



## Article

### Precision Nutrition and Health: Foresight Future of Disease Prediction and Prevention

Proceedings of the International Conference on "Precision Nutrition and Health: Foresight Future of Disease Prediction and Prevention". Jointly Organizing by: The Research Centre of Home Science (Human Nutrition and Nutraceuticals), Fatima College, Madurai, Tamil Nadu, India and Department and P. G. Department of Zoology On 20th December 2022.

Issue Editors: Dr. Vasantha Esther Rani; Dr. K. Karthiga; **Ms. D. Mouna**; Ms. J. Josephine Jesintha

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## AN INTERNATIONAL JOURNAL

### *Proceedings of the International Conference on*

### *"Precision Nutrition and Health: Foresight Future of Disease Prediction and Prevention"*

*Jointly Organizing by*

*The Research Centre of Home Science (Human Nutrition and Nutraceuticals), Fatima College,  
Madurai, Tamil Nadu, India and Department and P. G. Department of Zoology*

*On*

*20<sup>th</sup> December 2022*

### *Special Editors of the Issue*

*Dr. Vasantha Esther Rani*

*Dr. K. Karthiga*

*Ms. D. Mouna*

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## CONTENTS

Title	Authors	Page No.
Effect of Dual Modified Pearl Millet Starch on Physiochemical, Textural and Sensory Properties of Yogurt	M. Aruna and R. Parimalavalli	743-749
Association Between Sleep Quality and Body Mass Index in Police Officers	Damini M and Shajini Judith Diana J.	750-753
Seaweed is a Smart Ingredient to Control Glycemic Responses	Aswini M, Thahira Banu A, Subhalakshmi S. U, Kiruthiga V and Reka P	754-760
A Study on Consumption Pattern and Knowledge of Millet's Processing among the People	A. Thahira Banu, Amutha Keerthana G, S. U. Subha Lakshmi and Janeline Lunghar	761-765
Nutrient Intake, Physical Activity and Menstrual Pattern of Female Students from Selected Schools and College	Deepikha K, Afeefah Firdaus, Rufinaroshini and Gowri Ramesh	766-771
Estimation of Heavy Metals in <i>Bryophyllum pinnatum</i>	Irfan Fathima S and Beautlin Mistica Paul M. D	772-776
Assessment of Heavy Metal Accumulation in Pomegranate and Orange Fruits Available in Local Market	Hannah Jessie Francis T and Vasantha Esther Rani	777-782
Standardization of Herbal Tea to Promote Sleep	Rathi Devi O. S, Vaishnavi R and Mouna D	783-785
A Study on the Physio-Chemical Analysis of <i>Borassus flabellifer</i> and <i>Artocarpus heterophyllus</i> and its Incorporation in the Formulation of Functional Food Products for Adolescents	Poornima Jeyasekaran, U. Divyashree, S. Shahid Akeel, S. Manoranjani, M. Jeyadharshini, R. Gandhimathy, C. Mabel Joshaline and D. Mouna	786-790
Standardization of <i>Vitex negundo</i> Leaves Powder Incorporated Food Products	Sankari K and K Karthiga	791-796
Effects of Defatted Soy Flour Incorporation on Nutritional and Storage Properties in Common Snacks of Regional Preference	Anitha C. and Vasantha Esther Rani	797-807
Impact of Nutrition Education in the Management of Hypercholesterolemia on Selected Mild Hypercholesterolemic Adults in Kottayam	Lincy P and Anooja Thomas K	808-810
A Study on Probing the Therapeutic effects of Bamboo Rice Supplementation on Reducing Hyperlipidemia on Female Adults	Kamali C and Kavitha Devi U	811-815
Incorporation of Whey Water in Sugar, Palm Jaggery and Jaggery Syrup and its Acceptability	J. Mahalakshmi and J. Merlin Rani	816-819
Formulation of <i>Centella asiatica</i> Incorporated Functional Ice Cream	Revathi P and Vasantha Esther Rani	820-823
Nutritional Knowledge and Practice to Enhance Health and Sporting Performance Among Sports Professionals – A Consensus Study	S. Selvanayaki and R. Saravana Prabha	824-827
A Study on the Challenges of Middle Adulthood Years Especially Menopause	Sivakami P. and S. Kavitha Maithily	828-831
Incorporation of Powdered Jackfruit ( <i>Artocarpus heterophyllus</i> Lam) Seed in Snacks for Juvenile Diabetes	Yamuna Valli S and Vasantha Esther Rani	832-835
Diet Diversity, Macronutrient Consumption and Self-Perceived Diet Adherence in Type-2 Diabetics	Sharmila JB, Thahira Banu A and Janeline Lunghar	836-844
Assessment of Nutritional and Fitness Status of Adolescent Sports Girls	Rajiga R, Manjuladevi M and Sharmila JB	845-850
Molecular Docking Study of Lignans Obtained from Flax Seeds for their Role in the Management of Polycystic Ovarian Syndrome (PCOS)	Jeyamani Divya Christodoss, Raamapriya V and Vasantha Esther Rani	851-855
Comparative Analysis of Blossoms of Rasthali, Malai Valai and Nattu Valai for Product Development	K. Akshaya, K. Sindhuja and K. Nithya	856-860
Quality Evaluation of Bakery Products Enriched with Sweet Potato Flour and Sapota Concentrate	M. Ishwaryalakshmi and C. Hele	861-864
Alginate Extraction from Brown Seaweed ( <i>Sargassum wightii</i> )	Josephine Jesintha J and Karthiga K	865-868

