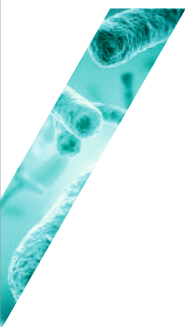




PRO GUT V

MARCH 2021 :: VOLUME V



GUT MICROBIOTA AND PROBIOTIC
SCIENCE FOUNDATION (INDIA)



Prof. Rakesh Tandon

On the morning of 3rd August 2020, we received the sad news of the sudden demise of Professor Rakesh Tandon. Out on his morning walk this day, Professor Tandon suddenly transitioned to another world, leaving the medical community and his friends in a state of deep shock. He was a well-revered mentor, a clinician par excellence, and a kind soul who will be deeply missed by all. We had the wonderful privilege of working with Prof. Rakesh Tandon in his capacity as Governing Body Member of the Gut Microbiota and Probiotic Science Foundation (India). He participated in all meetings with great zest and contributed tremendously to the growth of the Foundation. At the February 2020 Gut Microbiota and Probiotic Science Foundation (India) symposium, Prof. Rakesh Tandon played a pivotal role in organizing the symposium with great enthusiasm and zeal. It was an honour and privilege for the Foundation and his last words of wisdom had a lasting and memorable impact on the audience.

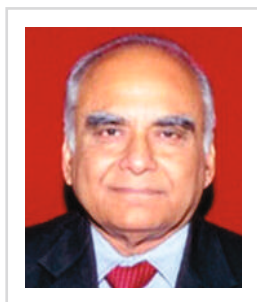
His long and outstanding service in the field of Gastroenterology will always be remembered and cherished.



Dr. Rajiv Khosla

In a sad twist of fate, we were shocked by the untimely passing away of Dr Rajiv Khosla, a brilliant, humble and most able doctor. His sudden demise is a profound loss to India's medical community. A thorough professional who represented the highest human values, Dr. Rajiv Khosla was the epitome of humility. An exceptionally kind and helpful person, he treated all his patients with great compassion. His sense of humour and sharp wit, even during his last days, was truly extraordinary. Dr Rajiv Khosla's persona left a mark on everyone he met. He will always be remembered by one and all and deeply missed by family and the medical fraternity. His contribution to the Gut Microbiota and Probiotic Science Foundation (India) is invaluable and his last words during the Feb 2020 symposium will remain with us forever.

FROM THE PRESIDENT'S DESK



**Could probiotics
be a welcome addition
in the fight against
Covid -19**



Prof. Nirmal Kumar Ganguly

*Former Director General, Indian Council of Medical Research, New Delhi, India
Senior Advisor - Global Health Strategies, New Delhi, India
President, Gut Microbiota and Probiotic Science Foundation (India)*

As we navigate through the most difficult times of our lives, we must remember that behind every cloud there is a silver lining. While COVID - 19 continues to threaten us, the good news is that everyone responds differently to the infection - many are asymptomatic and may recover very quickly. According to researchers at the Peter Doherty Institute for Infection and Immunity in Australia, the strength of our immune system or our immunity is key in determining how we respond to the virus. A person with a strong immunity may not get the infection or fight it better than one with a weak immune system.

We all know that the gold standard for a strong immune system remains a healthy well - balanced diet with immune boosting nutrients, regular physical activity, adequate hydration and good quality sleep for a well-rested mind. However, more recently, scientists and doctors have turned the spotlight on boosting immunity by improving intestinal health. This is linked to the finding that about 70% of the body's immunity is located in the intestine which makes it the largest immune organ of the human body. The intestine, in turn relies on probiotics which are essential both for digestive function and are critical for training and developing the immune system. A decline in probiotic bacteria results in poor digestion and weak immunity.

So, what are probiotics and how do they work. These bacteria work hand in hand with the intestine and are the first line of defence against harmful invaders. They do this by producing organic acids in the intestine like lactic acid and acetic acid which inhibit the growth of harmful bacteria. Specific probiotic bacteria can increase the activity and levels of immune cells like Natural Killer cells and Salivary IgA, both of which have anti - viral properties.

Studies indicate the potential of probiotics to interfere with the main host receptor of the SARS-CoV-2 virus, the Angiotensin Converting Enzyme 2 (ACE2). Studies done in humans have shown that specific probiotics can reduce the incidence and duration of respiratory infections in children, adults and elderly. Other studies suggest that probiotics could reduce inflammation and decrease levels of the inflammatory marker C - Reactive Protein. When scientists collected data from 12 studies that included 3720 children, adults and elderly they found that probiotic consumption could lower the incidence of upper respiratory tract infections. Dr. Irene Lenoir-Wijnkoop, at Utrecht University in Netherlands observed that probiotic use could save health care costs and lost productivity due to acute respiratory tract infections.

Surprisingly, many of the COVID 19 patients showed symptoms of poor intestinal health and suffered from loss of taste and diarrhoea. This prompted China's National Health Commission to use probiotics along with conventional treatment in patients with COVID-19 infection for improving the balance of the intestinal flora and preventing secondary bacterial infections.

Although we are at a stage where we are still not sure of a clear benefit of probiotics in COVID - 19 patients, the fact that most of our immunity resides in the intestine and is determined by the kind of bacteria present there, it may be worthwhile to ensure a balanced intestinal flora with more beneficial microbes and a stronger immune system for better immunity that could help in the fight against COVID - 19.

