

#MIND&BODY

Gut Bacteria Affect Brain Health

The findings suggest a new approach to preventing and treating neurodegenerative diseases by modifying the gut microbiome with antibiotics, probiotics, specialized diets or other means.



A growing pile of evidence indicates that the tens of trillions of microbes that normally live in our intestines - the so-called gut microbiome - have far-reaching effects on how our bodies function. Members of this microbial community produce vitamins, help us digest food, prevent the overgrowth of harmful bacteria and regulate the immune system, among other benefits. Now, a new study suggests that the gut microbiome also plays a key role in the health of our brains, according to researchers from Washington University School of Medicine in St. Louis.

The study, in mice, found that gut bacteria - partly by producing compounds such as short chain fatty acids - affect the behaviour of immune cells throughout the body, including ones in the brain that can damage brain tissue and exacerbate neurodegeneration in conditions such as Alzheimer's disease.

"We gave young mice antibiotics for just a week, and we saw a permanent change in their gut microbes, their immune responses, and how much neurodegeneration related to a protein called tau they experienced with age," said senior author David M. Holtzman, MD, the Barbara Burton and Reuben M. Morriss III Distinguished Professor of Neurology. "What's exciting is that manipulating the gut microbiome could be a way to have an effect on the brain without putting anything directly into the brain."

Evidence is accumulating that the gut microbiomes in people with Alzheimer's disease can differ from those of healthy people. But it isn't clear whether these differences are the cause or the result of the disease - or both - and what effect altering the microbiome might have on the course of the disease.

To determine whether the gut microbiome may be playing a causal role, the researchers altered the gut microbiomes of mice predisposed to develop Alzheimer's-like brain damage and cognitive impairment. The mice were genetically modified to express a mutant form of the human brain protein tau, which builds up and causes damage to neurons and atrophy of their brains by 9 months of age.

They also carried a variant of the human APOE gene, a major genetic risk factor for Alzheimer's. People with one copy of the APOE4 variant are three to four times more likely to develop the disease than people with the more

common APOE3variant. Along with Holtzman, the research team included gut microbiome expert and co-author Jeffrey I. Gordon, MD, the Dr. Robert J. Glaser Distinguished University Professor and director of the Edison Family Centre for Genome Sciences & Systems Biology; first author Dong-Oh Seo, PhD, an instructor in neurology; and co-author the Sangram S. Sisodia, PhD, a professor of neurobiology at the University of Chicago.

When such genetically modified mice were raised under sterile conditions from birth, they did not acquire gut microbiomes, and their brains showed much less damage at 40 weeks of age than the brains of mice harbouring normal mouse microbiomes.

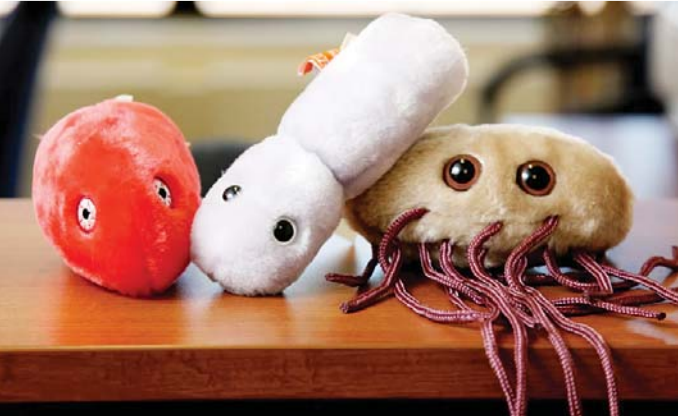
When such mice were raised under normal, nonsterile conditions, they developed normal microbiomes. A course of antibiotics at 2 weeks of age, however, permanently changed the composition of bacteria in their microbiomes. For male mice, it also reduced the amount of brain damage evident at 40 weeks of age.

The protective effects of the microbiome shifts were more pronounced in male mice carrying the APOE3 variant than in those with the high-risk APOE4variant, possibly because the deleterious effects of APOE4canceled out some of the protection, the researchers said. Antibiotic treatment had no significant effect on neurodegeneration in female mice.

