children and pregnant women to ensure consistency in their analysis," says Michelle Hayek, a graduate research assistant in the Texas A&M University School of Public Health Population Informatics Lab. "We excluded duplicate articles and those that didn't compare the costs and benefits of at-home and clinical blood pressure monitoring."

Self-monitoring of blood pressure includes both, at-home blood pressure measurements (HBPM) and ambulatory measurements (ABPM), collected automatically over a 24-hour period. The research team found that around 60% of the 16 studies, they reviewed in their analysis, identified at-home or ambulatory blood pressure measurements to be cost-effective over conventional blood pressure monitoring in a healthcare office. The analysis found that HBPM was most cost-effective when combined with extra support. Additionally, the review identified ABPM as the most cost-effective method. However, the cost benefits of self-monitoring approaches, with additional support, were more evident over longer periods and not as evident over 6 to 24 months. This may be due to the high initial costs of setting up self-monitoring programs such as equipment and training.

The findings of the studies reviewed point to long-term benefits with respect to controlling blood pressure, decreases in adverse outcomes, and improved patient quality of life. These benefits could help justify the costs of establishing a self-monitoring program over traditional methods.

Another benefit of self-monitoring, ABPM, in particular, is the detection of masked hypertension and reduction of white-coat hypertension. Masked hypertension is high blood pressure that is not detected during routine in-clinic screenings. In contrast, white-coat hypertension is higher blood pressure that presents only when measured by a healthcare provider. This could lead to better control of hard-to-detect masked hypertension and eliminate unnecessary treatments due to white-coat hypertension.

Other benefits of self-monitoring at home, identified in the studies, included easier communication with healthcare providers, more timely advice, and better patient motivation. The researchers also note that patient preferences could have influenced differences between at-home and in-clinic care. Thus, further studies should focus on patient preferences. Additionally, there is a need for more research comparing different approaches in detail.

The findings of this review show that self-monitoring of blood pressure has the potential for better outcomes and cost benefits compared to traditional care. Having more information on the benefits of at-home blood pressure monitoring will help guide healthcare providers and patients in finding the best ways to manage hypertension and improve the health of millions.

Pish Pash And Other Foods For The Raj

Pish pash is, in fact, a classic example of the symbiotic exchange between the coloniser and the colonised. In the kitchen, each learned from the other, gaining knowledge and techniques that they didn't possess. There are enough records to show that the imperialists counted marh (starch water from cooked rice) and bael (wood-apple) *sherbet* among their go-to remedies and benefited from the medicinal qualities of *chirata* water and *ajwain-infused* water. Likewise, Indians too took a leaf or two out of the imperialists' book. In '*Culinary Culture in Colonial India*,' scholar *Utsa Ray* wrote about the legendary physician Chunilal Bose, who swore by traditional dietary practices, but often advised his ailing patients to consume arrowroot pudding, chicken broth and meat tea. In colonial India, Ray summarised, "The cosmopolitan nature of gastronomic practices was, perhaps, most visible when it came to the matter of medicinal use of new food."

Priyadarshini Chatterjee
Food and Culture writer, based in Kolkata

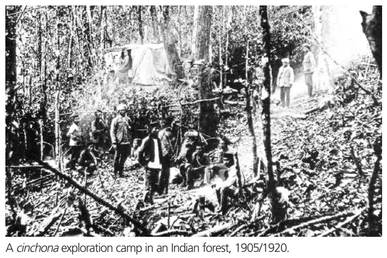
In the 19th century, British colonists faced several challenges in India, none as pervasive and insidious as *malaria*. The deadly fever would lay low thousands of civilians and soldiers every year and kill a great many. The imperialists needed an answer to the problem and they found it in *quinine*. Quinine is the active ingredient in the bark of the *cinchona tree*, which had been used by some indigenous peoples in South America to cure fevers. To keep malaria at bay, the British promptly embraced quinine, consuming tonnes of it, every year by the mid-1800s. The hitch was the taste.

Quinine was so bitter that soldiers and officials began mixing the powder with soda and sugar, unwittingly giving birth to 'tonic water.' It turned out that tonic water was not only an excellent prophylactic against malaria but also a natural complement to gin. The two together were so enjoyable, and as a result successful, that it prompted Winston Churchill to once proclaim, "The gin and tonic has saved more Englishmen's lives, and minds, than all the doctors in the Empire."

