

ABSTRACTS BOOKLET

INTERNATIONAL CONFERENCE

on

**Role of Physiotherapeutic and Nutritional Interventions towards
Human Reproductive Health**

Jointly Organised by

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Society for Sustainable Agriculture and Resource Management (SSARM), Hisar, India*

&

Optimal Pregnancy Environment Risk Assessment (OPERA), India

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PROFILE OF RESOURCE PERSONS

1. Prof. Arhtur Reidacker, France



Arthur Riedacker is notable academician, Scientist and noble laureate.^[1] He is retired from the director of France's National Agronomical Research Institute (INRA) and the chair of Oikos Food Security.^{[2][3]} He was one of the reviewers on the IPCC Fourth Assessment Report He has written many research papers and books on climate science. Agronomical Engineer (Institute National Agronomique, Paris) in 1967. Co prix Nobel Prize in 2007, for having contributed to IPCC work since 1990. ,P.hd from University of Clermont ferrand in 1973. Member of scientific committee of he international foundation for energy and water at Ouagadougou since 2011. Chairmen of Oikos Institute since 2009 , Senior consultant at DSP, Member of the scientific committee of the ONF-Peugeot project in Amazonia since 2000.

2. Prof. Ravindra N Chibbar, Canada



Ravindra Chibbar is a Professor & Canada Research Chair in Crop Quality at the University of Saskatchewan, Saskatoon, Canada. He obtained his Ph.D. degrees from the Western University, London, Ontario, Canada and Punjab University, Chandigarh, India. His research employs molecular biological and genomics strategies to improve grain/seed quality and agronomic performance in cereal crops and grain legumes. In grain quality his focus is to improve carbohydrates in grains to diversify their utilization in food, feed and industrial applications. In crop performance he works to improve abiotic stress tolerance to develop ‘climate change resilient crops’ to increase crop productivity under adverse environmental conditions. He has supervised 14 Ph.D., 4 M.Sc. (co-supervised) and several post-doctoral fellows. He has co-edited three books, co-invented three cereal biotechnology patents and 132 refereed research papers. He is elected fellow of the AACCC International, St Paul, MN, USA and ICC, Vienna, Austria.

3. Prof. David Olson, Canada



David Olson is currently working as a Professor in the Department of Obstetrics and Gynecology, University of Alberta, Edmonton, Canada. Despite enormous efforts, preterm birth (<37 weeks of gestation) remains the leading cause of morbidity and mortality in babies. Professor David Olson studies the problem of preterm birth from several perspectives including genetic, molecular, cellular, animal, human and environmental. His laboratory team has developed diagnostics to predict women at risk of preterm delivery and with collaborators, he explores novel interventions to block preterm delivery and reduce fetal inflammation. He collaborates to study the effects of transgenerational stress on preterm delivery in animal models and at the environmental level through his studies of the victims of natural disasters and interventions to mitigate their effects. His long-term objective is to translate basic science discoveries to practical prognostic and therapeutic applications to improve the health of mothers and babies.

4. Prof. Richard Saffery, Australia



Professor Richard Saffery is an NHMRC Senior Research Fellow (level B) with over 20 years experience in Molecular and Cellular biology, including 15 in the field of Human Epigenetics. He heads the Cancer & Disease Epigenetics (CDE) laboratory at Murdoch Childrens that uses state-of-the-art multidisciplinary approaches, encompassing genetic, environmental and epigenetic analyses, to understand childhood development and complex diseases

5. Prof. Gerlinde Metz, Alberta Canada



Professor Gerlinde A.S. Metz is the Board of Governors Research Chair in Healthy Futures and recipient of the Speaker Medal for Distinguished Research. Her research focuses on the influence of stress on behaviour, brain plasticity and complex disease risks. Her laboratory has developed unique models to explore transgenerational inheritance of stress responses. This work showed that through mechanisms of epigenetic programming, experience in parents, grandparents and beyond can influence health and disease from early development to old age. Her collaborative team integrates behavioural and medical data with modern OMICS technologies to learn how stress vulnerability and resilience are “programmed” across a lifetime and across generations. Her recent translational work in clinical and livestock sectors is leading to the discovery of new predictive and diagnostic biomarkers of disease.

6. Dr. Ashley Aimone, Ontario, Canada



Dr. Ashley Aimone is a Registered Dietician, receiving her BAsC in Applied Human Nutrition from the University of Guelph and her MSc in Nutritional Sciences from the University of Toronto. She then obtained a PhD in Epidemiology (Department of Public Health Sciences), University of Toronto. Her PhD thesis and publications focused on the use of geo-spatial analysis methods to examine environmental and spatial factors associated with iron deficiency and infection among children in Ghana. Currently she is a Research Fellow at the Hospital for Sick Children, Toronto. Her project, in collaboration with ICF International, is to identify optimal alternative metrics for quantifying and tracking progress of early childhood growth and nutritional status at the population level in low- and middle-income countries. She is also working with colleagues in western Kenya on research related to *Planetary Health*, specifically the impact of climate and environmental changes on the nutrition and health outcomes of children and other vulnerable populations. The overall aim of her research is to find ways to bridge the ‘know-do’ gaps that support ground level solutions and community-driven implementation strategies for improving child health through increased climate resilience and food and water security.

7. Prof. Bea van den Bergh, Belgium



Honorary appointment, Department of Public Health, Flemish Government, Leuven, Belgium.