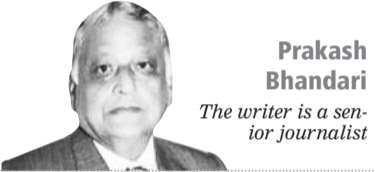
"We already know, from studies of brain tumours, normal brain development and related topics, that immune cells in male and female brains respond very differently to stimuli," Holtzman said. "So it's not terribly surprising that when we manipulated the microbiome we saw a sex difference in response, although it is hard to say what exactly this means for men and women living with Alzheimer's disease and related disorders."

Further experiments linked three specific short-chain fatty acids - compounds produced by certain types of gut bacteria as products of their metabolism - to neurodegeneration. All three of these fatty acids were scarce in mice with gut microbiomes altered by antibiotic treatment, and undetectable in mice without gut microbiomes.

These short-chain fatty acids appeared to trigger neurodegeneration by activating immune cells in the bloodstream, which in turn somehow activated immune cells in the brain to damage brain tissue.



Christine Lamb.



Prakash Bhandari
The writer is a senior journalist

#OLD STORIES

"the ultimate foreign correspondent."

She was last year's recipient of the Prix Bayeux, Europe's most prestigious award for war correspondents and chosen by Britain's top-selling women's magazine Grazia as one of its Icons of the Decade.

War Journalism

She spent a year as a Nieman Fellow at Harvard University. She is the author of the best-selling book The Africa House as well as House of Stone: The True Story of a Family Divided in War-Torn Zimbabwe; Waiting For Allah: Pakistan's Struggle for Democracy; and The Sewing Circles of Herat: A Personal Voyage Through Afghanistan, which was runner-up for Best Nonfiction book in the Barnes & Noble's Discover Great New Writers Awards. Her most recent book is Small Wars Permitting: Dispatches from Foreign Lands, a collection of her reportage.

The landscape of war journalism has altered massively over the years. Over 1,000 journalists have been killed in action since 1961 and

"I am not content with snippets. I want to know the truth. Generally, mainstream news coverage does not necessarily reflect the whole picture and we don't get too much depth anymore," said McCullin who prefers to get to the bottom of things as he likes uncovering information through first-hand experiences.

Heroes reporting from the Conflict Zones

the numbers are soaring, especially in Ukraine after Syria. Yet war correspondents choose to work in the dangerous environments of war and conflict throughout the world.

Reporting from war or conflict zones has always been dangerous and trying, while language and geographical barriers add to the miseries of the correspondent reporting from the frontline. Before the internet, sending despatches was always a challenge with just the telex at one's disposal. At times, it's more challenging than gathering facts and figures amidst booming guns.

Not many are aware that the risk to a war correspondent's life is no less than that to the frontline soldier; and reporting from the frontline often comes with an understanding with the correspondent's newspaper or agency that he / she is responsible for his / her own life.

Some vow never to return to the war zone, yet others keep going back because they're drawn to the big moment. There is a certain thrill in being a frontline reporter and their stories attract a high readership.

Their efforts and heroics often earn them awards and accolades.

Six years ago, the organizers of the Jaipur Literature Festival, flew David Grossman from the UK and the veteran writer and photo-journalist Samantha Subramanian from India spoke about their experiences and challenges as war correspondents.

Effects of the Conflict

"Journalists have become targets of war and the danger that they face has magnified many times over," then observed Christina Lamb, the author of several bestsellers, including Farewell Kabul: From Afghanistan To A More Dangerous



A shell-shocked US marine in Vietnam (1968) - a famous photo by Don McCullin.

World from which she read excerpts, while discussing the ethics of reporting from dangerous war zone

David Grossman is an Israeli author, who addressed the Israeli-Palestinian conflict in his 2009 novel, To the End of the Land. Grossman lives in Israel, within the Israeli-Palestinian conflict zone. "I try to look at the effect of the conflict on both sides and try to understand how it affects human relationships, language and future prospects. So many things are affected by conflict," he said.

Lamb stressed that Afghanistan was ravaged by war since 1978 and there was no reconstruction or development. The war has left Afghanistan one of the poorest and most dangerous nations.

Now Afghanistan is ruled by the conservative Taliban. Poverty has hit the Afghans hard and the country is facing a major humanitarian crisis.

After the Fall of Kabul, in which the Islamist Taliban drove out the Islamic Republic of Afghanistan government after its 20-year rule, the Taliban promised to set up a

new constitution for Afghanistan..