It was not just malaria, though, that posed a threat to the British. *Death* and *disease* could be anywhere. If by some good fortune malaria did not claim them, plague, cholera, dysentery, enteric fever, hepatitis or the unforgiving sun could. Preserving and protecting the body was a constant challenge but, at the same time, crucial to the success of the colonial project. As historian E.M. Collingham aptly summarised in her study, "The British experience of India was intensely physical." One way, the colonists tried to deal with this challenge, was through food and drinks. "The association between food and the maintenance of health was a concern of Anglo-Indian doctors, dieticians and the British authorities throughout the duration of colonial rule and a wealth of sources and information on the relationship between food and health was publicly available throughout the nineteenth century," writes *Sam Goodman* in '*Unpalatable Truths: Food and Drink as Medicine in Colonial British India*.'

Colonial writings, medical journals and pamphlets of the time offered readers heaps of *sick food options*, ranging from bland gruel made with rice or barley, rice mixed with sweetened milk to chicken broth and quail stuffed with chillies. *The Medical Gazette*, for instance, recommended treating dysentery with a 'low diet,' comprising thin chicken soup, barley water and egg albumen. It held that rice is useful for wheat eaters, while rice eaters would benefit from sago, arrowroot, tapioca, plantain flour and milk. Botanist-physician George Watt too extolled the virtues of *sago*. In '*A Dictionary of the Economic Products of India*' (1893), he wrote that sago is "easily digestible and wholly destitute of irritating properties" and in demand for treating febrile disorders, bowel complaints and convalescence from acute diseases.

For general gastric well-being, European imperialists were strongly advised to reduce their consumption of meat in the Indian heat. For fever, weakness and sundry ailments, beef tea, a nourishing drink made from stewed extract of beef, was considered an ideal remedy. And for cholera, '*The Seamen's New Medical Guide*' (1842) prescribed brandy during the worst of sickness and half-a-tumbler of mulled wine, with toasted bread and castor oil, after the symptoms subsided.



A *cinchona* exploration camp in an Indian forest, 1905/1920.

#FOOD

An Anglo-Indian being washed, dressed and attended to by Indian servants. | Coloured lithograph by J Bouvier, 1842.

Land and Sea

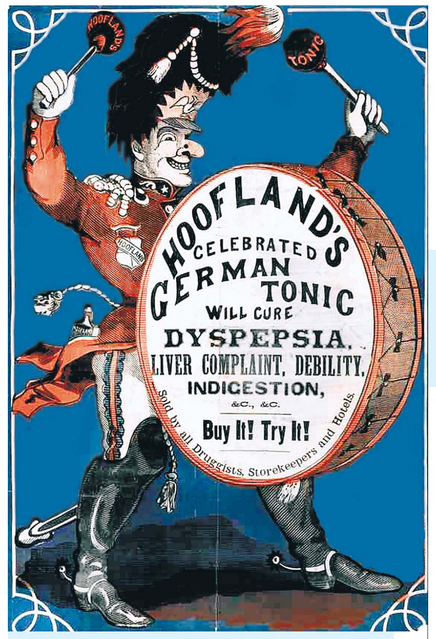
It was not just the colonists' time on terra firma that was precarious. Their arduous sea voyage to the subcontinent, which lasted several months, could be equally treacherous. Thousands would fall sick on the high seas and many perished. In the early 19th century, *Thomas Williamson*, a captain in the Bengal Service, complained that one of the banes of the long sea journey was acute constipation. "Thus may he prematurely cherish the dangerous seeds of hepatic affections long before his arrival in British India, unless he forewarned of this danger in due time," he wrote in his book, '*The East India Vade-Mecum*.' "The safest remedy for the affliction," he said, "was a proper diet, the kind of food that creates a periodical summons to the water-closet, at least once a day and if practicable, very early in the morning, as that is the hour least liable to interruption of any sort." His advice was to stick with stewed prunes, thin gruel or flummery, with spruce or other beer.

Ship masters and pantrymen would stock their vessels with foods, with known medicinal benefits such as sago, arrowroot, lime juice, desiccated milk and condensed milk (the iconic Anglo-Swiss Condensed Milk tins, later known as *Milkmaid*, enjoyed a permanent spot on British ships).

Businessmen, too, recognised the precarity of life abroad and realised that therein lay a perfect commercial opportunity. By the 19th century, numerous companies had cropped up across Europe, including in England, which would sell food in hermetically sealed tin containers. One of these was Messrs Brand & Co., recommended highly in *Culinary Jottings for Madras* by Colonel Robert Kenney-Herbert. Messrs Brand & Co had several offerings for 'invalids,' essence of beef, concentrated beef tea, beef tea jelly, meat lozenges, 'invalid soups,' potted meat, York and game pie, and A.1. sauce to put on 'fish, flesh or fowl.' Another company, John Moir & Sons, focused mostly on canned soups 'for invalids,' selling oxtail, turtle, giblet and hare.

