PFNDAI

PFNDAI Bulletin

NOV 2020

FOOD, NUTRITION & SAFETY MAGAZINE

BALANCING NUTRITION AND SUSTAINABILITY– WAY TO THE FUTURE

Prakash N. Chawla

WELL BEING THROUGH SNACKS

Mr Zafar Khan

INDIAN CHUTNEY: A NEW PERSPECTIVE (PART 1)

Dr Vilas Ramrao Shirhatti

NUTRITION AWARENESS ACTIVITY (ONLINE)

Ms Anuja Padte

REGULATORY AFFAIRS COMMITTEE MEETING, OCT 2020

Ms Seles Gupta

WEIGHT REDUCTION FOODS FORMULATION WITHOUT REDUCING SATIETY

PROTEIN FOODS AND NUTRITION DEVELOPMENT ASSOCIATION OF INDIA

2nd Floor, Mahalaxmi Chambers, 22 Bhulabhai Desai Rd., Mumbai - 26 (India)
Phone: 022 23538858 / 23519014
Email: pfndai@pfndai.org Website: www.pfndai.org

FIL
Flavours

taste stimulate the secretion of digestive juices
this pleasant experience provide mouth watering...
indication of enjoyment of food

taste is a valued concept in food..... creating consumer appeal
through taste is our speciality

We work intimately with the nature in creating unique, innovative functional flavour systems that excite the palate - taste and create new sensations to all processed foods and beverages that goes a long way in market success and creating brand value.....

FOOD INGREDIENT SPECIALITIES PRIVATE LIMITED
No. 90, Vanagaram - Ambattur Road, Ayanambakkam,
Chennai - 600 095. India

FIL
Flavours

Tel : 044 - 26531336 / 2653 0572 / 2653 0451 / 2653 0452
email : info@foodingredientspecialities.com / foodinfil@gmail.com

Email : pfndai@pfndai.org Website : www.pfndai.org

PFNDAI Bulletin NOV 2020

PFNDAI FOOD, NUTRITION & SAFETY MAGAZINE

ADVERTISERS

Food Ingredient Specialities,

E.I. DuPont India,

Bee Pharmo Labs,

AAK Kamani,

Vasta Biotech,

Marico,

JRS India &

Samyog Foods

INDEX

Cover Design & Bulletin Layout by Ms. Leena Shanbhag

EDITORIAL

There were reports in newspapers that Selling Home-cooked Food without license would attract a fine of Rs 5 lakhs or imprisonment up to 6 months.

This is stated to be as per the State Food Safety Department. The newspapers also relate that many people because of the pandemic have found that they need some source of income if they were self employed or their source of income is greatly diminished. There was a need for food to be available for people who depended on outside food such as restaurants and caterers which were either shut or highly restricted because of lockdown. Street foods were also almost non-existent due to lockdown. Thus the opportunity and need were realised by some who started locally supplying home-cooked food so they also earned livelihood and also satisfied the need of people.

So far there have not been any cases of food poisoning or similar food related problems observed or reported. Thus apparently people without any help or encouragement from authority, either state or central, were taking care of themselves. And suddenly these reports appear in newspaper threatening those who were selling such home-cooked foods with action of fine or jail if they did so without any license.

First of all it is not clear which authority issued this warning: whether it is the Regional licensing office of FSSAI at Mumbai issuing central licenses or the Maharashtra State Food & Drug Administration that issues State licenses; for such small entrepreneurs it appears we are talking of registration.

The community when doing something useful and needful without the help from the authority it should be encouraged and not threatened with penal action.

Certainly we must ensure that the food is safe and just the license does not ensure that but creating awareness about safety and monitoring the situation will certainly go a long way in ensuring food safety.

People who would now be in doing sale of home-cooked food may not be professional chef or hoteliers or food service operators with experience in ensuring quality and safety of food. So they would certainly need guidance and help in ensuring safety. This can be done by reaching to them and spreading safety awareness by various means including social media, news papers, TV etc. Certainly threatening with action will either discourage them from doing this activity or do it stealthily. They probably don't even know about FSSAI and need for license.

In the case of street food vendors the FSSAI had started the project to create awareness about food safety. Similar programme could have been started now rather than such threatening notice without giving a proper source. This looks more like FSSAI wanting them to urgently go take license. It does not look like they are much worried about food safety.

People have difficulty when food is not so easily available. Food from shops and on streets is not very reliable not very tasty. Under these conditions, home-cooked food appears to be an excellent choice and timely need which would also help those who are out of job or are having difficulty earning their livelihood.

Also FSSAI has been issuing orders that due to pandemic and lockdown in various places, it has relaxed the licensing and registration protocols to remove the hardship to FBOs and here the reports are threatening to take action if no license is procured. It is sad that our priorities are so misplaced.

We sincerely hope that FSSAI would reach out to them and help them guiding them and showing them how to prepare safe food.

Prof Jagadish Pai,
Executive Director,
PFNDAI

Veg DHA Omega-3 Throughout the Life Cycle

life's DHA™ – Veg DHA Omega-3

Health and wellness throughout life

***life's* DHA™ Supports:**

- A healthy pregnancy in mothers to be
- Brain and eye development for foetuses, infants and children
- Cardiovascular health in adults
- Mental health in senior citizens

Also from Vasta:

Lactoferrin for ID/IDA and for immune health;
Nucleotides for infant nutrition; **Phosphatidylserine** for cognition; **Taurine** for alertness and energy;
Nisin & Natamycin for shelf life extension; **Folic Acid** for well being… and many other ingredients!

VASTA BIOTECH

Vasta Biotech Pvt. Ltd.

M: +91 98416 03903
T: +91 44 24993095 • F: +91 44 24991007
vasta@vastabiotech.com • www.vastabiotech.com

BALANCING NUTRITION AND SUSTAINABILITY– WAY TO THE FUTURE

AUTHOR
Prakash N. Chawla,
Director
Samyog Health Foods Pvt Ltd

Food is the very basis of our survival. As humanity has evolved so have various aspects of food. The advancement of agricultural practices has been the cornerstone for the advent of civilizations. We are now at a point where it has become essential to balance various aspects of food and agriculture. A judicious balance of nutrition, taste, affordability and sustainability has become essential for the health of the planet and its inhabitants.

The consensus is that the optimal macronutrient balance is 45 to 65% calories from carbohydrates, 10 to 35% from proteins and 20 to 30% from fats. It is also important to consume vitamins and minerals in sufficient amounts since they play a vital role in regulating heart and neurological functions in the body.

Getting the right balance of all the nutrients would lead to a better, healthier life than what most of us can imagine. Indian traditional vegetarian diet is called a balanced diet since it provides the body with all the nutrients in the right proportions.

Quite inadvertently, India seems to have moved from the traditional balanced diet to a carbohydrate-rich diet. This imbalance has led to an increase in coronary heart disease, obesity and diabetes, India being called as the 'Diabetes hub'.

In a recent survey conducted amongst nutritionists, the consensus says that in urban India, approximately 75% people are protein deficient whereas about 90% are unaware of the protein requirement. As a result of lack of awareness and knowledge, the average consumption of protein is less than 50% of the daily requirement.

Being a part of the food industry, it becomes our primary responsibility to create and spread the awareness about the nutritional needs of the human body and how to ensure that we are getting the right nutrition from our daily diets. A healthy diet could subsequently reduce our dependence on medicines leading to a better, quality life. It has been very well said that one must have their food like a medicine and that will push half of the health issues away.

With the passage of time all of us seem to have really got spoiled. Food needs to be tasty for it to get a consumer's acceptance!

Many products have been launched that were healthy but didn't meet the taste standard and have not been able to succeed in the market. It is imperative for technologists to consider this aspect while designing formulations.

Consumers have also become a lot choosier and product offerings need to have tremendous variety to meet this need. Futuristic trends indicate that a lot of consumers would love

Prolicious

40g Plant based protein (per 200g pack)

2X Protein of regular khakhras

The same amount of protein as a protein bar!

- ☑ GLUTEN FREE VARIANTS
- ☑ LOW GI VARIANTS
- ☑ VEGAN
- ☑ HIGH FIBRE
- ☑ IMMUNITY BOOSTING INGREDIENTS

+91 93216 24511 | FOLLOW US ON @itsprolicious | WWW.PROLICIOUS.COM

Samyog Health Foods Pvt. Ltd.

to have products customised to their individual needs. India is a very complex market as it encompasses a broad variety of categories across the consumer base i.e. age, ethnicity, religious preference, income, etc.

Globally a few decades ago there was a broad categorisation of vegetarians and non-vegetarians and now we have vegans and flexitarians added to that group. In India it goes further, and we have requirements catering to specific communities like Jain food, foods for fasting, etc. So, the offerings need to cater to the health and taste requirements of the various subgroups that exist in the Indian market.

It is now accepted that climate change is for real. There is a global move towards sustainability in food systems and greater compassion against animal cruelty.

Globally the way the world eats is not sustainable. One of the statistics reveals that we farm around 70 billion animals to feed 7 billion people. Man has survived by feeding on animals for thousands of years and has incorporated meat as an essential component of his diet and lifestyle. However, the concept of farming of animals on this scale is a few decades old and that seems to be causing the serious imbalance that we see currently. Methane, the greenhouse gas from animal agriculture has an effect on global warming 28 times higher than carbon dioxide. This raises the risk of global pandemics as we have just seen.

In India we have had a culture of vegetarianism and compassion for our fellow creatures. Gautam Buddha spoke against animal cruelty between 6th and 4th century BCE. To quote the famous philosopher Kahlil Gibran from 'The Prophet', suggested minimizing the intake of meat and dairy products in an effort to live harmoniously. It is believed that thinkers like Leornado Da Vinci and Pythagoras were vegetarian.

Balancing our need for protein by increasing the plant-based alternatives is one of the means of improving the health of the planet. A lot of work is being done globally in the plant-based meat and dairy alternative space and a lot of money is flowing into research and product development.

We can see the beginning of a new trend. One study revealed that 41% of US households bought plant-based milk in the last year. There are many start-ups and organisations working in this segment.

Globally known figures and top athletes and celebrities are now shifting to plant-based diets. Some of the notable ones are Indian cricket team captain Virat Kohli, professional Indian footballer Sunil Chhetri, tennis players Venus Williams and Novak Djokovic, Hollywood singers Beyonce and Ariana Grande and the list goes on.

The key to spreading good health is by making healthy foods affordable and tasty. There are a wide variety of plant proteins available like soy, lentils, legumes, nuts & seeds, pea proteins, peanuts, etc. At scale, plant proteins have the potential to make foods affordable against the animal proteins that are the primary source of consumption today.

The World Bank estimates that nearly half the world's population lives on less than $5.50 per day. This presents a challenge for technologists to create nutritional foods at lower costs to ensure healthy nutrition for all on the planet.

There are five blue zones in the planet i.e. a place where people live healthy lives. A study was done on Okinawa, a small island in Japan which is one of the blue zones. People live long and healthy lives and it was found that they consumed mainly plant foods, lesser processed foods and had a lower calorie intake. They have a very strong sense of community and sharing. Also, most of them have an active life with exposure to outdoor activities and exercise. One of the key learnings is that they have a practice called 'Hara Hachi Bu' that means eat until you are 80% full. Balancing the quantum that we eat is also a great enhancer of the quality of health we have.

India seems to be suffering from two problems. Urban India seems to be having very high incidence of diabetes, hypertension and coronary heart disease etc. There are many of us who do not have sufficient nutrition for their daily needs which is a very unfortunate situation. In order to solve both these problems it is important that we balance our diets and lifestyles and create foods that are healthy, tasty and affordable.

It is essential that we experiment with various models to find the best way forward i.e. many of us have a need for the taste of meats, eggs and dairy products that we are used to. It is not so easy to give up these foods away and hence, we should find ways of balancing and therein lies an exciting challenge for all food technologists.

Another area of balance that is not been given due importance is the balance between preventive and curative health. The right nutrition will prevent the onset of disease and it is a science most of us are not aware of. So, like every family has a GP, it is time every family has a nutritionist!

BEE PHARMO LABS PVT.LTD
THE PLEDGE OF ACCURACY
SINCE 1988

OUR ACCREDITATIONS

FOOD PRODUCT TESTING SERVICES

We are Govt approved testing laboratories by **FDA**
Our test facilities are accredited by **NABL[ISO/IEC 17025:2017] & ISO certified(9001:2015)** by **EURO VERITAS**
Our lab has been approved by **FSSAI, BIS, APEDA**

We Can Undertake Following Food Categories for Analysis

Products

- Dairy products
- Fruits, vegitables and its products
- Cereals, pulses and its products
- Spices, Condiments and its products
- Animal origin, fishery and its products
- Alcoholic and non alcoholic products
- Oil seed, oils and its produts
- Sweets.,confectionary and its products
- Bakery products
- Sugar, Honey & jaggery
- Process, canned food products
- Feeds
- Water
- Ready to eat
- Infant substitute
- Skim Milk Powder

Testing as per FSSAI requirements.

- Pesticide residues, PAH, PCB's
- Mycotoxins
- Natually occurring toxins(NOT,s)
- Heavy metals and minerals
- Minerals & Toxic heavy metals
- Vitamins
- Antibiotics / Residues
- Food Adulteration tests
- Food additives, preservetives and artificial sweetners
- Synthetic food colour
- Antioxidents
- Packaged Drinking analysis as per IS 14543
- Drinking water as per IS 10500
- Process water IS 4251
- Shelf life study(Ambient @ Acclerated)
- Microbiological testing (Bacterial and pathogens)
- Hygiene audit /Kitchen audit
- Allergens
- Sterol Composition

Analytical Facility

1) GC MS MS
2) LC MS MS
3) ICP MS
4) AAS/ GF/ Flame
5) HPLC with UV/ FLD/ RI/ PDA
6) HS with GC FID/ TCD
7) Ion Chromatography with CD
8) Protein / Fat / Fibre Analyzer
9) Elisa Reader
10) FT-IR
11) U V Spectrophotometer
12) Partical size by Malvern (Wet & Dry)

Bee Pharmo Labs Pvt.Ltd
C-2, Hatkesh Udyog Nagar, Mira Bhayander Road, Mira Road (East), Thane - 401107
Tel: 9029774868 to 9029774877 (10 Lines)
info@beepharmo.com | food@beepharmo.com | www.beepharmo.com

WELL BEING THROUGH SNACKS

AUTHOR
Mr Zafar Khan,
Head, Scientific & Regulatory Affairs
Mondelez

What is well-being?

Well-being means the state of being comfortable, healthy or happy. Which can be achieved by taking care of yourself.

Is right Nutrition related to well being?

Nutrition and Well-being are indeed correlated to each other. Nutrition is a critical part of health and development. Better nutrition is related to improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases (such as diabetes and cardiovascular disease), and longevity. As per WHO Healthy children learn better, people getting adequate nutrition are more productive and can create opportunities to gradually break the cycles of poverty and hunger. On the other hand, Malnutrition, in every form, presents significant threats to human health. Today the world faces a double burden of malnutrition that includes both undernutrition and overweight, especially in low- and middle-income countries.

What is Malnutrition?

Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The term malnutrition addresses 3 broad groups of conditions:

- Undernutrition: which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age);
- Micronutrient-related malnutrition: which includes micronutrient deficiencies (a lack of important vitamins and minerals) or micronutrient excess; and
- Overweight, obesity tending to diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and some cancers).

The developmental, economic, social, and medical impacts of the burden of malnutrition are serious and lasting, for individuals and their families, for communities and for country. In this article we will limit to situation and opportunities in India.

Identified Nutritional Gaps in India:

Foundation of an individual's health is laid in early phase of life. It is a well-known fact that in some developing nations, India being one of them, nearly half of children under 5 years of age succumb to death every year due to poor nutrition. Sedentary habits coupled with unhealthy food habits results in weight gain people. The irony is, India being the world's second largest food producer and yet is also home to the large number of undernourished children in the world.

As per the Comprehensive National Nutrition Survey (CNNS) done in 2016-2018; first ever national nutrition survey to provide national and state level representative estimates from biological samples (blood, urine and stool) for micronutrient deficiencies and non-communicable diseases (NCDs) using robust tools, best practices in training and field and gold standard laboratory methods.

The main objective of the CNNS was to collect nationally representative data on the nutritional status of pre-schoolers (0–4 years), school-age children (5–9 years) and adolescents (10–19 years) through interviews, comprehensive set of anthropometric measures and biochemical indicators. The aim was to estimate the prevalence of malnutrition among children and adolescents and to identify key factors associated with the nutrition transition in India to guide national programme and policies.