Professor Bea R.H. van den Bergh has a full-time position at the Department of Welfare, Public Health and Family of the Flemish Government (Brussels, Belgium) and is honorary professor at the Health Psychology Department (University of Leuven, KU Leuven, Belgium). She is a pioneer in prenatal stress research. She studied the prenatal developmental origins of cognition and mental health problems and the developmental programming of the stress system and the brain, from infancy through adulthood. She is now mainly involved in public health policy aspects of the primary mental health care in the first 1000 days of life. She and her team use questionnaires, heart rate variability, cortisol and alpha-amylase measures to study the level of stress, anxiety and depression in pregnant women. In the offspring (0 to 29 year old), HRV and cortisol are measured. With event related brain potential (ERP's) and fMRI, cognitive function and brain network connectivity are measured. With MRI and DTI techniques brain structural measures are obtained. In blood samples, epigenetic measures, telomere length, metabolomics and inflammation markers are measured. Her research may lead to a better understanding of prenatally acquired vulnerability.

8. Prof. Janice L. Bailey, Quebec, Canada



Professor Janice Bailey is Professor and Research Associate Dean of the Faculty of Food & Agricultural Sciences at Laval University in Québec City, Canada. She is a member of the Reproduction, Development and Intergenerational Health Research Centre, composed of researchers from the Faculties of Medicine and Food & Agricultural Sciences. Her research focuses on the impact of the environment, such as toxicant exposure and nutrition, on reproductive development and the ability to produce healthy offspring. She is currently principal investigator of an international team grant funded by the Canadian Institutes of Health Research on advancing boys' and men's health that addresses the molecular foundations of intergenerational transmission of the paternal environment. This research investigates the effects of persistent organic pollutants (POPs) that contaminate the Arctic food chain and pesticides used to combat malaria on the paternal epigenome. She served as President of the Society for the Study of Reproduction in 2016-17

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NUTRITION

NUTRITIONAL DIET FOR PREGNANT MOTHER: PANJEERI

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ABSTRACT

Supplementary food were formulated from locally available flours of grains and legumes such as wheat flour, soybeans flour and chick pea flour using household techniques like blending and roasting. The proximate composition of product used for preparation of supplementary food fortified with 10 % skimmed like milk powder contained higher amount of protein and other nutrient. They contained protein (16.2 to 21.1 %), fat (1.9 to 4.5 %), fibre (1.28 to 1.78%) and carbohydrate (67.66 to 77.2 %). the total energy expressed in term of Kcal per 100 gram of product varied from 350.7 to 395.8. The various calcium phosphate and iron were found to increase on supplementation with 10 % skimmed milk powder packaging material for the period of three month. Panjeeri provides perfect nutrition based traditional nutrition based in the form of wheat flour fat, sugar for energy and dry fruit for muscle for moderate consumption of high energy nutrition. Research recommended for pregnant mother as health carry during pregnant as well as normally healthy child delivery.

Keyword: Grains, Milk, Panjeeri and Wheat Flour

FISH AS IMPORTANT INGREDIENT OF NUTRITIOUS FOOD

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ABSTRACT

Nutrition and health are related to each other as good nutrition is the cornerstone of good health. A balanced diet containing all the essential nutrients is necessary to build a good

health. Fish in this context is healthy food being rich in essential nutrients like quality animal proteins, polyunsaturated fatty acids (PUFA) especially the 3 PUFA eicosenoic acids (EPA) and docosahexaenoic acid (DHA) and micro nutrients. Fish has been an important source of protein and other nutrients for humans for time immemorial. A part from this fish is more available and affordable than other animal protein source in tropical countries thus; nutrition composition of fish is required for its utilization in achieving nutritional security and ensuring good health and nutrition. This chapter focus on the contribution of the essential nutrients present in fishes in formulating a balanced nutrition for proper growth and development as well as a specific dietary recommendation for consumer guidance. Dietary counselling and food policy planning ultimately contributing a good health and nutrition ensuring food and nutrition security for all.

Keywords: Fish, Human health, Malnutrition, Nutrition and Protein

RICE AND LEGUME BLENDED FOODS FOR BALANCED DIET

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ABSTRACT

Diets for elderly must contain nutritious foods, fit their physiological limitations and match with their food culture. Rice and legumes are suggested food choices regardless of their culture and beliefs. Energy distribution from carbohydrate, protein and fat, protein quality and percent energy from saturated fatty acids and free sugar for criteria for the formulation. Carbohydrates sources were rice flour, brown rice flour, mung bean starch. Protein and fat sources were soybean flour, black sesame seed and rice bran oil. Result from sensory central location test in 219 elderly subjects indicated that the flake snacks from carbohydrates, proteins and essential amino acids in a balanced form for muscular growth/maintenance and nervous system for cusaic are sound reflexes for most poor people in India. This affordable pattern of rice legume combination is base line nutrition.

Keywords: Amino Acids, Carbohydrate, Legume, Methionine, Protein and Rice

FRUITS AS COMPONENT OF NUTRITIOUS DIET FOR PREGNANT MOTHERS

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ABSTRACT

Maternal nutrition is recognized as one of the determinants of fetal growth. Consumption of fruits and vegetables is promoted as part of a healthful diet; however, intakes are typically lower than recommended levels. The purpose of this study was to systematically review results from studies examining the relationship between maternal consumption of fruits and vegetables during pregnancy with infant birth weight or risk for delivering a small for gestational age baby.

