B O M R I M

Bulletin on Microvita Research and Integrated Medicine

Vol.14 No.3 December 2022 ISSN 2321 – 2349

Contents:

Editorial

Bull. Microvita Res. Integr. Med. 2022; 14(3):28-29.

Dietary nutrients and Mental health

It is well said that "As you think so you become" but what you think depends on what you eat. In this context, it can be said that "what you eat so you think." This thinking process, the cognition is dependent on many factors out of which the nutrition or the nutrients in the diet, the type of diet (sentient or static) and the amount of diet matter a lot.

Yoga psychology has categorized the food depending on its effect on body and mind. Sentient food is good for mind and body. It includes grains, pulses, vegetables, fruits, nuts and dairy products. Static food, which may or may not be good for body but invariably, is harmful for the mind. Such static food includes rotten food, meat, fish eggs, onion, garlic, mushrooms, alcohol etc.[1]

Modern scientific research has disclosed the relationship between the food and functioning of the brain. Healthy diet increases the production of new neurons (neurogenesis) as well as their connections (synaptic plasticity). The result of neurogenesis and synaptic plasticity leads to better learning, thinking and memorizing[2]. Unhealthy diet, on the other hand, causes the body to release too much of a type of stress hormone that activate the brain`s microglia and astrocytes at the time when their activation does not require. This activation process can lead to inflammation of certain parts of the brain. Inflammation in the hippocampus negatively affects the cognitive abilities and even leads to depression[3].

Several dietary components have been identified to have effects on cognitive abilities. This includes polyunsaturated fatty acids, flavonoids, vitamins and minerals. These dietary factors affect multiple brain processes by regulating the neurotransmitter pathways, synaptic transmission, membrane fluidity and signal-transduction pathways[4]. Omega-3 polyunsaturated fatty acids are normal constituent of cell membranes and are essential for normal brain function. Human studies have revealed that dietary deficiency of omega-3 fatty acids is associated with increased risk of mental disorders including attention-deficit disorder, dementia, depression, bipolar disorder and even schizophrenia[5].

Omega-3 fatty acids belong to the class of poly-unsaturated fatty acids. They are of three kinds among which Docosahexaenoic acid (DHA) and Eicosapentaenoic acid (EPA) are found in certain fish and alpha-linolenic acid (ALA) is present in nuts and seeds. These are essential nutrients, which the body cannot synthesize and therefore, we rely on dietary supplement[2]. In contrast to the health effects of omega-3 fatty acids, diets with high contents of trans and saturated fats adversely affect cognition[6]. Animal studies evaluating the effects of "junk food" (high content of saturated fat and sucrose) , have shown a decline in cognitive performance and reduced hippocampal levels of BDNF-related synaptic plasticity after only three weeks of dietary consumption[7].

Flavonols are part of the flavonoid family found in various fruits, cocoa, beans and medicinal plants. Flavonols, though having strong antioxidant effects *in vitro*, have more complex actions *in vivo*. Dietary supplementation of plant-derived flavanol epicatechin, has

shown to cross the blood-brain barrier, elevated indices of synaptic spine density and angiogenesis and increased hippocampus-dependent memory in mice[8].

Folate or folic acid is found in various foods, including spinach, orange and yeast. Adequate levels of folate are essential for proper functioning of the brain. Deficiency of folate can lead to neurological disorders, such as depression[9]. Folate supplementation has been found to be effective in preventing cognitive decline and dementia during aging[10]. FACIT trial has shown that a three year folic acid supplementation can help to reduce the age–related decline in cognitive function[11].

In a nutshell, for the proper performance of brain functions in order to have a good mental health, a healthy diet is mandatory which includes food rich in omega-3 fatty acids, proper amount of carbohydrates, proteins, calcium, vitamins, minerals and fibers. However, unhealthy foods containing high amount of sugars and fats should be avoided.

Sarkar[12] has thrown light on the plants beneficial for mental health and mental ailments. The present issue of BOMRIM has described few such plants such as *Bacopa monnieri, Centella asiatica* and *Enydra fluctuans*.

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-- S. K. Verma

***Bull. Microvita Res. Integr. Med.* 2022; 14(3): 30-35.**

P. R. Sarkar's recommendation of herbs for nervous system disorders

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'The doctor of the future will give no medicine but will interest their patients in the care of human frame in diet and in the cause and prevention of disease'- Thomas Edison

Abstract

Neurodegenerative diseases as well as disorders causing changes in cognitive functions, adversely effect mental health and overall the quality of life. Plants mentioned in traditional and folk medicine bring a big hope for treatment of several ailments and diseases of nrvous system. In this regard, P.R. Sarkar has described several plants for treatment of various disorders including insomnia, memory loss, nerve problems, etc. In the present article, three plant species mentioned by him, namely, *Bacopa monnieri, Centella asiatica* and *Enydra fluctuans* are discussed in context with modern research evidences for their neuro-protective potential. Efforts will be made to highlight the scientific properties of all those plants mentioned by Shrii Sarkar for nervous disorders in future articles.