INNOVATIVE CO-DEVELOPMENT

Leverage on the consumer trend towards healthy and nutrient-dense food products with AAKKamani's Specialty Oils & Fats

Explore our application range across various categories

- Chocolate & Confectionery
- Dairy
- Special Nutrition
- Personal Care
- Plant-based Food
- Bakery
- Food Service
- Technical Products & Feed

To Co-Develop innovative solutions, contact

AAK KAMANI
The Co-Development Company

info.in@aakkamani.com | ✆ **1800 266 6363** | www.aakkamani.com

This survey has brought into attention few very specific observations like the extent and severity of micronutrient deficiencies among children and adolescents, risk factors for non-communicable diseases among school-age children and adolescents & prevalence of dual burden of malnutrition in children and adolescents. Some data is presented in tables below to establish the existing conditions on Malnutrition in country.

Below table shows data from CNNS 2016-18 (for details please refer CNNS report):

Malnutrition in school-age children (5–9 years)	Malnutrition in adolescents (10–19 years)
• 22% of school-age children were stunted (HAZ <-2 SD)	• 24% of adolescents were thin for their age (BMI-for-age <-2 SD)
• 10% of school-age children were underweight (WAZ <-2 SD)	• 5% of adolescents were overweight or obese (BMI-for-age >+1 SD)
• 23% of school-age children were thin (BMI-for-age <-2 SD)	• 4% of adolescents were overweight as measured by TSFT (TSFT-for-age >+1 SD)
• 4% of school-age children were overweight or obese (BMI-for-age >+1 SD)	• 6% of adolescents were overweight as measured by SSFT (SSFT-for-age >+1 SD)
• 2% of school-age children were overweight as measured by TSFT (TSFT for-age >+1SD)	• 2% of adolescents had abdominal obesity (waist circumference-for-age >+1 SD)
• 8% of school-age children were overweight as measured by SSFT (SSFT for-age >+1SD)	
• 2% of school-age children had abdominal obesity (waist circumference for-age >+1SD)	

Below table shows data from CNNS 2016-18 (for details please refer CNNS report):

Micronutrients deficiencies	Markers of non-communicable diseases (NCDs)
The prevalence of vitamin A deficiency was 18% among pre-school children, 22% among school-age children and 16% among adolescents	There is a growing risk of non-communicable diseases among children aged 5 to 9 years and adolescents aged 10–19 years in India
• Vitamin D deficiency was found among 14% of pre-school children, 18% of school age children and 24% of adolescents	• One in ten school-age children and adolescents were pre-diabetic with fasting plasma glucose >100 mg/dl &<=126 mg/dl or with glycosylated haemoglobin(HbA1c) between 5.7%–6.4%
• Nearly one-fifth of pre-school children (19%), 17% of school-age children and 32% of adolescents had zinc deficiency	• One percent of school-age children and adolescents were diabetic with fasting plasma glucose >126 mg/dl
• The prevalence of vitamin B12 deficiency was 14% among pre-school children, 17% among school-age children and 31% among adolescents	• Three percent of school-age children and 4% of adolescents had high total cholesterol (>= 200 g/dl) and high low-density lipoprotein (LDL) (>= 130 mg/dl)
• Nearly one-quarter (23%) of pre-school children, 28% of school aged children and37% of adolescents had folate deficiency	• One-quarter (26%) of school-age children and 28% of adolescents had low high-density lipoprotein (HDL) (<40 mg/dl)
• Adequate iodine status (median urinary iodine concentration >= 100 µg/L and <= 300µg/L) was observed in all three age groups - 213 µg/L among pre-school children, 175µg/L among school-age children and 173 µg/L among adolescents	• One-third (34%) of school-age children (>= 100 mg/dl) and 16% of adolescents (>=130 mg/dl) had high serum triglycerides
• Children and adolescents in all states, except Tamil Nadu had adequate levels of urinary iodine concentration. The estimate from Tamil Nadu showed the urinary iodine concentration was just at the lower limit of excess intake (median ~320 µg/L)	• Seven percent of school-age children and adolescents were at risk for chronic kidney disease (serum creatinine > 0.7 mg/dl for 5–12 years and 1.0 mg/dl for >= 13 years)
	• Five percent of adolescents were classified as having hypertension (systolic blood pressure >139 mmHg or diastolic blood pressure >89 mmHg)

Hidden hunger:

Hidden hunger occurs when the quality of food people eat does not meet their nutrient requirements, so the food is deficient in micronutrients such as the vitamins and minerals that they need for their growth and development (WHO)

In the Congress held in 2019 on Hidden Hunger it was pledged to encourage the dialogue between scientists, policy-makers and representatives of NGOs and the private sector.

All problem statements caused due to malnutrition mentioned above need an immediate attention of all-parties who are involved in making right policies, Industries making innovations and taking it scale, outreach, awareness of products and attributes. Experts who guide for need of balanced nutrition. Overall it becomes an all party call to address the issue.

Particularly, it has been an opportunity for Industry and recognising this fact many players have been trying to address this issue wholly or partially with nutritional supplements via various formats like Meal, breakfast cereals, Snack formats like Biscuits, Beverages, Nut bars, fruits & more, however still there is a huge scope to strike a balance to have snacks with right nutrients for people across the social strata at affordable price.

Considering the need of guidance to consumers and their awareness takes us to a direction where it surfaces that there exists a need for nutrition and there exits want for nutrition.

Need of Nutrition: A healthy balanced diet helps in improving the nutritional level in the body. Nutrition in the form of food supplements and other sources of energy are needed for various reasons such as:
1. Daily Maintenance
2. Food supplements during illness recovery
3. Nutrition for Allergic or intolerants

Want of Nutrition: Nutrition is required by people having different lifestyles who are ware of need of their special dietary requirements like:
1. Sports nutrition which is basically targeted for gymnasts and athletes. Here, the focus is mainly on the type, quantity of fluids and food taken by them. It deals with the intake of vitamins, supplements, organic food, minerals, proteins, carbohydrates and fats.
2. Heavy Physical Activity: People who are involved in carrying out activities which utilizes most of their energy requires plenty of liquid intake diet along with complex carbohydrates and essential proteins to avoid the body from being dehydrated and regain the lost energy.
3. Targeted Nutrition: It helps in identifying what foods and type of diets are best suited for your body's physical and mental well-being.

Initiatives by various stakeholders to fulfil nutritional gaps:
To provide the right nutrition for a large population, governments, NGOs and corporates are implementing various campaigns to address the nutritional gaps. Below are few initiatives but there are many more such initiatives:
1. Mid-Day meal scheme: This programme was designed to better the nutritional standing of mainly primary and upper primary class schools by providing free lunches on working days for children.
2. Eat Right India: The tagline "Sahi Bhojan. Behtar Jeevan" is the foundation of this movement which was initiated by FSSAI to improve the nations country's food system to ensure that safe, healthy and sustainable food reaches the public.
3. Poshan Abhiyaan: A Holistic Nutritional approach undertaken by the Prime Minister's Overarching Scheme pivotal for improving nutritional outcomes especially for children, pregnant women and lactating mothers.
4. Industries' CSR Initiatives: Investing in nutrition is paving a path for the corporate houses to channelize its CSR fund towards building a healthy and prosperous nation & workforce.
5. Efforts by NGOs: Many of the NGOs are involved in executing and taking sincere efforts to improve the nutritional well-being of people throughout the nation.

Snacks as tool of Nutrition

Considering the worthy attributes of snacks like enabling Quick bites, in controlled portions (100-120 Kcal range) can be good vehicles to deliver part of daily nutrition (Macro & Micro)

Well-designed snacks can store quality nutrition for longer time (shelf life).

Convenience of portability makes snack a good tool, readily available and consumable format of food with nutrition.

Nutritional programs/ initiatives can consider including designed for purpose snacks to deliver quality nutrition e.g. Poshan Abhiyan

It is important for industries to initiate/ invest more in development of snacks which makes business & social sense through formats, volumes, affordable price & nutritional value.

Snacks to be consumed along with daily balance diet with exercise and active lifestyle.

Food Trends in India:

From business perspective, trends in food consumptions should not be ignored and planning in terms of policies and business strategies should bring out the best offerings to contribute to overall well-being and nutritional requirements/ gaps.

As per the survey conducted online by The Harris Poll on behalf of Mondelez International from September 16 -27, 2019, among 6,068 global adults ages 18 and older. The research spanned 12 markets, including: The United States (n=504), Canada (n=506), Mexico (n=505), Brazil (n=515), France (n=501), Germany (n=503), The United Kingdom (n=501), Russia (n=515), China (n=503), India (n=508), Indonesia (n=504), and Australia (n=504).

As the snacking market continues to grow globally, people are turning to these personal points of daily satisfaction as a common ground for shared experiences, connections, and identity. This survey report explored and indicated the nature of daily snacking moments, mindsets, and rituals that fuel not only our bodies but also our individual and cultural identities. Also, the trends indicate the opportunities as well.

Assurance framework to impart Nutrition: Technical & Regulatory Norms:

Healthy snacks business in India is a fast expanding sector, and all the changes are due to consumption patterns of consumers and consumers' quest for on-the-go snacks. Snacks are the medium through which consumers can hold their desire till the time they get their next meal. Millions of Indians believe in experimenting when it comes to food as well as snack items.

Consumers are giving preferences to those brands that provide nutrient-rich snacks with clear communications on pack. It's essential for snack manufacturers to keep variation in flavours and taste along with the maintaining the health benefits. As countries are governed by law and order, all products have to be made following law of land and all innovations/ technological advances need to be implemented along with dialogue and acceptance from regulators. It is mandatory for all established and new Snack/ food businesses to comply with rules and regulations set by the food regulatory body and other government/ local civic authorities.

From product quality assurance point of view, FSSAI in India allows any food production happening on commercial side with set Standards for products and ingredients following all GMP norms and after fulfilling due approval/ Licensing provisions. Therefore, there is no dearth of opportunities to create snacks which can take care of overall well-being using it as a meaningful tool.

References:

1. Comprehensive National Nutrition Survey2016–2018 report

2. Survey by The Harris Poll on behalf of Mondelez International from September 16 -27, 2019

3. 4th International Congress Hidden Hunger "Hidden hunger and the transformation of food systems"

Key research findings gave some interesting trends as below:

SNACKS ARE INCREASINGLY BEING SWAPPED FOR MEALS IN INDIA

The average Indian adult says they now eat more snacks than meals on a given day, with 7 in 10 saying both that they snack more today than they did a year ago (71%, +22% global average), and that they plan to snack more often in the next year (67%, +25% global average).

SNACKING PROVIDES INDIANS WITH A SOURCE OF IDENTITY AND CULTURAL EXPLORATION

Indians are more likely than those in other countries to participate in cultural snacking rituals daily (47%, +15%, global average), with 3 in 4 Indian adults saying that food is a major part of their identity (75%). Furthermore, 7 in 10 say they connect with their culture through the snacks they eat (68%, +10% global average).

INDIANS PRIORITIZE BALANCED INDULGENCE VIA BITE-SIZED SNACKS

80% of Indian adults agree that there is a time and a place for indulgent snacks, and a time and a place for healthy ones – and indeed that desire for balance is reflected in their snacking preferences. While The #1 reason Indians snack is to find quiet moments of 'me time' in their busy days (84%), 83% say they look for snacks that are portion-controlled (+18% global average) to keep indulgences manageable.

INDIAN CHUTNEY
A NEW PERSPECTIVE (PART 1)

AUTHOR
Dr Vilas Ramrao Shirhatti,
Technical Director,
Naturell India Pvt. Ltd., Mumbai

'Who has health has hope and who has hope has everything', resonates extremely well during the Covid times. As of now there is no medicine or vaccine, thus only option left for us is to stay home, stay healthy and protect oneself from being infected by the Covid virus. Proper nutrition plays a vital role in ensuring one stays healthy and has strong immunity. Food that provides nutrition is a basic building block of life and a fundamental right of every human being.

Despite of all the advances in science and technology in many areas of science including food technology, a large population in the world irrespective of their economic status is not getting optimum nutrition for staying healthy. To make India healthy, reduce the burden of both communicable and non-communicable diseases we must work towards achieving nutritional security for all. Achieving nutritional security is the cost-effective solution for making India healthy, productive, and of reducing the burden on economy.

The nutritional needs are different for every individual and vary based on age, gender, physiological condition, genetic factors, on set of diseases, season and so on. Different foods have different spectrum of nutrients and are absorbed by the body to different extent and many combinations provide a synergistic effect in increased absorption of nutrients and their physiological benefits. How does one deal with this complexity, account for all these variables and ensure one gets all the macro, micro and phytonutrients we need daily. Indian traditional food system one of the oldest and the most evolved, tries to achieve this by a simple approach of promoting food diversity.

The agricultural biodiversity of India the richest in the world offers a variety of cereals, millets, pulses, fruits, vegetables, nuts, seeds, spices and herbs which in combination with various cooking methods has resulted in creation of an unimaginable variety of food preparations that ensure diversity in foods that we eat. This rich biodiversity attracted many foreigners for trade and invasions in the past. Our existing food diversity got further enriched by the food diversity bought in by the invaders as well. Be the south Indian meal on a banana leaf, the Rajasthani thali, chappan bhog offered to lord Krishna, an array of sweets we have during festivals or the largest varieties of breads made from cereals and millets, the masalas, pickles, papads and chutneys, it is all about eating a variety of foods which ensures we get a wide spectrum of nutrients in a balanced way for an optimal health benefit.

There is no better representation of this diversity than the concept of 'Chutney' in the Indian food system. Chutney is a term applied to a variety of spicy relishes and condiments in Indian cookery. Chutney meets all consumer-desirable attributes namely taste, convenience, cost, and health benefits. Chutney is ever-ready stand by that provides variety and

appetizing attraction to pep up any meal or snack. They add pungent flavour to the simplest of dishes and make savoury accompaniments to sumptuous meals too. We are all aware and have enjoyed these piquant morsels which lift an ordinary meal to a palate ticking delight. What we are generally not aware is their role as supplements to add nutritional density to our food and possible health benefits.

Chutney as a condiment is native to the Indian subcontinent. Chutney is often classified as a condiment, described as a sauce or seasoning added to food after it has been prepared. These condiments and sauces are usually added at the dining table, just before eating, and the kind and amount used depends on the specific flavours or tastes a person likes. If one does Google search for globally most popular condiments and sauces, chutney does not even show up on the various searches, even though more than 17% of the global population (Indians) eat chutney daily.

The globally popular list of condiments and sauces includes ketchup, Mayonnaise, Salsa, Soy Sauce, Teriyaki sauce, Wasabi, Sriracha, Brown sauce, Barbeque sauce, Mustard paste, Ranch, Fish sauce, Hoisin sauce, Salad dressings, Pesto and finally salt and pepper. In a way this is good because Chutney should not get combined with other condiments and sauces and should stand on its own as a separate category. Most of the globally popular condiments are ready to serve, single recipes with hardly any variations, produced with limited number of ingredients and are commercially produced by intense processing and preserved up to 12 months or more.

Chutney preparations are freshly prepared with literally no processing and consumed in a day, offer mindboggling variety of flavours, and use the entire biodiversity that is available in the country and globally. Most chutney preparations will have generous levels of herbs, spices, vegetables, and fruits with known health benefits. These whole ingredients are added without processing and thus offer various phytonutrients without any degradation that often happens in processing of food preparations.

The English word "chutney" derives from the Sanskrit word caṭnī, or chatna in Hindi meaning ‘to lick' and represents the lip-smacking sound made on eating something tasty (such as a chutney is meant to be). Most chutney preparations combine tanginess, sour, sweet, salty, and spicy taste in one sauce which is so tasty that you literally lick it with your fingers. The choice of food one wants to eat is primarily driven by taste. Taste also makes the eating of food an enjoyable experience which positively impacts the absorption of nutrients by the body.

Chutney is a way of intensification, enhancement, and modification of taste for increasing the pleasure of eating and is achieved by combination of diverse tastes from herbs, spices, vegetables, nuts, pulses into a unified relishable experience. Chutney is an integral part of Indian cuisine, is neither a single preparation nor a dish by itself but, is part of every eating occasion be it breakfast, lunch, dinner, or any time snacks. Chutney is served with everything from Idli, dosa, dhokla, kachori, samosa, Bhel, rice, roti or even chicken and mutton kebabs. The flexibility of chutney is also evident by its use as a bread spread, sandwich spread or even on pasta or Pizza with an Indian twist. It will not be an exaggeration to say that there are as many chutney recipes as there are Indians. Every household in India will boast of its unique chutney preparations.