Snacking on fruit can be a great way to boost vitamin intake in addition to curbing sugar cravings. Below, we list 12 of the best fruits to include in a healthful pregnancy diet. Apricots contain vitamins A, C, and E calcium iron potassium beta carotene phosphorus silicon All of these nutrients help with the baby's development and growth. Iron can prevent anaemia and calcium helps bones and teeth grow strong. Apples are packed with nutrients to help a growing fetus, including vitamins A and C, fiber, potassium. One study found that eating apples while pregnant may reduce the likelihood of the baby developing asthma and allergies over time. Guava and apples are packed with nutrients to help a growing fetus, including vitamins A and C, fiber, potassium. One study found that eating apples while pregnant may reduce the likelihood of the baby developing asthma and allergies over time., eating plenty of grapes can boost people's intake of vitamins C and K Folate, antioxidants, fiber, organic acids pectin. The nutrients in grapes can help to aid the biological changes that occur during pregnancy. They contain immune-boosting antioxidants, such as flavonol, tannin, linalool, anthocyanins, and geraniol, which also help prevent infections. Pomegranates can provide pregnant women with plenty of vitamin K, calcium, folate, iron protein, fiber Nutrient-dense. Pomegranates are also a good source of energy, and their high iron content helps prevent iron-deficiency. Vitamin K is also essential for maintaining healthy bones. In less developed countries, increased vegetable or fruit intake was associated with increased birth weight in two prospective studies. Overall, limited inconclusive evidence of a protective effect of increased consumption of vegetables and risk for small for gestational age birth, and

increased consumption of fruits and vegetables and increased birth weight among women from highly developed countries was identified. Among women in less developed countries, limited inconclusive evidence suggests that increased consumption of vegetables or fruits may be associated with higher infant birth weight. The available evidence supports maternal consumption of a variety of fruits and vegetables as part of a balanced diet throughout pregnancy.

Keywords: Birth Weight, Small For Gestational Age, Pregnancy, Fruit and Vegetable

RESTRICTED FRUITS FOR PREGNANT MOTHER

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ABSTRACT

Fruits is an goods source of nutrients that are essential during pregnancy. Fruits can provide vitamins, fibre and more, which all help to keep the woman and baby these nutrients can also help to relieve some of the common symptoms of pregnancy. However some fruits have been known to affect the foetus while other, to cause miscarriage. So here is a list of fruits not to eat during pregnancy. Fruits restricted are as discussed first Pineapple, ranks high on the list of fruits to avoid during pregnancy first trimester. This is because it can cause you to experience sharp uterine contractions which in turn can cause a miscarriage. This is because pineapple contains bromelain an enzyme which can result even bleeding, Grapes are best avoided when you pregnant and that means no green or black grapes and certainly no wine either. This because when a woman is pregnant she may find it hard to digest the skin of black grapes as digestive system is weakened. This is why grapes are included in the list of fruits not to consume pregnancy, while papaya is rich in macronutrients and vitamins which are essential for women body nevertheless. Because papaya can cause body temperature to

shoot up, and that is not good when woman are pregnant. It may also impair the development of foetus so it wants to be avoided. Women who suffer from allergies and women who have diabetes or gestational diabetes are advised against eating banana because bananas contain chitins substance that is known allergen. It also increase body heat. It is generally good for the human body but there is a flip side to the as well, for if your to consume watermelon during the course of pregnancy you may be exposing mother foetus to the various toxins that the watermelon flushes out.

Keywords: Diabetes, Grapes, Pineapple, Banana and Watermelon

SAFE OILS FOR COOKING FOOD IN PREGNANCY

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ABSTRACT

As much as it is important to focus on the food groups that you will be eating during pregnancy, it is also equally vital to understand the kind of oils that form a part of your meal. Olive oil is considered to be the best option among the rest, not only for pregnant women but for everyone. Olive tree which yields olive fruits is a native of the Mediterranean region. According to recent research, babies born to women who consumed olive oil during pregnancy had developed advantages as compared to those born to mothers who did not. The psychomotor reflex of these babies were particularly better evidences. It is perfectly safe to consume olive oil when pregnant. This oil contains many vitamins and useful forms of fatty acids which are important for both you and your baby growing in your womb. Every oil plays an important role in our day-to-day lives.

Keywords: Pregnancy, Fatty Acids, Women and Olive Oil

ROLE OF NUTRITION IN PRETERM DELIVERY

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ABSTRACT

Preterm delivery has been defined as delivery between the age of viability (i.e. 28 weeks in India) and <37 weeks of pregnancy. Preterm birth is a leading cause of infant disease and death and occurs in approximately one in 10 pregnancies globally. According to the World Health Organisation, every year close to 15 million babies are born preterm. Across 184 countries, the rate of preterm birth ranges from 5% to 18% of babies born." In India, out of 27 million children born every year (2010 data), 3.5 million babies are premature. Preterm birth complications are the leading cause of death among children under 5 years of age, responsible for nearly 1 million deaths in 2015. Many of the preterm babies who survive suffer from various disabilities like cerebral palsy, sensory deficits, learning disabilities and respiratory illnesses. The morbidity associated with preterm birth often extends to later life, resulting in physical, psychological and economic stress to the individual and the family. The expenditure of taking care of a premature newborn is also very high. Understanding the causes of preterm birth can improve survival of infants and overall the long-term health for children. Apart from the medical causes, diet has an important role. The new research says that women who do not eat a healthy diet during pregnancy have a 50 percent chance of a preterm birth. The article "Mother's diet linked to premature birth: fruits, vegetables linked to reduced risk of preterm delivery" published in British Medical Journal also emphasises that "Pregnant women who eat a 'prudent' diet rich in vegetables, fruits, whole grains and who drink water have a significantly reduced risk of preterm delivery, suggests a study. A "traditional" dietary pattern of boiled potatoes, fish and cooked vegetables was also linked to a significantly lower risk. Although these findings cannot establish causality, they support dietary advice to pregnant women to eat a balanced diet including vegetables, fruit, whole grains, and fish and to drink water."Several other studies have also proposed the benefit of a diet rich in fruit and/or vegetables in the prevention of premature birth. According to Dr. Jessica Grieger, from Robinson Research Institute, (*The Journal of Nutrition*) the women who consumed foods that were high in fat and sugar had a significantly higher risk of preterm births than those who had diets that were high in protein and fruits. "Women who consumed mainly discretionary foods, such as takeaway, potato chips, cakes, biscuits, and other foods

