

AHMEDABAD MEDICO NEWS Registered under RNI No. GUJENG/2006/17532
Published on 27th of Every Month under Regd. No. GAMC / 1548 / 2022-2024 issued
by SSP Ahmedabad. Valid upto 31-12-2024 and Permitted to Post at without Prepayment
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NAME OF THE PRINTING PRESS & ADDRESS :- **HITESHKUMAR & COMPANY**
AMRUT INDUSTRIAL ESTATE, DUDHESHWAR, AHMEDABAD - 380 004.
M. 77780 11951, 92288 85157 | 77780 11951 | E-mail : hiteshkumarandco@gmail.com

Month Face Value Rs. 08=00 - Yearly Face Value Rs. 96=00

AHMEDABAD MEDICAL ASSOCIATION

(Branch of Indian Medical Association) ESTD : 1902
AHMEDABAD MEDICO NEWS

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Dr. JITENDRA SHAH
President - AMA



Dr. GARGI PATEL
Hon. Secretary - AMA

Imm. Past President - **Dr. DILIP GADHAVI**

VOL. 17

JANUARY-2023

ISSUE - 9

HIGHLIGHTS

Programme

- 03-02-2023 Scientific Programme
- 05-02-2023 વર્ષગીતી કવિ સંમેલન
- 19-02-2023 Scientific Programme
- 05-03-2023 Scientific Programme

Article

Probiotics and Prebiotics
Advancing Health through Innovation

IMA NATCON 2022 AT PRAYAGRAJ



Please Save Mob. No. : 97268 88775 of AMA to get regular updates on WhatsApp

'TOGETHER WE CAN, TOGETHER WE WILL'

Message from President's & Hon. Secretary's Desk

Dear members

We like to start message here with a quote of a wise person,

“The price of inaction is far greater than the cost of making a mistake.”

Friends, mistakes are inherent part of any action; so, we can't refrain from doing something in fear of mistakes; otherwise, we may face lots consequences of inactions. Accepting this fact, we move on doing the all the possible tasks, which make our association more strong & vibrant; & we also expect the possible support & actions from all the members of association. We know the present era is full of challenges, problems & uncertainty, not only for our fraternity, but also for each & every fields of the society. Yet, when we revisit on the thoughts of Albert Einstein, we would realize,

“You can't solve a problem on the same level that it was created. You have to rise above it to the next level.”

So, let's work together, learn together, celebrate

together & rise together as entire medical fraternity keeping its legacy as always in the past.

The participation in scientific programmes always remains a major concern for any association everywhere. We try to keep diversity of topics & diverse way of presentations to make it more interesting. Still, if just considering it as platform of knowledge sharing, we can't achieve beyond what we could have from internet; but, if we consider it as platform to discuss & debate on our experiences of day to day practice, we can get much more for our own.

Please remember, we shall no longer accept the things we cannot change; rather shall change the things that cannot accept. Let's initiate the change in mindset for our practice, change the attitude towards our colleagues, & make necessary changes for our view towards our association & our society at large. We are sure, we will find the positive changes.

On beginning of 2023 with healthy month of January, we wish all of you to remain happy & healthy throughout the year.

Jai AMA

Jai IMA

Dr. Jitendra Shah

President

Ahmedabad Medical Association

Dr. Gargi Patel

Hon. Secretary

Ahmedabad Medical Association



IMA NATCON 2022 AT PRAYAGRAJ



IMA NATCON 2022 AT PRAYAGRAJ



IMA NATCON 2022 AT PRAYAGRAJ



President of Ahmedabad Medical Association **Dr. Jitendrabhai Shah** along with Library Secretary **Dr. Sahil Shah** met Honourable Health Minister **Shri Rushikeshbhai Patel** at his residence and congratulated him for winning election of Gujarat Assembly and on becoming Health Minister of Gujarat State.

Shri Rushikeshbhai Patel also discussed various issues pertaining to health care, newer advancement in medical field and also assured that government along with Indian Medical Association, Ahmedabad is ready to combat any situation of corona pandemic if it arises.