MESSAGE FROM

Prof. V. Samuel Raj

Dean Academic Affairs, SRM University, Delhi-NCR, Sonapat



Antibiotics and vaccines have been exploited for the treatment and prevention of many infectious diseases, but the infections are not controlled yet as expected. Many viral diseases remain poorly controlled such as Dengue fever, Zika virus infection, Avian Influenza, Severe Acute Respiratory Syndrome (SARS), Ebola hemorrhagic fever, etc.

During the COVID-19 pandemic, the ARDS patients and the severe cases were kept in ICU for the treatment and treated with many antibiotics during their stay. There are reports that increased incidence of gut microbiome dysbiosis during their stay at ICU, leading to sepsis and death. This dysbiosis may lead to various dysfunctions such as IBD, disruption of the immune system, and eventually organ dysfunction or failure. It may be possible that the incidence of microbiome disturbance and subsequent organ failure in COVID-19 could be decreased with supplementation of probiotics.

Probiotics are known to modulate innate and adaptive antiviral immunity, maintain intestinal homeostasis during viral infections, normalize gut permeability, and increase the production of virus-specific antibodies. Considering the available information, probiotics are emerging as a safe and natural strategy for various disease prevention and treatment and it may prove itself fruitful for COVID-19 as well.

In the present context, the present symposium is very relevant. The Symposium will have many presentations on the role of probiotics supplements to prevent the viral diseases and the prevention of deaths due to COVID. We are glad to be associated with the Gut Microbiota and Probiotic Science Foundation (India) to organize the 11th (India) Probiotic Symposium.

FROM THE EXPERTS



Do we need a
daily requirement
of probiotics



Prof. Anura Kurpad

Professor Physiology & Nutrition Dept., St. John's Medical College, Bengaluru, Karnataka, India

This is a question that has surfaced over the last years and is well covered in a recent article in December 2020, in the *Journal of Nutrition*¹.

In a healthy and safe world, where we eat minimally processed and raw foods, handed down through tradition (that includes the use of fermentation), we should not worry about the partnership we have with the microbes in our gut. However, in the modern world, where the consumption of overprocessed food is dominant, our gut microbes may not be as healthy and diverse as we want them to be. In urban environments, each home is a fortress against pollution - both of water and air. The increasingly complex treatment of drinking water and indeed of food, in the chase for the best hygiene, has its benefits, but also has startling downsides. The benefits of a healthy gut microbiome have been discussed in great detail in many reviews and suffice it to say that the engagement of the microbial population with our gut mucosa has myriad benefits.

With all these developments, it is apparent that our gut microbes are perhaps not what they optimally could be. This raises the question of whether there is a need for a stated recommendation for the daily intake of beneficial microbes or probiotics. One possibility is to simply recommend an increase in the intake of fermented foods. One might well be correct in this recommendation, but getting to a quantitative recommendation is difficult, particularly one that suits all dietary cultures. Another possibility is to recommend the daily intake of probiotics, of specific species of bacteria. Again, a quantitative determination of the dose and the benefit entailed, is paramount.

In diet recommendations, it is important to know the rigorous and quantitative basis of every food or nutrient that is recommended. Whether this is the daily requirement of fermented foods or of probiotics, or a combination of probiotics and prebiotics, there should be a well-informed choice that is made. What will help is the generation of an evidence base that evaluates dietary exposures, or intervention studies. The former could come through a systematic examination of high-quality dietary intake surveys in cohorts which document exposures to fermented foods and outcomes of interest. The other comes from well conducted RCTs, with appropriate designs.

In all probability, we are moving toward this recommendation. As information on the criticality of a healthy gut microbiome becomes more and more evident, the more we will ask ourselves: how can we ensure a healthy microbiome for our population, and what data do we need to set a recommendation?

Reference

Marco ML *et al.* Should There Be a Recommended Daily Intake of Microbes? *The Journal of Nutrition* 2020;150:3061-3067.

YEAR GONE BY - ACTIVITIES BY OUR MEMBERS

VIRTUAL CONFERENCE

5th Biennial Conference of PAI  

and

International Symposium

on

**Probiotics and Immunity:
way forward to microbial therapy**


November 19-20, 2020

Organized by
Probiotic Association of India

in association with
**ICAR-National Dairy Research Institute
Karnal, India**

Organizing Secretary
Jai Kaushik
Principal Scientist
ICAR-NDRI, Karnal

Co-organizing Secretary
Rashmi H M
Scientist
ICAR-NDRI, Karnal



**THE GUT MICROBIOTA AND PROBIOTIC
SCIENCE FOUNDATION (INDIA)**

Organises
"Foundation Guest Lecture"

11TH DECEMBER 2020


"THE DIABETES EPIDEMIC IN
INDIA: WHY AND WHAT CAN BE
DONE?"

