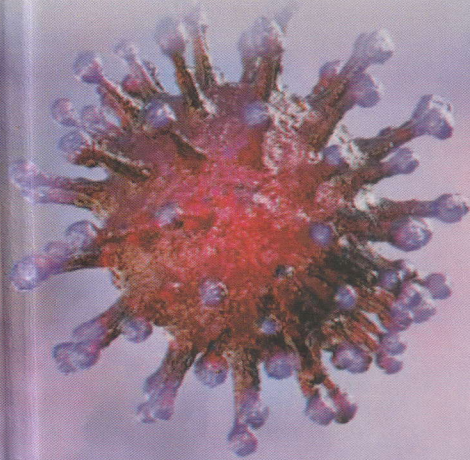
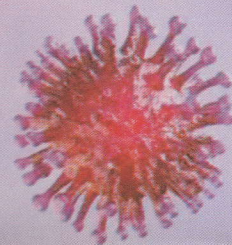




Nutrition as a Key to Covid-19 Resilience in India



Editors
Dr. Garima Upadhyay
Dr. Richa Agrawal





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DR. HEMANT KUMAR

DR. HEMANT KUMAR



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Compendium on

Impact of Social Change and Technology on Family and Community

PUSHPA KUMARI





Dr. Pushpa Kumari, is Assistant Professor at Department of Home Science, Banaras Hindu University, Varanasi (U.P). She has served earlier with Department of Mass Communication, Babasaheb Bhimrao Ambedkar University, Lucknow (U.P), M.Sc and Ph.D from G. B. Pant University of Agriculture and Technology, Pantnagar Uttarakhand. She served as a member in many academic bodies and published about 20 papers in Journals and conferences. She has also authored one book on "Gender Analysis in Dairy Farming Practices among Van Gujjars in India".

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Author

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Unplugging The Hidden Hunger In Indian Society

Mahajani, ~~...~~

Garima Upadhyay

India, with a population of over 1.3 billion, has seen tremendous growth in the past two decades. Gross Domestic Product has increased 4.5 times and per capita consumption has increased 3 times. Similarly food grain production has increased almost 2 times. However, despite phenomenal industrial and economic growth, while India produces sufficient food to feed its population, it fails to provide access to food to a large number of people, especially women and children. Hunger is not, due to non availability of food, rather is a problem of how to make the available food accessible. Hunger is a condition in which a body, for a sustained period, fails to consume sufficient food to meet basic nutritional requirements. According to Cambridge Dictionary- "A situation in which there does not have enough food". According to Oxford Dictionary- "a feeling of discomfort or weakness caused by lack of food, especially the desire to eat". The global hunger index of India is ranked 100 (in 2019) out of 117 qualifying countries.

Hidden hunger is a form of chronic hunger. Due to an unbalanced diet, important nutrients are lacking, such as iron, zinc or vitamin A. At first glance, the consequences are not very visible, but over the long-term these nutrient deficiencies lead to serious diseases. In particular, children are unable to develop, neither mentally nor physically. The risk of death is high. Worldwide, two billion people suffer from chronic nutrient deficiency.

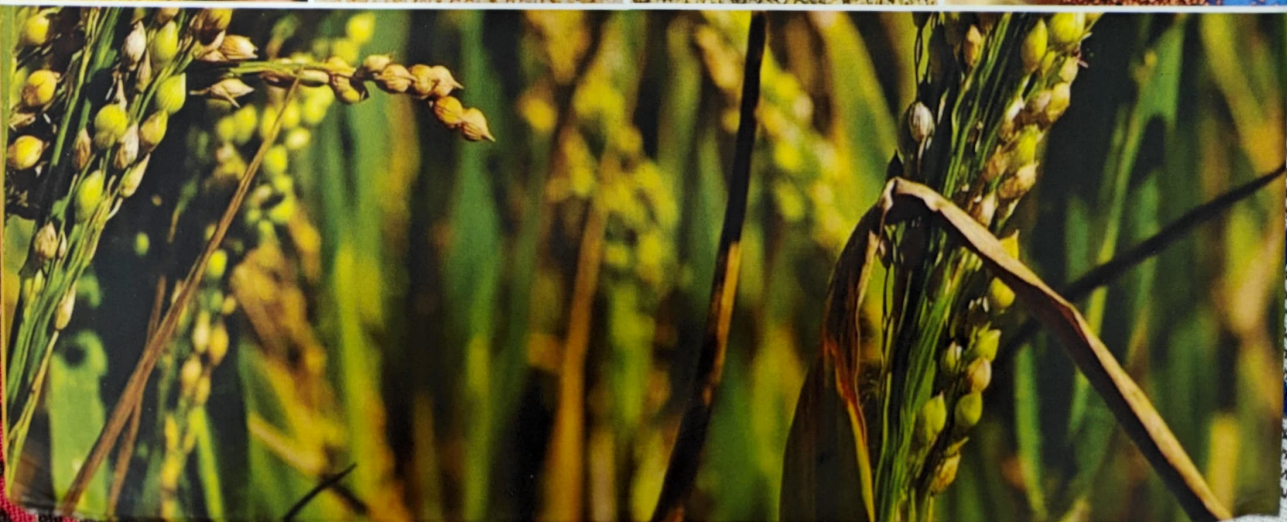
* Research Scholar, ** Associate Professor, Vasant Kanya Mahavidyalaya, Kamachha Varanasi.

Millet



A Novel Approach

*Kahkashan Parvin
Radhika Awasthi
Aparna Srivastava*





Dr. Kahkashan Parvin, is presently working as Head and Associate Professor in Food and Nutrition Department, Era University, Lucknow, Uttar Pradesh. She has received awards like Best "Teacher Teaching Award"-2022 by AETDS Society, "Plaque of Appreciation Award" by International College of Nutrition in 25th WCCN Conference and best oral and best poster presentation award in various conferences. She has done her Ph.D. in Food and Nutrition from Allahabad Agricultural institute, Deemed University, Allahabad in 2009. She has more than

12 years teaching experience. Her area of interest is technology for conventional Indian food, process optimization in the food industry, food safety, quality analysis in food industry, product development on cereals and millet, processed food products and effect of protein quality on inflammatory markers. She has presented and published several research papers in National and International journals. She has contributed several chapters in various books related to her expertise. She has delivered several lectures as resource person in various national and international seminars and workshops. Her area of research is analytical research work and intervention studies. She is a life member of various organization and societies like NIN, IDA, IAPEN Society, International college of Nutrition, Indian Society of Personalized Medicine etc. She has worked as organizing member and session convener in various committees for organizing national and international conferences. She organizes training for women and adolescent girls on regular basis for women entrepreneurship.