Scientific Programme on "How to prevent aging" 21-02-2022



Scientific Programme on "How to prevent aging" 21-02-2022



Scientific Programme on 22-01-2023



DJ Party on 30-12-2022



Ladies Club Programme



A.M.A. BULLETIN INDEX

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WE WELCOME FOLLOWING NEW LIFE MEMBERS

12293	L	DR. RUPALA ANKIT GOVINDBHAI
12294	L	DR. AKHANI SONU LALITBHAI
12295	LC	DR. NATHANI RAHUL CHANDRAKUMAR
12296	LC	DR. MUSANNA SAMAN SAYED AHMAD
12297	L	DR. DAGINAWALA TAHA ASIF
12298	L	DR. PATEL CHIRAG PIYUSHKUMAR
12299	L	DR. PATEL HIMANSHU BHARATBHAI
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12305	LC	DR. PATEL NEEL BHAILALBHAI
12306	LC	DR. PATEL KUSHALI DILIP
12307	LC	DR. AGRAWAL SAGAR ASHOKBHAI
12308	LC	DR. AGRAWAL NISHA SAGAR
12309	L	DR. AGRAWAL AKASH ASHOKBHAI
12310	LC(Transfer)	DR. JAYESH VAZIRANI ANILKUMAR
12311	LC(Transfer)	DR. KHYATI PUROHIT GAUTAM
12312	L	DR. CHOKSHI AAYUSHI ABHILASH

AHMEDABAD MEDICAL ASSOCIATION YEAR : 2022-2023**OFFICE BEARER**

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Dr. URVESH SHAH	Dr. ARPIT PRAJAPATI	Dr. K. R. SANGHAVI

Scientific Programme :**A hybrid CME on 'HIGH FEVER MANAGEMENT'**

As per directives from IMA HQs. , Ahmedabad Medical Association is organising a CME on 'HIGH FEVER MANAGEMENT' in association with CIPLA for the fever treating physicians. The CME will be in hybrid mode (Physical & online)

Date : 3rd February, 2023

Time : 1.30 pm to 4.30 pm

Details of Program

1.30 pm to 2.20 pm : Lunch & registration.

2.20 pm to 2.30 pm : WELCOME by AMA PRESIDENT

2.30 pm to 4.30 pm : Live transmission from the main center

Coordinator : Dr Bipin Patel

Please register at **AMA office** at **079-26588775**
during **2.00 pm to 6.00 pm**

Dr. Jitendra Shah
President, AMA

Dr. Gargi Patel
Hon. Secretary, AMA

Dr. Shantilal A. Shah & Dr. Tanumati G. Shah
Scientific programme

Ahmedabad Medical Association will be organizing a scientific programme in Association with Abbott, India on **05 - 03 - 2023, Sunday, 10.30 am onwards**. The topics will be on Contraception & menopause. Further details will be shared in next month. May register yourself at AMA office at 079-26588775 during 2.00 pm to 6.00 pm for the event.

Co-ordinator : Dr. Jignesh Shah

Dr. Jitendra Shah
President, AMA

Dr. Gargi Patel
Hon. Secretary, AMA

Dr P. P. Mehta Scientific Programme

As proposed by IMA HQs., Ahmedabad Medical Association organizes CME on "DECODING COUGH & FEVER CLINIC" in association with Dr Reddy's Lab

Date : 19 - 02 - 2023

Time : 10.30 am onwards

Venue : AMA, Ashram road

Programme details :

10.30 am : Welcome & introduction of CME

10.35 am to 11.20 am :

Topic : "Simplify cough management in India"

Speaker : **Dr Amrish Patel, Pulmonologist**

11.20 am to 12.05 pm :

Topic : "Fever management in post covid era"

Speaker : **Dr Yogesh Gupta, Physician**

12.05 pm to 12.15 pm : Q-A

12.15 pm : vote of thanks

Moderator : Dr. Kamlesh Patel, Microbiologist

The programme will be followed by Lunch
Please register at **AMA office** at **079-26588775**
during **2.00 pm to 6.00 pm**

Dr. Jitendra Shah
President, AMA

Dr. Gargi Patel
Hon. Secretary, AMA

THE LAST & ONLY CHANCE....

LAST DATE TO APPLICATION FOR B.U. PERMISSION & IMPACT FEES FOR THE REGULARISATION OF BUILDING IS 15/02/2023. SO, THOSE WHO HAVE NOT DONE THE PROCEDURE YET, SHOULD DO IT BEFORE THE DUE DATES.

અમદાવાદ મેડીકલ એસોસિયેશન દ્વારા આયોજિત તબીબી કવિ સંમેલન

“ કવિતાની કેડીએ ”

તો દોસ્ત હવે સંભળાવ ગઝલ, બહુ એકલવાયું લાગે છે,
તે મૂક હથેળીમાં મખમલ બહુ એકલવાયું લાગે છે. (હેમેન શાહ)

મહામારીમાં ઘણા કપરા વર્ષ વિતાવ્યા પછી આવો દોસ્તો !