By the late 19th century such was the popularity of canned foods that rare would be the pantry in a colonial home that didn't store them, along with medical provisions like opium, quinine, chlorodyne and Fowler's solution (an arsenic compound). It was expected of every British homemaker in India to stock her kitchen with these provisions and anything else needed to keep her family safe. As Flora Steel and Grace Gardiner wrote in '*The Complete Indian Housekeeper and Cook*,' "A good mistress will remember that the breadwinner requires blood-forming nourishment, and the children, whose constitutions are being built up day-by-day, sickly or healthy, according to the food given them, and bear in mind the fact that in India, especially, half the comfort of life depends on clean, wholesome, digestible food."

An advertisement for the Anglo-Swiss Condensed Milk. Credit: Boston Public Library / Wikimedia Commons.



An advertisement for Hoofland's German tonic water, which claimed to cure dyspepsia, liver complaint, debility, and indigestion. Credit: Library of Congress / Look and Learn.

Symbiotic Exchange

To assist the British woman in this ostensible duty, there were a number of cookbooks and housekeeping manuals, often written by British women, who had spent time in India, that featured recipes for the sick. '*The Englishwoman in India*,' for instance, published in 1864, under the pseudonym A. Lady Resident, had a whole section with recipes for 'infants and invalids.' These included carrot pap, cooked into a congee with arrowroot, barley broth, fortified with mutton, nutmeg-scented chicken panda (a paste of boiled chicken), and toast water (well-toasted bread, soaked in water). Steel and Gardiner, too, had a few recipe recommendations for convalescents, including champagne jelly (most useful in excessive vomiting) and the dangerous-sounding Cannibal Broth (beef essence), which they said should be consumed with cream or burnt sugar water to treat extreme debility and typhoid. As can be expected, some of these recipes were complex, some not. But in all likelihood, their preparation was handed over by the *memsahibs* to their Indian servants.

One dish, born of this encounter, was the *pish pash*. The pish pash is considered an invention of the colonial cook, who adapted the *kedgeree*, the colonial cousin of *khichdi*, into a light nursery food. The famous *Hobson-Jobson* defined it as 'a slop of rice soup with small pieces of meat,' while *Cassell's Family Magazine* gushed that a 'more excellent dish for children, whether on sea or at home, cannot be conceived.'

Light on the stomach, easy to digest and nutritious, pish pash was meant for children, but it became just as popular as food for the sick. None other than Warren Hastings, the first governor-general of Bengal, gave confirmation of its efficacy, when in 1784, he wrote to his wife from the sick bed, "I eat no supper, go to bed at 10, abstain wholly from wine, and every other liquid but tea and water. If this will not do, I will diet myself on pish pash and bread and water, or live like Cornaro on the daily subsistence of an egg, but I will have health in some way, though, I may forego all the blessings of it." More than two centuries have passed since Hastings penned that letter, but for *Bengalis*, the promise of pish pash hasn't dimmed.

Pish pash is, in fact, a classic example of the symbiotic exchange between the coloniser and the colonised. In the kitchen, each learned from the other, gaining knowledge and techniques that they didn't possess. There are enough records to show that the imperialists counted marh (starch water from cooked rice) and bael (wood-apple) *sherbet* among their go-to remedies and benefited from the medicinal qualities of *chirata* water and *ajwain-infused* water. Likewise, Indians, too, took a leaf or two out of the imperialists' book. In '*Culinary Culture in Colonial India*,' scholar *Utsa Ray* wrote about the legendary physician Chunilal Bose, who swore by traditional dietary practices, but often advised his ailing patients to consume arrowroot pudding, chicken broth and meat tea. In colonial India, Ray summarised, "The cosmopolitan nature of gastronomic practices was, perhaps, most visible when it came to the matter of medicinal use of new food."

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#SCIENCE

'Miracle' Material Graphene

Consisting of a single layer of carbon atoms arranged in a hexa-gonal pattern, *Graphene* is one of the strongest materials ever made and, for good measure, it is a better conductor of electricity and heat than copper.

Twenty years ago, scientists announced that they had created a new miracle material, that was going to transform our lives. They called it "*graphene*." Consisting of a single layer of carbon atoms, arranged in a hexa-gonal pattern, it is one of the strongest materials ever made and, for good measure, it is a better conductor of electricity and heat than copper.