Keywords: Neurodegenerative diseases, cognition, medicinal plants, *Bacopa monnieri*

Introduction

The physical energy that forms an important part of psychic energy is a transmuted form of vital force that operates each and every phenomenon in this universe. All the living organisms ingest it in the form of food and drink or imbibe it from air and sun to maintain a ceaseless source of supply for their survival. The electromagnetic currents in our nerve cells and nerve fibres, the chemical reactions in our body machine, the mechanical contractions of our heart and skeletal muscles are nothing but derivatives of this physical energy. The physical energy controls the body machine by regulating the electrical impulse in our nerve cells and nerves fibres as well as by adjusting the secretions of our hormones. Mind meets body in these nerve cells and hormones. Our thoughts and emotions crystallize into the molecules of our neural juices called the neurotransmitters and into hormones that control the metabolism of body.

Nervous system is one of the most important components of the human body. It is a complex network of sensory nerves, and performs numerous crucial biological activities as well as responds to both internal and external stimuli through a variety of physical movements. The central nervous system (CNS) is able to perform such essential functions with the help of nerves and cells that carry messages from the brain and spinal cord to the rest of the body and vice versa. When the activities of these nerves and cells are disrupted, the central nervous system fails to perform its basic functions. Memory and thinking depend on the transmission of signals across 100 billion neurons in the brain. To avoid suffering from

any CNS diseases and conditions, it is essential that we include such foods that act as medicines to strengthen and nourish the nervous system[1].

Neurodegenerative Diseases

Neurological diseases are medically defined as disorders that affect the brain as well as the nerves found throughout the human body and spinal cord. Structural, biochemical or electrical abnormalities in the brain, spinal cord or other nerves can result in a rage of symptoms that are clearly observed in clinical practice. Neurodegenerative diseases occur when nerve cells in the brain or peripheral nervous system lose function over time and ultimately die. Although some neurodegenerative disease symptoms can be alleviated with particular medications or therapies, there are presently no known treatments that can stop the disease's progression. These illnesses are characterised by the progressive death of neurons, which then jeopardize the patient's physical and mental well-being.

Neurodegenerative diseases affect body's many activities, such as balancing, movement, talking, breathing, and heart function and can be serious or life-threatening depending on the type. Some of the examples of degenerative nerve diseases are, Alzheimer's disease, Friedreich ataxia, Huntington's disease, Lewy body disease, Parkinson's disease, Spinal muscular atrophy etc. Many of these diseases are genetic and mostly without any cure. Treatments still alleviate certain symptoms and in some instances also reported to increase mobility[1].

Medicinal plants are the back bone of traditional medicine. Traditionally, the uses of plant preparations have passed from generation to generations. As synthetic drugs can lead to lung and kidney toxicity, many scientists are vigorously searching for better and effective treatment of those patients. Plants are naturally rich in therapeutic value, more eco-friendly, have lesser side effects and have been subsequently studied for utilization in medical applications. Several herbs useful to strengthen the nerve cells, nerve fibres and hormones and which directly affect the physical and mental health of an individual are suggested by Shrii P.R. Sarkar (2011)[2]. In this article, a few of those herbs, namely, *Thankuni, Brahmi* and *Helencha* with their traditional uses as well as their utility as per the modern medicine and scientific tools have been discussed. Shrii Sarkar recommends use of both *Thankuni* [*Centella asiatica* Urb.] and *Brahmi* [*Bacopa monnieri* Wettst.] for various nervous problems. He suggests that both are medicine for nerve diseases and insomnia and act as nervine tonic and good memory enhancer. These plants are excellent for the treatment of nervous debility and all types of diseases of nerves. Moreover, these herbs also help to restore back the mental balance[3].

Mandukaparni, Thankuni

Centella asiatica Urb.

This perennial herbaceous creeper belongs to the family Apiaceae and known as Indian pennywort, Asiatic pennywort, *Gotukola, Brahmi, Mandukaparni, Thankuni* etc. in different languages. It grows well in most tropical and subtropical countries particularly, in swampy areas, including parts of India, Pakistan, Sri Lanka, Madagascar, and South Africa

and South pacific and Eastern Europe. It can be found all over India, growing in damp areas up to an altitude of 1800 m. It is a plant that grows in and around water and has no flavour or odour. It has tiny green leaves in the shape of a fan, along with white, light purple to pink or white flowers. The flowers are followed by small, oval fruit. The entire plant is employed as a medicine. It is a very soft ground hugging creeper with frog like leaves, which spread on all sides like a frog on wet and dry land. The green leaves are round coin shaped and grow in groups of two or three. The bitter tasting leaves are consumed as vegetable in eastern parts of India, mainly in west Bengal, Assam and Manipur[4].

Due to its adaptability and effectiveness, which have been supported by several scientific investigations, *C. asiatica* is becoming more and more well-known in the present era. Several phytochemicals are present in *C. asiatica* for example, hydrocotyline, asiaticoside, centelloside, centellicin, asiatic acid, thankunuside, isothankuniside, scentellin, asiaticin, brahmoside, brahmic acid, ascorbic acid, madecassoside, madasiatic acid etc. Moreover, cardioprotective, antidiabetic, anti-inflammatory, antioxidant, antiapoptotic, antiulcer, hepatoprotective, neuroprotective, antidepressant, nootropic, cholinomimetic, anticonvulsant, sedative, immunostimulant, cytotoxic, wound healing, antipsoriatic, antimicrobial properties of *C. asiatica* have been demonstrated in several scientific studies[5].