ફરીથી સાહિત્યના ચોરા પર રંગત જમાવીએ.

સૌ સંગાથે કવિતાની કેડીએ ફરી પ્રવાસ કરીએ..

કવિગણ : સતીન દેસાઈ 'પરવેઝ', દીનાબેન શાહ,
ઉર્વીશ વસાવડા, અશોક પટેલ, વિનીત પરીખ,
જયદીપ શાહ, મોલીન શાહ, ગુરુદત્ત ઠક્કર

સંચાલન : ગુરુદત્ત ઠક્કર

તારીખ : ૦૫ - ૦૨ - ૨૦૨૩, રવિવાર

સમય : સાંજે ૫.૦૦ કલાકે

સ્થળ : અમદાવાદ મેડીકલ એસો. હોલ, નટરાજ સિનેમા પાસે,
આશ્રમ રોડ, અમદાવાદ.

રજીસ્ટ્રેશન નિ:શુલ્ક પરંતુ ફરજિયાત છે. અમદાવાદ મેડીકલ એસોસિયેશન - ફોન : 079-26588775

ડૉ. જીતેન્દ્ર શાહ

પ્રમુખ, એ.એમ.એ.

ડૉ. ગાર્ગી પટેલ

સેક્રેટરી, એ.એમ.એ.

Report of Scientific Programme on 21-01-2023

A Programme on “HOW TO PREVENT AGING” was organised on 21st January; It was very well attended; around 125 delegates were present. The speakers, Dr Ranjan Raval, Dr Krina Patel, Dr Arti N Shah, Dr Bansari Mahadevia & Dr Nilam Raval presented their topics very nicely. The latest equipment was brought at the Venue so that all delegates can understand it in detail and lastly mind soothing mediation was performed. Dr Kalpita Dave moderated the event. High tea was served at the end. Overall, it was worth attending.

Congratulations

Dr. Jitendra B. Patel - honoured with IMA Dr. A. K. N. Sinha National award for outstanding & distinguished services.

Following members of Ahmedabad Medical Association also have received prestigious awards from Indian Medical Association at IMA NATCON, 2022, Prayagraj

Dr. Mehul Shah
Dr. Ninaben Bhalodia
Dr. Gargi Patel
Dr Girish Modi
Dr. Abhijat Sheth
Dr. Mahesh B. Patel

Dr. Anuja Desai
Dr. Dhaval Naik
Dr. Manish Khaitan
Dr. Rakesh Joshi
Dr. Dilip Mavalankar
Dr. Yogendra Modi



Dr. Pragnesh Vachharajani for being Hon. General Secretary Federation of Family Physicians' Association of India for year 2023-25.



Dr. Atul Gandhi
Consultant Anaesthesiologist
Received "ISA PROFICIENCY AWARD" From INDIAN SOCIETY OF ANAESTHESIA at ISACON 2022 Shilong..

Congratulations



Dr. Kalpesh Shah for being elected as National Vice President of IRIA for the year 2023.

Report of 30th December- A year end celebration

On 30th December, 2022 Ahmedabad Medical Association organized "DJ Dance a year end celebration" especially for young doctors in which more than 550 persons including resident doctors, interns doctors and undergraduate medical students participated with great zeal and enthusiasm. At the end young doctors were encouraged to get involved in scientific and entertainment activities catered by Ahmedabad Medical Association and they were asked to be member of largest and renowned IMA (for those who are not members) to have benefits and get help of being members and also to help the fraternity for good shake in the development brotherhood among the doctors.

Report of Scientific Programme on 22-1-2023

A scientific programme was organised in association with Shalby Hospital on 22 – 01 – 23, Sunday, 10.30 am to 12.30 pm at Hotel Fortune Park, Near Gujarat College, Ahmedabad. Dr Ashish Sheth, Senior Arthroplastic surgeon talked on Recent Advances in Joint Replacement Surgeries. Dr Anil Solanki explained about Digital Spine Surgery. Both the lectures were quite informative. Dr Gunjit parmar & Health coach Dr Bhumi Patel nicely delivered talk on "Is it possible to reverse lifestyle disease naturally?" The session was quite interesting. Event was nicely co-ordinated by Dr. Jatin Sanandia & Dr Gunjit Parmar. The CME was followed by delicious lunch. Total 60 members participated the event.