Radhika Awasthi is a Diet and Nutrition expert. She is currently working as Assistant Professor, in the department of Food and Nutrition at Era University, Lucknow. She has a rich teaching experience of more than 10 years for teaching undergraduate and postgraduate students. She is also working as an academic counselor for India's No.1 distance education institute IGNOU since January 2016. She has published and presented several papers at research conferences and seminars. She has authored numerous journals, review articles, and publications,

including four books "Impact of Caffeine Intake on The Health of Pre-Menopausal Women", "Food Science: A Practical Guide for Beginners", Physical Education, Health and Sports' and Principles of Food Science and Nutrition' and also contributed chapters in many books related to her field and subject. Her key area of interest is Holistic Health and Nutrition, food product development, community nutrition, maternal and child health, adolescent health etc. She has worked within non-profit, for profit, and academic environments. She is a lifetime member of Home Science Association of India, Nutrition Society of India, Sahayata - Nutrition, Health, Education & Research Foundation and Poshan Dhara Association. Her aim is to establish herself in the field of education and to utilize her knowledge for the betterment of learners. She had organised many gender sensitisation programmes for women and girls.



Aparna Srivastava, is a dedicated Assistant Professor in the Department of Food & Nutrition, Era University, Lucknow since last 5 years with qualification M.Sc. Food & Nutrition and M.Sc. Food Science & Technology. UGC NET qualified with additional qualification of B.Ed. and Dietician Internship from King George Medical College, Lucknow. She has worked as Dietician on research project sanctioned by DBT, New Delhi, and NGO that worked for Women & Child development. She has received awards like "Best Research Scholar Award",

"Young Scientist in Home Science", "Young Scientist in Food Science" and best oral and best poster presentation award in various national and international conferences. She has authored two books "Concepts in Food Science, Nutrition and Technology" and "Physical Education, Health and Sports". She has more than 8 years of teaching experience and has taught undergraduates and postgraduates students. She is exploring research field for further expertise in nutrition and currently working on therapeutic and anti-cancerous effect of herbs.



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Milletts : A Novel Approach

By : Dr. Kahkashan Parvin, Radhika Awasthi & Aparna Srivastava

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2.

Phytochemicals in Shree Anna (Millets) as an Elixir for Lifestyle Diseases

Dr. Garima Upadhyay¹

Millet is a collective term referring to a number of small-seeded annual grasses that are cultivated as grain crops, primarily on marginal lands in dry areas in temperate, subtropical and tropical regions. Of the total millet produced in the world about 90% is utilized in the developing countries. According to FAOSTAT (2021), the global millet production in 2019-20 was 84.17 million metric tonnes from an area of 70.75 million hectares, of which 20.50% is produced in India. Currently, millets are used in the diets of about 90 million people in Africa and Asia. They are nutritionally rich, drought resistant, provide ecological and economic security as a source of food and fodder. These millets are also known as “coarse cereals” or “cereals of the poor”. As compared to wheat and rice millets are nutritionally superior because of their protein, vitamins and minerals content. Millets

¹Associate Professor (Food & Nutrition), Vasant Kanya Mahavidyalaya, Kamaccha, Varanasi.

have the potential to address important issues in the future like food, feed, fuel, malnutrition, health, and Climate Change. There are nine types of Millets grown in India. The major millets are Sorghum, Pearl Millet, and Finger Millet covering 95% of the total millet growing area in India and the rest 5% are Little Millet, Foxtail Millet, Barnyard Millet, Proso Millet, Kodo Millet, and Browntop Millet. They are also gluten-free and have a low glycemic index, making them ideal for people with celiac disease or diabetes.

Today, chronic diseases are a major public health problem worldwide. In 2005, the World Health Organization (WHO) estimated that 61 per cent of all deaths -- 35 million -- and 49 per cent of the global burden of disease were attributable to chronic diseases. By 2030, the proportion of total global deaths due to chronic diseases is expected to increase to 70 per cent and the global burden of disease to 56 per cent. Adding millets in the diet not only prevents lifestyle diseases but also promotes overall health. Now Shree Anna is considered as the food of future. Shree Anna provides a healing touch to life style diseases. In recent years millets are considered as nutritious and sustainable foodsource. Healthy diet is one of the four healthy life style factors responsible for reducing the risk of deadly chronic diseases. This reinforces the current public health recommendations for the observance of healthy lifestyle habits, and because the roots of these habits often originate during the formative stages of life, it is especially important to start in early years. Lifestyle is generally considered a personal issue. However, lifestyles are social practices and ways of living adopted by individuals that reflect personal, group, and socio-economic identities. The demand of the time is to incorporate millets as part of our daily diet and lifestyle.

Millets are gaining ground as healthy options for those suffering from lifestyle diseases, whether it is diabetes, cardiovascular diseases, intestinal disorders or allergies towards gluten. Millets are rich in dietary fiber and help in digestion and prevent constipation. Kodo Millet contains high dietary fiber that is 3 times more than wheat and maize and 10 times more than rice. Finger Millet known as Ragi has the highest

Calcium content of about 364 mg per 100 gm of grains. It is 3 times more Calcium than milk. This Calcium dense grain keeps the bones and teeth strong. The high fiber content in millets acts as a pre-biotics and thus helps to maintain a healthy gut microbiome. Millets are absolutely gluten-free and it is good for celiac patients. Millets are rich in antioxidants which protect our cells from free radicals. In addition to being a rich source of nutrients, millet grains have an abundance of phytochemicals, particularly phenolic compounds.

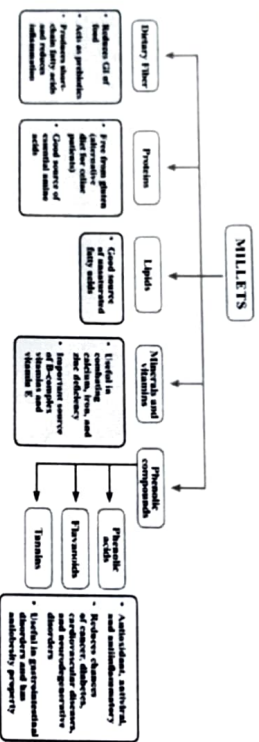
Table:1. Proximate composition of millet grains in comparison with rice, wheat, and maize

| Grain | Protein (%) | Fat (%) | Ash (%) | Carbo-hydrate (%) | Total dietary fibre (TDF) | Energy |
|-----------------|-------------|---------|---------|-------------------|---------------------------|--------|
| Sorghum | 9.97 | 1.73 | 1.39 | 67.7 | 10.2 | 334 |
| Pearl millet | 10.96 | 5.43 | 1.37 | 61.8 | 11.5 | 347 |
| Finger millet | 7.16 | 1.92 | 2.04 | 66.8 | 11.2 | 320 |
| Foxtail millet | 12.3 | 4.30 | 2.6 | 60.1 | 10.7 | 331 |
| Little millet | 10.13 | 3.89 | 1.34 | 65.5 | 7.7 | 346 |
| Proso millet | 11.5 | 3.5 | 2.7 | 64.5 | 9.6 | 341 |
| Kodo millet | 8.92 | 2.55 | 1.72 | 66.2 | 6.4 | 331 |
| Barnyard millet | 6.2 | 2.20 | 1.3 | 65.5 | 12.6* | 307 |
| Rice, raw, | 7.9 | 0.52 | 0.56 | 78.24 | 2.81 | 356 |
| Milled | | | | | | |
| Wheat, whole | 10.59 | 1.47 | 1.42 | 64.72 | 11.2 | 321 |
| Maize, dry | 8.8 | 3.7 | 1.17 | 64.7 | 12.2 | 334 |

Source: Indian food composition tables, NIN-2017.