ESTEEMED SPEAKER




Dr. V. Mohan

**CHAIRMAN AND CHIEF - DIABETOLOGY,
DR. MOHAN'S DIABETES SPECIALITIES
CENTRE, CHENNAI**

M.D., FRCP (London, Edinburgh, Glasgow and
Ireland), Ph.D., D.Sc. D.Sc (Hon. Causa), FNASc,
FASc, FNA, FACE, FACP, FTWAS, MACP, FRSE




Dr. Verghese Kurien Birth Centenary Year Celebration

**Verghese Kurien Centre of Excellence, IRMA
and
Indian Dairy Association (Gujarat State Chapter)**




present an expert talk on

Role of milk and dairy products in lifestyle diseases like diabetes



Padma Shri Dr V.Mohan
Chairman and Chief of Diabetology,
Dr. Mohan's Diabetes Specialities Centre, Chennai

Welcome Address **Introductory Remarks** **Convener**

Prof. Saswata Siewas
Acting Director, IRMA

Dr. A.K. Srivastava
Member ASBB and Former Director, NDRI

Dr. J.B. Prajapati
Chairperson, VKCOE & IDA (GS)

PAI Foundation Day Lecture

23 January 2021

**Know your Milk Food:
Facts and Myths of A1 and A2 Milk**

by
Prof. (Dr.) A. K. Srivastava

Member, Agricultural Scientists Recruitment Board &
Former Director & Vice Chancellor, National Dairy Research Institute



Probiotic Association of India (PAI)  Gut Microbiota & Probiotic Science Foundation (India)  ICAR-National Dairy Research Institute 

<http://www.probioticindia.com> <http://gutfoundation.org/in/> <http://www.ndri.res.in>

World Journal of Microbiology and Biotechnology (2021) 37:7
<https://doi.org/10.1007/s11274-020-02975-3>

ORIGINAL PAPER

Probiotic properties of lactic acid bacteria isolated from traditionally prepared dry starters of the Eastern Himalayas

Pooja Pradhan¹ · Jyoti Prakash Tamang¹ 

Received: 23 September 2020 / Accepted: 1 December 2020
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Abstract

The Himalayan people prepare dry and oval to round-shaped starter cultures to ferment cereals into mild-alcoholic beverages, which contain lactic acid bacteria (LAB) as one of the essential microbiota. There is no report on probiotic characters of LAB isolated from dry starters. Hence, we screened the probiotic and some functional properties of 37 LAB strains isolated from dry starters of the Eastern Himalayas viz. *maichhu*, *phadu*, *jawa*, *peo* and *phut*. About 38% of the LAB strains showed high survival rate (> 50%) at pH 3 and 0.3% bile salts. *Enterococcus durans* B/PB21 and SMB7 showed the highest hydrophobicity percentage of 98%. *E. durans* DMB4 and SMB7 showed maximum cholesterol assimilation activity. About

DAHI, YOGHURT AND PROBIOTICS...



Prof. J. B. Prajapati

Chairman, VKCoE, Institute of Rural Management, Anand, Gujarat

Fermented milk products like dahi, yoghurt, laban refer to the products obtained by fermentation of milk with beneficial lactic acid bacteria. These products are a part of our heritage from ancient times and bear their origin to different parts of the world. The exact date for their origin has been lost in antiquity, but it is easy to presume that after human beings learnt to habitat and started rearing cows for milk, it may have been that extra milk may have become solid from liquid and tasted different! This experience may have tempted mankind to repeat the same experiment and in very short time they would have learned how to make good quality dahi / yoghurt. This experience has become much popular as it helped to preserve milk and also gave products with different tastes, flavours and textures. In my opinion Lord Krishna is the brand ambassador of these products. Dahi is very pious item in Hindu mythology and is the major ingredient of panchamrut, which is used in every ritual in Hindu religion. The intention could have been to take it to the masses for health benefits as the rituals were very common and the panchamrut was distributed freely after every ritual. Dahi and butter milk has been recommended for several health benefits and hence in the 17th century Raghunath in bhojana kuthoohala writes "how the divine nectar (amrut) is important to Gods, the same way thakhra (buttermilk) is important to human beings. In 76 AD the Roman historian Plinio advocated the use of fermented milks for treating gastrointestinal infections.

Modern science with the knowledge of Microbiology and Technology, has helped us to standardize these products and manufacture them at a large scale. The microbial cultures for yoghurt are well defined, which include *Streptococcus thermophilus* and *Lactobacillus delbruecki subsp bulgaricus*. However, the cultures for dahi are still not defined in terms of species. As per the Food Safety and Standards Authority (FSSAI) definition, Dahi is made with lactic acid bacteria as a starter culture and it may also contain other harmless microorganisms than those constituting the specific starter cultures.

There is a wrong perception and confusion in the society that dahi, yoghurt or butter milk are probiotics. To understand this, let me cite the definition of probiotics. As per FAO/WHO (2001) definition, which is endorsed by ISAPP (2014), Probiotics are "Live microorganisms that ,when consumed in adequate numbers, confer a health benefit on the host". Further the FAO/WHO guidelines (also ICMR/DBT guidelines for India) clearly states that health benefits are strain specific and they should be scientifically validated by at least one Phase II clinical trial. The number of viable organisms required are $>10^8$ cfu/serving/day.

This makes it clear that dahi or yoghurt is not a probiotic. The cultures in dahi are not well defined and hence the question of scientific validation of specific health effect does not arise. Further, cultures in dahi may vary from place to place and home to home. The minimum number of viable cells required may not be achieved. However, this does not mean that dahi is not beneficial. Some of the strains in the consortia of lactic acid bacteria used as starter culture in dahi may have health benefits, but they are not scientifically validated and hence it is not advisable to call dahi as probiotic.

FSSAI regulation gives a permission that probiotic cultures be added as an ingredient in dahi and they can be included in labelling of such product, indicating the Genus, Species and Strain of the organism used. This can make them eligible to label as probiotic dahi or probiotic yoghurt as a separate category. However, normal dahi or yoghurt can not be called as probiotics.