OBITUARY

May their soul rest in eternal peace.



DR. SURAYA B. JANI

L-304 GYNC/D.G.O.

Date of Birth : 08-08-1941

Date of Death : 19-12-2022



DR. ANWAR IBRAHIM MANSURI

L-2739 DOMS/OPH

Date of Birth : 08-10-1949

Date of Death : 17-12-2022



DR. DILIP K. PADIA

L-166 M.D. PHYSICIAN

Date of Birth : 03-02-1957

Date of Death : 11-08-2022

We send our sympathy & condolence to the bereaved family.

DISCLAIMER

Opinions in the various articles are those of the authors and do not reflect the views of Ahmedabad Medical Association. The appearance of Advertisement is not a guarantee or endorsement of the product or the claims made for the product by the manufacturer.

PROFESSIONAL PROTECTION SCHEME; G.S.B. I.M.A.

"P. P. S. House", Beside Sakar-V Building, Nr. Mithakhali Railway Crossing,
Off Ashram Road, Navrangpura, Ahmedabad-380009. Tele No. : 079-2658 8929
E-mail : ppsgsbima1@yahoo.in Website : www.ppsgsbima.com
Attention Please !! - ALL THE MEMBERS OF P.P.S.

RENEWAL NOTICE : 2023-2024

For the FY 2023-24 Annual Membership Contribution will be as below:
MBBS : ₹. 100/- Specialists : ₹. 500/-

Office Time for Payment : 2-00 p.m. to 6-00 p.m. LAST DATE OF PAYMENT 31-03-2023

Dear Member,

"For the FY 2023-24 annual membership contribution will be as below :
MBBS- ₹. 100/- Specialists- ₹. 500/-.

For the subsequent years fee structure will be as per the committee's decision.

Thanking You - Professional Protection Scheme, GSB, IMA

Professional Protection Scheme has already sent a notice along with a Renewal Application form for renewing the membership before 31st March, 2023 for the year 2023-2024 "By Registered Post January 2023 to all the members.

We request you to draw kind attention towards the constitution of P.P.S.G.S.B.I.M.A.

Clause 10/B :- A member who does not pay the annual membership fee in advance – before 31st March (before the expiry of the indemnity cover) shall be discontinued without any notice.

Clause 10/C :- However if a discontinued member wants to revive his/her membership within one month of the expiry of the indemnity cover he/she shall pay annual membership fee only, but the indemnity covered shall be provided from the day of revival of the membership."

Clause 10/D :- After one month if a member wants to rejoin the scheme, he/she shall be treated as a new member and he/she shall have to pay admission fees as well as annual membership fees."

For Online : **Renewal**
Please visit our
Website : www.ppsgsbima.com

Bipin M. Patel
Dr. Bipin M. Patel
Chairman

વેડીઝ-કલબ**નારી સમાજસ્ય કુશલવાસ્તુક્કરા।**

"બીલી વસંત, વન ફૂલ ભર્યા મહેકે, ગાતા ફરે ભ્રમર, કોકિલ નાદ લહેકે
ઉડે સુગંધ કણ પુષ્પતણા રસોના, આધા સુધાય ગગને સ્વર સારસોના
એક પાંદડી આપો આખું ફૂલ નહીં માંગુ, એક પાંદડી આપો મારા રાજ, આખી રે વસંત મારી એ રહી"

વસંતના વધામણા પછી ચાલો ફરી મળીએ આગામી કાર્યક્રમો જોઈએ એ પહેલા આપણને ગત મહિનામાં મળેલા બે સુંદર કાર્યક્રમ વિષે વાત કરીએ.

- (૧) તા. ૨૪-૧૨-૨૦૨૨ ના રોજ આપણે "નાતાલ ઉજવણી" DJ ડાન્સ સાથે કરી સૌ બહેનોએ ઉત્સાહપૂર્વક ભાગ લઈ આનંદભરે ઉજવણી કરી.
આ કાર્યક્રમ આપણને સુરાંજલી કલબના ફાઉન્ડર "ઉમેશ શર્મા" દ્વારા સ્પોન્સર કરવામાં આવ્યો.
- (૨) તા. ૧૦-૦૧-૨૦૨૩ ના રોજ "ભાવનાબેન મોદી" એ એક્યુપ્રેશર, કલરથેરાપી અને મેગનેટ થેરાપી વિષે ખૂબ સરસ માહિતી આપી અને એક્યુપ્રેશર સાધનોનો ડેમો પણ આપ્યો.
સૌ બહેનોએ આ થેરાપીની સમજ લીધી.