Developing new chutney recipes is still an ongoing process adding more to the existing diversity. Chutney preparations are very quick and easy to make, take hardly 10 to 15 min where in all the ingredients are mixed and ground to a fine powder or paste and thus offer the convenience.

The chutney recipes are abundant and flexible, you add some ingredients, you remove some, from a given recipe you still have a new unique taste. Chutney preparation can be watery, thick liquid, paste, semisolid as well as powder. The powder, semisolid or paste forms can further be diluted with yogurt, butter milk, crude vegetable oil or ghee depending upon the dish it is accompanying.

Most chutney preparations are freshly made and consumed but, the shelf life of chutney preparations can vary from few hours to weeks to months and years. The long-lasting chutney preparations are more like pickles and it is hard to tell the difference. Chutney preparations in general act as particularly good appetizers. These preparations use largely plant-based ingredients, even though they are served along with many non-vegetarian dishes. There are some chutney preparations popular in Kerala, Goa and north east that use fish, pork, shrimp and some other sea foods.

Most chutney preparations have very pleasing appearance, intense colours, flavours, and of course intense and sharp taste and because of this it cannot be consumed by itself. However, they enhance and intensify the taste of any food preparation they accompany. It is said that even any badly prepared dish or a very bland food can still be made very appetizing if served with

marico

Veggie CLEAN

TRY NOW

₹199

WATER CAN'T REMOVE ALL GERMS.

The scientific way to remove 99.9% germs & pesticides.

well-made chutney. There are many popular pairings that are very prevalent like coconut chutney with idli, a mint coriander chutney with samosa, tamarind chutney with Bhel, masala–garlic chutney with Vada paav, and so on. Chutney is an integral part of the home cooked Indian Thali and is also the power behind the popularity of Indian street food.

Unfortunately, chutney has always been projected more as a condiment for enhancing the taste of the food and not so much for its role as a health supplement to deliver nutrients and make our food nutrient dense. This basic chutney recipe from India was taken to Britain during the 18th Century and original recipes were adapted to become more of a spicy preserve or condiment where the fruit or vegetables surpluses resulting from the autumn harvest could be preserved over winter by cooking in vinegar and sugar and flavoured with spices before being bottled.

Thus the English dictionary definition of chutney is a sauce containing small pieces of fruit, spices, sugar and vinegar, eaten with cold meats and other foods to add 'flavour'. This definition is more with this adaptation and does not really define what chutney is and its richness and diversity and possible health benefits. Vinegar is not used in any typical Indian chutney preparations other than some commercial preparations outside India and is added more for preservation. Chutney preparations are freshly made at home, consumed within a couple of days and there are literally thousands of chutney recipes providing a mind-boggling range of taste and flavour. Most chutney preparations are ideal herbo-mineral preparations that follow principals of Rasayana. Pairing of different grains, pulses, nuts, herbs, minerals, spices, and ingredients in any chutney preparation provides a range of natural nutrients and enhances their bioabsorption synergistically.

The list of ingredients used for making various recipes and their health benefits will show the great potential of Chutney as a health supplement and in formulating innovative recipes backed with science to help providing nutrition security and possibly immunity boosting and other health benefits economically for population at large. A well-made chutney is more acceptable and enjoyable and fits in to consumers lifestyle than any tablet or capsule of health supplement. It is interesting to know how this humble chutney takes different forms across different regions in the country based on the locally available, seasonal, and popular biodiversity of the region.

A closer look at the chutney recipes, the most used ingredients in making chutney will convince one about their potential as health supplements and possible innovations on this platform. Chutney preparations use all permutations and combinations of virtually the entire biodiversity of available spices, herbs, fruits, vegetable, nuts, seeds pulses and so on. The commonly used ingredients in chutney preparations are ; tangy souring agents like raw mango, raw and ripe tamarind, lemon, raw and ripe tomato, amla, raw berries, wood apple, Mandi ki imli (Baobab) kachari; nuts like coconut, peanut, almond, cashew, water melon seeds, pumpkin seeds; all vegetables (leaf, stem, root, flower) and fruits; herbs and spices like mustard, ginger, sesame, pepper, asafetida, cinnamon, garlic, onion, coriander, gongura, neem, cumin, ajwain, turmeric, curry leaves, fenugreek Ashwagandha, Brahmi, Guduchi, mint, moringa; bulking agents like roasted pulses namely chick pea, black gram, peanut, coconut, black and white sesame, flax seeds; sweetening agents like jaggery, dates, raisins, sugar and fruits; salts like pink salt, black salt or some herbal salts. Red or green chilly is a common ingredient in most chutney preparations and is added for sharp and intense taste.

Most chutney preparations do not have added fat or oil other than the hidden fat. To enhance the taste further chutney preparation can be tempered with any vegetable oil in which mustard seeds, turmeric, asafetida, and curry leaves are roasted. The powder chutney preparations are sprinkled directly on to rice or mixed with ghee or raw unrefined vegetable oils to get the additional nutty flavour and phytosterols and phytostanols from raw oil. Chutney preparations derive their name based on the major ingredient used or the dominant flavour examples are coconut chutney, peanut chutney, mint chutney, tomato chutney, beet root chutney, carrot chutney, mushroom chutney, moringa leaf chutney and so on.

All the food preparations in India use most ingredients that are used for making chutney as well. In that case what is unique about chutney preparations? The usual Indian cooking while making curry, vegetables involves cooking at high temperatures for long periods which results in destruction of many heat and oxygen sensitive nutrients. Chutney preparation is the only food preparation that involves least processing or cooking of the ingredients. All the ingredients of a chutney are mixed in their raw form along with water, lemon juice,

yogurt, butter milk or oil and ground to a fine paste consistency. Only the nuts, seeds and pulses used are roasted to get the nice aroma and fruits and vegetables when used may be lightly sautéed before grinding with other ingredients. Chutney will thus retain of all the phytochemicals as provided by nature.

The traditional and most ideal way of making chutney is to grind all the ingredients to a fine paste. Chutney is much tastier when you pound and grind ingredients in a mortar and pestle or stone grinders, the action causes the individual cells to burst release all the nutrients and produce a much stronger fragrance and aroma than food whisked in a blender. This also releases the essential oils in the herbs and spices which ultimately imparts more flavours. This procedure also followed in Ayurveda preparations ensures efficient release of intra and inter cellular phytochemicals from the herbs and spices. This unique process of making Chutney with no or minimum cooking and processing of ingredients makes them tasty health supplements. Use of electric blenders or any mechanical device that chops the herbs and spices, a convenient and prevalent practice may not be as effective as stone grinding, heats up the chutney you are blending and alters the taste drastically and could lead to degradation of some nutrients.

Most wet chutney preparations are prepared fresh and consumed in a day as all the ingredients used are not subjected to any processing or cooking. In some preparations the ingredients are roasted and cooked to increase the shelf life to a few days to a couple of months when refrigerated. In some preparations where the predominant ingredient is highly acidic, like mango, amla, tamarind, lemon and so on, all the other ingredients are pickled to have an enhanced shelf life of more than a year. In such preparations it can be termed as chutney or pickle. When ingredients are available only during a season this technique is quite often used for preserving them throughout the year. Pickled chutney preparations have their unique taste and aroma.

The health promoting herbs like neem, Guduchi, Ashwagandha, Guduchi or the peels of fruits, vegetables which are loaded with phytonutrient sare generally not palatable. However, when these are added to chutney preparation the overall combination with other spices, sweetness, chilly and bulking agents makes a very tangy taste enhancing chutney, offering the best of both the worlds, the taste and health benefit. For the optimum health benefit of garlic, it should be consumed in the raw form and this is possible only when there is a garlic chutney preparation. The pungency of garlic gets well camouflaged with chilly and other spices added in the chutney. The peel of many fruits and vegetables are normally discarded while cooking them or serving them as they are hard to cook and have sometimes an off taste even though they are the richest source of many health promoting phytonutrients. There are many popular chutney recipes using vegetable and fruit peels that are tasty and healthy and deliver high levels of phytonutrients. These preparations are the best way of complete utilization of the valuable biomass.

Chutney Part 2 will be published in December 2020 Bulletin

REGULATORY ROUND UP

Dr. N. Ramasubramanian,
Director, VR FoodTech,
n.ram@vrfoodtech.com

Dear Readers

Please find below FSSAI notifications since the last round up. Much awaited notification on Processing Aids has been published.Please stay safe and do not lower your guard against COVID 19.

Final Gazette Notifications

Approved list of processing aids in different foods and food categories has been notified. Processing aid has been defined and categorized based on their functionality like antifoaming agent, antimicrobial agent, solvent, carrier, etc. Will give a fillip to product development and processing. The regulation is silent or ambiguous about its label declaration in the final product containing a processing aid.

Final notification amending Claims and Advertisement regulation. The amendment introduces health claims that can be made with regard to edible vegetable oil subjected to the conditions laid therein.

Final notification introducing Total Polar matter in fresh and used edible vegetable oils.

Final notification amending import regulation. The amendment includes giving a second chance to the Food Importer or his Custom House Agent if not present to facilitate inspection and sampling at the mutually agreed date and time. The Authorized Officer after successful completion of visual inspection and sampling, may issue a provisional no objection certificate to move the food consignment to a well-equipped storage facility.

Final notification doing away with the requirement of AGMARK certification in case of KangraTea , Honey Dew, etc.

Draft Gazette Notifications

A draft notification amending Health Supplement Regulation, 2016. The salient points of the amendment are

• "Sport person" has been defined

• Combination of vitamins and minerals in tablet and capsule form will fall under the purview of the regulation as long their levels are within 1 RDA

• For a product to qualify as "Health Supplement" must contain at least one ingredient from either Schedule I (vitamins and minerals) or Schedule II (Amino acids) of the regulation.

• For a product to qualify as a "Nutraceutical", it must contain an ingredient from Schedule VI of the regulation.

• Products meant for sports person have been categorized under Foods for Special Dietary Use (FSDU)
• Advertisement of FSDU products has been disallowed.

• Daily limits for Pro and Pre biotics have been proposed.

• New sources of vitamins and minerals have been added in Schedule I

• New botanicals and Nutraceuticals are permitted under Schedule IV and VI respectively.

• Additions in the list of Probiotics (Schedule VII) and Prebiotics(Schedule VIII)

Draft notification introducing standards for millet flours, multigrain atta, microbial standards for grain, etc. Standards for Hemp seeds have been proposed thereby paving the way for its introduction into foods.

Advisories and Orders, Guidance Notes and Others

Indian RDA 2020 is published introducing new requirements and revising the existing ones. RDAs of few vitamins and minerals are revised upward which would support manufacturers of products under Health Supplement Regulation 2016. It is hoped that Food Authority will adopt these recommendations.

New license platform FOSCOS has been launched on All India basis replacing the present FLRS system. The User Id and the password remains the same.

Food Authority vide its letter dated 06 November 2020 has its instructed licensing officers not to issue license for a proprietary food under the Category 13.

FSSAI has extended the date for the import of Inborn Error Metabolism and Hypoallergenic products till May 2021.

Mandatory safety audit high risk manufacturing units like meat and milk processing units has been extended to 30 December 2020.

Food Authority vide its letter 25 September 2020 has directed all the food safety officers involved in sampling that the Form VA (intimating the sampling) shall be completely filled including the parameters to be analysed

Food Authority has prohibited the manufacture of blended oil with mustard oil

WEIGHT REDUCTION FOODS FORMULATION WITHOUT REDUCING SATIETY

Two main aspects are considered for managing weight problems, namely calorie reduction and curtailing hunger.

Food having lower calorie and with more nutrients which would also be tasty and providing fullness feeling over longer period after meal would be necessary to help consumers reduce caloric intake and also control weight. Satiation and satiety are two complimentary but separate feelings that control food intake. Satiation is the contentment felt during the meal and helps stop eating. Satiety is the fullness felt after a meal and delays feeling of hunger again. During the meal, sensory feedback, expectation of satiety and food consumed causing gastric distension all contribute to satiation[1]. Also hormones cholecystokinin (CCK), glucagon-like peptide-1 (GLP-1) and peptide YY (PYY) give feedback to brain saying stomach is satisfied. They also work together with longer signals with insulin, glucose and amino acids concentration in blood with oxidation macronutrients to regulate amount, duration and frequency of eating.

Ingredients that Enhance Satiety
Specific types of fibre, protein and fats will all enhance satiety. With right recipe, these ingredients will not have negative impact on taste and other sensory properties.

Fibre

Dietary fibre increases bulk in the gut slowing digestion and releasing satiety hormones. All these occur in diets with high fibre and whole grains. They also contribute to reduction of weight and prevent weight gain. Viscous fibres have the ability to hold large amounts of water, delay gastric emptying and also stimulate hormones that regulate appetite. All soluble, viscous and fermentable fibres did not consistently decrease appetite.

Beta-glucan from oats and barley, lupin kernel fibre, whole grain rye, rye bran and mixed diet of fibre containing foods like grains, legumes, vegetables and fruits enhanced satiety in more cases while pectin and psyllium had minimal effect. Oat and barley beta-glucan lowered calorie intake significantly[2].

Beta-glucan is a multifunctional fermentable soluble fibre that stimulates release of hormones PYY and CCK. Though smaller intakes of less than 5 g may not impact hunger and satiety but in larger quantities oat beta-glucan improved satiety leading to decrease in calorie intake at the next meal. Consumed in juice or biscuits about 4-8 g beta glucan improves satiety[3].

Writing about health implications of dietary fibre, the Academy of Nutrition & Dietetics accepted the role of fibre in supporting weight management programme. It stated that high fibre diets provide bulk, are more satiating and have been linked to lower body weights. It also acknowledged the benefits of dietary fibres such as oats beta glucan in the role in supporting healthy satiety and fullness. Beta-glucan could be formulated into liquids, semi-solids and solid foods without adverse effects on sensory and taste perception when adding at concentrations up to 20% in baked goods and up to 1% in milk. It slightly alters sensory qualities of yogurts and impacts meat products. So the sensory effects depend on the food preparation. Over long periods it is experienced that beta glucan enriched foods rated lower in sensory acceptance.

Protein and Amino Acids

Protein improves satiety in larger amounts. In a meal, about 30g protein is suggested for satiety. Increasing protein intake by substituting moderate amounts in place of other macronutrients maintaining same caloric intake will increase the thermic effect of feeding. Also it increases retention of lean body mass on reduced calorie diet. All these factors show that higher protein diet having about 25-30 percent of calories leads to greater loss of weight than higher carbs and lower fat diet. This has been observed over short term of less than 3 months. Again too much protein habitually also affects the satiety of food. Finding the most satiating protein has not been very conclusive. There is however, some indication about proteins emptying from stomach rapidly, leads to faster increase in postprandial amino acids concentration. This has greater stimulation on the satiety hormones. There are other factors like time of consumption, form of food and other presence of other macronutrients will all influence the impact of protein on satiety. Breakfast is the most important for improving satiety during the day. Solid foods with higher protein decrease the subsequent calorie intake[4].

Fats

Mouth feel is vastly improved with fats that consumers crave but there are some functional fats that also improve satiety. A patented emulsion of palm oil coated in oat oil galacto-lipids, has shown to help control appetite. This slows down the flow of nutrients from stomach to small intestine. This in turn delays hunger and increases satiety. When this emulsion is incorporated into yogurt it increases satiety and reduced food intake 36 hours after consumption. Clinical trials have shown the benefits of the emulsion in supporting weight management program using dairy and ready-to-drink shakes[5]. There are many factors that influence people's desire to eat. Still nutritious foods and beverages formulated with ingredients which improve satiety while still providing the taste and mouthfeel that consumers crave. This fact will play a pivotal role in weight management.

References:

1. Cummings DE & Overduin J. Gastrointestinal Regulation of Food Intake. Clin. Invest. 2007; 117: 13-23.
2. Clark MJ &Slavin JL. The Effect of Fibre on Satiety and Food Intake: a Systematic Review. J Am CollNutr. 2013; 32(3¬): 200-211.
3. Pentikainen S & others. Enrichment of Biscuits and Juice with Oat beta-glucan Enhances Postprandial Satiety. Appetite. 2014; 75:150-6.
4. Leidy HJ & others. A Protein-rich Beverage Consumed as a Breakfast Meal Leads to Weaker Appetite and Dietary Responses v. a Protein-rich Breakfast Meal in Adolescents. Br J Nutr. 2011; 106(1): 37-41.
5. Diepvens K & others. Long-term Effects of Consumption of a Novel Fat Emulsion in Relation to Body-weight Management. Int J Obes (Lond). 2007 Jun; 31(6):942-9.
(Extracted from an article by Marie Spano on Formulating for Satiety from World of Nutrition)

NUTRITION AWARENESS ACTIVITY (ONLINE)

26TH SEPTEMBER 2020 WITH SVT COLLEGE OF HOME SCIENCE, MUMBAI

AUTHOR
Ms. Anuja Padte,
Food Scientist,
PFNDAI

PFNDAI had organized this event with Department of Food, Nutrition, and Dietetics of Sir Vithaldas Thackersey College of Home Science, Autonomous. The sponsors of the event were MARICO, MONDELEZ INTERNATIONAL, and SAMYOG FOODS. The total participation was about 250 including students, faculty and industry professionals.