## Standardization of Herbal Tea to Promote Sleep

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### Abstract

Sleep, much like eating, is an essential part of healthy living and human functioning. Poor dietary habits, increased stress & anxiety due to work pressure, changes in sleep patterns and poor quality of sleep. Thus, sleep assessment and sleep quality improvement, are among the most important care measures. Chamomile (*Matricaria chamomilla* L.) is a well-known medicinal plant belongs to Asteraceae family, native to Europe. Approximately, 120 bioactive constituents including 28 terpenoids and 36 flavonoids were identified. Studies showing that chamomile improves sleep quality and alleviates depression and anxiety. Tulsi (*Ocimum sanctum*) is an aromatic shrub in the basil family Lamiaceae, native to India. Tulsi enhances the ability to adapt to both psychological and physical stress thus it has a calming effect, therefore it helps to manage stress-related disorders like sleep. In this present study, the amount of Flavonoids and Terpenoids present in dried Chamomile flower is 8.2mg/g and 6.5mg/g, and Eugenol present in dried Tulsi leaves is 4.7mg/g. The sensory evaluation of Chamomile tea and Tulsi tea with different variation like 0.5g, 1g and 1.5g has been done. As per the evaluation, 1g of Chamomile tea and Tulsi tea was selected to prepare the tea bag for future supplementation.

**Key words:** Chamomile, Tulsi, Phytochemicals, Sleep promotion, *Matricaria chamomilla* L., *Ocimum sanctum*

Sleep is an essential part of survival as food and water. Sleep is a highly complex state that arises from an interaction between various neurotransmitters pathway, brain regions and hormones. As one of the basic and essential biological processes sleep plays vital role in brain function, immunity, cardiovascular system etc. It also helps to maintain emotional well-being for optimal cognitive performance, including attention, emotional reactivity, learning and memory. Human spend one third of their lives in sleeping as it is a naturally recurring state. As a complex process sleep affects almost every type of tissue and system in our body, therefore proper sleep (sufficient sleeping hours, appropriate sleep timing) is essential for healthy life (Watson et al., 2015).

The biological function of sleep remains the greatest mystery of all times, although it is known that sleep is essential and that sleep deprivation, either resulting from lifestyle or sleep disorders (e.g., sleep apnoea, insomnia, medical, psychological, psychiatric, medication-related or neurological diseases) will cause short-term and long-term consequences. Short-term effect leads to impaired attention and concentration, impaired quality of life, increase rates of absenteeism with reduced productivity and accidents at work, home or on the road. Long-term consequences of sleep deprivation include morbidity and mortality from heart failure, high blood pressure, obesity, type 2 diabetes mellitus, stroke and memory impairment as well as depression. People in present days can't sleep properly due to busy schedule and work overload, which affect their health and cause various illnesses. One of the

common sleep related issues among people in today's world is sleep disruption (Muhammed Amin Wani, 2018).

Chamomile (*Matricaria recuita chamomilla*) of the Asteraceae family is an annual plant indigenous to Europe and Asia, possessing branched, erect, and smooth stems. Its other names are chamomile or chamomile, Italian camomilla, German chamomile, wild chamomile, Hungarian chamomile. Chamomile is useful for treatment of stomachache, irritable bowel syndrome, and insomnia. It possesses anti-inflammatory and bactericidal, relaxant activities (Sepide Miraj & Samira Alesaeidi, 2016). The bioactive compound present in chamomile are as follows: apigenin, apigenin-7-O-glucoside, caffeic acid, chlorogenic acid, luteolin, and luteolin-7-O-glucoside, terpene bisabolol, farnesene, chamazulene, flavonoids (including apigenin, quercetin, patuletin and luteolin) and coumarin (Sepide Miraj & Samira Alesaeidi, 2016).

Tulsi (*Ocimum sanctum* L.) in Hindi or Tulasi in Sanskrit (holy basil in English) is an exceptionally adored culinary and restorative fragrant herb from the family Lamiaceae that is indigenous to the Indian subcontinent and been utilized inside Ayurvedic medications over 3000 years. Tulsi is abundant in essential oils and antioxidants, which are tremendously effective in reducing the effect of stress and insomnia. Tulsi has the property of acting as an adaptogen. It balances different processes in the body and is of great help in stress and sleep management (Lopamudra Sethi & Preetha Bhadra, 2020). While the concept of an "adaptogen", or herb that helps with