high in saturated fat and sugar were more likely to have babies born preterm.” The following dietary tips will come handy in maintaining healthy pregnancy. 1. Folate consumption assumes great importance during pregnancy as the deficiency of this nutrient has long been tied to triggering birth and neural tube effects in the newborn. 2. Protein deficiency is one of the biggest health concerns in India. Close to 90% of Indian pregnant women are deficient in protein. It is therefore extremely important to get enough protein in your diet via poultry, meats, lentils and fresh vegetables. 3. Iron is extremely important and assumes greater significance during pregnancy. Every woman requires extra 760 mg/day of iron during pregnancy. Pulses, legumes, beetroot, dates, figs, pomegranate, green leafy veggies, nuts, cereals, poultry, meats and seafood are all rich sources of iron. 4. Must include calcium, fibre and omega 3. A pregnant woman's bones need extra fortification to withstand the extra weight of the fetus. Calcium is also crucial for optimum fetus development. A total of 1200 mg calcium a day is recommended for pregnant women. Adequate fibre and omega 3 intake helps in strengthening the body, facilitating fetus development and helping in hassle-free delivery. Since the evidence shows that a healthy lifestyle and a balanced diet can go a long way in reducing prematurity, the health officials need to reinforce the message that pregnant women eat a healthy diet. It is never too late to start eating healthy.

Keywords: Children, Women, Health, Nutrient, Vegetables and Pregnant

ROLE OF DIETRY FIBRES IN FOOD FOR PREGNANT MOTHER

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ABSTRACT

If the benefits of dietary fibre in healthy adults have extensively been studied, little information is available on the specific needs of pregnant, lactating women or foetus. As far as infants are concerned, milk oligosaccharides are supposed to be the optimal 'dietary fibre'. The supplementation of infant formula with prebiotic oligosaccharides is still discussed. However, recent studies provide a large amount of information, allowing a new discussion on this topic. Most recent findings are linked to the involvement of dietary fibre in occurrence or

prevention of obesity. The multiple mechanisms appear more clearly than earlier. This finding will soon allow appropriate counselling for young mothers at risk of obesity and/or postpartum retention weight, gestational diabetes and preeclampsia. Another area which benefits from recent research is the use of prebiotics in formula. Pregnancy is a critical period during which many physiologic changes occurred and is associated with several gut disorders and metabolic diseases. Dietary fibre may be helpful in the prevention and management of these diseases. Lactation and pregnancy are two phases during which food consumption of the mother can interact with the physiology of the baby. Moreover, the use of formula supplemented in oligosaccharides is able to compensate for the lack of some of the complex molecules naturally present in human milk.

Keywords: Dietary Fibre, Oligosaccharides, Obesity and Prebiotics

LOW GLYCAEMIC INDEX WHEAT FOR DIABETIC PREGNANT MOTHER

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ABSTRACT

A low glycaemic index diet is effective as a treatment for individual with diabetes and has been shown to improve pregnancy outcomes when used from the first trimester. A low glycolic index diet is commonly advised as treatment for women with gestational diabetes mellitus (GDM). Women in the conventional higher glycolic index diet group were advised to follow a diet with a higher fibre and low sugar content, with no specific mention of glycolic index .Potatoes, whole wheat bread and specific high-fibre moderate to high glycolic index breakfast cereals were recommended Low glycolic index meals reduce diurnal glycolic oscillations in women with risk factors for gestational diabetics. Maternal glycaemia plays a key role in foetal growth. The composition of each meal is crucial in attaining glycaemic control .A low carbohydrate diet (60-65%) with adequate protein (15%) and fats (20-25%)is beneficial in attaining acceptable postprandial sugars. Maternal glucose is the main energy substrate for intrauterine growth. This has been aiming at several studies to provide low

glycaemic load diet with fibres on reducing the number of women with (GDM) gestational diabetic mellitus requiring insulin. Wheat based diet can be designed to have wheat's with low glycaemic index to altering the structure and composition of grain starch. Amylose, glycaemic index is high .Amylase is more soluble in water. Amyl pectin, glycaemicit is water insoluble polysaccharide with low glycaemic index. Foods with more amyl pectin are preferred for pregnant diabetic mothers like fibered wheat.

Keywords: Glycaemic index, Fibre, Sugar, Mellitus Amyl Pectin and Pregnancy

MILLET AS A SOURCE OF PROTEIN AND FIBRE

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ABSTRACT

Milletts are most important cereals which can be used for traditional as well as novel foods. The richness of starch, protein and fibre, magnesium, phosphorous, manganese, iron, potassium, essential amino acids and vitamin "E" make millets an important nutritional bio source. In addition, millets have Therapeutic benefits such as prevention of heart diseases, diabetes, migraine, and premature death. Thus, millets are so compelling to agree the needs and to educate consumers on health benefits and to encourage increased consumption. The most important cultivated species of millets in India are finger millets (*Eleusine coracana*), pearl millet (*Pennisetum glaucum*) offers high nutritional, anti-diabetic and anti-oxidant properties.

Keywords: Amino Acids, Finger Millet, Pearl Millet and Potassium

OIL BLENDS FOR NEWLY BORN BABIES

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ABSTRACT

Blending is the art of pairing two or more essential oils drop by drop; blending essential oils is an art & science that takes a bit of skill and knowledge. Essential oil are pure extracts of seeds, bark, stems, roots, flowers, & other parts of plants. They are usually aromatic and are visibly clear. Most of these oils are known to be therapeutic for kids, both physically and psychologically. If you would like to use essential oils on your child , you can prefer the ones, which are safe for kids for example Mustard oil, Almond Oil, Rose otto oil, Sandalwood oil, cypress oil, Copaiba oil, unrefined peanut oil, many essential oils are safe for babies , some of their benefits are as feeling of security, improved blood circulation, smoothening and relaxatation of the baby, improved colic, calm response to stress and and pain, regulated sleeping patterns, activity of brain in premature babies, strong bones of baby, smooth skin of the baby.