The program began with the webinar on "Curing present and Securing Future with Healthy Foods". Ms Shilpa John, Faculty member of SVT College welcomed the speakers and delegates. She gave a brief introduction of speakers.

Dr J.S. Pai, Executive Director, PFNDAI thanked Dr Jagmeet Madan and her team for the collaboration. He thanked all the speakers for their presence and the sponsors for their support towards the activity. He gave a brief introduction about PFNDAI and what the activities of the association are in the past few decades.

Dr Jagmeet Madan, Principal of SVT College gave an inaugural address to the audience. She spoke on the theme of the program where she mentioned the challenges faced by the families for meeting the nutritional needs in the lockdown period and also briefed about the Poor and Good Dietary habits. She also shared a study of the Life cycle of SARS-Cov-2 and the Immune Modulating Micronutrients like Vit C, Vit D, and Zinc. She also gave good nutrition insight and some takeaway messages.

Mr Prakash Chawla, Director Samyog Health Foods Pvt Ltd presented a talk on "Finding the Right Balance" where he spoke about some of the aspects such as Nutrition, Taste, Sustainability and Affordability. He explained about the balanced macronutrient and the primary role and also about the carbohydrate-rich diet. Mr Chawla also mentioned about the Balance Health vs. Taste and variables affecting the taste sensitivity. He further added about the effect of Balance Sustainability and Growth where he spoke on an Impossible burger i.e. Meatless – Veg protein and also shared some data of plant-based milk and vegetarian food statistics.

Mr Zafar Khan, Head Scientific, and Regulatory Affairs, Mondelez India presented a talk on Well-being through Snacks where he briefed on what the nutritional gaps are identified in India and also about the cost of malnutrition of young children which are between the age group of 5-9 years & 10-19 years. He also talked about the studies done by Mondelez on Indian Snacking insights with new Consumer research from the Harris Poll. He mentioned the percent RDA through snacks and gave insight on how can an Indian use snacks to manage the nutrition and control portion. He ended his talk by giving some technical and regulatory norms.

Ms Gayatri Dawda, Nutritionist, Marico Foods presented a talk on Unfolding Science behind Whole Grains where she spoke on Indian Meal Composition and the science behind it & also what are the different mechanism. She focused on wheat in her topic & explained the overall grain structure & also about the physiological mechanism present in wholegrain. She spoke on the commercial food grain markets and on the hypothesis of the whole grain which included the Antioxidant, Action of anti-nutrient, and food structure. She mentioned about the specific bio-actives of Indian wholegrain like Oats, Bajra, Rye, Buckwheat, and Amaranth. She concluded her talk by giving brief information on oats and the clinical studies performed for the oats products.

Ms Swechha Soni, Manager – Food & Nutrition, PFNDAI then moderated the Q&A session where the eminent speakers cleared all the doubts raised by the attendees.

Dr Madhuri Nigudkar, Head, Department of Food, and Nutrition & Dietetics talked about the competition which were held for the activity and congratulated all the participants. This year the Competition for Digital Nutrition Awareness Activity was taken online where students of 6 different colleges from Mumbai had participated in different competitions. Two competitions were organized – E-Poster Making Competition and Video Making Competition.

➢ E-Poster Making Competition theme was "Jago Grahak Jago" for which 35 students had participated. The judges for the competitions were Ms Nidhi Agarwal – Technical and Regulatory Affairs, Marico & Ms Geeta Parab Sr. Manager R&D AMEA General Mills. Following winners were announced by Dr Nigudkar.

E-Poster Making Competition Winners:

1. Ms Prashita Patil - SVT College of Home Science
2. Ms Sthuti Choudhary - SVT College of Home Science
3. Ms Vaishnavi Damohe - SVT College of Home Science

Video Making Competition theme was "Poshan Ke Liye Paudhe" for which 7 students had participated. The judges for the competitions were Dr Bhavna Sharma Head Nutrition Science, ITC Food Division & Ms Apurva Pandey Marketing Communication Specialist South Asia, Dupont Nutrition & Biosciences. The following winners were announced by Dr Nigudkar.

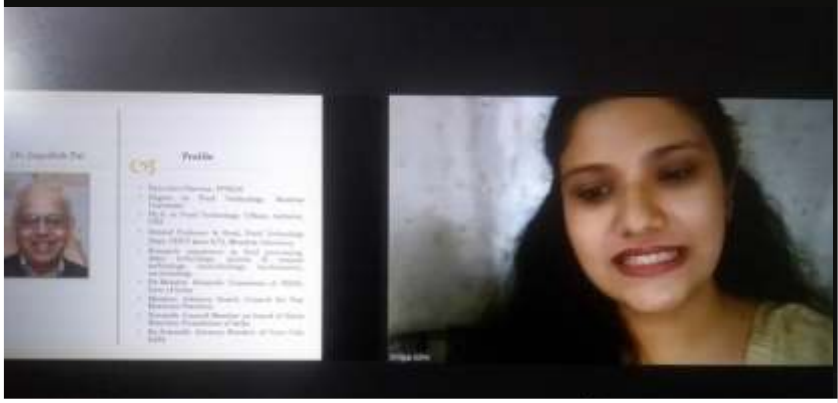
➢ Video Making Competition Winners:

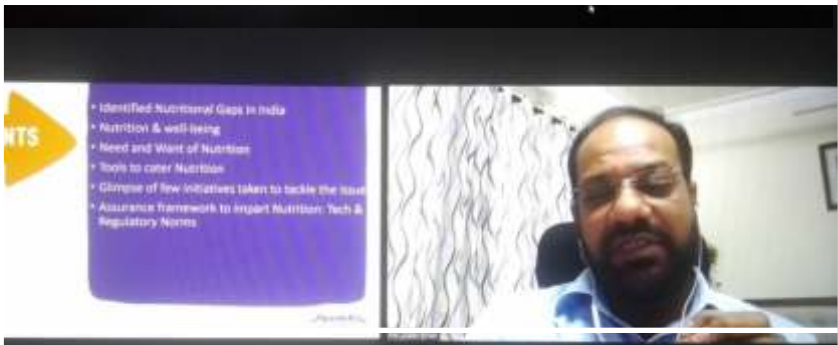
1. Ms Sakina Rangwala – SVT College of Home Science
2. Ms Neha Rokade - SVT College of Home Science
3. Ms Zainab Kagalwala - Nirmala Niketan College of Home Science

Ms John thanked Dr Nigudkar for coordinating the competition part and closed the session by congratulating all the Winners and Participation. The program ended with the Vote of thanks by Ms Swechha Soni to all the sponsors, speaker's judges, organizers, participants, and the audience.

We would like to thanks our sponsors: MARICO, MONDELEZ INTERNATIONAL, and SAMYOG FOODS for extending their support towards this activity.


Swechha Soni
Shilpa John
Dr Jagadish Pai
Dr Madhuri Nigudkar
Mr. Prakash Chawla
Ms. Gayatri Dawda
Mr. Zafar Khan
Dr Jagmeet Madan




Identified Nutritional Gaps in India
Nutrition & well-being
Need and Want of Nutrition
Tools to cater Nutrition
Assurance framework to impart Nutrition: Tech & Regulatory Norms


Indian Diet


FINDING THE RIGHT BALANCE


Mr. Zafar Khan
Dr Jagadish Pai


Dr Madhuri Nigudkar
Dr Jagmeet Madan

WEBINAR REPORT
REGULATORY AFFAIRS COMMITTEE MEETING, OCTOBER 2020

AUTHOR
Seles Gupta,
Food Technologist,
PFNDAI

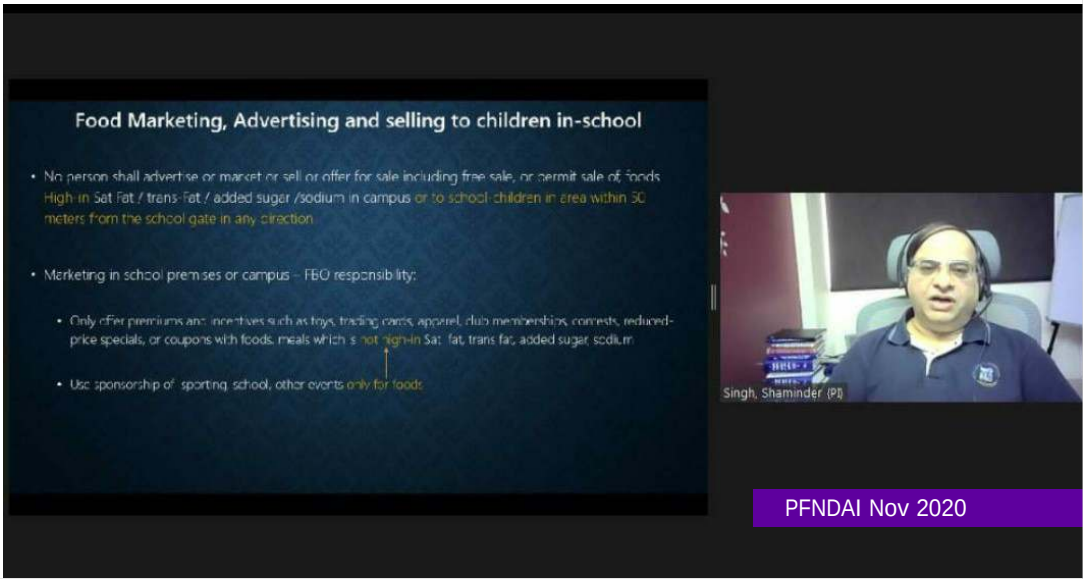
An online Regulatory Affairs Committee Meeting was organized and hosted by the Protein Foods & Nutrition Development Association of India (PFNDAI) on 9 October 2020, from 3:00 p.m. - 5:30 p.m. IST on zoom platform.

The objective of the meeting was to discuss and gather inputs for improvements on the recent regulation 'Safe food and Balanced Diet for Children in School' and 'Labelling & Display with emphasis on HFSS', and to disseminate information on Legal Metrology Act, 2009 and (Packaged Commodity) Rules, 2011. The meeting was attended by professionals working in the Indian food industry and regulatory bodies.

Speakers and panellists included Dr Shatadru Sengupta (Vice Chairman, PFNDAI), , Mr V. Mohan (Chairman, regulatory Affairs Committee, PFNDAI; Consultant, InttlAdvocare), Dr Joseph Lewis (Vice-Chairman, Regulatory Affairs Committee, PFNDAI), Mr Shaminder Pal Singh (Director of R&D – Scientific & Regulatory Affairs – South Asia at PepsiCo), Ms Meenu Yadav (Manager, Scientific and Regulatory Affairs, Mondelez India), Ms Anshu Gupta (Nutrition, Regulatory and External Affairs Leader- AMEA at General Mills), Ms Ruby Sound (Secretary, IDA Mumbai), Dr Prabodh Halde (Head Regulatory Marico Ltd) and Dr N. Ramasubramanian (VR FoodTech Pvt Limited).

The session included a welcome address by Dr Jagadish Pai (Executive Director, PFNDAI) followed by a brief introduction of speakers and panellists to the attendees by Ms Swechha Soni (Manager- Food & Nutrition, PFNDAI), presentation by Mr. Shaminder Pal Singh, a panel discussion, presentation by Mr V. Mohan and an interactive Q & A session moderated by Swechha. The day ended with a vote of thanks to the attendees and speakers by Ms Anuja Rawool (Food Scientist, PFNDAI).

Mr Shaminder opened the discussions by providing an overview of the latest regulation, Safe Food & Balanced Diet for Children in School. He discussed the new definitions and terms that have been added and how these changes will affect the food industry. He talked about how school



authorities, which are selling or catering food in the campus, will need to get themselves registered as FBOs and how it's a step in the right direction to ensure the safety of food. Schools will also need to engage with nutritionists, dieticians and other relevant associations to draft the menu for children.

Next, he highlighted gaps between the intent and content of the regulations. Some of the gaps identified were:
• The regulation suggests that 'Dietary guidelines for Indians' by NIN and other expert institutions or authorities should be used. Here, the phrase "any other expert institutions" seems ambiguous.
• Under the definition of "School", crèche & day-care for infants/ children, with age less than 22 months, were exempted. But the regulation also states that crèches/ day-care for infant/ children, with age up to 24 months, are expected to serve safe and balanced diets. These two statements seem to contradict each other.
• There is a new term "balanced food" added in the document. However, it is not defined. Also, how does it relate to or compare to "balanced diet" is also not clear.
• The regulation restricts the selling of foods high in saturated fat/ trans fat/ added sugar/sodium in the area within 50 meters from the school gate. Although, from which gate/ boundary 50 meters should be measured is still not clear. Secondly, 'high-in' is not defined; it is something that can create confusion. Third, if the QSRs, which already have the valid license, are located near the schools, how they are going to operate and implement these regulations is unclear.

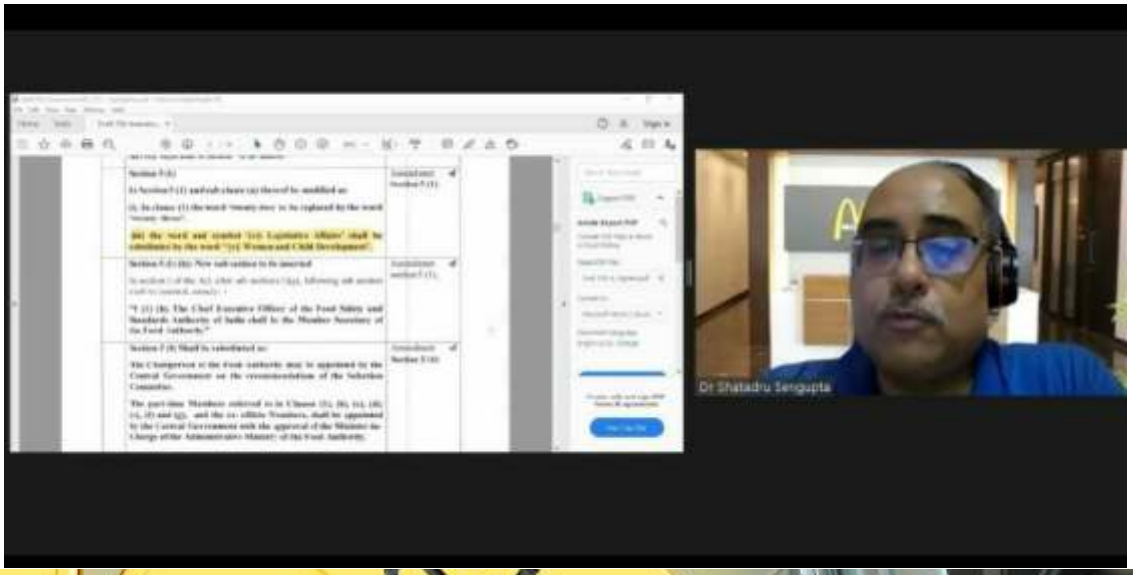
The panel discussion was well structured and moderated by Dr Shatadru Sengupta. Panellists shared their views on the recently passed regulation and suggested some improvements.

Key points from the panel discussion:
• Ms Meenu explained that in India, when most of the street hawkers are selling HFSS food, it will become challenging to implement the regulation. She also mentioned that right now, in the times of COVID-19, focus should be more on food safety.
• Ms Ruby talked about how our diets are carbohydrate based. So, health problems are not a result of just fat, but its carbohydrate too that is contributing to health problems. Targeting only high-fat foods is not effective. She also pointed out that even if nutritionists/dieticians design the recipe, it may be impractical to monitor cook/chef or anyone who is involved in food preparation at every level.
• Ms Anshu suggested that a holistic approach needs to be taken and governing just one meal a day may not be entirely effective in ensuring that children are maintaining healthy diet habits outside school. To ensure that children are consuming a balanced diet, we should take steps to inform children about the role of food in maintaining health. Children need to be educated and provided with the right information so they can learn how to make the right food choices.
• Dr Lewis raised concerns if the regulation will actually have a positive outcome on public health and if we would be able to measure the impact of this regulation periodically.
• Dr Prabodh Halde mentioned how any food in excess can be harmful. So, we cannot just single out few food products and villainize them. Instead, we should promote a healthy lifestyle.