Enough evidence regarding potential of millets for managing and reducing diabetes is available after recent systematic review and Meta-analysis. The low glycemic index of millets is helping to manage diabetes. Type 2 diabetes (T2D) is the most common type of diabetes, accounting for approximately 90% of all diabetes worldwide. T2D is characterized by hyperglycemia and abnormal carbohydrate metabolism, developed due to insulin resistance and pancreatic β -cell dysfunction. Long-term exposure to high blood glucose levels has been implicated in the overproduction of reactive oxygen species (ROS).

In addition to nutritional benefits, millets contain numerous phytochemicals, mainly phenolic compounds, which can be useful in the management of metabolic disorders such as diabetes, cancer, and cardiovascular diseases (R Chandrasekara A, Shahidi F, 2011). These beneficial health outcomes could be due to the additive and synergistic effects of several compounds present in the grains, thus, their identification is of great importance. Millets are a rich source of various phytochemicals including tannins, phenolic acids, anthocyanins, phyosterols and pinacosanols. These phytochemicals have potential positive impact on human health. All millet grain and especially sorghum fractions possess high antioxidant activity in vitro relative to other cereals and fruits (Awika & Rooney, 2004). Kushmitha RG (2023) reported millet is rich in phytochemicals, which are natural, plant-based, active organic compounds that play a significant role in fighting against diseases and promoting health.



Phytochemicals present in millets. Source: *Najana January 2023*

Polyphenols are the most important phytochemicals of the millet because of their nutraceutical potentials such as antioxidant activity, anti-inflammatory, anticarcinogenic, antimicrobial, anti-diarrhoeal, antitumor, and anti-cardiovascular properties.

Besides, polyphenols are also useful in the management of several physiological disorders such as diabetes mellitus, hypertension, vascular fragility, hypercholesterolemia, prevention of oxidation of low-density lipoproteins (LDLs) and maintaining health of the gastrointestinal tract. (Nidhi Singh et al., 2015)

Phenolics are important source of antioxidant among all the phytochemicals present in millet. Phenolics possess antioxidant properties, which crucially maintain the body's oxidative balance by giving further protection from oxidants, oxidative processes, and reactive species. Despite their chemical diversity, phenolic compounds have the ability to boost the potential of other compounds, inhibit the adverse effects of a few compounds.

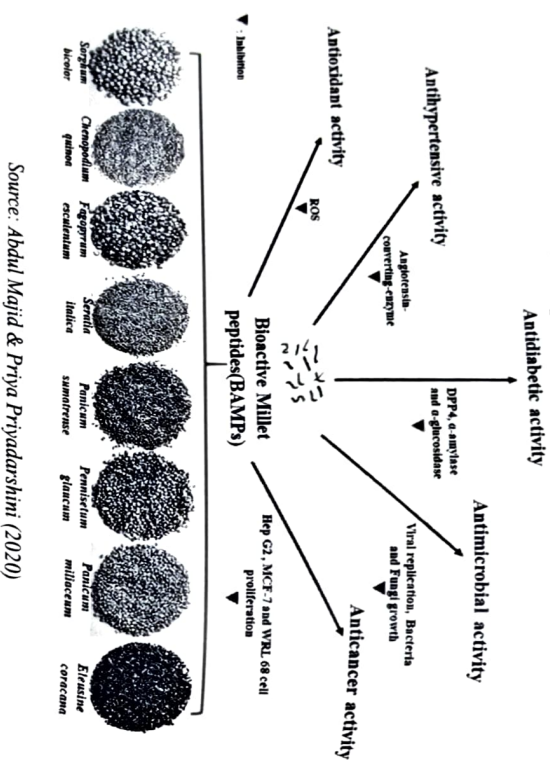
Phenolic compounds in millets are found in the soluble as well as insoluble-bound forms. Both hydroxybenzoic and hydroxycinnamic acids and their derivatives are notably present in different types of millet grains in varying proportion. Further, bioaccessibility and anti oxidant capacity of these phenolics are the chief characteristics. Meanwhile, flavonoids exist mainly in the free form. Though there is a wide variation in the phenolic content and antioxidant capacity of millet grains. However, the use of millets, as nutraceuticals and specialty foods in disease risk reduction and overall health and wellness is warranted. (Fereidoon Shahidi, Anoma Chandrasekara 2013)

Phenolic acids such as chlorogenic acid, ferulic acid, gallic acid, protocatechuic acid, and flavonoids such as kaempferol and quercetin are present in millet in significant amounts. These compounds are known for their anti-cancer, anti-diabetic, anti-inflammatory, antioxidant, and anti-oxidative properties, which make millet an ideal food for promoting health and wellbeing.

The main dietary phenolic compounds include the phenolic acids, flavonoids, and tannins (King & Young, 1999). The phenolic acids and flavonoids are also considered vital in promoting health by reducing the risk of metabolic syndrome and the related complications of type 2 diabetes (Lin et al., 2010).

Millets contain phenolics such as alpha-glucosidase, pancreatic amylase by partly inhibiting the enzymatic hydrolysis of complicated carbohydrates that reduces postprandial hyperglycemia.

Fig. Health promoting biological activities of bioactive millet peptides (BAMPs)



Millets are also rich in health-promoting phytochemicals like polyphenols, lignans, phytosterols, phyto-oestrogens, phytochemicals. These function as antioxidants, immune modulators, detoxifying agents etc. and hence protect against age-related degenerative diseases like cardiovascular diseases (CVD), diabetes, cancer etc. (Rao *et al.*, 2011). Some of the known nutrients- vitamins, minerals, essential fatty acids also have benefits in terms of prevention of degenerative diseases besides their known functions of preventing nutritional deficiency diseases. Being non-glutinous, millets are safe for people suffering from gluten allergy and celiac disease. They are non-acid forming, easy to digest and non-allergenic (Saleh *et al.*, 2013). Millets have potential for protection against age-onset degenerative diseases. Consumption of millets reduces risk of heart disease, protects from diabetes, improves digestive system, lowers the risk of cancer, detoxifies the body, increases immunity in respiratory health, increases energy levels and improves muscular and neural systems and are protective against several degenerative diseases such as metabolic syndrome and Parkinson's disease (Manach *et al.*, 2005; Scalbert *et al.*, 2005;

Chandrasekara and Shahidi, 2012). Neural protective effect of millets under high fat diet-induced oxidative stress is due to upregulation of expression of antioxidant enzyme.