Keywords: Plants Essential Oils Mustard Oil Baby and Skin

NUTRACEUTICAL PLANTS

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ABSTRACT

Science has shown diet affects human health. Therefore, diets promote good health. A nutraceutical is a substance that may be considered as a food which provides medical or health benefits, encompassing prevention and treatment of disease. Neutaceuticals consists of food supplements, herbal products, pre-biotics and treatment of diseases. Plant nutraceuticals are phytochemicals – biologically active nature products such as limonoids in citrus, lignans in flaxseed, lycopene in tomatoes and catechins in tea and many more. Some plant nutraceuticals are- black cumin, broccoli, garlic, globe artichoke, prickly pear, sesame. Plant nutraceuticals are commonly used during antenatal stage in pregnancy for the better health of mother and baby. Plant nutraceuticals are very important for pregnant lady and baby too.

Keywords: Pre-Biotics, Nutraceuticals, Pregnant and Disease

HIDDEN HUNGER

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ABSTRACT

One of the World's greatest challenges is to secure sufficient and healthy food for all, and to do so in an environmentally sustainable manner. This review explores the interrelationships of food, health, and environment, and their role in addressing chronic micronutrient deficiencies, also known as "hidden hunger", affecting over two billion people worldwide. While the complexity and underlying determinants of under nutrition have been well-understood for decades, the scaling of food and nutrition system approaches that combine sustainable agriculture aimed at improved diet diversity and livelihoods have been limited in their development and implementation. However, an integrated system approach to reduce hidden hunger could potentially serve as a sustainable opportunity.

Keywords: Micronutrient, Sustainable Agriculture and Hidden Hunger

DIVERSIFICATION OF DIETS FOR BETTER PREGNANCY ENVIRONMENT

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ABSTRACT

An approach that aims to enhance the availability, access, and utilization of foods with a high content and bioavailability of micronutrients throughout the year. It involves changes in food production practice, food selection patterns, and traditional household methods for preparing and processing indigenous food. To implement these strategies effectively, knowledge of the local dietary patterns and food, beliefs, preference and taboos is required as well as the ability to change attitudes and practices. 13 highly nutritious food eat for a better pregnancy environment like-dairy products, legumes, sweet potato, salmon, eggs, broccoli, fish liver oil, lean meat, berries, whole grains, avocados, dry fruits, water. A pregnant woman needs more calcium, folic acid, iron & protein. Diversification of food over different stages of pregnancy

is must and based on the mother and foetus requirement. The food should be diversified and combination of different food should be given to the pregnant mother in different phase of pregnancy.

Keywords: Broccoli, Cereals, Diversification, Eggs and Fruits

RICE AND SATTU BASED DIETS FOR DIABETIC MOTHER

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ABSTRACT

Bread, Pasta, Rice and Potatoes are all sources of carbohydrates. the American diabetes association suggest a target of about 45 to 60 grams of carbohydrates per meal eating fibre help to minimize spikes in blood sugar and it is recommended that people with diabetes eat between 20 to 35 grams of fibres per day. Diet plays in important role in staying healthy, especially for people with diabetes many people wonder whether high carbohydrates foods such as rice are healthy to eat. Diabetes mellitus is group of diseases where the body does not adequately produce insulin, use insulin properly or both. Insulin plays a crucial role in allowing blood sugar to enter the cell and be used for energy. Sattu are fibres power made from barley and chickpea after processing their moisture and dried seeds pulverised individually or together. Rice sattu based diet is important for pregnant mother as rice provide energy source that is carbohydrates and amino acid. for sound nervous system on the other hand sattu well provide fibres, minerals, and proteins. Essential for growth and development of these pre genital. Blinding the two diets source to balancing the nutrition for pregnant mother coming from easily digestible diet and nutritional diet .it there for important. The causes the baby's body to secrete increased amount of insulin, which results in increased tissue and fat deposits the infant of a diabetic's mother is often larger than expected for the gestational age. The infant of a diabetic mother may have higher risks for serious problems during pregnancy and at birth

Keywords: Fibres, Rice, Sattu Carbohydrates Proteins and Development

FOOD SUPPLEMENTS FOR PREGNANT WOMEN

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ABSTRACT

The survey of literature indicate that, on average dietary intake by pregnant women is less than the RDA (recommended dietary allowance) for mainly eight nutrients that is vitamin B-6, vitamin D, vitamin E, foliate, iron, zinc, calcium and magnesium. National surveys indicate that as many as 97% of women living all around the world are advised by their healthcare providers to take multivitamins and multi minerals (MVMM) supplements during pregnancy and 7-36% of pregnant women use botanical supplements during this time. This presentation reviews some the most commonly used prenatal supplements in terms of the evidence for their need, efficacy and safety. There are also many companies which produce these food supplements like Amway, Patanjali, Renovo, FSC, DD Nutrition India. Food supplements are not only used by pregnant women. Different age group people, body builders, athletes also have food supplements in their diet like Caccia cinnamon, calcium, Co-enzyme Q-10. There are no harmful effects of these supplements unless using them for cause.

Keywords: Supplements, Enzyme, Vitamin, and Pregnant

DRY FRUITS AS THE SOURCE OF PROTEINS AND VITAMINS FOR THE PREGNANT WOMEN

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ABSTRACT

Pregnancy is a time when you should focus on healthy eating. A balanced diet is the best way to get all the nutrients your body needs to nurture your child. Dry fruits figure on the list of food recommended for pregnant mothers due to their benefits to both mother and child. Dry fruits are a storehouse of vitamins, minerals, fibres and amino acids making them a must for expectant mothers. Dry fruits contain crucial vitamins like B1, B9, C, K, E and H. D fruits like almonds, walnuts, blueberries, cashew nut, raisins; etc they serve as insurance against

muscle spasm, high blood pressure, fatigue. They contain antioxidants which reduces stress during pregnancy.