Mr V. Mohan, in his presentation on Overview on Legal Metrology Act, 2009, talked about the purpose and scope of the Legal Metrology Act and explained what this act intends to regulate along with which commodities will be exempt. He explained terms and definitions like "industrial consumer", "institutional consumer", "retail sale", "retail dealer", "pre-packaged commodity", and why they need to be understood effectively by FBOs. Dr Mohan raised questions like how airlines, hotel, etc., can sell a pre-packed commodity if they are not supposed to buy it for commercial purpose and can its MRP be different from that of a retail outlet. He, then, talked about labelling regulations, specific penal provisions included in the act and how not complying with different rules and conditions can lead to consequences.

Next, Dr Shatadru talked about the key takeaways from the FSSA (Amendment) Bill 2020. He discussed the changes that are being proposed like- in section 5(1), substituting "Legislative Affairs" with "Women and Child Development", the new definition of "proprietary food", deleting words "and guidelines" from section 92 (2) (e), etc., and the impact all these changes will have on FBOs. He also discussed how the new changes, under section 92 A, will give FSSAI the powers to decide how to make regulations.

The presentation was followed by a Q & A round where the audience was invited to ask questions and the questions were answered jointly by all the panellists. The key takeaway from this session was that even if other countries like Mexico already have FOP HFSS labelling on their pack, we should not make regulations based on what others are doing. Indians have different dietary and nutritional requirements from South Americans. We need to study the requirements of Indian consumers, the impact of current regulations on public health and once we have findings, we should proceed accordingly. Also, these rules will not help to get the desired outcome if we don't educate consumers. We need to work to educate the consumers about making right dietary choices. A holistic approach may be more beneficial in creating the impact.



RESEARCH IN HEALTH & NUTRITION

Vitamin C may ward off age-related muscle loss, say researchers

27 Aug 2020 Nutrition Insight

Vitamin C may be the key to maintaining muscle mass for older ages according to new UK research.

The study found that older people who eat plenty of vitamin C – commonly found in citrus fruits, berries and vegetables – have better skeletal muscle mass than those who eat less of these foods. The researchers believe that the findings may help prevent age-related muscle loss by increasing vitamin C consumption. "We studied a large sample of older Norfolk, UK, residents and found that people with the highest amounts of vitamin C in their diet or blood had the greatest estimated skeletal muscle mass, compared to those with the lowest amounts," says Dr. Richard Hayhoe from the University of East Anglia (UEA)'s Norwich Medical School.

"We are very excited by our findings as they suggest that dietary vitamin C is important for muscle health in older men and women and may be useful for preventing age-related muscle loss. This is particularly significant as vitamin C is readily available in fruits and vegetables, or supplements, so improving intake of this vitamin is relatively straightforward," Hayhoe explains. The research team discovered that almost 60 percent of men and 50 percent of women were not consuming as much vitamin C as recommended by the European Food Safety Agency (EFSA).

"We're not talking about people needing mega-doses. Eating a citrus fruit, such as an orange, each day and having a vegetable side to a meal will be sufficient for most people," he notes.

Importance of muscle

Maintaining muscle mass is pivotal as people tend to lose skeletal muscle mass as they get older, potentially leading to sarcopenia. This is a condition characterized by loss of skeletal muscle mass and function, frailty and reduced quality of life. Lead researcher, Ailsa Welch, Professor at UEA's Norwich Medical School, says that people over 50 lose up to 1percent of their skeletal muscle mass each year. This loss is thought to affect more than 50 million people worldwide.
"It's a big problem because it can lead to frailty and other poor outcomes such as sarcopenia, physical disability, Type 2 diabetes, reduced quality of life and death," she adds.
"We know that vitamin C consumption is linked with skeletal muscle mass. It helps defend the cells and tissues that make up the body from potentially harmful free radical substances. Unopposed these free radicals can contribute to the destruction of muscle, thus speeding up age-related decline," Welch details.

Examining over 13,000 people

Until now, few studies have investigated the importance of vitamin C intake for older people, Welch explains. Therefore more research on the matter may be warranted. The research team studied data from more than 13,000 people aged between 42 and 82 years, who are taking part in the EPIC (European Prospective Investigation into Cancer and Nutrition) Norfolk Study. They calculated their skeletal muscle mass and analyzed their vitamin C intakes from a seven-day food diary. They also examined the amount of vitamin C in their blood.
The research was led by the UEA, in collaboration with the University of Cambridge and Strangeways Research Laboratory in Cambridge and developed from a UEA medical student project by Lucy Lewis. The EPIC-Norfolk study was supported by grant funding from the Medical Research Council and Cancer Research UK.

With senior nutrition coming to the fore as an important area of focus, industry is turning its eye on key opportunities in this space. Consumers are increasingly seeking a more holistic approach to healthy aging, according to a new Innova Market Insights survey. The research revealed that seven out of ten consumers have made changes across the past year to improve their health. Innova Market Insights' 2019 data also indicated that 76 percent of consumers aged between 26 and 55 years agree that healthy aging started with what they eat and drink. Meanwhile 56 percent said that they had increased their consumption of functional F&B over the previous year. The segment allows for further opportunities. Recently, Jordan Donohue, Business Development Manager, Sports Nutrition & Health Food at Arla Foods Ingredients, discussed how this new consumer base may affect the sports nutrition sector as well.
Edited by Kristiana Lalou

Transplanted brown-fat-like cells hold promise for obesity and diabetes

August 26, 2020 Science Daily

Obesity is the main cause of type 2 diabetes and related chronic illnesses that together will kill more people around the globe this year than the Covid-19 coronavirus. Scientists at Joslin Diabetes Center have delivered a proof of concept for a novel cell-based therapy against this dangerous condition.

The potential therapy for obesity would transplant HUMBLE (human brown-like) fat cells, human white fat cells that have been genetically modified to become similar to heat-generating brown fat cells, says Yu-Hua Tseng, PhD, a Senior Investigator in Joslin's Section on Integrative Physiology and Metabolism.

Brown fat cells burn energy instead of storing energy as white fat cells do, says Tseng, senior author on a paper about the work in Science Translational Medicine. In the process, brown fat can lower excessive levels of glucose and lipids in the blood that are linked to metabolic diseases such as diabetes. However, people who are overweight or obese tend to have less of this beneficial brown fat -- a barrier that HUMBLE cells are designed to overcome, Tseng says. She and her colleagues created the cells from human white fat cells in a progenitor stage (not yet fully developed into their final fat form). The investigators used a variant of the CRISPR-Cas9 genome editing system to boost expression of a gene called UCP1, which triggers white fat cell progenitors to develop into brown fat-like cells.

Transplanted into mice lacking an immune system, the HUMBLE progenitor cells developed into cells that functioned very much like the mice's own brown fat cells, says Tseng, who is also a professor of medicine at Harvard Medical School. Her team compared transplants of these cells versus the original white fat cells in mice who were put on a high fat diet. Mice given the HUMBLE transplants displayed much greater sensitivity to insulin and ability to clear glucose from the blood (two key factors that are impaired in type 2 diabetes).

Additionally, the mice receiving HUMBLE transplants put on less weight than mice with transplanted white fat cells, remaining in the same range as animals who received brown fat cells. Perhaps surprisingly, the Joslin scientists demonstrated that these benefits were mostly due to signals from the transplanted cells to endogenous (existing) brown fat cells in the mice. "Cells in different tissues communicate with each other," Tseng says. "In this case, we found that our transplanted HUMBLE cells secrete a molecule called nitric oxide, which is carried by red blood cells to the endogenous brown cells and activates those cells."

If the HUMBLE technique continues to prove out in pre-clinical research, it might eventually be possible to generate this type of cell for individual patients, Tseng suggests. Such a procedure would remove a tiny amount of a patient's white fat cells, isolate the progenitor cells, modify those cells to boost expression of UCP1, and then return the resulting HUMBLE cells to the patient. However, that individualized approach would be complicated and expensive, so the Tseng lab is pursuing two alternative routes that may be more practical for clinical use. One alternative is to use cells that are not personalized but instead are encapsulated via biomaterials that protect the cells from rejection by a patient's immune system. (Joslin researchers and their collaborators have long studied such materials for cell transplants for type 1 diabetes.) The other option is gene therapies that directly express the UCP1 gene in white fat progenitor cells in the body, so that those cells acquire HUMBLE-like properties. Tseng emphasizes that this research is moving ahead despite the Covid-19 pandemic, which puts people with diabetes at much higher risk of serious outcomes if they are infected. "Employing cell-based or gene therapies to treat obesity or type 2 diabetes used to be science fiction," she says. "Now scientific advances, such as CRISPR gene-editing technologies, will help us to improve the metabolism, the body weight, the quality of life and the overall health of people with obesity and diabetes."

Study focuses on low-carb, high-fat diet effect on older populations

August 20, 2020 Science Daily

A new study, published in Nutrition and Metabolism, from researchers with the University of Alabama at Birmingham's Nutrition Obesity Research Center observed improvements in body composition, fat distribution and metabolic health in response to an eight-week, very low-carbohydrate diet.

Older adults with obesity are at particularly high risk of developing cardiometabolic disease such as Type 2 diabetes and cardiovascular disease. Rather than total fat mass, deposition of fat in certain areas, such as the abdominal cavity and skeletal muscle, may confer this greatest risk of disease development. The study's lead author is Amy Goss, Ph.D., RDN, an assistant professor with UAB's Department

of Nutrition Sciences. Goss says her team aimed to determine if a very low-carbohydrate, or VLCD, high-fat diet would deplete these fat depots and preserve lean mass without intentional caloric restriction in older adults with obesity, thereby improving outcomes related to cardiometabolic disease, such as insulin sensitivity and the lipid profile. "After the eight-week intervention, despite the recommendation to consume a weight-maintaining diet, the group consuming the very low-carbohydrate diet lost more weight and total fat mass than the control diet group," Goss said.

Egg consumption was an important part of the VLCD prescription. Goss and her team provided eggs to the participants in this diet group and asked them to consume at least three per day. "While eggs were a part of this study, we can't conclude that our findings are a result of daily egg consumption; but I think what we can conclude is that whole eggs can be incorporated into the diet in a healthful way without adversely impacting blood cholesterol in older adults," she said. The primary difference in fat lost between the two groups was from the abdominal cavity and the skeletal muscle depots. "We also found significant improvements in the overall lipid profile that would reflect decreased risk of cardiovascular disease," Goss said. "Further, insulin sensitivity improved in response to the very low-carbohydrate diet reflecting reduced risk of Type 2 diabetes. Overall, we observed improvements in body composition, fat distribution and metabolic health in response to an eight-week, very low-carbohydrate diet."

VLCD effect on diabetes

Goss says VLCDs are a therapeutic option for many conditions, including Type 2 diabetes, obesity and non-alcoholic fatty liver disease. "This study extends previous research to show that it can be a safe, therapeutic option for older adults in their 70s experiencing obesity," she said. "This is the first study to demonstrate depletion of 'metabolically harmful' fat depots while preserving skeletal muscle during weight loss in response to a VLCD in older adults." Goss adds that there is quite a bit of evidence about the benefits of a very low-carbohydrate diet in younger populations, and this study was one of the first to test this dietary approach to improve outcomes related to obesity in adults older than age 65 -- a population at particularly high risk of other diseases and in need of therapeutic interventions to improve health while preserving skeletal muscle mass to prevent or delay functional decline with age.

A good or bad egg?

"Historically, eggs have received a bad rap beginning with the nutrition guidelines on egg consumption set forth by the American Heart Association in 1968," Goss said. "It was recommended that no more than three whole eggs be consumed each week." Goss adds that the concern stemmed from the cholesterol and saturated fat content of the egg yolk. Since then, these recommendations have loosened because more recent research demonstrated the negligible impact of dietary cholesterol on blood cholesterol. And just this month, the Dietary Guideline Advisory Committee issued recommendations to increase the consumption of eggs across the lifespan, including pregnant and lactating women, and also as a first food for infants and toddlers. "This historical first for the Dietary Guidelines Committee recognized eggs as an important, nutrient-rich food source, as eggs are a rich source of protein, choline, B12, selenium, vitamin D and a long list of other nutrients vital to growth and development as well as maintenance of muscle mass," Goss said.

Relationship between COVID-19 deaths and morbid obesity

August 20, 2020
Science Daily

The prevalence of morbid obesity in a population is associated with negative outcomes from COVID-19, according to an analysis by researchers at The University of Alabama of morbid obesity data and reported COVID-19 deaths in the United States.

In a paper published in the journal World Medical and Health Policy, researchers found a statistically significant relationship between the prevalence of morbid obesity and cases of -- and deaths from -- COVID-19, the disease caused by the novel coronavirus. The researchers suggest their findings can help identify resources needed for morbidly obese patients and inform mitigation policies. "Health practitioners and policymakers need to understand the influence that morbid obesity has on negative COVID-19 outcomes in order to respond to this and similar emerging infectious diseases in the future," said Dr. Kevin Curtin, UA professor of geography.

Obesity is known to increase risk from respiratory infections and hinder pulmonary function, and there's an emerging pattern in the treatment of COVID-19 patients that obesity is a pervasive problem and associated with negative health outcomes such as requiring a ventilator. "The current global pandemic of COVID-19, which is highly contagious with presumed high mortality rates, has dramatically increased the need to understand the association between obesity and negative health

outcomes from respiratory disease, particularly death," said Dr. Lisa Pawloski, professor of anthropology and associate dean for international programs for the UA College of Arts & Sciences.

The researchers used deaths from COVID-19 compiled nationally at the county level by The New York Times and estimates of morbid obesity rates for each U.S. county derived from the National Health and Nutrition Examination Survey and population data from the U.S. Census Bureau. The research looked at adults aged 18 to 64 and found that morbid obesity rates are positively correlated with COVID-19 case and death rates, and that morbid obesity rates can explain 9 percent of the variation in COVID-19 death rates. "As a matter of practical importance, with the complex interactions that are likely to produce negative COVID-19 outcomes, any single variable that can explain more than 9 percent of the variation is worth examining further," Curtin said. Moreover, by overlaying the data geographically the researchers found that spatial clusters of high rates of morbid obesity are associated with spatial clusters of high rates of COVID-19 deaths.

Although there are anecdotal reports of obesity complications in patients with COVID-19, most formal studies so far of this relationship have been in China, which has lower obesity rates, and in hospital settings. This work, the researchers say, is the first repeatable quantitative analysis that addresses this relationship. The short term implications of the research could affect treatment and policy. Long term, the findings point to the need to strengthen public health efforts that address obesity. "The findings suggest that areas with larger obese populations will need greater resources for effective treatment of COVID-19, as more cases and deaths should be expected as compared with the general population," Pawloski said. Along with Curtin and Pawloski, co-authors on the paper include Penelope Mitchell, a UA doctoral student in geography, and Jillian Dunbar, who recently graduated with a bachelor's degree in biology from UA.

Multivitamin, mineral supplement linked to less-severe, shorter-lasting illness symptoms

August 18, 2020 Science Daily

Older adults who took a daily multivitamin and mineral supplement with zinc and high amounts of vitamin C in a 12-week study experienced sickness for shorter periods and with less severe symptoms than counterparts in a control group receiving a placebo.

The findings by Oregon State University researchers were published in the journal Nutrients. The research by scientists at OSU's Linus Pauling Institute involved 42 healthy people ages 55 to 75 and was designed to measure the supplement's effects on certain immune system indicators. It also looked at bloodstream levels of zinc and vitamins C and D while taking the supplement, as these micronutrients are important for proper immune function. The immune indicators, including white blood cells' ability to kill incoming pathogens, were unaltered in the group receiving the supplement. The multivitamin group showed improved vitamin C and zinc status in the blood. Most intriguingly, illness symptoms reported by this group were less severe and went away faster than those experienced by the placebo group. The same percentage of participants in each group reported symptoms, but days of sickness in the supplement group averaged fewer than three compared to more than six for the placebo group.

"The observed illness differences were striking," said corresponding author Adrian Gombart, professor of biochemistry and biophysics in the OSU College of Science and a principal investigator at the Linus Pauling Institute. "While the study was limited to self-reported illness data and we did not design the study to answer this question, the observed differences suggest that additional larger studies designed for these outcomes are warranted -- and, frankly, overdue." As people get older, the risk of vitamin and mineral deficiencies that contribute to age-related immune system deficiencies rises. Across the United States, Canada and Europe, research suggests more than one-third of older adults are deficient in at least one micronutrient, often more than one. "That likely contributes to a decline in the immune system, most often characterized by increased levels of inflammation, reduced innate immune function and reduced T-cell function," Gombart said. "Since multiple nutrients support immune function, older adults often benefit from multivitamin and mineral supplements. These are readily available, inexpensive and generally regarded as safe."