આગામી કાર્યક્રમો આ પ્રમાણે છે**કાર્યક્રમ નં. ૧ : વાનગી હરિફાઈ**

તા. ૧૩-૦૨-૨૦૨૩ ના રોજ કુકીંગ ડેમોસ્ટ્રેશન અને વાનગી હરિફાઈ તેમજ કુકીંગ ટીપ્સ અને વાનગી વિષેની પ્રશ્નોત્તરી રાખવામાં આવી છે.

આપણા પહેલા વક્તા છે. અલ્પાબેન શાહ જે આપણને એક ફૂટ પલ્પ બનાવતા શીખવશે અને એક મુખવાસની રેસીપી આવશે.

આપણા બીજા વક્તા છે. આપણા પાસ્ટ પ્રેસીડેન્ટ "રસોઈ શો" ના જાણીતા "સુમીરાબેન શાહ" જે વાનગી હરિફાઈના જજ રહેશે તેમજ કુકીંગ ટીપ્સ અને વાનગી પ્રશ્નોત્તરી ના એક્સપર્ટ તરીકે બહેનોના પ્રશ્નોના જવાબ આપશે.

વાનગી હરિફાઈમાં બહેનોએ લીલા શાકભાજીમાંથી બનાવેલી પૌષ્ટિક વાનગી ઘરેથી બનાવીને લાવવાની રહેશે. વાનગી સ્પર્ધામાં ભાગ લેનાર બહેનોએ અગાઉથી નામ નોંધાવવાના રહેશે.

કાર્યક્રમ નં. ૨ : પિકનિક

તા. ૨૦-૦૨-૨૦૨૩ ના રોજ આપણે સૌ પિકનિકની મજા માણીશું.

પિકનિક સ્થળ : કલરવ - ૩, અમીપુરા, બાવળા.

વિસ્તૃત માહિતી વોટ્સએપ મેસેજ દ્વારા જણાવવામાં આવશે.

શ્રીમતી સુષમા નયન શાહ
પ્રમુખ - મો. ૯૩૨૮૦૮૩૩૬૯

ડૉ. જુતેન્દ્ર શાહ
પ્રમુખ, એ.એમ.એ.

શ્રીમતી જશનાબેન મહેતા
માનદ્ મંત્રી - મો. ૯૭૨૫૩૭૩૨૩

ડૉ. ગાગી પટેલ
માનદ્ મંત્રી, એ.એમ.એ.

Probiotics and prebiotics

Probiotics have been defined as viable microorganisms that (when ingested) have a beneficial effect in the prevention and treatment of specific pathologic conditions. These microorganisms are believed to exert biological effects through a phenomenon known as colonization resistance, whereby the indigenous anaerobic flora limits the concentration of potentially pathogenic (mostly aerobic) flora in the digestive tract. Other modes of action, such as supplying enzymes or influencing enzyme activity in the gastrointestinal tract, may also account for some of the other physiologic effects that have been attributed to probiotics. Conversely, prebiotics are nondigestible food ingredients that beneficially affect host health by selectively stimulating the growth and/or activity of 1 or a limited number of bacteria in the colon. The prebiotic, fructooligosaccharide (FOS), is found naturally in many foods, such as wheat, onions, bananas, honey, garlic, or leeks. They can also be isolated from chicory root or synthesized enzymatically from sucrose. Fermentation of FOS in the colon results in a large number of physiologic effects including increasing the numbers of bifidobacteria in the colon, increasing calcium absorption, increasing fecal weight, shortening of gastrointestinal transit time, and possibly lowering blood lipid levels. Other effects that have been observed in animal models include an increase in cecal weight and an increase in fecal nitrogen excretion. The increase in bifidobacteria has been assumed to benefit human health by producing compounds to inhibit potential pathogens, by reducing blood ammonia levels, and by producing vitamins and digestive enzymes.

The health benefits imparted by probiotics and prebiotics as well as synbiotics have been the subject of extensive research in the past few decades. These food supplements termed as functional foods have been demonstrated to alter, modify and reinstate the pre-existing intestinal flora. They also facilitate smooth functions of the intestinal environment. Most commonly used probiotic strains are: *Bifidobacterium*, *Lactobacilli*, *S. boulardii*, *B. coagulans*. Prebiotics like FOS, GOS, XOS, Inulin; fructans are the most commonly used fibers which when used together with probiotics are termed synbiotics and are able to improve the viability of the probiotics.