Aqueous extract of its leaves has shown significant enhancement in learning and memory as well as decreased the levels of norepinephrine, dopamine and 5-HT and their metabolites in the rat brain. Anti-depressant action of its total triterpenes was observed by significant reduction in the serum corticosterone levels. Even, significant increase in general ability and behaviour patterns of mentally retarded children was observed after oral administration of *C. asiatica* tablets. Neuro-regenerative capacity of *C. asiatica* on the central nervous system has been evaluated in several studies[6,7].

Improvement in neuritis was observed by Asiatic acid (AA), a pentacyclic triterpene, in an *in vitro* experimental model. AA significantly reduced glutamate-induced cognitive deficits and oral administration (100 mg/kg) also improved lipid peroxidation and GSH, and the activity of superoxide dismutase in the hippocampus and cortex to control levels. Ethanolic extract of *C. asiatica* (2 mg/mL) had shown more rapid functional recovery of toe-spread and walking onset and also increased axonal regeneration in Sprague-Dawley rats with sciatic bilateral nerve crush. According to studies, *C. asiatica* exhibits comprehensive neuroprotection through a variety of mechanisms, including enzyme inhibition, preventing the development of amyloid plaques in Alzheimer's disease, reducing dopamine neurotoxicity in Parkinson's disease, and reducing oxidative stress. As a result, it could be recommended as a potential phytopharmaceutical with neuroprotective effects that evolved from traditional

medicine. In experimental studies, its hydroethanolic extracts demonstrated anticonvulsant, anxiolytic, and sedative properties[8].

Brahmi

Bacopa monnieri Wettst.

Bacopa monnieri Wettst. (Family - Plantaginaceae) also known as Water Hyssop or Brahmi, is a creeping perennial with small oblong leaves and purple flowers, found in warm, wet, damp and marshy places. It is native to India and Sri Lanka and grows throughout East Asia and the United States.

The entire plant is medicinally very important. Chronic and moderate administration of *B. monnieri* appears to nourish rather than deplete neurons over time, which is consistent with 1400 years of Ayurvedic research. It was first listed as a medhya rasayana-class herb used to hone intelligence and lessen mental impairments in writings from the 6th century A.D., including the Charaka Samhita, Atharvaveda, and Sushuta Samhita. According to legend, ancient Vedic scholars utilised the herb to help them memorise lengthy holy chants and writings[9]. For students taking exams, Shrii Sarkar advises using Bramhii ghee or syrup as a preventative measure[2].

B. monnieri contains alkaloid brahmine, nicotinine, herpestine, bacosides A and B, saponins A, B and C, triterpenoid saponins, stigmastanol, β-sitosterol, betulinic acid, D-mannitol, stigmasterol, α-alanine, aspartic acid, glutamic acid, and serine and pseudojujubogenin glycoside. The plant has shown several pharmacological activities including memory enhancing, tranquillizing, sedative, antidepressant, neuroprotective, antioxidant, cognitive, anticancer, antianxiety, adaptogenic, antiepileptic, gastrointestinal, smooth muscle relaxant effects, cardiovascular, analgesic, antipyretic, anti-diabetic, anti-arthritic, anticancer, antihypertensive, antimicrobial, anti-lipidemia, anti-inflammatory, and hepatoprotective activities[10,11].

Characteristics of saponins called “bacosides”, particularly bacoside A, have been considered to be the major bioactive constituents responsible for the cognitive effects of *B. monnieri*. The neuronal impulse transmission is enhanced by bacosides A and B. Regeneration of synapses and repairing of damaged neurons has also been demonstrated by Bacosides. Serotonin levels of brain were also increased by Brahmi. It has shown to enhance brain function by assisting in synaptic activity restoration, neuronal synthesis, and the healing of injured neurons. Extracts of *B. monnieri* has shown to inhibit Amyloid-β-mediated toxicity suggesting its beneficial role for treatment of Alzheimer's disease. For three months, 40 school children between the ages of 6 and 8 exhibited improvements in their immediate memory, perception, and reaction times after daily taking Bacopa in syrup form, equivalent to

1 g of dry Bacopa. After 12 weeks administration, Bacopa had its greatest impact on anxiety reduction, learning rate, memory consolidation, and visual information processing speed[12,13].

Helencha

Enydra fluctuans Lour.

This small herb is member of family Asteraceae. It is known as *Hingcha Sag, Helancha, Helencha, Hilamocika* etc. It is native to Assam, Cambodia, Bangladesh, Ethiopia, West Himalaya etc. In eastern India, it is used as a vegetable[14]. Shrii Sarkar[2] suggests that this leafy vegetable helps in the functioning of the brain and is almost as beneficial as leaves of *Brahmi*. It is recommended for dietary inclusion in epilepsy.