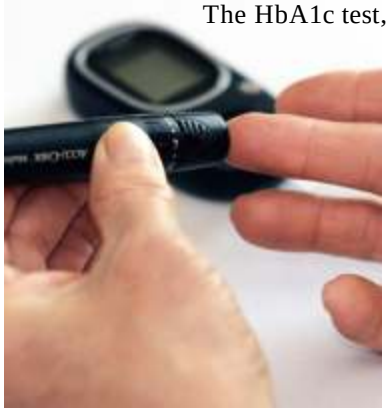
The multivitamin supplement used in the study focused on vitamins and minerals typically thought to help immunity. It contained 700 micrograms of vitamin A; 400 international units of vitamin D; 45 milligrams of vitamin E; 6.6 milligrams of vitamin B6; 400 micrograms of folate; 9.6

micrograms of vitamin B12; 1,000 milligrams of vitamin C; 5 milligrams of iron; 0.9 milligrams of copper; 10 milligrams of zinc; and 110 micrograms of selenium. "Supplementation was associated with significantly increased circulating levels of zinc and vitamin C, and with illness symptoms that were less severe and shorter lasting," Gombart said. "This supports findings that stretch back decades, even to the days of Linus Pauling's work with vitamin C. Our results suggest more and better designed research studies are needed to explore the positive role multivitamin and mineral supplementation might play in bolstering the immune system of older adults."

Non-fasting blood test can help screen youth for prediabetes and diabetes

August 10, 2020 Science Daily

A simple blood test that does not require overnight fasting has been found to be an accurate screening tool for identifying youth at risk for type 2 diabetes and heart disease risk later in life, according to a study from researchers at the Johns Hopkins Bloomberg School of Public Health.



The results suggest that the simple blood test, hemoglobin A1c (HbA1c), should be used more frequently to screen youth for diabetes and related health risks. The HbA1c test is accurate and easy to administer in younger patients. For the study, published online August 10 in Pediatrics, the researchers analyzed national survey and medical exam data on more than 14,000 youth ages 10 to 19. One aim was to see how closely a positive result on different tests for high blood sugar (hyperglycemia) is related to risk factors for diabetes and heart disease such as obesity and high blood cholesterol.
The researchers found that hyperglycemia as defined by a blood test called HbA1c was strongly associated with these cardiometabolic risk factors, compared to hyperglycemia defined by the traditional fasting glucose test. Among youth with HbA1c-defined hyperglycemia, for example, 51 percent were obese, compared to just 29 percent of youth with hyperglycemia defined by the fasting glucose test.

The HbA1c test measures the degree to which sugar molecules have linked irreversibly to molecules in red blood cells in the previous few months. This makes it an accurate marker of chronic hyperglycemia. The HbA1c test, however, does not require compliance with overnight fasting before the test, and thus -- compared to the fasting plasma glucose test -- is less complicated to administer and can be less prone to error. "Our study demonstrates that HbA1c is a useful non-fasting test for identifying high-risk youth who could benefit from lifestyle interventions to prevent diabetes and cardiovascular disease later in life," says study senior author Elizabeth Selvin, PhD, MPH, professor in the Bloomberg School's Department of Epidemiology.

The American Diabetes Association (ADA) has estimated that more than 34 million or roughly 10 percent of Americans have diabetes, and many of these cases are undiagnosed. Children and young people who develop diabetes more often develop the rarer form, type 1 diabetes, which is caused by an autoimmune reaction that destroys insulin-producing cells. However, the obesity-associated type 2 diabetes, which is far more common in adults, is rapidly becoming more prevalent in children, due to the rise in obesity, poor diet, and sedentary lifestyles. That trend has led researchers to emphasize early diabetes detection and lifestyle intervention in youth to reduce or even reverse hyperglycemia -- thus helping prevent a lifetime of diabetes and associated medical complications, which can include heart disease, stroke, hypertension, and kidney disease.

In the study, Selvin and colleagues addressed some key questions about screening tools for diabetes and cardiometabolic risk by examining data on 14,119 youth aged 10 to 19 from the U.S. National Health and Nutrition Examination Surveys conducted between 1999 and 2016. The data included results of blood tests that are commonly used to detect hyperglycemia. The ADA currently recommends such blood tests to screen for diabetes risk inyouth who are at least 10 years old, are overweight or obese, and have at least one other risk factor such as a history of type 2 diabetes in close relatives, non-white race, or hypertension. One aim of the study was to evaluate how often the youth who are eligible for screening by these criteria actually have hyperglycemia -- at least at the moderate level known as prediabetes. The analysis suggested that the current screening criteria, despite covering about a quarter of U.S. children and adolescents, do not capture many youth with hyperglycemia. For example, only about one-third of the youth who had hyperglycemia as defined by a fasting glucose test would have been eligible for screening by the current ADA criteria.
"Current screening criteria miss a lot of children who are at high risk for diabetes," says study lead author Amelia Wallace, a PhD student in the Department of Epidemiology at the Bloomberg School.

The researchers also analyzed the dataset to see how closely different measures of hyperglycemia were linked to cardiometabolic risk factors. Here the HbA1c blood test was particularly useful as a screening tool, with stronger associations with the risk factors examined, compared to the fasting glucose test. For example, having hyperglycemia as defined by the HbA1c test was associated with a 4.1 times greater prevalence of obesity, whereas having hyperglycemia defined by the fasting glucose test was associated with an only 1.8 times greater prevalence of obesity. "Some pediatricians have already been using HbA1c, but there hasn't been sufficient guidance from pediatric organizations," Selvin says. "I'm hoping that these results will help inform and guide the use of this important screening tool in clinical practice."

Double DHA boost: Fish intake and supplement-ation boosts DHA in breast milk - Bean Stalk Snow and Megmilk Snow Brand study

By Guan Yu Lim 24-Aug-2020 – NutrIngredients Asia

Japanese maternal and infant nutrition company Bean Stalk Snow and dairy firm Megmilk Snow Brand have found that the routine use of DHA supplements and adequate intake of dietary DHA from grilled fish can considerably increase the amount of DHA in breast milk among Japanese mothers.

Docosahexaenoic acid (DHA) is essential for neurodevelopment in children, and its concentration in human breast milk is historically high in Japan. However, previous studies have typically only utilised food frequency questionnaires which only assessed food and beverage intake, excluding supplements. Hence researchers wanted to assess the effects of both diet and supplement use on milk fatty acid composition in this study. The research was funded by both Japanese companies and published in the Current Developments in Nutrition journal.

This cross-sectional study was performed as part of the Japanese Human Milk Study, recruiting 78 mothers who were healthy and lactating, with infants between zero to six months old. As part of this study, participants were asked to collect breast milk samples daily for one week. The macronutrients, energy composition and fatty acids composition was analysed using methods including gas chromatography.

Participants also had to complete a brief-type self-administered diet history questionnaire (BDHHQ), which was a short version of the diet history questionnaire (DHQ). It assesses dietary intake during the previous month. In addition to dietary intake, a separate questionnaire collected information on frequency of supplement consumption. The consumption of fish and seafood is known to increase milk DHA content, as reported in previous studies. In this study, while preparation methods included raw, grilling, broiling and deep-frying, only grilled fish was positively associated with an increase in milk DHA concentrations.

Researchers pointed out that grilling was the most common way of cooking fish in Japan, and can be the most representative in the consumption of DHA-containing fish especially in younger Japanese populations. The median DHA content in this study population was 0.62%. Naturally, supplement users had higher DHA content at 0.75% compared to participants who have never used (0.55%).

In this study, 31% of participants reported the use of DHA supplements, mostly in the form of fish oil (350mgDHA). They pointed out that the frequency of DHA supplementation rather than dosage would have a larger effect on DHA concentration in breast milk. "Since DHA absorption is affected by their structural nature, phospholipid-bound DHA can be considered for further analyses."

Globally, the mean concentration of DHA in breast milk is about 0.3%, although this figure varies according to geographic location and local environmental factors. In previous studies, Japan, the Philippines and South Korea reported higher DHA concentrations in breast milk, compared to US and Canada.

Interestingly, researchers found that oleic acid content was found to be higher in DHA supplement users. They said it was unlikely that DHA derived from fish oil supplements would be associated to oleic acid, since oleic acid is naturally present in high amounts in olive oil and canola oil. They suggested further investigations and intervention studies to identify factors associated to milk fatty acid concentrations, and particularly focusing on lactation to determine the implications of DHA supplementation for infant development.

In addition, they recommended shorter estimates such as a 2-hour recall could be possible options to investigate more direct relations between the DHA intake and milk DHA concentration. The researchers said: "Our results suggested the milk DHA concentration in Japanese mothers reflected current seafood consumption and increasing adoption of DHA supplementation."

Olympian-derived probiotic improves running test and gut microbiota – Taiwan study

By Tingmin Koe
31-Aug-2020 – Food Navigator Asia

An Oympian-derived probiotic strain has shown to improve running test and gut microbiota amongst middle- and long-distance runners, a five-week trial in Taiwan has shown.

According to researchers from National Taiwan Sport University and Taipei Medical University, this is the first human clinical trial conducted on the probiotic strain bidobacterium longum subsp. longum Olympic No. 1(OLP-01). They said the strain was derived from an Olympic gold medallist in the women's 48kg weightlifting category. Subjects who took the OLP-01 probiotic improved their running speed during the 12 minute Cooper's test, especially at the 6, 9, and 12 minutes. In addition, their bidobacterium longum subsp. longum and lactobacillus count increased by 8.63 and nine-fold after the trial. Funded by the university-industry cooperation fund from National Taiwan Sport University, the double-blind placebo-controlled trial recruited 21 male and female subjects. They were the middle- and long-distance runners at the university. Separated into two groups, they took either placebo or OLP-01 capsule for five weeks. The probiotic supplement was provided by Taiwan firm Glac Biotech. Subjects in the experiment group had to take a capsule after all three meals each day. Each capsule has a probiotic count of 50bn CFU. During the first three weeks of the trial, they continued with regular training and stopped training during the last two weeks.

The researchers found that while there was no significant difference between the two groups for the 12 min Cooper's test, a significant difference could be found when comparing the pre and post-trial results within each group. In the case of the experiment group, they were able to run further and faster after taking the supplement.
For example, the distance they ran at the 6 min was 72 ± 14 m further than pre-trial. The effect continued into the 9 and 12 min, where they ran 116 ± 17 m and 105 ± 16 m further as compared to pre trial. These are all significant outcomes since their p-values were less than 0.05.

In the control group, their running speed had slowed down by the end of the trial. For instance, the distance that they ran at the 6 min post-trial was 4 ± 9 m less than pre-trial. By the 12 min, the distance ran was - 56 ± 29 m lesser than pre-trial. The experiment group also had a higher count of lactobacillus and bidobacterium longum subsp. longum after the trial. For instance, the count of bidobacterium longum subsp. longum had significantly increased by 8.63-fold, while lactobacillus count also increased nine-fold in the experiment group. As compared to the placebo group, bidobacterium longum subsp. longum in the experiment group consisted of 0.95% and only 0.11% in the placebo group. This shows that the probiotic supplement had colonised the intestine and thus, leading to an increase in the count of bidobacterium longum subsp. longum. There was also a change in microbiota profile, with pathogenic bacteria such as Proteobacteria found less abundantly in the experiment group as compared to the control group.
"It was confirmed that OLP-01 colonised the human intestine, thereby increasing the number of B. longum subsp. longum. Based on the above, the ve-week OLP-01 supplementation significantly improved the B.longum subsp longum species, increased the abundance of other probiotics, and reduced the numbers of certain pathogenic bacteria in the participants," the researchers said. Based on the results, they suggested that the probiotic could be used as a sports nutrition supplement to improve exercise performance. However, they also acknowledged that the mechanisms in this study were yet to be confirmed. "Perhaps increasing the duration of OLP-01 supplementation in future clinical trials will produce more significantly different bacterial phase changes and further exciting results," they said on future studies.

Grain of truth: Higher whole grain intake lowers risk of digestive tract cancers - meta-analysis

By Guan Yu Lim
18-Aug-2020 – NutraIngredients Asia

A meta-analysis involving more than 2 million people has reported that a higher whole grain intake is associated with a reduced risk of digestive tract cancer.

Digestive tract cancer is a collective term used to describe cancers such as colorectal, gastric and oesophageal, which are ranked among the top10 cancers globally in terms of incidence and mortality. Lifestyle and diet have been known to play an important role in lowering its risk. Previously, a review focusing mainly on case-control studies showed that higher whole grain intake was associated with lower risk of digestive tract cancers, however researchers said

there was limited and controversial data when it came to cohort studies. Hence, in this meta-analysis, researchers from Zhengzhou University, Henan, China compiled cohort and case studies to give a better understanding of this association. They published the findings in BMC Nutrition journal.

This meta-analysis included 35 studies (18 on colorectal cancer, 11 on gastric cancer and 6 on oesophagus cancer), comprising 2.6m participants and 28,921 cases. Of the 35 studies, 14 were cohort and 22 were case-control studies. Studies were conducted across North America, South America, Europe, Middle East, and Africa, between 1989to 2016.

Comparing the highest-intake participants with the lowest-intake participants for whole grains, overall digestive tract cancers can be significantly reduced by 22% ($p<0.001$). In this analysis, whole grain consumption can also significantly reduce the risk of colorectal cancer by 11% ($p<0.001$), and oesophagus cancer by 47% ($p<0.001$). For gastric cancer, the result showed that whole grains consumption reduced the risk of gastric cancer by 36% ($p<0.001$).

However, there was a significant heterogeneity where results indicated that whole grain intake was a protective factor for case-control studies and studies in Europe, but no significant association was found in cohort studies and studies in America. They explained that whole grains may influence cancer risk through a variety of mechanisms. Whole grains with its higher dietary fibre and phyto-chemical content are known to also play a role in preventing chronic diseases including CVD and type 2 diabetes.

Researchers pointed out that dietary fibre can increase the volume of faeces and shorten the transit time of the intestines, diluting carcinogens and reducing their absorption in the intestinal epithelium. "Dietary fibre can also be fermented in the colon into short chain fatty acids such as butyrate. Butyrate is the fuel of choice for mucosal cells and has the potential to promote apoptosis and anti-tumour, thereby reducing tumour growth. They also lower the intestinal pH, reducing the solubility of free bile acids and reducing their carcinogenic activity."
In addition, dietary fibre can also remove nitrite in the stomach, nitrate is a known risk factor of gastric cancer. Researchers acknowledged several limitations to their meta-analysis, among which was the lack of high-quality epidemiological studies. "Due to the differences in methods for assessing whole-grains intake, we are unable to perform a meta-analysis of dose-response."

In addition, the included studies were mainly from Europe and America, lacking research in other regions. They added: "Differences in the definitions of whole grains and in the categories of whole grains foods among studies might also be another possible source of heterogeneity. Only published studies were included in the meta-analysis, hence the limitation of possible publication bias should be taken into consideration."

They called for more high-quality studies in the future to clarify dose-response relationships to better assess the relationship between whole grains and digestive tract cancer. Researchers concluded that their findings support the dietary guidelines that increasing whole grains intake can reduce the risk of digestive tract cancer.

High bioavailability curcumin speeds up exercise recovery, increases exercise threshold –RCT

By Tingmin Koe
06-Aug-2020 – NutraIngredients Asia

Drinking a high bioavailability curcumin formulation before and after exercise could speed up recovery, allowing athletes to resume training quicker and exercise at higher thresholds, says a new study funded by Gencor Pacic.