Keywords: Dry Fruits Mother and Child Nutrients and Antioxidants

LEGUME WHEAT DIET FOR PREGNANT WOMEN

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ABSTRACT

Legumes are nutritional powerhouse, from a botanical perspective, legumes are plant with a seedpod that splits in half. This includes beans, pea, soybean, peanut and lentils. They are an excellent source of foliate, potassium, iron and magnesium and essential fatty acids. Legumes also contain compound called phytochemicals. Researchers are studying for their ability to prevent heart disease, Cancer, and diabetes. Legumes also provide soluble fibre which has been linked with lower levels of total cholesterol and LDL cholesterol and possibly a reduce risk and haemorrhoids-common problems during pregnancy. When a woman is pregnant, she must consume food which is rich in calcium. Pregnant woman must take minimum 1000mg food containing calcium every day. They can consume food such as fish, shrimps, milk and yogurt Consuming whole wheat products help a pregnant woman to stay healthy. Pregnant woman can consume whole wheat food as they are rich in fibre, zinc and iron. Adding up peanuts, honey and raisins to the whole wheat food is a healthy meal. Consuming food as much as possible on daily basis is very good for health. Fruits are rich in vitamins. Fruits such as kiwi, pears, apples and banana's can be consumed everyday. Consuming fruits improves the health and strengthens the mother and also the baby. Citric fruits are rich in fibre, folic acids and vitamins. Lean meats are rich in iron so that they get absorbed by the body. It is believed that pregnant woman must consume lean meat in order to stay fit. Consuming food rich in iron helps in synthesising RBC and flow of oxygen in human blood. Pregnant woman must consume a bowl of vegetables everyday as they are rich in vitamins, fibre and iron. Consuming broccoli and cabbage are rich in calcium as they are rich in fibre and antioxidants; they help in fighting many diseases. Consumption of green vegetables helps the body to absorb iron.

Keyword: Soybean, Protein, Almond and Carbohydrates.

GLUTEN FREE FOOD FOR CELIAC BABIES

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ABSTRACT

Celiac disease is an autoimmune disorder caused by an intolerance to gluten. Gluten is the general name of the proteins found in wheat, rye, and barley and other grains derived from them. In kids with celiac disease, gluten damages villi, the finger-like projections in the small intestine responsible for absorbing nutrients from food. When the villi are damaged, the body can't absorb nutrients the body needs to grow. If that happens, a child can become malnourished. Celiac disease can lead to a wide variety of symptoms in different people. Infants may not gain weight and height as expected (a condition called failure to thrive). Older kids can have diarrhoea, abdominal pain and bloating, weight loss, fatigue, or painful skin rashes. Some people who have celiac disease have no symptoms at all. Doctors don't know for sure what triggers the immune system to react to gluten in people who have celiac disease. There is no cure, although researchers are working on developing enzyme pills to help with the digestion of the toxic part of gluten that causes intestinal damage. If your child is diagnosed with celiac disease, there are ways to minimize symptoms and any damage to the intestines. Foods and ingredients that someone with celiac disease can eat and use in cooking include: foods made with the flours of corn, rice, buckwheat, sorghum, arrowroot, garbanzo beans (chickpeas), quinoa, tapioca, teff and potato (provided other ingredients in your recipe do not contain gluten). This disease can be prevented in babies by improving the diet of pregnant women. If a Pregnant women will intake more Calcium, Iron, Fibre , Folic acid , Zinc , Vitamin D , Magnesium there will be less chances for celiac disease in baby.

Keywords: Celiac Disease, Gluten, Sorghum and Thrive

NATURAL NEUTRACEUTICALS FOR PREGNANT MOTHER

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ABSTRACT

Neutraceuticals refers to foods having a medicinal effect on health of human being. It consist of foods supplements, herbal products, pro biotics and prebiotics, medical foods meant for

prevention and treatment of diseases, major nutraceuticals possess multiple therapeutic effects with a lack of unwanted effects hence attract more consumer interest. Increases in shift towards preventive therapies and increasing disposable income, favourable pricing environment, growth in pharma retail chain and increases in healthcare spending are mainly responsible for increasing the market for nutraceuticals in India, but lack of standardization and awareness, high pricing, marketing and distribution are some challenges. The nutraceuticals market is seeing rapid growth mainly in the United States, India and European countries. Faster access to this market is possible through business partnership models, effective regulatory compliance and by evaluating key trends and consumer preferences.

Keywords: Herbal Product, Nutraceuticals, Food Supplements and Healthcare

JUNK FOOD BE AVOIDED FOR PREGNANT MOTHER

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ABSTRACT

There are several harmful effects of eating fast food or junk food while pregnant. Not only are junk foods processed but they are also highly concentrated sources of salt, sugar, and processed fats. Here are 10 harmful effects of eating fast/junk food while being pregnant:

Lack of Nutrition: Sugars, salts, fats, and everything bad – this is junk food summarised in a nutshell. Your baby needs a healthy dose of essential vitamins, minerals, amino acids, and healthy fats for his/her proper growth and development. If you consume junk food, you and your baby will not receive these important nutrients. Organs such as the brain, heart, lungs, and even the bones get affected in the process.

Obesity: Junk food leads to obesity when overindulged in. Obesity leads to preeclampsia, preterm labor, miscarriage, high birth weight, and birth defects.

Unhealthy Dietary Preferences: Junk foods don't wipe their slate clean once you're done eating them. Even after you've consumed them, slowly and subtly, they alter your unborn baby's eating preferences from the inside. You'll notice your baby craving unhealthy and processed foods after being born, and this leads to health implications down the line.