Activities Performed DURING COVID PANDEMIC

(March 2020 - to Date And Ongoing)



Prof. Keya Lahiri

(Professor & Ex-Hod Pediatrics, D Y Patil Medical College & Hospital, Navi Mumbai)

We have a virus crossing borders causing huge devastation and mortality which downscaled economy globally. DY Patil Medical College and hospital has been designated as the Covid centre in Nerul, Navi Mumbai. Frontline warriors have been amalgamated for patient care with covid duties. During the covid pandemic, my areas of work included Research; International and National webinars; Undergraduate, Post graduate, ot/pt teaching and training; publications and advisory board meetings. It has been a learning experience with special reference to technology. The major concern for the pediatric fraternity is “immunisation” which has been adversely affected and would prove disastrous for the child as vaccinations are powerful tools against diseases [1]. Routine immunisation viz BCG, DPT, OPV at birth are confirmed before discharge but follow-up vaccines cannot be ensured. Hence mother and child tracking system (mcts) needs to be activated and we do have the system in place since 2009. A recent report (NSO) on health (2017-18) revealed that BCG coverage (94%), measles (67%, 9 to 12 months), OPV coverage at birth (94%) but the subsequent 3 doses at 6, 10, 14 weeks has dropped to (80.6%) (measles vaccine holding back India’s full immunisation (Times of India). There has been a decline in life saving vaccines due to disruption in delivery and uptake (WHO, UNICEF)[2]. It is mandatory and pertinent that vaccination continues during the pandemic as suffering and death in children could be avoided. The likelihood of child born today being fully vaccinated by 5 years of age is < than 20 % (WHO). Hence WHO has advised catch up programmes ensuring strong supply chains, disease surveillance and trained health workers [3]. Paediatricians, Indian Academy of Paediatrics and caregivers should ensure these facilities. Routine immunisation viz BCG, OPV, DPT and MMR are absolutely essential under any circumstances, we cannot trade one health crisis for another.

References

- 1) <https://www.europeanpharmaceuticalreview.com/article/119520/dealing-with-immunisation-during-the-covid-19-pandemic-indias-experience>
- 2) <https://www.who.int/news-room/detail/15-07-2020-who-and-unicef-warn-of-a-decline-in-vaccinations-during-covid-19>
- 3) <https://www.who.int/news-room/detail/23-04-2020-hard-fought-gains-in-immunization-coverage-at-risk-without-critical-health-services-warns-who>

GUT MICROBIOTA, PROBIOTICS AND COVID - 19

What we know and what we don't about the impact of COVID - 19 on the gut microbiota, susceptibility to inflammation and long term health outcomes.

- There is increased intestinal inflammation in COVID-19, which is accompanied occasionally with acute diarrhoea.
- Pilot studies suggest gut dysbiosis in SARS Cov2 infection with loss of bacterial richness and diversity, loss of butyrate producing beneficial bacteria and proliferation of pro-inflammatory bacteria.
- The infection would also alter gut barrier permeability, promoting passage of bacteria and microbial metabolites, that otherwise should remain in the gut.
- Dysbiosis and disease severity were closely associated, and it was observed that dysbiosis persisted even after viral clearance and resolution of respiratory symptoms.

Source: www.gutmicrobiotaforhealth.com

1

An Editorial on 2019 Novel Coronavirus Infection and Gastrointestinal tract

Qin Yan Gao, *Digestive Diseases*, 2020.

It is well known that the respiratory tract houses its own microbiota, but patients with respiratory infections generally have gut dysfunction or secondary gut dysfunction complications, which are related to a more severe clinical course of the disease, thus indicating gut-lung crosstalk. This phenomenon can also be observed in the patients with COVID-19. Currently, there is no direct clinical evidence that the modulation of gut microbiota plays a therapeutic role in the treatment of COVID-19. However, one can speculate that targeting gut microbiota may be a new therapeutic option or at least an adjuvant therapeutic choice. A guidance was established by China's National Health Commission and National Administration of Traditional Chinese Medicine. The Guidance recommended that in the treatment of patients with severe COVID-19 infection, probiotics may be used to maintain the balance of intestinal microecology and prevent secondary bacterial infection, which shows that the Chinese government and first-line medical staff accept the importance of the role of gut microbiota in COVID-19 infection.

2

Alterations in Gut Microbiota of Patients With COVID-19 During Time of Hospitalization

Tao Zuo *et al*, *Gastroenterology*, 2020 Sep;159(3): 944-955.

Patients with COVID-19 had significant alterations in fecal microbiome compared with controls. This was characterized by enrichment of opportunistic pathogens and depletion of beneficial commensals, at time of hospitalization and at all timepoints during hospitalization. Fecal microbiota alterations were associated with fecal levels of SARS-CoV-2 and COVID-19 severity. Strategies to alter the intestinal microbiota might reduce disease severity.

3

Probiotics and COVID-19: Is there any Link?

A. Akour, *Lett Appl Microbiol*, 2020 Sep;71(3) : 229-234.

Whether or not Probiotics can prevent or ameliorate COVID-19-associated symptoms is not fully understood. This review aims to provide an indirect evidence about the utility of probiotics in combating COVID-19 or its associated symptoms, through its antiviral and anti-inflammatory properties in vitro, animal models and human trials.