It contains carbohydrates, myricyl alcohol, saponins, tannins, flavonoids, phenols, kaurol, cholesterol, melampolide, stigmasterol, sitosterol, glucoside, sesquiterpene lactones including germacranolide, enhydrin, fluctuanin and fluctuandin, a number of diterpenoid acids and their isovalerate and angelate derivatives. It has also shown many pharmacological activities such as cytoprotective, neuroprotective, antidiabetic, CNS depressant, antioxidant, analgesic, anti-inflammatory, antimicrobial, anticancer, antidiarrheal, antihelmintic, hepatoprotective, thrombolytic, phagocytic and cytotoxic activities[15]. In scientific studies, *E. fluctuans* was found to posses the CNS depressant activity. Neuropharmacological effects of three fractions of aerial parts were studied using mice models. Results showed significant spontaneous motility depressant, sedative, anticonvulsant and anti-stress activity. A high free radical scavenging and antioxidant potential of flavonoids in the ethyl acetate fraction of *E. fluctuans* was observed in Swiss albino mice besides analgesic and anti-inflammatory activity[15,16].

Acknowledgement

Author acknowledges the help of the websites for procuring the pictures of the three plants discussed in the present article.

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Secretarial Desk

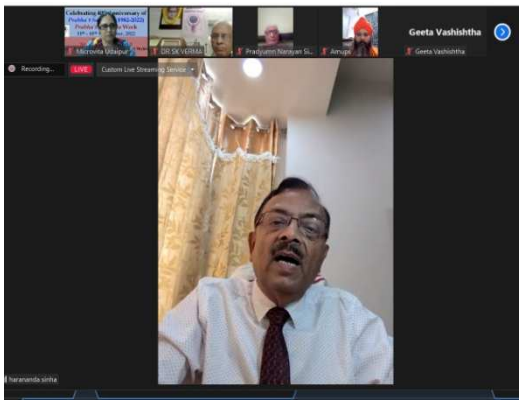
Celebration of *Prabha`t Samgiita* Week (11.9.22-18.9.22)

Inauguration – 11 September, 2022

**Prabha`t Samgiita Week** was celebrated by Society for Microvita Research and Integrated Medicine (SMRIM) and Renaissance Universal (RU), Udaipur from 11th to 18th September, 2022 on the occasion of 40th Anniversary of Prabha`t Samgiita (1982-2022). Inauguration of the week was organized on Sunday, 11th September, 2022 in a virtual program. The program started with playing of Prabhat Samgiita no. 123 '*Sharat Oi Ase, Oi Ase, Oi Ase*' as a tribute to the composer of these songs Shrii Prabhat Ranjan Sarkar who has composed 5018 melodious songs in a very short span of 8 years and 36 days.

After welcoming all the guests and participants, SMRIM Secretary and moderator of the program, Dr. Vartika Jain gave a brief introduction to Prabha`t Samgiita (PS) and the theme behind organizing the PS Week. She said that on 14th September, 1982, Shrii Sarkar gave first PS in Deoghar and the day is celebrated as PS Day. President SMRIM & RU, Dr S K Verma introduced the Keynote speaker of the inaugural function, Shrii Harananda from Gurugram who retired as Principal Chief Security Commissioner from Indian Railways.

Shrii Harananda spoke on '*Prabhat Samgiita mei Sharad Ritu'*. He said that all the six seasons have been depicted in PS through various examples and Autumn season (*Sharad ritu*)



is one of them. He told that Shrii Sarkar has mentioned in several PS that clarity of goal is must in one's life and for reaching towards that goal, one must leave the baggage of past and dogmatic thoughts and move continuously as movement is real Dharma and staticity is death (*Egiye chale praner dharma*). He said that optimism is the base of almost every PS and promotes a spiritual aspirant to move towards the Supreme entity.

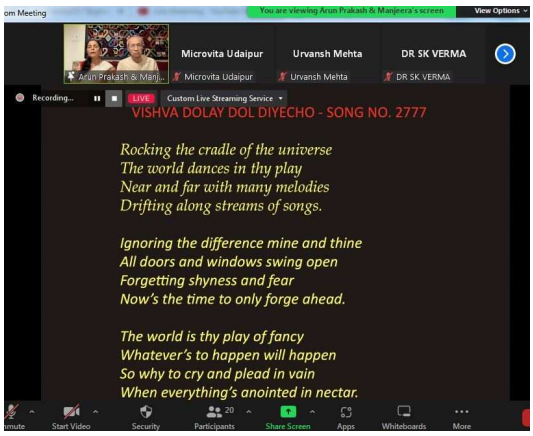
Queries of all the participants were also resolved by the Shrii Harananda in the question and answer session. The program was smoothly conducted on Zoom platform with live streaming on YouTube. In the end, convener of the program Shrii Dinesh Sharma proposed a vote of thanks to all the participants, eminent speaker, and the entire organizing team.

Celebration of *Prabha`t Samgiita* Day -14 September, 2022

Society for Microvita Research and Integrated Medicine (SMRIM) and Renaissance Universal (RU), Udaipur celebrated Prabha`t Samgiita Day on Wednesday, 14th September, 2022 in both offline and online modes. This celebration was the second program organized under ***Prabha`t Samgiita Week***.