The Islamic State continue their insurgency, carrying out many bombings. Afghanistan is also badly affected by earthquakes and flooding.

Yet, she still believes that foreign intervention in Afghanistan was necessary. "We need to understand why foreign powers intervene and what is their interest? They should come out clean with their political plan to end the war. Foreign intervention should not continue without a proper understanding of the ground realities."

Bitter about the role of various foreign forces in Afghanistan, Grossman agrees that because of their vested interests, outside forces did not allow the war to end.

"I have always approached conflict in an intimate, personal way. As a result, I do not regard my journalism as 'covering' anything. Instead I always try to become a witness to the larger picture. I try to look at the effect of this conflict on both sides. I try to understand how conflict affects human relationships, language, prospects of a future."

Grossman believes that conflict infiltrates the innermost organs of a society and impacts individuals deeply. "The challenge is to remain sombre and disband stereotypes," he observed that it took courage to expose oneself to the stories and realities of both sides as that was necessary if there was to be any hope of resolving it. "A larger war is lost when people become habituated to it as a way of life, giving up on the possibility of a better alternative and this is why war reporting is so important to keep alternatives alive," he added.

War photographer Don McCullin produced his first war assignment for The Observer in 1964, covering the civil war in Cyprus. In 1966, he began his 18-year affiliation with The Sunday Times magazine, covering numerous conflicts and battle-



David Grossman.

Observe the Weather Day

Although it can be as simple as simply walking out the door and looking up to see what the sky looks like, observing the weather has developed into a very important science. Using measurements and tools, weather people take note of all sorts of patterns and make their predictions about what might happen in the future. And, although the weather forecast might still not be 100% correct, it has certainly gotten better and more accurate over the past several decades.

fields in the Congo, Biafra (Nigeria), Israel, Vietnam, Cambodia, Northern Ireland, Bangladesh, Lebanon, El Salvador and Kurdistan.

"I am not content with snippets. I want to know the truth. Generally, mainstream news coverage does not necessarily reflect the whole picture and we don't get too much depth anymore," said McCullin who prefers to get to the bottom of things as he likes uncovering information through first-hand experiences.

"I feel as though I'm here on false pretences," smiled Lamb, referring to attending the JLF as The Sunday Times foreign correspondent and not a conventional travel writer.

"I was a witness to a number of incidents of inhuman treatment which I reported with all honesty, but at times the editors back home tried to underplay an episode as they thought publishing such horrific story would only lengthen the war or conflict. At times I agreed with their stand and at times I differed," said Christina.

Terrors and Guilt

Indian journalist, Samantha Subramanian studied journalism and international relations in the US. Since 2001, he worked in different locations in Sri Lanka and wrote about the civil war in his book The Divided Island.

Subramanian's work focuses on fracturing of the self and society in war. The fear that he has seen on people's faces during conflict

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haunts him, he says, adding that it has left him in a "constant existential paradox" that makes it difficult to disengage when he returns home, "You come back. You live with these stories. You frame your own terrors and guilt in the larger picture," observed Subramanian.

McCullin also described the alienation that he sometimes feels like the "odd man out" as a result of his extreme experiences. "Your personal emotions will catch up with you sooner or later for there are situations you can't control. Sometimes, I am asked to share stories from conflict zones at dinner parties, but I know that most people don't want to hear the truth."

The heroes of the conflict zone won the hearts of the audience with their disclosures. It was a session which is still remembered by the regulars to the JLF as one of the liveliest of the sessions.

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#BREW-EATERIES

These coffee shops in India serve scrumptious dishes and delightful brews in a charming setting.

Just good coffee isn't enough anymore. With the popularity of social media, coffee shops in India have had to conceptualise unique interiors to attract people. From coffee shops with arresting interiors that transport visitors to magnificent international destinations to cafes housed in ancient buildings, these are the 10 most picturesque coffee shops in India.

MAAI, Goa

Nestled in a 123-year-old Portuguese villa, MAAI is a picturesque eatery and coffee shop. Its interiors are inspired by trendy summer holiday destinations from around the world. MAAI offers alfresco seating under the stars or inside the mansion it is located in. The welcoming space features warm yellow lights, walls with black and white photographs of Goa, and rustic decor accessories.