4

Role of probiotics to combat viral infections with emphasis on COVID-19

Aravind Sundararaman *et al*, *Applied Microbiology and Biotechnology*, <https://doi.org/10.1007/s00253-020-10832-4>.

This review elaborates on repurposing the use of natural compounds to provide alternatives and support therapy against COVID-19. The prophylactic and supportive therapeutic role of probiotics for the management of COVID-19 and the unique role of probiotics to modulate the gut microbes, assert gut homeostasis and produce interferon as an antiviral mechanism is described. Further, the regulatory role of probiotics on gut-lung axis and mucosal immune system for the potential antiviral mechanisms is reviewed and discussed.

2020 AT A GLANCE - SOME OLD, SOME NEW

1. The Gut Brain connection - what we learned in 2020

- Currently there are multiple studies, some very encouraging, although small trials, which suggest that specific bacteria or even FMT-fecal microbiota transplantation-may provide some therapeutic benefit in patients with disorders of the central nervous system.
- It has been already known for some time that the dysbiosis of the maternal microbiome, which is caused either by infections, changes in diet or stress, during the pregnancy can have negative effect on brain function and behavior in the offspring.
- Changing the gut microbiome (after using antibiotics or fecal transplants) could prevent or improve disease symptoms in mice with a common ALS genetic mutation.
- Psychobiotics, of which some are probiotics, are strategies that could be used to treat symptoms or even conditions, such as depression or anxiety.

Source: www.gutmicrobiotaforhealth.com

2. Gut - Heart Connection - Lessons Learned From a Ten Year Study

Long-Term Changes in Gut Microbial Metabolite Trimethylamine N-Oxide and Coronary Heart Disease Risk.

Heianza *et al*, 2020, *Journal of the American College of Cardiology* 75 (7): 763–72.

A new study published in *Journal of American College of Cardiology* suggests that the gut microbiota may be a novel avenue for exploring heart disease prevention. The study showed that the gut microbiota digests nutrients found in red meat to form Trimethylamine N-Oxide (TMAO), which is one of the molecules that forms atheromatous plaques in the blood, leading to an increased risk of cardiac or circulatory system conditions.

This study emphasizes that adhering to a diverse diet that is rich in plant-based foods may decrease cardiovascular disease risk by influencing the type of metabolites produced by the gut microbiota and, therefore, reducing atherogenic molecules.

3. Mediterranean diet intervention alters the gut microbiome in older people reducing frailty and improving health status: the NU-AGE 1-year dietary intervention across five European countries.

Ghosh TS. *et al*, *BMJ Gut*; 2020: 69(7).

Scientists from 8 different countries combined forces and investigated how diet affects the gut microbiome and frailty in a European elderly population. They analyzed the gut microbiota from 612 pre-frail and non-frail people aged 65-79 from different European countries (Poland, Netherlands, UK, France and Italy) before and after following a Mediterranean diet for 12 months. The researchers discovered that following a Mediterranean diet positively impacted the gut microbiota which was associated with lower inflammation and frailty and improved cognitive function. One of the most notable positive changes in the gut microbiome composition following a Mediterranean diet, for a year, included an increase in beneficial bacteria capable of producing anti-inflammatory metabolites.

Although age, body mass index and disease status indeed play a role in shaping the gut microbiome, diet likely plays a major role in determining how these factors interact with each other and affect health.

4. Scientists re-classify the *Lactobacillus* genus into 25 genera including groups of closely related species.

More than 250 species have been assigned to the genus *Lactobacillus* in recent decades. Now, a group of 15 scientists from all over the world have reclassified the genus *Lactobacillus* into 25 genera, which include 23 novel genera.

Reference

Jinshui zheng *et al*, *International Journal of Systematic and Evolutionary Microbiology*, 2020, 7.

5. Nutrition, Immunity and COVID - 19 - what have the last few months taught us ?

Awareness of the important role of nutrition, the gut microbiome and the immune system led to the launch of two Gut Microbiota For Health (GMFH) campaigns with the hashtag #GutTo KnowYou on behalf of World Digestive Health Day 2020 on May 29 and World Microbiome Day 2020 on June 27.



Did you Know?

The gut microbiome is a marker of not only gut health but also healthy aging and metabolic health



New research shows the keto diet, used to treat neurological and metabolic diseases, suppresses *Bifidobacteria* and *Th17* cells



Gut microbes in celiac disease show impaired metabolism of dietary tryptophan, according to researchers at McMaster University.

FROM THE REGULATORY WORLD

1. Four Criteria That Microorganisms Need to Meet in Order to Qualify as Probiotics - Frontiers in Microbiology- a Collaboration Between ISAPP and IPA Europe

Ref. Sylvia Binde *et al*, Front Microbiol 2020

Today, the word probiotic is used to describe all kinds of "good" microorganisms in foods and supplements. But this overly broad use of the term poses a scientific problem: it does not convey a distinction between bacterial strains that have a possible health benefit in humans, and strains that have a demonstrated health benefit, as shown in a human study. In a recent paper published in Frontiers in Microbiology scientists from ISAPP and IPA, describe four simple criteria for accurate use of the word PROBIOTIC. The paper was published by eight scientists, including two board members from the International Scientific Association for Probiotics and Prebiotics (ISAPP), and was initiated by IPA (International Probiotic Association) Europe.

The scientists agreed that for a bacterial strain or strains to be called a probiotic, it should be: (1) pure and properly named (or "characterized"); (2) safe for its intended purpose; (3) supported by at least one well-designed human clinical trial that shows a health benefit; and (4) maintained alive in the product in a high enough dose to convey its health benefits, all the way through its shelf life.