These effects are achieved by improving the delayed onset of muscle soreness (DOMS) and reducing the accumulation of lactate, a compound linked to muscle fatigue. Curcumin consumption also raised the levels of anti-inflammatory biomarker interleukin-10 (IL-10). Conducted by researchers from The University of Queensland, University of Sydney, and RDC Clinical, the findings of the study were recently published in the Journal of Dietary Supplements. The RCT recruited 28 healthy males between the age of 18 to 35 who have experience in strength training. Randomised into two groups, the experiment group drank a beverage containing HydroCurc – a high bioavailability curcumin formulated using a technology called LipiSperse. Biotechnologies, the sister company of Gencor Pacific, HydroCurc is made up of 450mgof curcumin extract. Of which, 95% of the extract is made up of the bioactive curcuminoids. The control group drank placebo. All subjects were then required to exercise, which involves warm-up, muscle stretches, leg press, lower limb resistance exercise to exhaustion. They consumed the study products again after the exercise. Key

measurements such as their lactate, creatine kinase (CK), IL-10, thigh circumference, were taken pre and 1,2, 3, 24, 48, and 72 hours after exercise. The study has shed three key findings. First, the experiment group reported reduced pain as compared to the control group at the 48 hour after exercise, which suggests that they could resume training quicker than the control group. In turn, this could lead to improved training and exercise performance in the experiment group. Second, there was lesser appearance of post-exercise capillary lactate in the experiment group (7.4 mmol/L) as compared to placebo (8.8 mmol/L) immediately after the exercise. Since lactate accumulation is linked to muscle fatigue, the researchers said that the reduction in lactate could be a reason for the experiment group maintaining a higher power in the third set of leg press exercise. As to why lactate levels had decreased, the researchers believe that curcumin had acted as a buffer to prevent the formation of lactic acid.

Third, the experiment group had increased blood IL-10 at the 24 hour post-exercise. The researchers said that the increase in IL-10, an anti-inflammatory marker, could be the reason why the thigh circumference of subjects in the experiment group had returned to the baseline quicker than the control group. A quicker return to baseline thigh circumference is significant as it indicates less swelling from extra-cellular fluid associated with inflammation and decreased exercise performance. “The results suggest that curcumin with added LipiSperse may allow for a quicker return to exercise training, or to exercise at higher thresholds than the placebo drink,” the researchers concluded. A post-experiment survey also found that 55% of the subjects who took the curcumin supplement said they would use the product again, as compared to 31% from the placebo group.

Nicotinamide and glaucoma: Form of vitamin B3 increases energy supply in nerve cells - RCT

By Tingmin Koe 25-Aug-2020 – NutraIngredients Asia

Supplementation of nicotinamide (NAM) – a form of vitamin B3 – could act as an adjunctive treatment for glaucoma, a 24-week RCT from Australia has found.

The researchers at the Centre for Eye Research Australia, University of Melbourne, Duke NUS-Medical School, Singapore Eye Research Institute, Karolinska Institutet, University of Adelaide, and Cambridge University, published the findings in Clinical & Experimental Ophthalmology. This is also the first time that the researchers found improvements in a glaucoma therapy that does not involve the lowering of pressure in the eye, research fellow Dr Flora Hui told NutraIngredients-Asia. Previous research has shown that glaucoma patients have low NAM serum level, and NAM supplementation could protect the retinal ganglion cells in preclinical models. This study had validated the protective properties of NAM in humans, with improvement in inner retinal function and improved energy supply to the nerve cells seen in subjects.

“By studying how cells in glaucoma behaved, we found that there may be an energy deficiency in the nerve cells in the eye, and that the pathways responsible for creating the energy supply weren’t working properly. “NAM can allow for more efficient energy production for cells to hopefully work better and survive for longer to prevent loss of vision,” she explained. The research had received funding from a number of organisations, such as The Ophthalmic Research Institute of Australia and Jean Miller Foundation. Fifty-seven glaucoma patients were recruited into the study between October 2017 and January last year. Randomised into two groups, they received either oral placebo or NAM. The experiment group took 1.5g of NAM once daily for the first six weeks. The daily dosage was doubled for the next six weeks. After 12 weeks, subjects on placebo had to take NAM and vice versa. The inner retinal function of patients was tested using electro-retinography – a diagnostic test which measures electrical activity in the cells of the retina. Visual field testing was also conducted to determine changes that occurred. Results showed that there were significant improvements in inner retinal function in subjects receiving high-dose NAM. Specifically, they have more energy supplied to the nerve cells in the eyes, as the amplitude of their photopic negative response (PhNR) improved by 14.8%, while that of placebo improved by 5.2%. “For the first time, we have provided evidence that oral NAM supplementation leads to an early and measurable improvement in inner retinal function in glaucoma patients already taking IOP-lowering medication,” the researchers said

Currently, it is not a common practice for doctors to prescribe vitamin B3 to glaucoma patients. However, Dr Hui said that with an upcoming study, they could determine more conclusively if NAM should be taken on an ongoing basis in people with glaucoma. The new study would be a larger and longer trial, with the aim of finding out whether the improvements seen in the present study have lasting effects in reducing the progression of the disease.

FOOD SCIENCE & INDUSTRY NEWS

Tackling allergy escalation: Industry addresses food sensitivities and milk digestibility

11 Aug 2020 Nutrition Insight

Many allergies and food sensitivities are on the rise, with some consumers flagging difficulties digesting many dairy products, for example.

As a result, industry is embracing new technology to help consumers enjoy the foods they want to eat. A2 milk and hydrolyzed proteins are some notable areas of development in the dairy sector. Childhood food sensitivities are also a key market, both within the dairy space and more broadly. NutritionInsight speaks with movers in the allergy and food sensitivity arena to explore how this sector is developing.

"Food allergies at large have been trending upward. Over each of the past few decades, there has been a doubling of food allergies and a tripling of some nut allergies, leaving 8 percent of the US population of children affected. That's two children in every classroom and six million children in total. Some allergies are on the rise here – like sesame, for example – that used to be rare. We're seeing these more as the diet of US consumers becomes more global," says Dr. Wendy Sue Swanson, a pediatrician and Chief Medical Officer at SpoonfulOne.

SpoonfulOne is part of Before Brands, which received a major investment from Nestlé Health Science last year. It offers an advanced childhood nutritional product touted as reducing food allergy development risk by introducing babies to 16 different common allergens. Additionally, each packet of SpoonfulOne contains 30 mg of proteins that increase the production of IgG4, which are protective antibodies.

"[This upward allergy trend] will sadly continue to rise in the next ten years without strategic changes in guidelines, recommendations and solutions for busy families raising infants and toddlers. Fortunately, there will be more efforts toward prevention, therapeutics to treat and research to solve all the issues and concerns of food allergies worldwide. Promisingly, more effort will be put into preventing allergies and their impact, so the next generation of children will not have to suffer from food allergies," continues

Addressing infant dairy allergies

Lotte Neergaard Jacobsen, Pediatric Research Scientist at Arla Foods Ingredients (AFI), also notes that the prevalence of many different allergies has increased worldwide in recent decades. "One of the most common in infancy is cow's milk allergy (CMA), which affects two to three percent of infants. Meanwhile, atopic dermatitis (also known as eczema), which can be related to CMA, affects as many as 20 percent."

She notes that the key consumer group is parents, who are intensely focused on making the right nutritional choices for their children. "Infant discomfort is one of the most common reasons parents switch formulas, so it's essential that the risks of allergy and gastrointestinal problems are minimized."

Responding to this need, AFI offers a range of hydrolyzed casein and whey proteins that can be used in formulas for infants with allergies and those at risk of them. In these ingredients, allergy-inducing epitopes have been removed or reduced. Jacobsen points to clinical studies that observed a reduced risk of atopic dermatitis in infants fed hydrolyzed formulas compared with those based on intact proteins.

"There is evidence that awareness of the health benefits of whey protein hydrolysates is high among mothers worldwide. In 2018, we surveyed 5,658 mothers in seven different countries and 31 percent said they would prefer a formula containing hydrolysates," she adds.

Jacobsen further details that hydrolysates offer several advantages, including better taste and absorption than free amino acids. She explains that one of the biggest recent changes has been the increasing use of whey protein hydrolysates in formula. According to Innova Market Insights, global launches of this type increased by 7.9 percent CAGR between 2014 and 2018.

A new type of milk?

Also active in the dairy space is a2 Milk, which produces dairy milk containing only A2 protein, and no A1 protein, which is found in standard milk. Blake Waltrip, US CEO of The a2 Milk Company, explains that through a safe genetic test, the company identifies cows that only produce the A2 protein. "[The trait] is like having brown eyes versus blue eyes. Then, we segregate those cows to get our a2 Milk. With only the A2 protein and no A1, published research suggests that a2 Milk may help avoid stomach discomfort in some people," details Waltrip.

He continues that with a recent boom in milk alternatives within the past decade, millions of US consumers have self-diagnosed that lactose intolerance is causing their stomach discomfort without a medical diagnosis. "In reality, it may be a sensitivity to the A1 beta-casein protein type that is found in ordinary milk." However, he highlights that as a2 Milk is real dairy milk, it contains lactose and whey. Therefore, it is not appropriate for people with a dairy allergy or who have been medically diagnosed with lactose intolerance. Waltrip adds that the company is currently focusing on building awareness and trial with consumers in the grocery and mass channels through education of the A2 protein. Notably, products without A1 proteins have suddenly burst onto the scene. Last month, Re:THINK Ice Cream relaunched its desserts to include both collagen and lactose-free A2/A2 dairy. Meanwhile, Nestlé-owned Gerber recently launched Good Start A2 Infant Formula and Good Start A2 Toddler Drink in the US.

Commenting on the rise of A2 milk, Chris Cornyn, Chief Innovation Officer at SpoonfulOne, says that the company supports any product that allows people to enjoy the foods they love. "A2 milk products have been designed, as we understand it, to help people digest milk more easily. We support this advancement."

Circumventing challenges

For SpoonfulOne, it is crucial that production facilities do not impede those for free-from products. "The food manufacturing industry has dedicated itself to upgrading and updating sanitation and product segregation practices to keep families who do navigate food allergies safe," explains Cornyn. Ultimately, the company works with its manufacturing partners to help them handle common food allergens. SpoonfulOne also invests in its own dedicated equipment and production space to manufacture its products to protect consumers who rely on the free-from marketplace. "The world needs both segments to address food allergies, so we do take extraordinary measures to protect the free-form space by building separate procedures and capabilities to produce our products," Cornyn details.

Meanwhile, the rise in plant-based diets is on the radar for a2 Milk. "As consumers move from animal milk to plant-based alternatives, they are losing out on that natural nutrition of dairy milk. Milk has no added sugar with a clean label that doesn't include fillers, stabilizers or thickeners. In the next ten years, you may see more health issues arise as consumers – old and young – are not getting enough of the important nutrients they need for good health because they assume plant-based is equal to milk in nutrition," argues Waltrip.

Assessing today's consumers

Reflecting on a2 Milk's target market, Waltrip explains that its prototypical consumer keeps a healthy lifestyle close to heart, always striving to educate their friends and family on good nutrition and self-care. "Additionally, our consumer does their research on trends and innovative products, but looks for local and socially responsible companies."

This emphasis on health is also important for AFI, with Jacobsen pointing to research revealing that "healthy" and "natural" are now the two most important characteristics for consumers of food products. In this space, the company has just launched a micellar casein isolate, which is also available in an organic version. According to Innova Market Insights, NPD with natural claims has seen a CAGR increase of 5 percent over the past three years (2017-2019), growing at around 8 percent annually compared to the past year.
"As a general point, consumers' needs have become more varied and complex. Many want products to be free from additives or GMO ingredients, some are focused on avoiding allergens and others need them to be halal or kosher. Increasing concern about allergies can be seen as one element of a broader consumer focus on health and an expectation of wholesomeness," concludes Jacobsen.
By Katherine Durrell

Game-changing sugar reduction solution? Better Juice scales up commercialization of enzymatic juice technology

By Mary Ellen Shoup
22-Jul-2020 – Food Navigator USA

Israeli start-up Better Juice has signed agreements with US-based global beverage manufacturers to commercialize its patent-pending enzymatic technology, which can

achieve up to 80% sugar reduction of naturally-occurring sugars (e.g. sucrose, glucose, fructose) in 100%fruit juice products by converting the molecules into dietary fibres.

"We found a way to convert all types of sugar to other types of molecules that are not digested by our body," Eran Blachinsky, PhD, founder and CEO of Better Juice, told FoodNavigator-USA. Better Juice entered a partnership with Brazilian juice manufacturer, Citrosuco, last year to deploy the sugar-reduction technology in the production of its juice products. The company is now installing its pilot plant in more markets including the US to achieve full commercialization of the technology within the year, said Blachinsky. "All these companies that we are in collaboration with desperately want it," he said.

Since its founding in 2017, Better Juice has scaled-up its system and can process juice at a rate of up to 13.2gallons per hour, a significant milestone for the company, he said. "Today there is no solution like this," claimed Blachinsky. Better Juice uses natural enzymes from non-GMO microorganisms to convert simple sugars in 100% juice into non-digestible compounds (i.e. dietary fibres) without impacting the smell, vitamin composition, and to a large extent, taste, as the perceived sensory sweetness of the juice is reduced by 15% to 20% as a result of the conversion process, said Blachinsky. "It maintains all the benefits of juice. And the mouthfeel is the same," he noted. To do this, the company's technology modifies one short, simple pass-through step to the juice-making process, he explained.

The process uses a continuous-flow system containing immobilized non-GMO microorganisms (instead of live ones), and as the juice passes through, the enzymes within the 'dead' microorganisms bio-convert the juice sugars into dietary fibres and other non-digestible sugars "so there's no secondary metabolites produced by fermentation," said Blachinsky. The juice that comes out the other side of the system, is still 100% juice but with less sugar (anywhere between 30% to 80% sugar reduction) without the addition of any other ingredients, according to Blachinsky.

No longer a trend but a normal consumer behaviour, 57% of US adults surveyed in The NPD's Group's Health Aspirations and Behavioural Tracking Service say they look for sugar content first when reading nutrition labels, followed by calorie content.

Health Focus International's 2019 USA Trend Study : Shoppers' Journey Towards Living & Eating Healthier (conducted in November-December 2018 with 2,000+ respondents) revealed that 45% of respondents said reducing sugar has become more important in their diets, and nearly 50% said 'lower sugar' statements are important to them when shopping for food and beverage products.

Blachinsky added that while many consumers' taste buds are hard-wired to prefer a sweeter product, its juice products have been well-received by consumers who have slightly less of a sweet tooth and are actively seeking ways to reduce their sugar intake, preferring a slightly less sweet taste profile. "It is aligned with the people that prefer drinking coffee without sugar or drinking a diet product. We are targeting people who want to try reduced sugar products," he said.

Better Juice has performed some consumer testing and found that more than 30% of participants preferred the juice made via the Better Juice process. While the technology can be applied to virtually any type of liquid containing naturally-occurring sugars (for instance, milk), the company is focused solely on the juice category for now, said Blachinsky.

"The idea is to install the device in each beverage company where it will be another device in the production line," said Blachinsky. Better Juice is currently seeking investment and funding to help achieve full commercial scale of its technology, he added.

Overseas interest rockets: How US and Europe nutra firms are seizing opportunities in growing Indian market

By Tingmin Koe 26-Aug-2020 – NutraIngredients Asia

A number of nutraceutical companies from the US and Europe, including algae omega-3maker Qualitas Health and botanical-based supplement firm Legacy Healthcare, are tapping into the fast-growing nutraceutical market in India.

The fast-growing market, increasing spending power, and a huge vegetarian population were cited as the key reasons for considering the Indian nutraceutical market. For Qualitas Health, the US-based company will be bringing the first-of-its-kind high polar lipid algal EPA omega-3 into India. As compared to the conventional fish oil which comes in triglyceride form and krill oil in phospholipid form, its EPA omega-3 is bound with

polar-lipids phospholipids and glycolipids. The firm says this increases its bioavailability by two to three times higher than fish oil and 65% more than krill oil.

Sold under the brand 'IWILife', the products are available in over 10,000 health foods stores, vitamin shops, and big-name retailers such as GNC across the US. It aims to replicate its success in the US and build its presence across offline and online retail in India. In fact, the company believes that India has the potential to surpass the US – the world's biggest nutra market.

"India has a big population and the number of people taking nutraceuticals is growing and it is an exciting market. It has the potential to be bigger than the US and beat the US in terms of revenue and development," CEO Miguel Calatayud told NutraIngredients-Asia.

The company plans to introduce 10 of its basic SKUs into India by year end. They include soft gels omega-3 for pre-natal use, brain health, immunity building, lowing cholesterol, and supporting hair, skin, and nail health. It is also in talks with B2B partners such as nutra and functional food brands in selling its high polar-lipid algal EPA and algae-based protein ingredient."India has a huge vegetarian population and so this is a very huge opportunity for us since we can open the market to people who were not taking omega-3 as they were not plant-based previously," he said.

Further down the road, he is contemplating local manufacturing, where the omega-3 will be encapsulated in soft gels, or even setting up algae farms in India. It currently farms its algae in Texas and New Mexico.