Probiotics

The term Probiotics is derived from a Greek word meaning "for life". The latest definition put forward by FDA and WHO jointly is "Live microorganisms which when administered in adequate amounts confer a health benefit to the host".

Some of the popularly used probiotic microorganisms are *Lactobacillus rhamnosus*, *Lactobacillus reuteri*, bifidobacteria and certain strains of *Lactobacillus casei*, *Lactobacillus acidophilus-group*, *Bacillus coagulans*, *Escherichia coli* strain Nissle 1917, certain enterococci, especially *Enterococcus faeciumSF68*, and the yeast *Saccharomyces boulardii*. These probiotics are added to foods, particularly fermented milk products, either singly or in combinations. New genera and strains of probiotics are continuously emerging with more advanced and focused research efforts.

Probiotic products may contain either a single strain or a mixture of two or more strains. A single strain may

exhibit different benefits when used individually and in combination. The benefits of a probiotic formulation also differ with the patient group. Limited studies that have been performed have shown greater efficacy with multi-strain probiotics. Research on probiotics, in particular Lactobacilli, has grown exponentially during the last two decades.

Prebiotics

Prebiotics are mostly fibers that are non-digestible food ingredients and beneficially affect the host's health by selectively stimulating the growth and/or activity of some genera of microorganisms in the colon, generally lactobacilli and bifidobacteria.

An ideal prebiotic should be

- 1) Resistant to the actions of acids in the stomach, bile salts and other hydrolyzing enzymes in the intestine
- 2) Should not be absorbed in the upper gastrointestinal tract.
- 3) Be easily fermentable by the beneficial intestinal microflora

WHO defines prebiotics as a non-viable food component that confer health benefit(s) on the host associated with modulation of the microbiota. Prebiotics form a group of diverse carbohydrate ingredients that are poorly understood with reference to their origin, fermentation profiles, and dosages required for health effects. Some of the sources of prebiotics include: breast milk, soybeans, inulin sources (like Jerusalem artichoke, chicory roots etc.), raw oats, unrefined wheat, unrefined barley, yacon, non-digestible carbohydrates, and in

particular non-digestible oligosaccharides. However, among prebiotics only bifidogenic, non-digestible oligosaccharides (particularly inulin, its hydrolysis product oligofructose, and (trans) galacto-oligosaccharides (GOS), fulfil all the criteria for prebiotic classification.

Prebiotics like inulin and pectin exhibit several health benefits like Reducing the prevalence and duration of diarrhea, relief from inflammation and other symptoms associated with intestinal bowel disorder and protective effects to prevent colon cancer. They are also implicated in enhancing the bioavailability and uptake of minerals, lowering of some risk factors of cardiovascular disease, and promoting satiety and weight loss thus preventing obesity.

Recently several plant and bacterial sources have been explored for their benefits as prebiotics and probiotics. Some of the novel prebiotics and probiotics have been enlisted in Table. It is expected that this will remain an active area of research.

Synbiotics

A synbiotic product beneficially affects the host in improving the survival and implantation of live microbial dietary supplements in the gastrointestinal tract by selectively stimulating the growth and/or activating the metabolism of one or a limited number of health-promoting bacteria. Because the word "synbiotics" alludes to synergism, this term should be reserved for products in which the prebiotic compound(s) selectively favor the probiotic organism(s). Synbiotics were developed to overcome possible survival difficulties for probiotics. It appears that the rationale to use synbiotics, is based on observations showing the improvement of survival of the

probiotic bacteria during the passage through the upper intestinal tract. A more efficient implantation in the colon as well as a stimulating effect of the growth of probiotics and ubiquitous bacteria contribute to maintain the intestinal homeostasis and a healthy body.

Several factors like pH, H₂O₂, organic acids, oxygen, moisture stress etc. have been claimed to affect the viability of probiotics especially in dairy products like yogurts.

The probiotic strains used in synbiotic formulations include *Lactobacilli*, *Bifidobacteria spp*, *S. boulardii*, *B. coagulans* etc., while the major prebiotics used comprise of oligosaccharides like fructooligosaccharide (FOS), GOS and xyloseoligosaccharide (XOS), inulin, prebiotics from natural sources like chicory and yacon roots, etc.