2. Harmonized Guidelines for Probiotics Being Developed by the Codex Alimentarius

Source - ISAPP newsletter (November 2020)

In December 2017, at the 39th session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) in Berlin, members of the Committee introduced in the agenda, a discussion of harmonized guidelines on probiotics for use in foods and food supplements. Argentina supported this initiative and proposed to lead the work. The first draft of the document was presented in 2018. The document to be revised to provide more clarity on the need to start work on this topic.

Early in 2019, Argentina convened a panel of local experts to contribute to the discussion of the paper. In November 2019, at the 41th meeting of the CCNFSDU, an updated version of the paper was presented. This revision clarified that the goal of the work was to produce a regulatory framework for the use of probiotics in food and food supplements. In the course of the debate, some delegations favored the topic, stressing the value of regulatory harmonization within the Codex.

After the debate, the Committee considered that the document needed further clarification, especially with regard to the scope and the issues raised in the discussion. Finally, it was agreed that Argentina and Malaysia would revise the document to be presented at the next plenary meeting of the Committee (42nd meeting), to be held in November 2020. It was agreed that in order to assess the need to work on this topic, the new proposal should include a justification for additional probiotic-specific criteria in accordance with the mechanism for assigning Committee priorities. Due to the COVID-19 pandemic, the 42nd meeting has been postponed until November 2021, and a deadline of March 2021 was set for submitting the revised paper to the CCNFSDU.

3. A panel of experts provide guidance regarding appropriate use and scope of the term 'synbiotic' The outcome of this panel has now been published as a consensus statement in Nature Reviews Gastroenterology & Hepatology.

Ref. Kelly S Swanson *et al*, Nature reviews Gastroenterology & Hepatology 17, 687-701 (2020)

The idea that prebiotics could be combined with probiotics to form synbiotics emerged in 1995. Now, a panel of experts under the auspices of the International Scientific Association for Probiotics and Prebiotics (ISAPP) updates the definition and scope of the word 'synbiotic'. The panel updated the new definition of a synbiotic (sometimes incorrectly referred to as 'symbiotic') as "a mixture comprising live microorganisms and substrate(s) selectively utilized by host microorganisms that confers a health benefit on the host".

NEWS CORNER

NAME	PLACE	DATE
Pioneer Hindi	New Delhi/Noida/NCR	27th May 2020

प्रोबायोटिक्स से इम्युनिटी बनाएं

गट माइक्रोबायोटा एंड प्रोबायोटिक्स साइंस फाउंडेशन (भारत)

याचनियर समाचार सेवा। नई दिल्ली

अंतरराष्ट्रीय जानकारी को चरणबद्ध करते हुए, गट माइक्रोबायोटा एंड प्रोबायोटिक्स फाउंडेशन (भारत) ने मंगलवार कोविड-19 महामारी के दौरान प्रोबायोटिक्स और इम्युनिटी के बीच गहरे संबंध को लेकर जानकारी साझा की है। यह जानकारी प्रोफेसर एनके गांगुली, प्रेसिडेंट, गट माइक्रोबायोटा एंड प्रोबायोटिक्स साइंस फाउंडेशन और पूर्व डायरेक्टर जनरल, भारतीय चिकित्सा अनुसंधान परिषद और डॉ. नीरजा हजेला, सेक्रेटरी, गट माइक्रोबायोटा एंड प्रोबायोटिक्स साइंस फाउंडेशन (भारत) ने दी।

हम अभी अपनी जिंदगी के सबसे मुश्किल दौर से गुजर रहे हैं, लेकिन हमें याद रखना चाहिये कि हर समस्या के पीछे उम्मीद की एक किरण छुपी होती है। कोविड-19



बीमारी का कहर जारी है, लेकिन अच्छी बात यह है कि यह हर किसी को प्रभावित नहीं कर रहा और कुछ लोगों में तो इसके लक्षण भी नजर नहीं आ रहे तो वहीं दूसरे तेजी से ठीक भी हो रहे हैं।

तो इसकी क्या वजह है कि अलग-अलग लोगों पर इसका प्रभाव अलग है। हाल ही में आस्ट्रेलिया में पीटर डोरीथी इंस्टीट्यूट में नेचर मेडिसिन में अध्ययनकर्ताओं द्वारा छपे एक दिलचस्प शोध से यह पता चला है कि इसका राज आपकी इम्युनिटी में छुपा है। मजबूत इम्युनिटी से इस वायरस से लड़ा जा सकता है और यह बीमारी का रूख मोड़ देता है। हमने इम्युनिटी को बेहतर बनाने के कई तरीकों के बारे में सुना है - यह आज मुख्य चर्चा का विषय बना हुआ है, खासकर जबकि इस बीमारी से लड़ने का कोई फंका इलाज या

वैक सांभान उपलब्ध नहीं है। हम सब इस बात को जानते हैं कि मजबूत इम्युनिटी एक सेहतमंद-संतुलित भोजन में छुपा होता है। जिसमें इम्युनिटी को बढ़ाने वाले पोषक तत्व, नियमित फ्रिजकल एक्टिविटी, पर्याप्त पानी और शांति दिमाग के लिये अच्छी मात्रा में नींद, शामिल है।