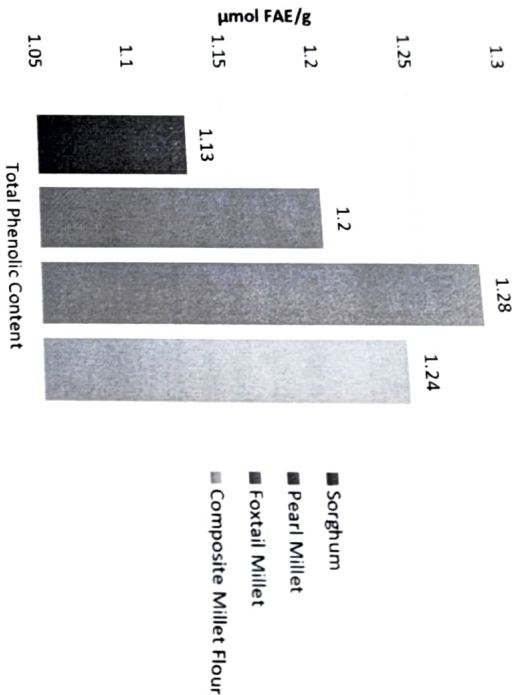
Millet and millet polyphenols could exert neural protective effects under high fat diet-induced oxidative stress by upregulating the expression of antioxidant enzymes.

The important nutrients present in millets include resistant starch, oligosaccharides, lipids, antioxidants such as phenolic acids, avenanthramides, flavonoids, lignans and phytosterols which are believed to be responsible for many health benefits (Miller, 2001; Edge *et al.*, 2005).

Kodo Millet is abundant in antioxidants, such as phenolic compounds and flavonoids. These antioxidants help combat free radicals in the body, reducing oxidative stress and protecting cells from damage." The grain is nothing less than a treat for the ones who abide by the gluten-free diet. Along with that it is extremely gentle on the "digestive system."

Adelhañd Nani *et al.* (2015) reported that populations consuming cereals including millet had lower incidences of esophageal cancer compared to those consuming wheat or maize. Due to several bioactivities the 3-deoxy anthocyanins which are found in sorghum, has the ability to provide protection from certain types of cancer.

The immunomodulatory effects of polyphenols have drawn considerable attention in recent years. Polyphenols have a potential role in prevention/treatment of auto-immune diseases like type 1 diabetes, rheumatoid arthritis and multiple sclerosis by regulating signaling pathways, suppressing inflammation and limiting demyelination. In addition, polyphenols cause immunomodulatory effects against allergic reaction and autoimmune disease by inhibition of autoimmune T cell proliferation and downregulation of pro-inflammatory cytokines (interleukin-6 (IL-6), IL-1, interferon- γ (IFN- γ)). Hira Shakoor *et al.* 2021 summarized the immunomodulatory effects of polyphenols and the underlying mechanisms involved in the stimulation of immune responses.

Fig: Total Phenolic Content of Millet Flour ($\mu\text{mol FAE/g}$)

Source: Sindhu S and Radhai Sri (2019)

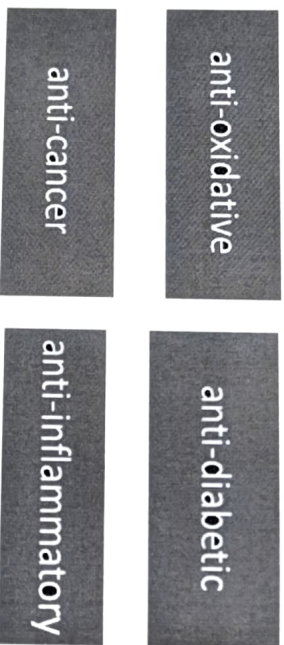


Fig: Health attributes of phenolic acids in millets

Table: 2. Reviewed Potential Health Effects of Polyphenols.

| Type of disease | Evidence of effects |
|---------------------------|---|
| Neurodegenerative disease | Curcumin, resveratrol and catechins (like epigallocatechin gallate (EGCG) may protect against Alzheimer's like diseases and dementia through antioxidant and immunomodulatory and scavenging properties that protect neurons and inhibition of the neurotoxic effects of the beta-amyloid protein, the accumulation of which is linked to Alzheimer's disease. The iron chelating effects of EGCG, curcumin, myricetin, ginsenosides and ginkgetin are thought to be an underlying mechanism through which polyphenols prevent neurotoxicity, leading to a neuroprotective effect against neurodegenerative diseases like Parkinson's Disease, Alzheimer's Disease and Huntington's Disease. |
| Inflammation | Phenolic compounds may prevent systemic and/or localized inflammation by restoring the redox balance to reduce oxidative stress, and by modulating inflammatory responses through mitigation of cytokine pathways. |
| Cancer | Flavonoids such as anthocyanins, catechins, flavanols, flavones, flavanones and isoflavones, may neutralize free radicals and decrease cancer risk by arresting cellular growth in tumors. Specific types of cancers with evidence of beneficial effects from polyphenols include colon, epithelial, endometrial and breast cancer. |
| Cardiovascular health | Flavonoid-rich foods have been associated with improved ventricular health, reduced platelet activity, enzymatic modulation, anti-inflammatory effects, and lower blood pressure, to increase overall vascular health. Flavonoids and resveratrol may block cholesterol oxidation to reduce LDL and lower risk of cardiovascular disease. |
| Type 2 diabetes | Several polyphenolic compounds, anthocyanins being the most substantiated, are associated with both the prevention and management of type 2 diabetes through protection of beta cells from glucose toxicity, anti-inflammatory and anti-oxidant effects, slowing of starch digestion and regulation and altered transport of glucose, leading to better glycemic control. |
| Obesity | Polyphenols like catechins, resveratrol and curcumin are associated with anti-obesogenic effects, potentially through adipocyte oxidation, inhibition of lipogenesis, reduction in inflammation, and increase in energy expenditure, leading to improved weight loss and maintenance. A number of polyphenols have been shown to have protein-binding properties that can inhibit starch, lipid and protein digestion in the gastrointestinal tract by interacting with and inhibiting digestive enzymes. |

Source: Hannah Cory et al. (2018)

Conclusion

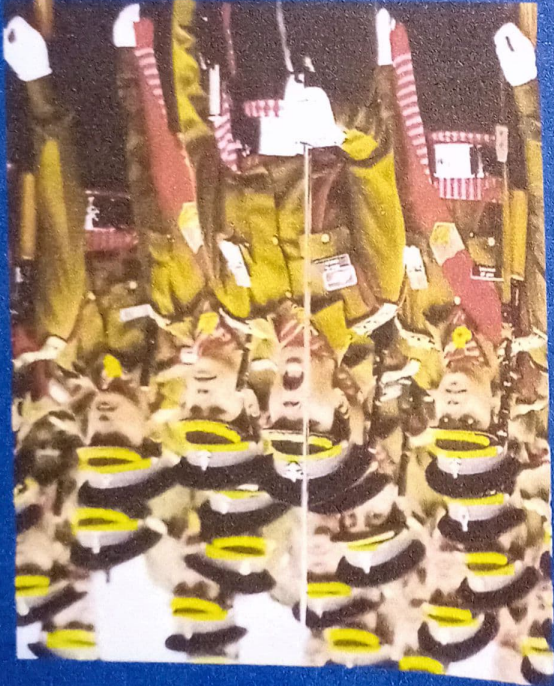
The phytochemicals in individual millets have to be studied exhaustively, though there are several studies on phytochemicals in fruits and vegetables. There is a need to explore the possible potential utilization of millet grain food formulations and product development, so that the therapeutic uses of the millets can be validated and their health benefits can be ascertained.