Allergies and Asthma: As per reports, children of parents who ate junk foods during pregnancy had an increased risk of allergies and asthma.

Alters Brain Chemistry: Parents who

eat junk foods during pregnancy alter their kids' brain chemistries and program them to be addicted to unhealthy food sources. Children will no longer experience "the-feel-good" hormones through eating healthy food and thus be in bad physical/mental shape. Increased Risk of Heart Disease: Junk food goes hand-in-hand with heart disease. If you continue to advocate the habit of junk food, your kids will experience these risks early on in their lives and so will you.

Keywords: Children, Miscarriage, Junk Food and Pregnant woman

PRETERM BIRTH A GLOBAL CHALLENGE

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ABSTRACT

Preterm birth is a worldwide epidemic with a global incidence of more than 15 million per year. Out of which the rate of preterm birth in India is 23 % which is highest globally. This is gross under estimation as many cases of preterm birth from village backgrounds remain unreported, nearly 1 in 10 babies in India is born preterm. It is a major issue in developing countries where malnutrition is witnessed on larger scale that includes food deficit for caloric demands, proteinaceous substance and fats and unsaturated fatty acid. The environmental and psychological stresses aggravates further malnutrition problem towards preterm birth. The folks in India can be divided in five categories upper class, upper middle class, middle class, poor and below poverty class. The preterm birth occurs in all classes but for different reasons, in first two classes over eating, over weight and lack of exercises are main culprits. In middle class psychological and environmental stress are important factors, though people in this class are aware of nutritional needs and can meet them economically. In last two classes, malnutrition, non affordability of therapeutic interventions is main reasons. Preterm birth problem needs to be tackled at government level by organizing awareness camps in cities, towns' sub-urbans areas and villages regarding the importance of balance diet and exercises during the pregnancy and stress free living of both the parents. Physiotherapist should be properly trained to handle the cases of pregnancy environment risk by appropriate physiotherapeutic treatment which includes conditioning of muscles that hold placenta and are involved in normal delivery of child. Hitherto the physiotherapist are yet to tackle such problems on large scale though it is possible at low cost compare to therapeutic interventions. This can mitigate the problem of preterm birth to a considerable level.

Keywords: Pregnancy, Mitigate, Preterm, Environmental Stress and Malnutrition

FACTORS AFFECTING PREGNANCY ENVIRONMENT IN PRETERM BIRTH

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ABSTRACT

The incidence, gestational age, and underlying aetiology of preterm birth is highly variable across different racial and ethnic groups, environmental conditions and geographic boundaries. Various studies have indicated that the major reasons of preterm birth are poor nutrition and diet, incompetent uterine muscle strength that hold the placenta at its place due to lack of prenatal and antenatal exercises, stressful environmental conditions, besides genetics and epigenetic factors determining reproductive health. The consequences of preterm birth leads to drastically altered antigen exposure due to premature confrontation with microbes, nutritional antigens, and other environmental factors. During the last trimester of pregnancy, the fetal immune system adapts to tolerate maternal and self-antigens, while also preparing for postnatal immune defence by acquiring passive immunity from the mother. The altered pregnancy environment may pose risks towards preterm birth and poor health of the child needing rehabilitation regime.

Keywords: Muscle, Preterm Birth, and Rehabilitation

COSEQUENCES OF PRETERM BIRTH: IT'S INTEGRATED MANAGEMENT

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ABSTRACT

The consequences of preterm birth leads to drastically altered antigen exposure due to premature confrontation with microbes, nutritional antigens, and other environmental factors. During the last trimester of pregnancy, the fetal immune system adapts to tolerate maternal and self-antigens, while also preparing for postnatal immune defence by acquiring passive immunity from the mother. Preterm birth may have long-term consequences for the

development of immune-mediated diseases. Intriguingly, preterm neonates appear to develop bronchial asthma more frequently. On the one hand, preterm birth may interrupt influences of the intrauterine environment on the fetus that increase or decrease the risk of later immune disease (e.g., maternal antibodies and placenta-derived factors), whereas on the other hand, it may lead to the premature exposure to protective or harmful extra uterine factors such as microbiota and nutritional considering to the risks and complications involved with preterm birth it's time now to look for ways to avert or reduce the risk of preterm birth by integrated management of, nutrition and physiotherapeutic exercises and appropriate education about reproductive health of the pregnant mothers.

Keywords: Pregnant Mothers, Self-Antigens, Antibodies and Reproductive Health

REHABILITATIO REGIMES FOR NEONATALS: PHYSIOTHERAPEUTIC INTERVENTIONS

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ABSTRACT

Preterm birth is now a days and increasing occurrence in urban and rural settings alike. This may be attributed to climate change poor nutrition, lack of exercises, environmental and psychological stresses, preterm born babies are generally weak for respiratory, nervous, muscular systems, and these reasons they need rehabilitation regime before they can be considered near at par with a baby born normally and healthy. Rehabilitation regime should include controlled incubating environment to avoid temperature exposures to the baby and ensure proper concentration of oxygen and carbon dioxide for proper respiration with the help of Chest physiotherapy and proper positioning, nutrition of neo-natal should be ensured for proper development and growth of tissues and organs, all these measures should be supplemented with physiotherapeutic interventions to enhance the biological efficiency of the neo natal for the development of muscles strength of connective tissue through movements, and therapeutic massage, it amounts to sensory stimulation, also enhance oxygen uptake/respiration that well strengthen connective tissue beside improving blood circulation. Physiotherapeutic interventions will provide tensile strength to neonatal through improved

metabolism to cope up with metabolic disorders. Physiotherapeutic interventions should be designed and cal liberated properly in view of the gestation period of the child in mother's womb and incubation condition and age of the child.