अभी हाल ही के वैज्ञानिक आंकड़े बताते हैं कि प्रोबायोटिक्स के साथ आंशों की सेहत को बेहतर बनाना इम्युनिटी बढ़ाने का एक और प्रभावी तरीका है। इसका तर्क सरल है - शरीर को लगभग 70 प्रतिशत इम्युनिटी आंत में पायी जाती है। यानी इम्युनिटी को बनाने के लिये यह बैक्टीरिया पर निर्भर करता है। यह सुनने में भले ही साइंस फिक्शन जैसा लगता हो, लेकिन हमारी आंत 1000 तरह के अलग-अलग 100 ट्रिलियन बैक्टीरिया का ठिकाना है। ये सभी एक साथ मिलकर हमारी इम्युनिटी बनाने का काम करते हैं।

NAME	PLACE	DATE
Dainik Bhaskar	New Delhi/Noida/NCR	28th May 2020

कोविड-19 के समय प्रोबायोटिक्स से इम्युनिटी बनाएं : गांगुली

समाचार सूचना

नई दिल्ली। अंतरराष्ट्रीय जानकारी को चरणबद्ध करते हुए गट माइक्रोबायोटा एंड प्रोबायोटिक्स फाउंडेशन (भारत) ने मंगलवार कोविड-19 महामारी के दौरान प्रोबायोटिक्स और इम्युनिटी के बीच गहरे संबंध को लेकर जानकारी साझा की है। यह



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तो इसकी क्या वजह है कि अलग-अलग लोगों पर इसका प्रभाव अलग है। हाल ही में आस्ट्रेलिया में पीटर डोरीथी इंस्टीट्यूट में नेचर मेडिसिन में अध्ययनकर्ताओं द्वारा छपे एक दिलचस्प शोध से यह पता चला है कि इसका राज आपकी इम्युनिटी में छुपा है। मजबूत इम्युनिटी से इस वायरस से लड़ा जा सकता है और यह बीमारी का रूख मोड़ देता है। हमने इम्युनिटी को बेहतर बनाने के कई तरीकों के बारे में सुना है - यह आज मुख्य चर्चा का विषय बना हुआ है, खासकर जबकि इस बीमारी से लड़ने का कोई फंका इलाज या

Building immunity with Probiotics in the times of Covid-19



insights were shared by Prof. N.K. Ganguly, President, Gut Microbiota and Probiotic Science Foundation (India) and Former Director General, Indian Council of Medical Research and Dr. Neeraja Hajela, Secretary, Gut Microbiota and Probiotic Science Foundation (India). As we navigate through the most difficult times of our lives, we must remember that behind every cloud there is a silver lining. While the dreaded COVID-19 disease continues to threaten us, the good news is that it does not affect everyone and some people are actually asymptomatic while others recover very quickly. So why do people respond differently. An interesting study published recently in Nature Medicine by researchers at the Peter Doherty Institute in Australia showed that the secret lies in your very own natural immunity. A strong immune system can actually fight the virus and divert the course of the disease. We have heard of various ways of boosting immunity - in fact it is the buzzword today especially with no defined treatment or vaccine available to fight the disease. We all know that the gold standard for a strong immune system remains a healthy well-balanced diet with immune boosting nutrients, regular physical activity, adequate hydration and good quality sleep for a well-rested mind. (1-7)

Ahmedabad, With a view to channelize international knowledge in the Gut Microbiota and Probiotic Science Foundation (India) today shared latest insights on the strong relation between Probiotics and immunity during the Covid-19 Pandemic. These

Probiotics can help

Ageing brings with it reduced immunity and several diseases. DR NEERJA HAJELA tells you how probiotics can help in improving intestinal health for better immunity

The fear of COVID-19 lurks everywhere. While children and adults are able to cope with the situation, it is the elderly who suffer the most. They are overcome with anxiety, fear and a sense of loneliness. Not only that, they are also worried about their health because of their weak immunity which makes them more vulnerable to the infection.

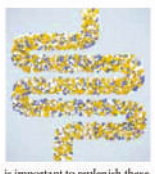
Intestinal health — linked to immunity
However, ageing is a natural process and immunity can be improved and maintained by eating a well-balanced diet and leading a healthy lifestyle. This is also a simple and practical way of reducing the risk of infections and need for antibiotics and medication.

More recently scientists have shown that it is also possible to build your immunity by improving intestinal health. This is because more than half the body's immune system is located in the intestine and

therefore besides digestion, the intestine, which is also the largest immune organ of the body, plays an important role in protecting us from diseases and infection.

Intestinal bacteria — important for intestinal health
The intestine however cannot function without bacteria and contains 100 trillion bacteria that weigh almost 1.5 kg. These bacteria are essential for digestion of food, absorption of nutrients and for training and developing the immune system. The kind of bacteria determines the strength of the immune system and therefore it is important to have more numbers of the beneficial ones also called probiotics for a well-balanced and strong immunity.

However, as we age, our intestines age too and there is a slow but steady decline of the probiotic bacteria. This is coupled with muscle weakness results in poor digestion and weak immunity. Therefore, it



is important to replenish these bacteria by increasing the consumption of scientifically tested probiotic products to strengthen the immune system.

Probiotics are closely associated with the immune system right from the moment we are born until we grow old. They are the first line of defence and shield us from invading bacteria and viruses.

they improve digestive function and help to improve their immunity.

Ageing also affects the immune system which increases the risk of catching cold, flu and pneumonia. A study published in the European Journal of Nutrition showed that regular consumption of a probiotic drink reduced the incidence of viral infections in a group of healthy elderly population.