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**Dr. Akhilesh Shukla
Dr. Shallu Sachdeva**

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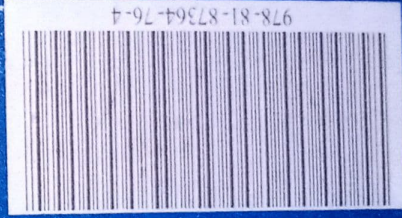


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Problems faced by women availing health care services in Kashi Vidyapeeth Block, Varanasi

* Mahajabi Fatma
** Dr. Garima Upadhyay

India is a developing country of 68.84% rural population according to the 2011 census of India. When the necessary and basic health care does not reach the rural areas so no matter how much development is achieved in the cities, the overall input for the development of human resources and quality of life. India has made rapid growth in improving health care services and facilities to the rural population is challenging task. Majority of Indian population are villagers and lives in rural areas and does not have much awareness about the health care services and facilities. Many factors are responsible for existing gap in health care facilities and awareness such as lack of education, poverty, some of the myths, old beliefs, and lack of communication and resources. Objectives of the study was to analyze the problems faced by women availing health care services in Kashi Vidyapeeth Block, Varanasi. Data was collected through interview schedule method. Random sampling method was used for the selection of population for the survey. The study area is Kashi Vidyapeeth Developmental Block, Varanasi. The sample size was 100 and all the respondents were female. Only those persons were included in the sample who had availed health

Research Scholar, Vasant Kanya Mahavidyalaya, Kamachha Varanasi (U.P.)
Associate Professor, Vasant Kanya Mahavidyalaya, Kamachha Varanasi (U.P.)

Introduction- India is a developing country of 68.84% rural population. When the necessary and basic health care does not reach the rural areas so no matter how much development is achieved in the cities, the overall growth of the nation will slow-down. India has made relevant growth in improving health care. Health care is directly linked with human development and the economic growth of the nation. If our citizens lead unhealthy life then how they can contribute in the growth and development of the nation? Health care indicators have poor quality in rural areas as compared to urban areas. The challenging task or problems of rural areas are availability and accessibility of health care services. Majority of India's population are villagers and live in rural areas and does not have much awareness about the health care services and facilities. Some kind of myths, old beliefs and customs negatively affect especially in the cases of child birth and maternal care. The status of health in rural areas is motivate for mass awareness among the rural people to reduce the health problems

Key Words- Health, Accessibility, Health care Facilities, Woman of the time.

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and remove the barriers of health.

Social marketing could increase the rate of use of health care services in rural and remote areas. High rates of maternal and child morbidity and mortality shows the failure of rural health care system in India. Problems of India's rural health care system are inadequate and there is low utilization of available health care services due to low awareness or lack of awareness. Awareness as defined by Cambridge Dictionary "Knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience. Awareness can be defined as the state or condition of being aware; having knowledge and consciousness.

Awareness towards health care services increases the chances and rate of accessibility of these services.

Attitudes are based on experience. If the patients or villagers do not have good or satisfactory health care services so their attitudes towards health care services are not positive. Awareness and attitudes both are affected by each other.

Attitude is defined as a pre disposition, toward any person, ideas or objects; it contains cognitive, affective and behavioural components. (Zimbardo et. al, 1970)

Concept of Health-Health is the issue of social justice and wellness. The concept of human being's health for different groups varies according to their customs and culture but the main theme is that Health is soundness of body and mind; it is a condition in which body's functions are duly and efficiently discharged. The widely accepted definition of health is given by World Health Organization (1948) "Health is state of complete Physical, mental and social well being and not merely an absence of disease or infirmity and the ability to lead a socially and economically productive life". Health has many dimensions and each are dependent to other. These dimensions are important. The dimensions of health are affected by circumstances in which population or group exists and survive. Few dimensions are as followed-physical, mental, nutritional, environmental, educational, socio-cultural, economic, spiritual and emotional, preventive and

curative.

Concept of Health Care-Health care is an impression to concern for human. Health care have many characteristics such as appropriateness, comprehensiveness, adequacy, availability, accessibility, affordability and feasibility (Park, 2008).

Health Care Delivery System-In India health care delivery system is planned by Bhor Committee. Health care delivery provides many kind of health care services that are low-price and have the basic essential required by population. Health care including only medical care but also services for promotion of health, prevention of diseases, early diagnosis and rehabilitation and eradication. In India health care delivery system are divided into three tier systems. They are –

Primary Health Care-Primary health centres plays important role in the community. This is the first health care level where the patient reports. Primary health care centre provides essential health care. It has also three levels depending on the population and area. (Park, 2008)

1. Village level [1,000 population]
2. Sub-Centre level [3,000-5,000 population]
3. Primary health centre level [20,000-30,000 population] (Park, 2008)

Secondary Health Centre- It deals with severe health problems. It gives the essential curative services by the district hospitals and community health centres.

Tertiary Health Centre-It serves super specialty care of health. This kind of care is provided by the regional/central level institutions. This level of health care system provides planning and management of education and training of specialized staff and also supports the actions of primary level health care.

The total population of women in U.P. are nine crore fifty three lacks thirty one thousand eight hundred and thirty one (95331,831) and the total rural population are fifteen crore fifty three lacks seventeen thousand two hundred and seventy eight (155317278) and total number of female literates in Uttar Pradesh are four crore sixty one lacks sixty two thousand five

hundred and ninety one (46162591) as per Census 2011. The access to health services of women is much lower than men. The underlying reason being their lower status in family and lack of decision-making power regarding health care and expenditure on health care and none availability of health care facilities prevent them from seeking medical help. The awareness of acceptable levels of discomfort for women and men lead to gender differences in willingness to accept that they are ill and seek care. Women wait longer than men to take medical help in case of illness. Access to health care is increasingly different for rapid growth of people because of the lack of concern of the government to recognize health care as a national priority. Health care access is affected by physical, financial and socio-cultural factors. Price of care is an important factor that severely affects access to quality health care services.

Geographical distance is a strong barriers to access health care in India especially remote areas. It becomes more crucial for pregnant and very old persons living in remote areas to access. Inaccessibility to health care centres, lack of health staff, lack of hygiene and lack of drugs are common feature in our country. A number of researches show that wherever good public health services are available and functional they are definitely accessed and used by people, especially the poor. Patients are frequently dissatisfied with the quality of care and services.

Objective- To analyze the problems faced by women availing health care services in Kashi Vidyapeeth Block, Varanasi.

Methodology- Data was collected through Interview-Schedule Method. Random sampling method was used for the selection of population for the survey. Only those persons were included in the sample who had availed health care services and facilities at one or more time. The study area is Kashi Vidyapeeth Block Varanasi. Kashi Vidyapeeth Block is linked with Varanasi.

Results and Discussion- Uttar Pradesh is one of the least developed state in India in terms of socio-economic and demographic terms concluded by many studies. The population of Uttar Pradesh can be considered as a young population as a

high proportion is underage. 42% of the population is younger than 15 years and 5% is older than 65 years. The median age at first marriage in U.P. is 16.2 years for women and 20.1 years for men. Of the married women, 59% got married before the legal minimum age of 18 compared to 51% of the men.