The prospects for revolutionising technology seemed endless and a new generation of ultra-fast processors and computers was predicted. Reports said that it could allow batteries to charge five times faster, and make concrete 35% stronger.

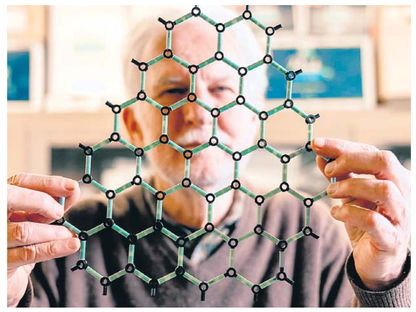
It was even put forward as the solution to potholes. Just mix it with traditional surfacing material and the curse of modern driving would be eradicated, it was claimed.

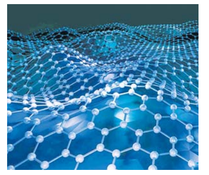
The Manchester University scientists, who discovered it, Andre Geim and Konstantin Novoselov, were awarded the Nobel Prize in Physics in 2010 and a *National Graphene Institute* was established at the university.

But the hype over this miracle material has waned significantly. Graphene has yet to trigger an electronics revolution. Potholes are still with us.

So what happened to the graphene revolution? Why has it not transformed our world? Sir Colin Humphreys, professor of Materials Science at Queen Mary University of London, has a straightforward answer, "Graphene is still a very promising material. The problem has been scaling up its production. That is why it has not made the impact that was predicted."

"Graphene was originally made in a rather unusual manner," Humphreys explained. Geim and Novoselov created it by putting sticky tape on lumps of graphite and peeled away the layers until they got one that was the thickness of an atom.

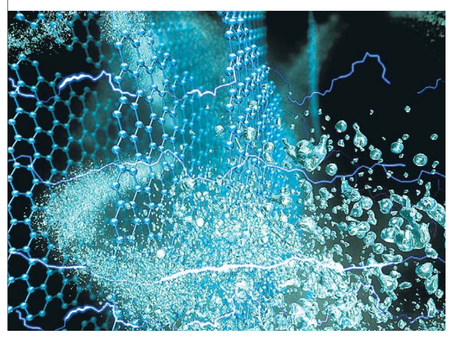




"But it would be just a tiny flake, a few millimetres across," he added. "You cannot make electronic devices with scraps like that. For functioning devices, you have to have at least 6in wafers of material."

So, the graphene revolution was put on hold, although recently, there have been encouraging signs that the technology may soon regain much of its original promise.

Humphreys believes that the market could soon be re-energised.



Thanks to breakthroughs in the manufacture of graphene-based devices. A key development in this drive has been made by Humphreys and his colleagues, who realised that the technology used to make gallium nitride electronic components, could be exploited to make graphene on a large scale.

"We used some of the first graphene, we manufactured, this way to make a sensor which can detect magnetic fields," said Humphreys, who has since set up a spin-off company, Paragraf, with his team.

Based in the Cambridgeshire village of Somersham, it has now become one of the first companies in the world to mass-produce graphene-based devices. Two reactors, shaped like pizza ovens, are now producing enough graphene to make 150,000 devices a day.

These are being used by Paragraf in two ways. First, to make sensors that measure magnetic fields. These can be used to detect malfunctioning batteries in e-bikes and e-scooters, preventing fires.

The second type of sensor can differentiate between bacterial and viral infections, showing whether antibiotics would be an appropriate treatment. "We also believe that we could use our biosensors to detect whether or not someone has sepsis, in a few minutes," said Humphreys.

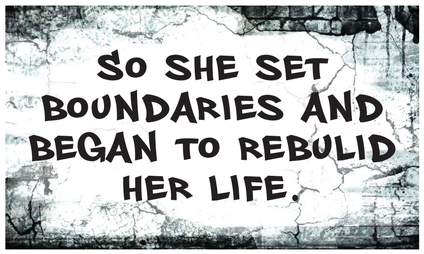
"The fact that graphene devices are likely to consume less energy than current devices is also important," he added.

"The silicon age is coming to an end. We have reached the limit to the number of transistors, that we can cram on a single chip, while the energy they consume is doubling every three years."

And that means if nothing happens, and we continue as we are doing, silicon devices will consume all the world's generation of electricity, which is a huge threat to our net zero aspirations.

"Graphene technology may have arrived later than we had originally hoped, but it has the potential to get around these problems and make a real difference to modern life."

THE WALL



BABY BLUES By Rick Kirkman & Jerry Scott

ZITS By Jerry Scott & Jim Borgman