The offline program was inaugurated by Diocese Secretary Av. Ananda Krishna Acarya by garlanding and lighting the lamp in front of the picture of Shrii P. R. Sarkar; the composer of 5018 songs of Prabhat Samgiita. Then different Prabhat Samgiita were sung by participants depicting various feelings of a spiritual aspirant.

An online program was also organized on the same day in the evening on Zoom platform. The program was initiated by Mrs. Manjeera Bhattacharya, singing a Prabhat Samgiita "*Tumi Nandan Vane Candan*". Dr. Urvansh Mehta, as a moderator of the program introduced the Keynote speaker of the event, Commander Arun Prakash Bhattacharya from New Delhi to the audience.



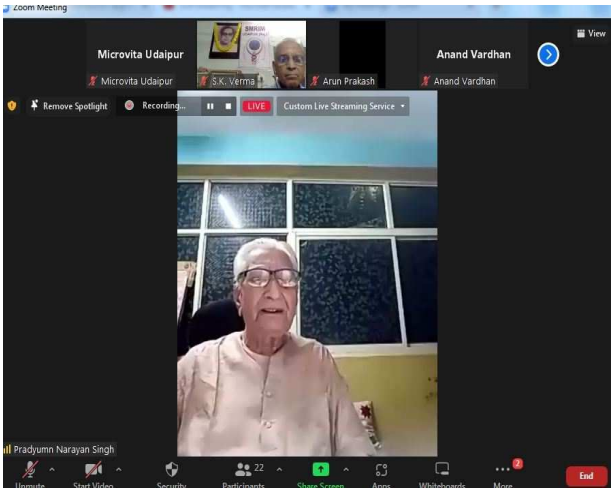
Commander Bhattacharya discussed various aspects of Prabhat Samgiita including its language, lyrics, melody, *taal*, seasons and occasions on which PS has been given. He said that devotion is the most valuable treasure of humanity and a path of divinity and this is reflected through many Prabhat Samgiita. Neohumanism is another concept given by Shrii Sarkar which is reflected in 30 PS leading humanity for plants, animals and non-living things too. He said that Shrii Sarkar has used melodious tunes, lyrics and dance to PS in both material and spiritual worlds giving a complete depiction of Samgiita in its true meaning. He further said that PS are immortal songs as a reality of the hour with full of optimism. The program was ended by a Prabhat Samgiita *'Tomare Bhalobheschi, Tomar Katha Bheve jay*' sung by Mrs. Manjeera Bhattacharya

Dr S K Verma, President SMRIM & RU, Udaipur gave thanks to the speaker and to all the participants who joined the program from India and abroad. He said that PS are fountain of optimism and the soul of mysticism encompassing all the strata of life and every human emotion. The program was smoothly conducted on Zoom and also delivered through live broadcasting on YouTube.

Experiences with *Prabhat Samgiita* – 16 September, 2022

The third virtual talk of the **Prabha`t Samgiita Week** was held on Friday, 16th September, 2022. The program started with playing of Prabhat Samgiita no. 4505 *'E Gan Amar Jeevaner Ananda Dhara*'. Then President SMRIM & RU, Dr. S. K. Verma introduced the Keynote speaker, Shrii Pradyumn Narayan Singh from Purnea, Bihar who served Ranchi University as a lecturer of Anthropology for many years.

Shrii Pradyumn Narayan Singh shared his life's experiences with *Prabhat Samgiita.* He said that Prabhat Samgiita (PS) is ajourney from the physical world to the spiritual world. PS is a precious gift given by Shrii P. R. Sarkar whose background was prepared decades ago before 14 September 1982 when the first PS was given. He served as secretary of Aungika Society and sung a PS in Aungika '*Tora vaaste Hamra Prabhu*' which was given in Raag Bageshri and explains the feelings of a spiritual aspirant when Supreme Being arrives, then all the darkness of life has gone just as a full moon light. He said that if feelings of devotee are like 'Radha' then Lord is compelled to arrive and the relationship between a devotee and Lord is just like two sides of a paper. Further, he emphasized that PS is an eternal flow of love which will sustain for eras to come and depicts each and every emotion as a dialogue between a spiritual aspirant and his beloved Lord.

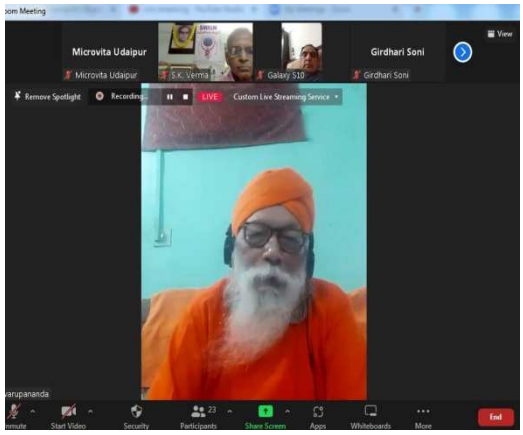


Moderator of the program, Dr. Vartika Jain, Secretary, SMRIM told that this series of virtual talks are being arranged on the occasion of 40th Anniversary of Prabha`t Samgiita (1982-2022) which was composed by Shrii Prabhat Ranjan Sarkar in a very short span of 8 years and 36 days. In the end, a question and answer session was held. After that, Dr Verma proposed a vote of thanks to the keynote speaker, all the participants, and the entire organizing team.The program was smoothly conducted on Zoom platform with live streaming on YouTube.