1. Distribution of respondents according to their age.

| Age Groups (Years) | Number of Respondent | Percentage (%) |
|--------------------|----------------------|----------------|
| 21-30 | 52 | 52 |
| 31-40 | 32 | 32 |
| 41-50 | 16 | 16 |
| Total | 100 | 100 |

Majority of respondents (52%) were between 21 to 30 years age group. Majority of respondents are 52% per cent among total number of respondents.

2. Distribution of respondents according to the monthly income of the family

| Income (Rs.) | Number of Respondents | Percentage (%) |
|---------------|-----------------------|----------------|
| Below 5000 | 21 | 21 |
| 5000-10000 | 36 | 36 |
| 10000-15000 | 06 | 06 |
| 15000-20000 | 15 | 15 |
| 20000 & above | 22 | 22 |
| Total | 100 | 100 |

Majority of respondents had monthly family income Rs. 5000-10000. Monthly Income of family is an important factor to decide the kind of health care they will receive. It is well known that increased income of the family has a positive effect on the utilization of modern health care services. The occupation of husband can be considered a substitute of family income, as well as social status of the family. Differences and variations in attitudes to modern health care services by occupational groups represent occupation as a pre disposing factor.

Studies show that socio-economic indicators such as place of residence, life style, household income and occupational status have also been strong predictors of a woman's likelihood of using reproductive health services.

3. Distribution of respondents according to the occupation of

their husband or herself.

| Occupation | Number of respondents | Percentage (%) |
|-----------------------|-----------------------|----------------|
| Agricultural Labourer | 06 | 06 |
| Service | 19 | 19 |
| Commercial Trader | 06 | 06 |
| Daily Wage Earner | 60 | 60 |
| Others | 09 | 09 |
| Total | 100 | 100 |

Maximum number of respondents or their husband were Daily Wage Earner. Joshi, Krupal et al.(2013) showed that 22% were labourer, 21% were unemployed, 18% were students, 4% were having some kind of business and only 2% were serviced among 100 respondents.

In contrast, present study shows that the maximum number of respondents are Daily Wage Earner, 19% are occupied by service, 6% respondents are agricultural labourers, 6% respondents are commercial trader and 9% are having other kind of occupation.

4. Distribution of respondents according to their contact for health care in case of illness.

| Contact for health care | Number of Respondent | Percentage |
|--------------------------|----------------------|------------|
| District Hospital | 13 | 13 |
| CHC/Rural Hospital/PHC | 08 | 08 |
| Government Mobile Clinic | 08 | 08 |
| Private Hospital/Clinic | 71 | 71 |
| Total | 100 | 100 |

Majority of respondents contacted in Private Hospital/Clinic in the case of illness due to geographical barriers.

A study says that in rural areas people need to travel greater distances to access different points of health care delivery system. In rural areas health care facilities and services are small and often provide limited services, in India due to geographic distance, climatic and environmental barriers, lack of public transportation and challenging roads, may be limiting and lower the possibilities of accessing health care services.

5. Distribution of respondents according to the medical services they availed during their visit to the health centres.

| Medical services availed at health centres. | Number of Respondent | Percentage(%) |
|---|----------------------|---------------|
| Yes | 51 | 51 |
| No | 49 | 49 |
| Total | 100 | 100 |

Majority of respondents had received the medical services for which they visited health centres.

Sharma, Arvind et. al,(2014) found that, most of respondents were satisfied with sitting arrangement, cleanliness, convenience to reach investigation site, appropriate signage, symbol, arrows in respective departments, consultants chamber, lab and pharmacy counters present in hospital OPD, but only 50% respondents were satisfied regarding convenience to reach pharmacist. Respondents were mostly unsatisfied with toilet and drinking water facility in OPD.

6. Distribution of respondents according to their satisfaction with the treatment in PHC/CHC/Sub-Centres.

| Satisfaction with the treatment in PHC/CHC/Sub-Centres. | Number of Respondent | Percentage(%) |
|---|----------------------|---------------|
| Yes | 30 | 30 |
| No | 70 | 70 |
| Total | 100 | 100 |

Maximum number of respondents (70%) had not been satisfied with the treatment of PHC/CHC/Sub-Centres.

Kumari, Ranjeeta et.al,(2009) tried to show the Patient's satisfaction regarding treatment which they availed at PHC/CHC/ District Hospital/Medical College. Her study showed that 33.3% respondents were satisfied by the treatment of PHC and, 20% respondents were satisfied by the treatment of District Hospitals and 68.3% respondents were satisfied by the treatment of Medical College.

7. Reasons for dissatisfaction with the treatment in PHC/CHC/ Sub-Centres.

| Reasons for dissatisfaction | Number of Respondents | Percentage |
|---|-----------------------|------------|
| Accessibility | | |
| • Easy | 12 | |
| • Not easy | 88 | 12 |
| Waiting time in PHC/CHC/Sub-Centres | | 88 |
| • <30 minute | 32 | |
| • >30 minute | 68 | 32 |
| Behaviour of Doctor/Paramedical Staff | 45 | 68 |
| Separate Place for examination | | 45 |
| • Present | 03 | |
| • Examination | 40 | 03 |
| Verbal directions given for medicines | 10 | 40 |
| Facilities for investigations/operation | | 10 |
| • Present | 41 | |
| • Not present | 59 | 41 |
| Explanation about | | 59 |
| • Disease | 42 | |
| • Treatment | 34 | 42 |
| | | 34 |

Accessibility of PHC/CHC/Sub-Centers were not easy and that was the major reason of dissatisfaction of treatment. Another reason of dissatisfaction were facilities for investigation/operation were not present.

Some other studies, Kumari Ranjeeta et al (2009) and Sharma Arvind et al (2014) found in own study that accessibility of PHC/CHC/Sub-Centers is the major cause of dissatisfaction and unavailability of diagnostic facilities is another reason of dissatisfaction with the treatment.

8. Distribution of respondents according to their source of information about health care facilities.

| Source of Information | Number of Respondent | Percentage |
|-----------------------|----------------------|------------|
| Radio | 10 | 10 |
| Television | 55 | 55 |
| Newspaper | 30 | 30 |
| ANM | 5 | 5 |
| Total | 100 | 100 |

Maximum number of respondents (55%) had been received the information about health care facilities by Television.

According to Sodani, Prahlad Rai study revealed that the source of information about health care facilities were their neighbour and family members/relatives.

9. Distribution of respondents according to their satisfaction regarding availability of medicine.

| Satisfaction regarding medicine | Number of Respondent | Percentage(%) |
|---------------------------------|----------------------|---------------|
| Yes | 26 | 26 |
| No | 74 | 74 |
| Total | 100 | 100 |

Maximum number of respondents (74%) were not satisfied regarding availability of medicine.

According to K, Padmaja et.al, (2005) study viewed that the availability of medicine in Kodungallur district are 47% and in Chittur district is partially available by 71%.