The health benefits claimed by synbiotics consumption by humans include:

- 1) Increased levels of lactobacilli and bifidobacteria and balanced gut microbiota,
- 2) Improvement of liver function in cirrhotic patients,
- 3) Improvement of immunomodulating ability,
- 4) Prevention of bacterial translocation and reduced incidences of nosocomial infections in surgical patients, etc.

Health benefits of probiotics, prebiotics and synbiotics

The most important and documented beneficial effects of probiotics include the prevention of diarrhea, constipation, changes in bile salt conjugation, enhancement of anti-bacterial activity, anti-inflammatory. Furthermore, they also contribute to the synthesis of nutrients and

improve their bioavailability; some probiotics are known to exert anti-oxidative activity in the form of intact cells or lysates. Probiotics have also demonstrated their inherent effects in alleviating symptoms of allergy, cancer, AIDS, respiratory and urinary tract infections. There are stray reports on their beneficial effects on aging, fatigue, autism, osteoporosis, obesity and type 2 diabetes.

As shown below a number of mechanisms are thought to be associated with probiotic beneficial effects:

1. Production of inhibitory substances like H₂O₂, bacteriocins, organic acids, etc.,
2. Blocking of adhesion sites for pathogenic bacteria.
3. Competition with the pathogenic bacteria for nutrients,
4. Degradation of toxins as well as the blocking of toxin receptors,
5. Modulation of immune responses.

The fact is -

The probiotics, with support of prebiotics & symbiotics, help our body to fight against infections & many other diseases. Inversely, we believe in antibiotic. Unfortunately, with inadvertent use of antibiotics, we kill the natural ecosystem (probiotics) of our body & harm ourselves more than getting positive effect of antibiotics. International data says, with antibiotic therapy, in around 25 % we get benefits while in 75% usage is only harmful. The situation is perhaps more alarming in developing countries where there is no restriction on use of antibiotics.

Advancing Health Through Innovation : New Drug Therapy Approvals in 2022 by U.S. F.D.A. (Part I)

A. Notable examples of Novel first-in-class approvals:

- **Daridorexant Tablets** : is an Oral **Dual Orexin Receptor Blocker (OX1+OX2)** - antagonizes orexin neuropeptide mediated wakefulness. Approved for **insomnia in adults**.
- **Mavacamten Capsules** : is a first ever drug approved for **Hypertrophic Obstructive cardiomyopathy (HOCM)** in which the heart muscle thickens, making it harder to pump blood. It works by **inhibiting cardiac myosin** (cells involved in muscle contraction) and was developed by Bristol Myers Squibb. It improves functional capacity of heart and thus symptoms.
- **Tirzepatide Injection** : is approved to improve glycemic control in **adults with type 2 diabetes**, as an addition to diet and exercise. **Tirzepatide** is a first-in-class medication that activates two hormone receptors, **glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP)**, hormones that directly control insulin secretion. which leads to improved glycemic control. It was developed by Eli Lilly and Company
- **Teplizumab-mzwv Injection** : is approved to delay the onset of **Stage 3 type 1 diabetes** in adults and pediatric patients aged 8 years and older with Stage 2 type 1 diabetes. It is the **first drug approved** for this indication. It deactivates the immune response against

these insulin-producing cells, slowing the progression of type 1 diabetes. It was developed by Provention Bio.

- **Faricimab-svoa** : is a biologic humanized bispecific antibody - a vascular endothelial growth factor (VAGF) and angiopoietin-2 (Ang-2) inhibitor developed by Roche. It is an intravitreal injection solution to treat **age-related wet macular degeneration and diabetic macular edema**, where abnormal growth of blood vessels in the retina cause blurring and loss of vision.
- **Lenacapavir Injection** : is approved for **adults with HIV** who have previously received many HIV therapies and whose disease cannot be treated with other available drugs due to resistance, intolerance, or safety concerns. Lenacapavir is a small molecule (subcutaneous injection) therapy administered 6-monthly to patients with HIV in combination with other antiretroviral(s). It **binds to the outer shell of HIV viruses, preventing its breakdown and the release of viral RNA into the host cell**. It was developed by Gilead Sciences.
- **Voquezna Triple Pak (vonoprazan, amoxicillin, and clarithromycin) and Voquezna Dual Pak (vonoprazan and amoxicillin)** : are co-packaged products containing combinations of tablets and capsules to treat adults with **H. pylori infection**. Vonoprazan is a **potassium-competitive acid blocker (PCAB)** that inhibits H⁺, K⁺-ATPase-mediated gastric acid secretion.
- **Omidenepag Isopropyl Ophthalmic Solution** : is a small molecule drug (ophthalmic solution—eye drops) for reducing intraocular pressure in **Glaucoma and**

Ocular Hypertension. It is a **Prostaglandin E2 (EP2) receptor activator** and was developed by Santen Pharmaceutical.