"*Prabha`t Samgiita*", a relentless flow of devotion – 18 September, 2022

On Sunday, 18th September, 2022, the fourth virtual talk of the **Prabha`t Samgiita Week** celebrated by Society for Microvita Research and Integrated Medicine (SMRIM) and Renaissance Universal (RU), Udaipur was held. The program started with playing of Prabhat Samgiita no. 274, '*Tomar a`sa` java hoye na kabhu prabhu*'. Then, President SMRIM & RU, Dr S K Verma introduced the Keynote speaker, Senior Acarya of Ananda Marga, Shrii Svarupananda Avdhuta.

Acarya Svarupananda Avdhuta discussed history and historical events related to *Prabhat Samgiita* (PS). He said that *Prabhat Samgiita* is an epic of this era whose depth, height and core will be known to everyone after thousands of years. He said that Prabhat Samgiita (PS) has been given by Shrii P. R. Sarkar only for the welfare of all. It teaches the art of expressing every sentiment to our beloved Lord and how to please him. It can only be understood with a pure heart like a child and can help in reaching toward the ultimate goal of life. In fact, the 'PS is expressed as if the Lord enacting as a devotee and calling the Lord himself'. He explained the pain of a devotee as expressed in PS 255 '*Ami Tomar Lagiya Jagiya Rahechi, Satat Tomari Path Ceye*' in which a devotee is asking Lord for his grace to move ahead on the path of spirituality. PS is the extreme devotional expression of a spiritual aspirant, for example, where a devotee says that if my crying with tears gives you pleasure, then let me cry and continue your play in this mortal world.

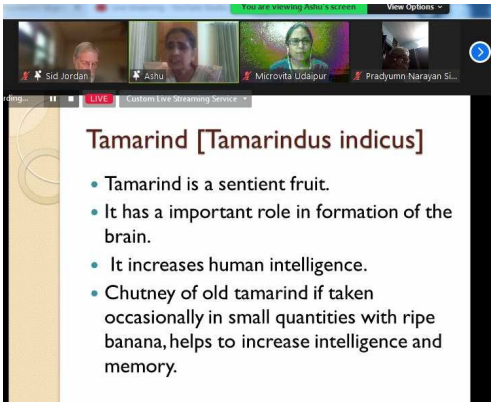


In the end, Dr. Verma gave thanks to Acarya Svarupananda ji for creating a devotional environment through explanation of PS among the spiritual aspirants. Moderator of the program, Dr. Vartika Jain, Secretary, SMRIM said that this was the concluding session of Prabhat Samgiita week which was celebrated on the occasion of 40th Anniversary of Prabha`t Samgiita (1982-2022). Participants from all corners of the country joined the program on the Zoom platform as well as on YouTube and appreciated the effort made by RU and SMRIM in the direction of propagating the philosophical mystery of Prabhat Samgiita. In this way, the Prabhat Samgiita week was celebrated. It is worth mentioning here that in January, 2022, SMRIM also organized a first National Seminar on Prabhat Samgiita (NSPS-2022) in virtual mode which was much appreciated by many participants.

International Seminar held on Psycho-spiritual Well-being 2nd October, 2022

Society for Microvita Research and Integrated Medicine (SMRIM) Udaipur, Rajasthan, India organized an International Seminar on Psycho-spiritual well-being" on the Zoom platform on Sunday, 2nd October, 2022. Seminar was started with playing of a Prabhat Samgiita no. 2304 ' *Se Kon Prabháte Ďhálile... '*. In the beginning, SMRIM President and convener of seminar, Dr. S. K. Verma welcomed all the participants and the Keynote speakers of the seminar.

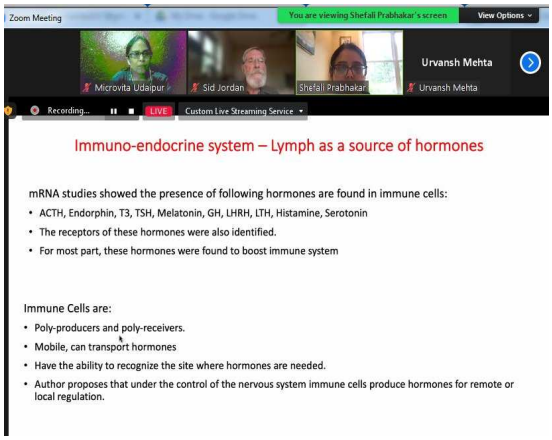
First eminent speaker was Dr. Ashu who is an Ayurveda Practitioner at Jamshedpur.



She discussed about various plants such as *giloy, shankhalu, imli, kalami sag, punarnva, thankuni, lajwanti, ghi-karela, bhumikushmanda* etc. mentioned in Yaogic Cikitsa book by Shrii P. R. Sarkar for treatment of various mental conditions. Dr Ashu also showed that there are some aromatic plants which can also affect mental health as well as what kind of dietary changes are required for a person with mental ailments. She also said that plants have been used for maintenance of mental health since ancient times and today modern evidence proves their efficacy for such conditions.