There is some evidence that probiotics can improve brain function especially mood and depression which is common as we age. Probiotics therefore help you stay well by giving your immune system the boost that it needs and gain greater level of wellness.

With the close connection between the intestine, probiotics and immunity, it makes sense to improve intestinal health for better immunity.

Strong relation between probiotics and immunity

Explained: Why do people react differently to pandemic

[NT BUREAU]

(Chennai, May 27)

With a view to channelize international knowledge, the Gut Microbiota and Probiotic Science Foundation (India) has shared latest insights on the strong relation between Probiotics and immunity during the Covid-19 pandemic.

These insights were shared by Prof. N.K. Ganguly, president, Gut Microbiota and Probiotic Science Foundation (India) and former Director General, Indian Council of Medical Research and Dr. Neeraja Hajela, secretary, Gut Microbiota and Probiotic Science Foundation (India).

As we navigate through the most difficult times of our lives, we must remember that behind every cloud there is a silver lining. While the dreaded Covid-19 disease continues to threaten us, the good news is that it does not affect everyone and some people are actually asymptomatic while others recover very quickly.

So why do people respond differently? An interesting study published recently in Nature Medicine by researchers at the Peter Doherty Institute in Australia showed that the secret lies in your very own natural immunity. A strong immune system can actually fight the virus and divert the course of the disease.

We have heard of various ways of boosting immunity - in fact it is the buzzword today especially with no defined treatment or vaccine available to fight the disease. We all know that the gold standard for a strong immune system remains a healthy well-balanced diet with immune boosting nutrients, regular physical activity, adequate hydration and good quality sleep for a well-rested mind.



AWARDS & FELECITATIONS

Our Foundation Members Recognised as Top 2 % of The Global Scientists by Stanford University



Prof. B. S. Ramakrishna

*Gastroenterology & Hepatology
SRM Institute of Science & Technology*



Prof. G. B. Nair

*Microbiology
Rajiv Gandhi Centre for Biotechnology*



Prof. Anura V Kurpad

*Nutrition and Dietetics
St. John's Medical College*



Dr. Bhabatosh Das

Associate Professor, Translational Health Science and Technology Institute was selected for the International Life Sciences Institute-India (ILSI-India) Young Scientist Award 2021 for Improving Public Health in the Areas of Food Safety, Nutrition, Gut Microbiome and Wellbeing.

MYTHS AND FACTS

Myth 1:

You should eliminate fibre from your diet for a healthy gut

Fibre helps us feel fuller for longer, aids digestion and prevents constipation. There is strong evidence that eating lots of fibre lowers the risk of heart disease, stroke, type 2 diabetes, bowel cancer and more. Furthermore, many fibrous foods are also prebiotics, making them an excellent choice for digestive health.

Myth 2:

Gut health equates to healthy digestion.

Gut health goes beyond just digestion! In fact, a gut in distress has been associated with Inflammatory Bowel Disorders (IBD), inflammatory skin diseases such as psoriasis and atopic dermatitis, autoimmune arthritis, type 2 diabetes, obesity, and atherosclerosis.

Myth 3:

Plant - based foods cannot assist you in improving lean muscle mass

There are a variety of plant-based foods that can be incorporated in your diet and aid your 'lean machine' fitness journey. Pea protein, for example, contains all 9 essential amino acids! Consumption of pea protein has been shown to increase gut-commensal *Bifidobacterium* and *Lactobacillus*.

Myth 4:

Dietary alterations don't cause microbial shifts before a 6-week period.

We now know that diet plays a crucial role in shaping the microbiome. Some experiments have noted that dietary alterations can induce large, temporary microbial shifts within 24 hours.

FORTHCOMING EVENTS IN PROBIOTICS 2021-22

- 1. The 8th Beneficial Microbes Conference-**
Date: 22-24 MARCH 2021
Link: beneficialmicrobes2021.org
- 2. Spring Conference 2021: Gut Microbiome and Health**
Date: 29-30th March 2021
Link: <https://www.nutritionociety.org/events/spring-conference-2021-gut-microbiome-and-health>
- 3. 2nd International Conference and Exhibition on Probiotics, Nutrition and Functional Foods, Dublin, Ireland**
Date: 24-25 May, 2021
Link: <https://probiotics.alliedacademies.com>
- 4. 11th International Conference on Probiotics and Prebiotics**
Date: June-28-29, 2021
Link: probioticsfood.foodtechconferences.com
- 5. Microbiome and Probiotics R & D Business Collaboration Forum: Europe**
Date: 9-10th sept 2021, Rotterdam, Netherlands
Link: www.global-engage.com/event/microbiota
- 6. Probiotic, Human & Skin Microbiome 2021**
Date: Sept 27-28 2021
Link: biotechpharmasummit.com/index.php/probiotics-human-skin-microbiome-2021/
- 7. 29th World Congress on Diet, Nutrition and Obesity (Webinar)**
Date: April 13 -14 2021
Link: <https://dietcongress.nutritionalconference.com/>
- 8. 3rd International Conference and Exhibition on Probiotics and Functional Foods-2022, Chicago, Il, Usa**
- 9. 10th Annual Congress on Probiotics, Functional Foods & Nutraceuticals-2022**
- 10. International Conference on Probiotics and Prebiotics-2022**

for more information contact
www.gutfoundation.org.in