MAAI's food and drinks menu is a celebration of Goa's rich culinary heritage. The extensive menu features traditional Goan and Portuguese-inspired dishes and coffee made using beans roasted in-house.

Machan: Taj Mahal Hotel, New Delhi

Conceptualised by architecture and interior design studio Renesa, Elgin Cafe is a bistro by day and a restaurant and wine bar by night. The eatery's interiors are evocative of dining in nature and is awash in emerald green granite from Udaipur. The eatery features green granite wall panelling and tabletos, gold furnishings, tan leather seats, wicker chairs, and plenty of plants. Elgin Cafe's multi-cuisine small plates and cocktails are worth ordering.

Justbe Resto Café, Bangalore

Founded by nutritionist and health coach Nidhi Nahata, Justbe Resto Café is a well-loved, plant-based eatery. Located in a 90-year-old heritage building, this pet-friendly cafe comprises separate sections-the Living Room, Private Dining Room, Court Yard, and Studio. The eatery aims to make guests feel like they are dining at a close friend's home.

The Studio, in particular, is an artist-worthy space with blue-painted bookshelves, floor-to-ceiling glass windows, and quirky furnishings. We suggest order-



Elgin Cafe, Amritsar



Donna Deli, Mumbai

Designed by interior designer Tejal Mathur, Donna Deli is reminiscent of Roman bistros. Located in the heart of Bandra, this chic restaurant and coffee shop features a quaint alfresco section adorned with striking decor pieces, planters, and opulent furniture.

The indoor seating features a monochromatic colour palette, ornate chandeliers, and arresting artworks. We recommend their Iced Latte, which is a delightful blend of ice-cold milk and rich, strong coffee.

ing Justbe Resto Café's whole wheat pizzas, superfood bowls, open sandwiches, soups, cold press juices, and smoothies.

Banyan Tree Café, Mumbai

Located in the centre of south Mumbai, Banyan Tree Cafe pays homage to the age-old colonial architecture of the city. It is situated inside a 140-year-old former ice factory, which is now the experimental art space-IFBE. At the cafe, guests are greeted by expansive windows, overhead skylights, an industrial design aesthetic, and a view of a majestic banyan tree.

Banyan Tree Cafe's food offerings are a mix of nutritious plates and comfort food, and the coffee is from Dope Coffee. Try the eatery's delectable sandwiches, wraps, and salads that are made using the freshest local ingredients.

MileeDroog Café & Bistro, Kolkata

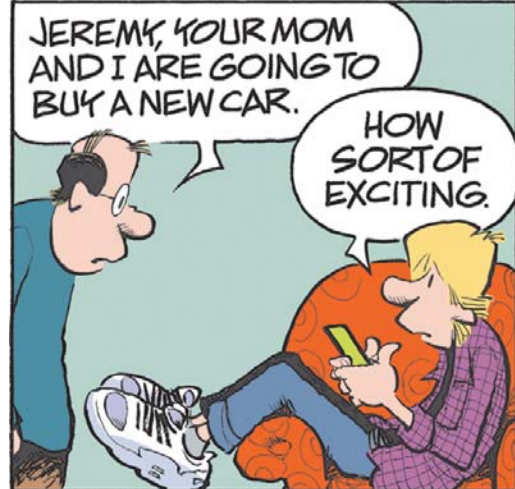
Tucked in the by lanes of south Kolkata, MileeDroog Café & Bistro is spread over three floors. The ground floor is dedicated to coffee aficionados who can choose from an extensive java menu. The first floor houses the mocktail bar, an outdoor balcony, and a glass-enclosed private dining area. The cafe showcases art deco architecture and modern interiors featuring checkerboard floors, white floral motifs, and a pastel colour palette. MileeDroog Coffee & Bistro offers progressive food items from around the world. The Vietnamese Latte, Almond Toffee Milk Latte, Orange Cold Brew, Classic Hot Chocolate, Matcha Frappe, Tuscan Grilled Polenta, Greek-style Courgette Lasagna, Chettinad Chicken Keema, and Bengal's Bhappabhetki are crowd-favourites.



BABY BLUES



ZITS



By Rick Kirkman & Jerry Scott

By Jerry Scott & Jim Borgman