The second distinguished speaker, Dr. Sid Jordan, joined the virtual seminar from the USA. He spoke on the Sacred quartet of Physical, Psychic and Spiritual Wellbeing. He told that plant based diet, proper yaogic postures (Asan), good company and neo-humanist service, tantra and yoga based spiritual practice for development of mental layers (kosha) of mind, and creating balance (prama) in physical, psychic and spiritual spheres in individual and collective arena and overall applying subjective approach through objective adjustment is required for psycho-spiritual well-being. Dr Jordan further discussed the role of positive microvita in psycho-spiritual solutions for wellness in both individual and collective life. He proposed various experiments to be carried out through an interdisciplinary approach for the impact of microvita on psychic

development leading to spiritual upliftment ; in a nutshell the progressive journey from unit consciousness to supreme consciousness.



Shefali Prabhakar, Senior scientist at USA was the third eminent speaker and she discussed how food affects the body and mind through the lymphatic system. She said that a good Lymphatic system is required for a disease-free mind and body. Lymph has two main functions of providing immunity and controlling inflammation which are responsible for development of modern diseases such as diabetes, metabolic disorder, arthritis, cancer, obesity etc. She discussed the importance of plant-based diets and antioxidants in improving thymus functions in view of modern scientific research.

Organizing secretary of the seminar, Dr Vartika Jain said that this seminar is planned on the occasion of Mental Illness Awareness Week which is usually observed in the first week of October in the USA. As the mental ailments are increasing exponentially, the need for psycho-spiritual well-being is the need of the hour. Moderator of the talk, Dr. Urvansh Mehta said that more than 60 participants attended the Seminar from the country and abroad. The program was also streamed live on Youtube. In the end, Dr. Vartika extended heartfelt thanks to all the speakers for delivering excellent deliberations. Queries of all the participants were also resolved in the question and answer session.

Webinar on Effective Writing in Scientific Research by SMRIM & IBS, Udaipur, India

Society for Microvita Research and Integrated Medicine (SMRIM), Udaipur, and Indian Botanical Society (IBS) - Udaipur Chapter jointly organized a webinar on Effective Writing in Scientific Research on Tuesday, 4th October, 2022 on Zoom platform. Moderator and organizing secretary of the webinar, Dr. Vartika Jain welcomed the keynote speaker and all the participants of the webinar. Then she introduced the eminent speaker of the event, Dr. Deeksha Dave who is working as an assistant professor in Environmental Studies, School of Interdisciplinary and Transdisciplinary Studies, IGNOU, New Delhi, India.

Dr. Deeksha spoke on the basics of writing effectively in scientific research. She discussed the difference between academic science writing and general public scientific writing and explained all the important features of scientific writing. She said that there are five stages of scientific research and on every step, the author has to be vigilant. Dr. Dave emphasized that while writing one should avoid sesquipedalian words, flowery description, duplication of words, inconsistent use of terms and jargon and apply fog index to make the article more readable. She further said that a proper citation is required to make the document authentic and effective editing is a very important step before finalizing the document for publication. Dr Dave also talked about various ethical issues in authorship and motivated students to write early and write often to fetch the deadline of their research work in time.

Several queries of the participants related to effective writing were resolved by Dr Deeksha. Webinar was also streamed live on YouTube. In the end, convener of webinar, Dr. Vineet Soni, Head, Dept. of Botany, Mohan Lal Sukhadia University, Udaipur gave thanks to Dr Dave for delivering an excellent deliberation and motivating students and scholars for writing efficiently to get effective publication in reputed journals. Dr Soni also acknowledged the support of the entire organizing team for successfully conducting the webinar.

What is Microvita ?

Microvita:
Micro- Small, *Vita*- Living
Definition:
Entities or objects which come within the realm of both physicality and psychic expressions, which are smaller or subtler than atoms, electrons or protons; and in the psychic realm, may be subtler than ectoplasm or its extra-psychic coverage; endoplasm have been termed as "Microvita" (Singular- *Microvitum*) by Shrii P. R. Sarkar.
Physicality: The position of microvita is just between ectoplasm and electron, but they are neither ectoplasm nor electron.
Categories:
A) Based on density or subtlety -
First: Coming within the scope of a highly developed microscope.
Second: Not coming within the scope of a perception but coming within the scope of perception as a result of their expression or actional vibration.
Third: Not coming within the scope of common perception but coming within the scope of a special type of perception which is actually the reflection of conception within the periphery of perception.
B) Based on nature -
1. Positive 2. Negative 3. Neutral/Ordinary

Movement:

- Move throughout the entire universe.
- Move unbarred, without caring for the atmospheric conditions.
- Move through a medium or media sound, form, figure, smell, tactuality or ideas.

Root cause of life:
Microvita create minds and bodies and also destroy minds and physical bodies. The root cause of life is not the unicellular protozoa or unit protoplasmic cell, but this unit microvitum.