- **Deucravacitinib Tablets** : is a small molecule drug (oral tablet) to treat **Plaque Psoriasis**, an autoimmune skin disease. It is a **Tyrosine Kinase 2 (TYK2) inhibitor** developed by Bristol Myers Squibb.

B. Notable examples of Orphan Drug Designation approvals (Novel Drug for rare diseases):

- **Vutrisiran Injection** : is approved to treat **polyneuropathy in adults with Hereditary Transthyretin-mediated Amyloidosis**, a disease that leads to organ and tissue dysfunction. It is a gene-silencing drug developed by Alnylam Pharmaceuticals.
- **Sutimlimab-jome Injection** : is a **CD11b enzyme inhibitor** that prevents the autoimmune response and reduces the need for transfusion due to hemolysis in adults with **Cold Agglutinin Disease (CAD)**, a rare type of anemia.
- **Mitapivat Tablets** : is a **Pyruvate kinase (PK) activator** that treats PK deficiency. Approved to treat **hemolytic anemia in adults with pyruvate kinase deficiency**, an inherited disorder that causes premature red blood cell destruction.
- **Taurusodiol and Sodium Phenylbutyrate powder for Oral Solution** : is approved to treat **amyotrophic lateral sclerosis (ALS)**, a progressive neurodegenerative disease that affects nerve cells in the brain and spinal cord.

- **Spesolimab-sbzoIV Injection** : is approved to treat flares in patients with **generalized pustular psoriasis**, a life-threatening skin disease. It is the **first approved treatment** for this disease. It is a biologic monoclonal antibody that inhibits the **inflammatory interleukin-36 receptor** and was developed by Boehringer Ingelheim.
- **Terlipressin Injection** : is approved to improve kidney function in adults with **Hepatorenal Syndrome**, a rare form of impaired kidney function in people with advanced liver disease. It is the **first approved medication** for this condition. It increases blood flow to the kidneys by **preventing vasopressin receptors (that cause blood vessel constriction) from activating**. It was developed by Mallinckrodt.
- **Olipudasealfa-rpcpIV Infusion** : is approved to treat **non-central nervous system manifestations of acid sphingomyelinase deficiency (Niemann-Pick disease type A, B, A/B)**. This is the **first treatment** for this inherited disease that affects the body's ability to metabolize fat and can impact the lung, liver, and spleen. It is a biologic enzyme replacement drug.
- **Ganaxolone Oral Suspension** : is approved to treat **seizures associated with cyclin-dependent kinase-like 5 deficiency disorder (CDD)** in patients aged two years and older. This is the **first treatment** for seizures associated with CDD and the first treatment specifically for CDD, a type of brain dysfunction caused by gene mutations.

C. Other Novel Drug Approvals

- **Abrocitinib Tablets** : is a **Selective Janus kinase 1**



(JAK1) inhibitor developed by Pfizer. Approved to treat unmanageable, moderate-to-severe **atopic dermatitis** (eczema).

- **Tapinarof Cream** : is approved for the topical treatment of adults with **plaque psoriasis**, a condition that causes dry, itchy, raised skin patches. It is an **aryl hydrocarbon receptor (AhR) activator** developed by Dermavant Sciences.
- **Oteseconazole Capsule** : is a small molecule drug (oral capsule) used to treat **recurrent vulvovaginal candidiasis** (chronic vaginal yeast infection). The antifungal works by **inhibiting CYP51, preventing fungal growth and development**. It was developed by Mycovia Pharmaceuticals.
- **Daxibotulinumtoxin A-lanm Injection** : is a biologic cosmetic drug (intramuscular injection) to **treat glabellar (frown) lines**. It is an **acetylcholine inhibitor** that was developed by Revance Therapeutics.
- **Ublituximab Injection** : is a biologic (intravenous injection) therapy for treating **Multiple Sclerosis (MS)**, an autoimmune condition that targets the brain and spinal cord. It is a **monoclonal antibody that targets the CD20 receptor on abnormal B cells**, leading to their destruction. It was developed by TG Therapeutics.

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