As far as the quality of medicines is concerned, 55% in Kodungallur divisions were satisfied with the quality of medicines. But in Chittur division, only 28% showed complete satisfaction and nearly 1/3rd of the both divisions were not satisfied with the quality of medicine.

10. Distribution of respondents according to availability of diagnostic tests at the health centres.

| Availability of diagnostic tests | Number of Respondent | Percentage |
|----------------------------------|----------------------|------------|
| Yes | 08 | 08 |
| No | 16 | 16 |
| Sometimes | 33 | 33 |
| Never | 43 | 43 |
| Total | 100 | 100 |

Majority of respondents (43%) had never received free diagnostic test during treatment period from government health centres.

Kumari, Ranjeeta et.al, (2009) found that the satisfaction regarding Examinations at PHC level were 53.2% respondents were satisfied, at CHC level 75.7% respondents were satisfied,

at District Hospitals 38.9% respondents were satisfied and at the Medical College 87% of respondents were satisfied.

Conclusion- The success regarding improving and increasing the accessibility of health care services and facilities depends in part on achieving a local understanding of the dimensions and determinants of access to health services, along with determining factors attempts to improve services for the poor. Number of innovations in services of delivery and regulation of care that take promise for improving access for the poor.

The accessibility of health care is important for women because women's body changes throughout her life span, from fetal development to the age of post menopause. Women use medical services more during their reproductive years. Women also face huge economic, social and cultural barriers to having life-long good health. The researches show that the educational level and place of residence has direct role in morbidity and mortality of women. It has been found that children of illiterate mothers are twice undernourished as compared to the children of literate mothers. Today India's maternal mortality rates in rural areas are among the world's highest. From a global perspective, India accounts for 19% of all live births and 27% of all maternal deaths.

Mahmood, Atif et.al,(2014) found in his study that according to the people, the major reason for not getting the expected health care services is the cost of care (84%) followed by lack of sufficient information or awareness regarding the disease process (74%). Accessibility to health services is also one of the important barriers in seeking health care satisfaction (62%).

Here, the points which are important in improving the accessibility of health care services and also helping in changing the attitudes both towards health care services-

Medical Institutions should be made such as PHCs and other governmental dispensaries near the patients reach or residential area.

Medical Institutions make policies and schemes to should

aware and educate the people for their facilities of PHC/CHC/ Sub-Centres in their villages/locality.

Government policies and schemes should motivate and promote people to send their females for higher studies.

Medical Institutions should make easier accessibility and utility of the medical facilities.

Medical Institutions should maintain sanitation and recruit, educated, practiced and responsible doctors and staffs.

Medical Authority should take proper inspection to the attendance of ASHA and ANM and ask proper report for the work of health workers.

Ministry of Health and Medical Institutions should aware people for the immunization and vaccination to reduce the rate of infant mortality.

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विद्वान अध्यापक पिता स्व. गौरी शंकर शर्मा एवं संस्कारवान विदुषी गृहणी स्व. विनोदनी शर्मा की पुत्री तथा आयकर-विभाग से सेवा निवृत्त डिप्टी कमिश्नर श्रीयुत सी. रामबाबू की पत्नी डॉ. विजय लक्ष्मी शर्मा प्रारंभ से ही बहुमुखी प्रतिभावान मेधावी छात्रा रही हैं। काशी हिंदू विश्वविद्यालय से विज्ञान की स्नातक उपाधि प्राप्त करने के उपरांत इन्होंने यहीं के इतिहास विभाग से प्रथम श्रेणी में इतिहास की स्नातकोत्तर उपाधि प्राप्त करने के उपरांत विज्ञान के इतिहास जैसे अनछुए चुनौतीपूर्ण विषय को अपने शोध अध्ययन का आधार बनाते हुए प्राचीन भारतीय इतिहास संस्कृति एवं पुरातत्व विभाग से प्रातः स्मरणीय प्रो. एच. सी. भारद्वाज के निर्देशन में अंतर्राष्ट्रीय परिप्रेक्ष्य में प्राचीन भारतीय विज्ञान विषय पर शोध उपाधि प्राप्त की जिसके, लिए उन्हे बी.एच.यू. एवं भारतीय इतिहास अनुसंधान परिषद, नई दिल्ली से कनिष्ठ छात्रवृत्ति भी प्राप्त हुई। उनके इस शोध ग्रंथ को भारतीय इतिहास अनुसंधान परिषद के द्वारा प्रकाशित करने हेतु आर्थिक अनुदान भी दिया गया। 'तत्पश्चात् डॉ. शर्मा ने 'भारतीय विज्ञान अकादमी', नई दिल्ली द्वारा प्राप्त वरिष्ठ छात्रवृत्ति की सहायता से "Tools, Appliances and equipments" विषय पर Post Doctorate किया। उनका यह कार्य भी पुस्तक के रूप में प्रकाशित हो चुका है। डॉ. शर्मा ने भारतीय इतिहास अनुसंधान परिषद एवं विश्वविद्यालय अनुदान आयोग नई दिल्ली की सीनियर फेलो, पोस्ट डॉक्टोरल फेलो एवं रिसर्च एसोशिएट के रूप में भी शोध किया।

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Skill Development in India : Need And Challenges

Dr. Garima Upadhyay*

Skills and knowledge are the driving forces of economic growth and social development for any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. As India moves progressively towards becoming a 'knowledge economy' it becomes increasingly important that the country should focus on advancement of skills and these skills have to be relevant to the emerging economic environment.

OBJECTIVES: Following are the Objectives of the study:

To highlight the background and need of skill development in India.

To overview the trends in skill development in India.

To study the challenges with focus on India

To suggest measures to overcome the hurdles of attaining the target of Skilled India.

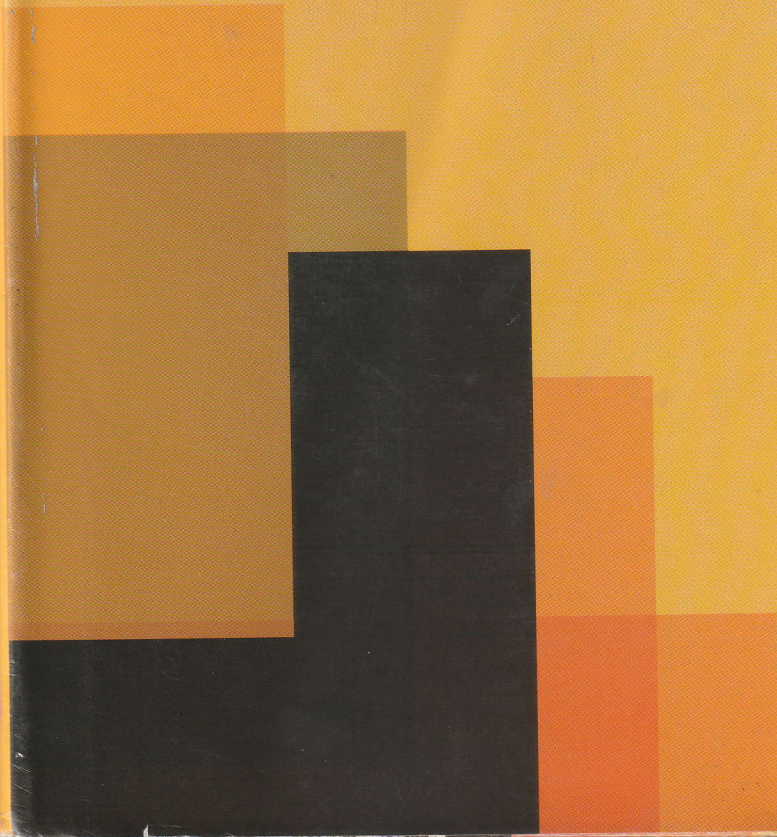
METHODOLOGY: This paper is based on the secondary data on skill development with special reference to Indian context. Data has been collected from annual reports, various books, journals and periodicals several reports on this particular topic and internet surfing for content analysis.