Aims and Objectives of SMRIM

1. To propagate the knowledge and science of microvita by psycho-spiritual practice in individual and collective life.
2. To increase moral values, to generate scientific thinking, to remove dogma with the spread of knowledge of microvita at School, College and University levels.
3. To initiate and inspire about research on Yogic, Vaedic, Naturopathic, Ayurvedic and Homoeopathic schools of medicine.
4. To incorporate faculty of Physics, Chemistry, Botany and Medicine for research on microvita and integrated medicine; including research on medicinal plants and Homoeopathic medicine.
5. To organize free medical camps in villages and cities involving specialists of different system of medicine.
6. To publish result of the research in national and international journals and interact with other people working in the field in and out of the country.
7. To make judicious use of different systems of medicine and microvita for the treatment of diabetes, hypertension, heart diseases, cancer and diseases of modern era.
8. To establish laboratory and research centers for relentless research on microvita and integrated medicine for the welfare of entire humanity.

Who can join?

Any person interested in serving humanity through research on Microvita and Integrated medicine and abides rules and regulations of the society can become the member of the society.

Life Membership fee: Rs. 2000/- (Rupees Two thousand only for Once)

Bulletin on Microvita Research and Integrated Medicine started in March, 2009 is an official peer reviewed Journal of Society for Microvita Research and Integrated Medicine (SMRIM), Udaipur, Rajasthan. It publishes three issues in a year having original research, reviews, short notes, case studies, Letter to editor in the field of microvita and integrated medicine. Book reviews are published after approval by Editor. The Journal does not levy any Article Processing Charges or Article Submission Charges. Previous issues are available online at : www.microvitamedresearch.com

Instructions to Authors

Preparation of the Manuscript

Manuscripts should be typed in double space (12 pt, Times New Roman font) on one side of the paper of 22×28 cm. All pages should be numbered consecutively. SI units should be used and Symbols should conform to standard guidelines.

Title

It should be short & informative (14 pt), to be typed in only first letter of the first word capital; also, after colon or hyphen, first letter of the first word capital. Latin names are to be given in italics.

Keywords

Four to five keywords (in normal; 11 pt) should be given indicating the contents of the manuscript.

Authors

Names of authors to be typed in first letters capital (12 pt).

Addresses of Authors

Addresses of the affiliating institution (s) along with e-mail address (10 pt) should be given.

Main Headings

Each manuscript should be divided into the following main headings (typed in bold, first letters capital, on the left hand side of the page; 12 pt): Abstract, Introduction, Methodology, Results, Discussion, Acknowledgement, References.

Sub-Headings

Typed in flush left, bold, first letters capital (10 pt).

Abstract

It should be brief within the limit of 200 words and typed in normal font (11 pt).

Introduction

A brief and precise literature review with objectives of the research undertaken and essential background could be given.

Methodology

Methodology should include location of survey area, the source and nature of material, experimental design and the techniques employed.

Results

Results should contain data, which are essential for drawing main conclusion from the study. Wherever needed, the data should be statistically analyzed. Same data should not be presented in both table and figure form.

Discussion

The discussion should deal the interpretation of the results. Wherever possible, results and discussion can be combined.

Tables

Tables should be typed in double space on separate sheets and numbered consecutively. Table headings should be typed with the first letter capital (12 pt).

Figures

Relevant good quality illustrations/ photographs/line drawings etc. could be sent in JPEG format through email. Text figures should be numbered in Arabic numerals. Lettering, numbering, symbols and lines in the graphs/illustrations should be sufficiently clear. Captions and legends to illustrations should be typed on a separate sheet of paper.

Acknowledgement

Acknowledgements should be made in brief.

References

References should be cited in the text by the consecutive **numbers** of their occurrence; the numbers are to be shown as superscript at the end of the statement related to that particular reference, **e.g.** Microvita are mysterious emanations from Supreme Consciousness[1]. Following the same sequence of the text, the list of references should be appended under the **References** heading. Each reference should provide names and initials of all the authors, giving coma in between the authors. In case, the authors are more than five, then use *et al* after the 5th author. It should be followed by year of publication, title of the paper, abbreviated title of journal (in italics)/ book title in italics, volume number, issue number and the starting and closing page numbers. Abbreviated titles should conform to the international guidelines, e.g. The Chemical Abstracts Service Source Index (CASSI) or BIOSIS. The style of references should be:

Research Papers

1. Verma SK. 2016. Microvitopathy. *Bull. Microvita Res. Integr. Med.* 8(1-3):3.

Books

1. Sarkar PR. 1987. *Microvita in a Nutshell*. p.56. AMPS Publ., Tiljala, Kolkata.
2. Jain V. & Jain SK. 2016. *Compendium of Indian Folk Medicine and Ethnobotany (1991-2015)*, pp. 1-542. Deep Publ., New Delhi.
3. Jain V. 2017. Chapter 5.1: A glimpse of culture-based man-plant relationships in Indian folk life. In: *Methods and Approaches in Ethnobotany* (*Concepts, Practices and Prospects*) (Ed. Jain SK and Jain V), pp. 151-157. Deep Publ., New Delhi.

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