Keywords: Rehabilitation, Tissues and Organs, Physiotherapeutic, Interventions, Climate Change and Biological Efficiency

PHYSIOTHERAPEUTIC INTERVENTION FOR PELVIC FLOOR MUSCLES TO ALLEVIATE THE RISK INVOLVED IN PREGNANCY IN WOMEN

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ABSTRACT

During Pregnancy several risk are tracked due to poor pregnancy environment, strength of uterine muscles, pelvic floor muscles namely , in Pelvic Diaphragm: Levator ani muscle (Puborectalis, Pubococcygeus and Iliococcygeus) and Coccygeus, in urogenital Diaphragm: Deep transverse perineal, Sphincter urethrae , in Sphincters and erectile muscles of the urogenital and intestinal tract: External anal sphincter, Bulbospongiosus, Ischiocavernosus, Superficial transverse perineal and other muscles supporting in movement. Muscles that hold placenta needs to be smooth and flexible and with adequate strength. Direct targeting of uterine muscles is difficult but we can address the pelvic floor muscles through physiotherapeutic interventions. However, Physiotherapeutic Exercises help to strengthen muscles to hold placenta and create normal pregnancy environment in the womb. The pelvic floor and girdle muscles are in extraneously positioned. This Physiotherapeutic treatment is feasible. The Pelvic floor and Girdle muscles strengthening exercises, movements and massage provide strength and flexibility to pregnant mother so that, they can help rear fetus through good position. They can take during pregnancy period while walking, sitting and lying. The pelvic floor and girdle muscles are not directly associated with the growth of fetus in womb but the strength of pelvic floor and girdle muscles will help pregnant mother to help to bear weight of prenatal as per research proved. Pelvic floor muscles stretch like a trampoline across the floor of the pelvis, running from the coccyx

(tailbone) at the back through to the pubic bone at the front, and sideways to the sitting bones. The pelvic floor muscles play a large part in bladder and bowel control, as well as sexual function. Pelvic floor muscles also help to provide support and stability around your pelvic joints. Therefore, exercise of pelvic floor and girdle muscle can help relaying preterm birth in many cases. Such Physiotherapeutic interaction should be emerged as part of holistic management strategy to reduce risk of preterm birth and its consequences on neonatal.

Keywords: Environment, Womb, Pregnancy and Uterine Muscles

AWARENESS TOWARDS PHYSICAL AND PSYCHOLOGICAL WELLBEING DURING PREGNANCY

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ABSTRACT

Preterm birth is a significant public health problem because of associated neonatal (first 28 days of life) mortality and short and long term morbidity and disability in later life. Preterm is defined by WHO as babies born alive before 37 completed week of gestation since the first day of a women's last menstrual period (LMP). Normally pregnancy last about 40 weeks. According to data (National health portal-2010) in India 27 million babies are born every year and out of them 3.5 million babies are premature. Almost 40% premature babies dies before age of 5 year. Many of babies who survives suffer from various disabilities like cerebral palsy, sensory deficits, learning disabilities and respiratory illness, this all leads to physical, psychological and economic stress to the individual and the family. All these incidences can be cured to some extent by creating awareness in the society in term of role of nutrition, antenatal care, exercise, life style & environment in maintaining healthy pregnancy.

Keywords: Preterm Birth, Pregnancy, Psychological and Economic Stress and Exercise

ROLE OF EXERCISE IN PREGNANCY AND PRETERM BIRTHS

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ABSTRACT

As per the WHO reports 2018, the incidence of preterm birth is 9% in high income countries and 12% in low income countries. India ranks first among the countries with greatest number of preterm births. There are various causes and risk factors of preterm births that have been studied. The review of these research articles suggest that premature contractions, premature rupture of membranes, infections and maternal and fetal indications among the leading causes of preterm birth. The associated risk factors include deficiency of vitamin D, anaemia, smoking, prior preterm delivery, prior low birth infant, multiple births, incompetent cervix and extreme BMI values. Authors have also studied the role of extreme physical activity in aetiology of preterm births. High physical workload which include prolonged standing more than 8 hours/day, lifting heavy weights of more than 10 kg repeatedly and prolonged working hours are associated with preterm birth. However, moderate leisure activity, housework and other daily activities don't seem to be associated with preterm birth. The role of exercise in pregnancy has been widely accepted and both ACSM and American College of Obstetrician and Gynaecologist have approved guidelines of minimum exercise for pregnant women which are approx. 150 minutes of moderate intensity aerobic exercise per week. The benefit of prenatal exercise has been studied both for women and fetus. Exercise helps to enhance cardiovascular function, confine weight gain, reduce the risk of musculoskeletal injury, reduce gestational diabetes, hypertension and leads to less complicated labor in women. The fetal benefits include reduced fat mass and improved neurobehavioral maturation. Hence, exercise have been recommended as safe and inexpensive strategy for healthy pregnancy and increased vaginal delivery rate. Lately the interests of researchers have shifted towards the role of exercise in reducing preterm births. The earlier reports have shown that exercise has no effect on gestational age of delivery. A recent prospective study has shown lower pelvic floor muscle strength and lower vaginal pressure in women having preterm delivery. The studies considering the physiological changes to exercise have shown that placental fetal blood flow appears to be redistributed preferentially to the fetus rather than placental mass. The placenta of women who exercised shows greater functional volume and greater number of terminal villi showing better mother fetus interface. The effects of yoga and pranayam on

reducing preterm birth have also been shown. Thus, the knowledge base on the role of physical exercise in reducing preterm births is increasing. Open chain physical exercises in lying and sitting which includes pelvic floor strengthening, yoga and low dose aerobic exercises may be recommended for pregnant women even at risk of preterm birth.

Keywords: Gynaecologist Women Exercise Yoga and Pregnant