* Assistant Professor, Home-Science, Vasant Kanya Mahavidyalaya, Kamachcha, Varanasi, U.P.

कौशल विकास

भारतीय परम्परा के नेपथ्य में

विजय लक्ष्मी शर्मा





Nutrition and Human Health



Anamika Chauhan
Preeti Kumari



Dr. Anamika Chauhan is presently working as an Assistant Professor, Department of Home Science in Chamanlal PG College, Haridwar (Sridev suman Uttarakhand University). She has obtained her Master Degree from HNB Garhwal University, with rank, taught briefly in Department of Home Science, HNB Garhwal University. She has many year research experience in Home science and submitted her Ph.D. Thesis in Home Science at HNBGU. She has also Master Degree in English, political Science and Education subject, UGC NET (Home science), USET (Home Science), M.Phil. (Home science). She was initially in Govt of Uttarakhand, School Education Department. She was also awarded young scientist award by UCOST and Teacher's Excellence Award" by Motherhood University, Haridwar (Uttarakhand). As Faculty in Home Science, she teaches core and elective courses of Home Science, Developmental Psychology, Nutrition. She was member of Board of Studies of the University and was in core team of revision of present syllabus of Home Sciences of the University. She is also life time member of Indian Science Congress Association, Kolkata, Scientific and Technical Research Association (STRA) and Home Science Association of India. She has many research papers in peer reviewed reputed national and international journals, Edited Books, chapters in Books on Home Science. She has also been associated with, workshops and conferences.

Her research interest and areas ranges across Right to Education, Nutrition, developmental psychology and elements of the best practices that contribute to the efficient and effective functioning of the institution, organization management, student support and progression.



Prof. Preeti Kumari is currently working as professor in the department of Home Science at pt. Lalit mohan Sharma, Sridev Suman University Campus Rishikesh (Uttarakhand). She has done her master degree in Home science. She has also UGC Net and Ph.D. in Home science and B.ED. She has taught undergraduate and postgraduate students. She is member of Board of Studies of the University. She has published more than 10 papers in national and international journals and many edited books. She has actively participated and presented paper at seminars. She has also served as the principal in Govt. Degree College, Pokhra and Govt. Degree College, Nrendrnagr Uttarakhand.



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Nutrition and Human Health

By : Dr. Anamika Chauhan
Prof. Preeti Kumari

Currently Covid-19 is spreading across the globe. I maintain good nutrition. Nutritional status of factors such as age, medications. Nutrition used as resilience to COVID-19 pandemic. nutrient intake is the only sustainable is to strengthen the is always important even more important of nutritious foods system. The early were a period of in food essential for and saw the discovery of minerals, amino acids. In 1941, a group of and medical scientists studied the discipline of nutrition.

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e ideas for further research
like to thank all those with
on this project.

Dr. Anamika Chauhan
Prof. Preeti Kumari

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9.

Healthy Lifestyle and Sugar Intake: A Paradox

Dr. Garima Upadhyay*

It is paradoxical to say that there is an increase in mismatch between science and tradition of eating specially related to healthy lifestyle and sugar intake. Healthy lifestyle means longevity without serious illness. This requires not only active life but also healthy diet. Keeping this in view, sugar being one of the most important components of human diet needs to be taken care of. But, in order to strike a balance between essentiality of sugar intake and healthy lifestyle there has to be an approach to reduce chances of morbidity. Thus, the present effort shall try to highlight the need for realization to overcome this

*Associate Professor (Food & Nutrition), Department of Home Science, Vasant Kanya Mahavidyalaya, Kamachha, Varanasi

paradoxical

According to a healthy lifestyle of being serious diseases are preventable. The number of deaths, particularly from disease and living that he is not just about physical, mental

Sugars are naturally found in fruits, vegetables, and also added to many processed foods and processing. Sucrose (NIH, M

The term "sugars" are those incorporated in fruit and vegetables (fructose, galactose); and from manufacturers, concentrated, present in honey and concentrates. Because of the adverse effects of sugars naturally present on the effect of "added sugar" is sometimes "added sugar" but is considered "added to foods drunk or at the table, beverages (SSBs) include the fruit drinks, and containing added s

Vegetarianism and Covid-19



Dr. Sangeeta
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REINVIGORATING THE TRADITIONAL INDIAN DIET IN CONTEMPORARY TIMES

Dr. Garima Upadhyay*

ABSTRACT

The pandemic attack of corona virus has compelled us to think about health and immunity. Practicing a healthy diet regime and opting healthy food has a protective and preventive role. Since ages Traditional Indian diet is scientific and has immunity boosting approaches. Indian food with variety and diversity becomes one of the most wholesome foods in the world with lots of health benefits. Recommended dietary guidelines according to physiological conditions and seasonal considerations are taken care of in the traditional Indian diet. This chapter will provide a valuable insights on the traditionally rich knowledge which was swept away due to more focus on modern therapies. Also studies from contemporary times have been used to rediscover the functional properties of traditional foods, their pre and probiotic effect, microbiota, immunity and wise use of fat in Indian diet. Now, with an increased demand in changing lifestyle and synthesization of therapies and knowledge; its high time that we should prevent compartmentalization of knowledge, keeping in mind the well being of society.

Objective: Thus the present effort shall try to explore the recent trends for reinvigorating the traditional Indian diet in contemporary times, focusing on functional aspect, microbiota modulation and host immunity by traditional Indian diet. **Methodology:** The methodology presently used is literature review. A semi-systematic review approach is used, as it could be a good strategy for example map from theoretical themes as well as identifying the knowledge gap within the literature. Thematic analysis is the technique used in present chapter. **Result & Discussion:** The traditional Indian diet has not only therapeutic but also preventive role. Apart from providing nutritional benefit it has curative effect. Current researches on functional food also support the view of curative effect of traditional Indian food, specially prebiotics and probiotics. It is never realized how a traditional thali is piled with such an ingredients. **Conclusion:** The wisest health decision we can make in today's time is to adhere to our Traditional Indian foods which will be essential to address the severe public health challenges linked to food and nutrition security of contemporary times.

Key words: Traditional foods, functional foods, probiotics, prebiotics, microbiota,

* Associate Professor (Food and Nutrition), Vasant Kanya Mahavidyalaya, Kamaccha, Varanasi.