Legacy Healthcare, a Swiss-based botanical drugs and supplement firm, on the other hand, aims to turn botanicals with promising benefits into US-FDA and globally approved products. The partnership with Nutrify India will help the company in setting up molecular biology research in botanical drugs and their products to India.

Meanwhile, another Switzerland-based med-tech company, Euro Alliance, is seeking to foster a two-way partnership where Indian nutra brands will be introduced into the European market and vice versa. For a start, it has identified two nutra brands Gram Tarang and Herbahive, in which their products will be introduced to major European markets such as Germany, France, UK, as well as South Korea. It will also be launching its first line of nutraceuticals – eight SKUs of nano-ayurvedic products sold under the name "Nanoveda" in India, as well as Europe, the US, and South Korea.

Seven of which will be in the form of dissolvable strips, will consists of ayurvedic herbs ashwagandha, curcumin, probiotics, iron, and honey etc. The eighth one is a nanotized liquid curcumin which is said to increase bioavailability by over 90%.

"Ayurveda is the next engine of growth. There is huge demand in Europe and South Korea. It is also starting to receive formal recognition, where it is covered by insurance companies. It is going to grow exponentially," MD Rakshit Mehta told us.

It is also planning to invest US$3m in setting up a centre of excellence in Hyderabad for researching on ayurvedic herbs by the middle of next year. In fact, it has identified 133 ayurvedic ingredients which could be incorporated into nutraceuticals and sold in the mainstream market. The lab would focus on conducting clinical studies on ayurvedic finished products. All three firms are entering the market with Nutrify India, an initiative helmed by local market expert Amit Srivastava, which aims to encourage international investment into the country and aid Indian firms' expansion overseas.

Piling on the pounds during pandemic: Weight loss driving sales of meal replacements amid India's lockdown

By Tingmin Koe 13-Aug-2020 – NutraIngredients Asia

More Indian consumers are turning to meal replacement powder to shed unwanted pounds that piled on after gyms were closed and outdoor movement restricted in the midst of COVID-19, according to a local brand.

India's start-up 23BMI, which provides personalised weight loss nutrition service, said there has been a 45%increase in its revenue since lockdown began in March. The company's weight loss meal recommendation program runs for three months. The meal plans typically comprises of meal replacement powder formulated by the company during the start of the program.

Subsequently, it will introduce healthy whole foods into the users' diet to help them maintain their weight without relying heavily on the meal replacement products. The products, available in seven flavours such as chocolate, banana, and vanilla, are only sold through its official website, or via tie-up programs with GP clinics and wedding planning agencies. This also means that most users engage its service for health and aesthetic reasons. With the pandemic, there are now a few more reasons for consumers to engage its service co-founder and CEO Kuonal Lakhapati told NutraIngredients-Asia.

With gyms closed and people shunning outdoors, he said consumers were seeking alternative means – with meal replacement products as an option – to keep their weight in check. The meal replacement promotes weight loss by creating ketosis – the breakdown of stored fats in the body. The ingredients used in the meal replacement consist of carbohydrates, lactose-based protein, fibre etc.

In addition, he said that consumers were seeking for fuss-free meal preparation since they were staying at home more often. "Managing your work and your home has become more difficult and cooking being one of the most prominent aspects of day, you will need to spend time cooking. As our products are easy for consumption, there is no preparation time and also helps one to lose weight, we became very relevant during COVID-19 and so the consumption of our meal replacement products has gone up," he said.

Much of the company's consumer base comes from the domestic market (75%), while the US, UK, Canada, Australia, and Dubai are the key overseas markets. Two-thirds of the consumers are females between 21 and 55 years old.

"I think brands should focus on building a model where people will not need to step out of their homes, where there is digital ordering, something of that sort will be helpful to consumers," Lakhapati said, when commenting on how brands should navigate during COVID-19.

The company is planning to launch a nutri-bar next month to expand its range of products which currently only consist of powder in different flavours. The nutri-bar has the exact same nutrient composition as the meal replacement powder, except for a different dosage format. Other new launches in the pipeline include risotto and pasta. To meet greater demand, the company is also planning to launch its line of meal replacement products under a different brand and make them available on retail channels.

Reduced sugar beverages see pockets of growth, but trend towards naturally sugar-free cannot be beat

By Aga Jarzabek, Research Analyst, Euromonitor International
24-Aug-2020 – Food Navigator USA

Reduced sugar categories have seen high growth in the past, but their sales have dipped as consumers became hesitant about artificial sweeteners. However, in the past year, sales have seen a guarded rebound across many categories due to new launches and marketing efforts.

Success of the reduced sugar cola category and Coke Sugar Free in particular, has boosted the reduced sugar segment, while the runaway success of performance energy brands and renewed interest in reduced sugar sports drinks has also contributed to the segment's recent high growth. However, it remains uncertain whether the trend will regain its foothold within the soft drinks market or whether history will repeat itself and reduced sugar beverages will begin to decline as consumers move towards naturally sugar-free and low in sugar options.

Coke Zero Sugar has experienced both volume and value growth, reaching $1.3bn in retail value sales and becoming the main contributor to the low-calorie cola segment's retail value growth, which stood at 4% in2019. This is a sizable improvement from its 2014-2019 value CAGR of -1.6%. The success of the brand speaks to the continuing importance of indulgence within the carbonated soft drinks market. While some consumers have moved on from the category, those that are sticking around are increasingly seeking the same classic taste of Coke in more health-oriented ways.

Coke Zero Sugar's success can be tied to the brand's closeness to the original taste of classic Coke. In addition to pack size updates which have also helped the brand, mini cans reaffirm the brand's positioning as a healthier, but still indulgent, alternative to the sugary classic Coke. Diet Coke has rebranded under a similar strategy with updated slim cans and new flavours, but the brand has been unable to match Coke Zero Sugar's success. The brand has not innovated far enough to compete with more health-focused beverages and has been left to compete with Coke Zero Sugar as the closest substitute for classic Coke.

Reduced sugar sports drinks have seen success within the last two years, reversing the trend of declining sales. Until recently,

reduced sugar sports drinks had been lagging, facing a -6.4% value CAGR decline between the years 2012 and 2017 as artificial sweeteners within the drinks faced wide consumer scepticism. Reduced sugar sports drinks were also viewed as less effective at hydrating, since electrolytes are produced from salt and sugar.

In 2019, however, the subcategory saw a turnaround in value and volume sales. In 2019, the segment generated retail value sales of $1.3bn and retail volume sales of sales of 996.5 million litres in the US, according to Euromonitor International. In terms of brand performance, Powerade Zero did well, while the new zero sugar offering from PepsiCo, Gatorade Zero, hit the shelves and proved popular with consumers. The launch of Gatorade Zero, in particular, renewed interest in the subcategory through PepsiCo's marketing efforts, and the rising popularity of the keto diet drew fitness-focused consumers back towards reduced sugar sports drinks.

The growing fitness trend has also boosted the reduced sugar energy drinks segment, driven in large part by performance energy brands. The subcategory is aimed at health-conscious consumers that are looking for a boost post- and pre-workout as well as during their workout with differentiated nutrients.

These beverages combine aspects of energy drinks, sports drinks and workout supplements, containing creatine, BCAAs, zero sugar, and upwards of 300mg of caffeine — nearly twice the caffeine levels of most energy drinks, which usually sit around 160mg.

While the new subcategory has held a strong undercurrent for several years now, with fitness-focused energy drinks gaining popularity in health stores, only recently did performance energy brands appear on mainstream store shelves. Brands such as Bang and Celsius have been leading the charge, with bigger companies also entering the US market. In April 2019, Monster launched Reign, a direct competitor to Bang.

Energy drinks consumers are clearly seeking less sugar, as growth in low-calorie products suggests, but are first and foremost expecting a lab-engineered, high performance, beverage that delivers on its core functional claim. All other ingredients take a back seat to caffeine.

Both reduced-sugar sports drinks and reduced-sugar energy drinks have managed to sidestep consumer concern over artificial sweeteners as two segments have successfully marketed themselves as fitness-forward products that can complement consumer fitness goals and aid in weight loss.

Despite these pockets of growth, reduced sugar options that utilize artificial sweeteners cannot beat the trend of naturally sugar-free products. Health conscious consumers now have a wide variety of sugar-free beverages from which to choose from that do not use any sweeteners, and the market is only expanding.

The most significant category leading the trend is carbonated and flavoured bottled water. Flavoured bottled water, in particular has become a direct competitor to carbonates and has experienced sustained high growth, reaching 9% in retail value growth in 2019 with $2.7bn in retail value sales. It is important to note that the Euromonitor International flavoured bottled water category includes also all sparkling flavoured water brands such as La Croix and Bubly.

Overall, the bottled water category has been outpacing both carbonates and juice in terms of volume growth and retains the highest retail volume sales within soft drinks in the US. More and more consumers are stepping away from sweetened drinks towards water, and despite recent high growth trends for reduced sugar categories, the actual volume growth of bottled water is nearly twice that of actual volume gains of low-calorie carbonates, reduced sugar sports drinks, and reduced sugar energy drinks combined.

Preference for naturally sugar-free and lower-sugar products has also emerged among other beverage categories. Unsweetened packaged ready-to-drink (RTD) teas have gained in popularity and kombucha, which usually contains less than 10g of added sugar, has seen explosive growth.

Within RTD coffee, cold-brew has also seen high growth, and while the segment is still smaller than sweetened coffee, most new product launches within the category have been cold-brew products, leading the category in sugar-free innovation. Current fitness trends and the continuing importance of indulgence within soft drinks have served to reinvigorate sales of reduced sugar products, but the larger health and wellness trend continues to favour naturally sugar-free products.

REGULATORY NEWS

Confused by whole grain labels on food packaging? Study finds you're not alone

August 10, 2020 Science Daily

Researchers say results provide legal evidence for proposed changes in labelling regulations

Whole grain labels on cereal, bread, and crackers are confusing to consumers and could cause them to make fewer healthy choices, according to the results of a study that tested whether people are able pick out the healthier, whole grain option based on food package labels.

The study, led by researchers at the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University and NYU School of Global Public Health, is published today in Public Health Nutrition. The researchers say the findings could help lead to enhancements in food labelling.

A pool of 1,030 U.S. adults, representative of the population, responded to a survey with photos of both hypothetical and real products. The photos showed the products, with various whole grain labels on the front of the package, along with the nutrition facts label and ingredients list for each product. Participants were asked to identify the healthier option (for the hypothetical products) or assess the whole grain content (for the real products).

* For the hypothetical products, 29-47% of respondents answered incorrectly (specifically, 31% incorrectly for cereal, 29-37% for crackers, 47% for bread).

* For real products that were not mostly composed of whole grains, 43-51% of respondents overstated the whole grain content (specifically, 41% overstated for multigrain crackers, 43% for honey wheat bread, and 51% for 12-grain bread). Consumers more accurately stated the whole grain content for an oat cereal product that really was mostly composed of whole grain.

"Our study results show that many consumers cannot correctly identify the amount of whole grains or select a healthier whole grain product. Manufacturers have many ways to persuade you that a product has whole grain even if it doesn't. They can tell you it's multigrain or they can colour it brown, but those signals do not really indicate the whole grain content," said first author Parke Wilde, a food economist and professor at the Friedman School.

The packages on the hypothetical products either had no front-of-package whole grain label or were marked with "multigrain," "made with whole grains," or a whole grain stamp. The packages on the real products displayed the actual product markings, including "multigrain," "honey wheat," and "12 grain."

The study goal was to assess whether consumer misunderstanding of the labels meets a legal standard for enhanced U.S. labelling requirements for whole grain products. The legal standard relates to deceptive advertising, and evidence that the labels are actually misleading -- or likely to mislead -- consumers can bolster support for regulations.

"With the results of this study, we have a strong legal argument that whole grain labels are misleading in fact. I would say when it comes to deceptive labels, 'whole grain' claims are among the worst. Even people with advanced degrees cannot figure out how much whole grain is in these products," said co-author Jennifer L. Pomeranz, assistant professor of public health policy and management at NYU School of Global Public Health.

Previous research has shown disparities in whole grain intake in the United States, including for example, lower intake for adolescents than for adults, and lower intake for participants in the Supplemental Nutrition Assistance Program (SNAP) than for higher-income non-participants.

The authors of the new study found that consumers who were younger, had less education, were Black or African American, or reported having difficulty understanding food labels were more likely to answer incorrectly in the test involving hypothetical products.

The2015-2020 Dietary Guidelines for Americans recommend that half of all grains consumed should be whole grains. Adequate intake of whole grains has been linked with reduced risk of heart disease, type 2 diabetes, and cancer.

"A large chunk of Americans' daily calories -- 42 percent -- comes from low quality carbohydrates. Consuming more whole grains can help change that, but the policy challenge is to provide consumers with clear labels in order to make those healthier choices," said co-senior author Fang Fang Zhang, nutrition epidemiologist at the Friedman School.

Limitations of the study include the fact that higher education respondents were moderately over-represented, which means the results are conservative. Also, a formal response rate to the survey cannot be calculated because participants were part of ongoing survey panels and volunteered to respond.

'This is a huge victory…' Judge rules in Miyoko plant-based butter case

By Elaine Watson 23-Aug-2020 – Food Navigator USA

A judge handling a high-profile lawsuit* over the use of dairy terminology on plant-based products has blocked attempts by the State of California to prevent Miyoko's from using the terms 'butter,' 'lactose-free' and 'cruelty-free' on its vegan products.

The legal dispute began late last year after Miyoko's was told by the California Dept of Food & Agriculture to drop the terms 'butter,' 'lactose-free,' hormone-free' and 'cruelty-free,' from its plant-based 'butter' (which is made from coconut oil, sunflower oil and cashew nuts) because "it is not a dairy product."

Miyoko's - which said it was given no choice but to develop custom packaging for California ("creating a logistical nightmare"), change marketing and packaging materials nationwide at huge expense, or risk prosecution - led a lawsuit in February 2020 in a bid to prevent the State from enforcing its demands, which it claimed violated its First Amendment rights.

In an order filed in the Northern District of California on Friday (Aug 21), US district judge Richard Seeborg granted Miyoko's motion for a preliminary injunction to prevent the state enforcing its claims as regards the terms 'butter,' 'lactose-free,' 'cruelty-free.'

Its motion was however denied as regards the terms 'hormone-free,' and 'revolutionizing dairy with plants,' on the grounds that 'hormone-free' was not technically accurate as plants contain naturally-occurring hormones, while the 'revolutionizing...' phrase was "plainly misleading."

As for the core claims around vegan 'butter,' Judge Seeborg explained: "The state's showing of broad marketplace confusion around plant-based dairy alternatives is empirically underwhelming. In this early phase of the litigation, it therefore appears Miyoko's decision to label its product as 'butter' is entitled to First Amendment protection."

While the standard of identity for butter stipulates that butter must contain at least 80% milkfat, argued Seeborg, the question at issue in this case is whether Miyoko's use of the word 'butter' in close proximity to terms such as 'vegan,' 'made from

plants,' and 'cashew & coconut oil spread,' amounts to misleading commercial speech.

Ultimately, he said, the evidence presented by the state "does not disturb the weight of evidence tending to show that Miyoko's use of that word is likely not misleading… Nowhere, for instance, does the state present testimony from a shopper tricked by Miyoko's vegan butter, or otherwise make the case for why Miyoko's substitute spread is uniquely threatening to the public weal."

He also noted that consumer class actions taking issue with terms such as 'almond milk' and 'soymilk' have not made much headway, with judges arguing that the federal standard of identity for 'milk' (which limits it to lacteal secretions from cows) does not preclude a company from using terms that feature the word 'milk' (e.g. 'soy milk') as long as they use qualifiers such as 'plant-based' or 'dairy-free' and consumers are not confused.

He also noted that "an Arkansas district court recently rejected that state's framing of commercial speech as misleading where the label of plant-based 'meat' products included ample terminology to indicate [their] vegan or vegetarian nature."

Founder and CEO Miyoko Schinner told FoodNavigator-USA: "This is a huge victory where it is meaningful for us." Tony Eliseuson, litigation program director at the Animal Legal Defense Fund, which is backing Miyoko's in the case, said: "To have a preliminary injunction granted means the judge has determined that it there is a substantial likelihood that Miyoko's case will prevail on the merits.

"This decision has significant industry-wide implications, particularly for smaller companies that might not have the legal expertise or resources of Miyoko's. Companies that make (and label) similar products now know any attempt to enforce the FDA regulations in this manner is likely unlawful under the First Amendment based on this preliminary injunction order. These companies may not simply acquiesce to the regulatory agency like they might have in the past."

The California Department of Food and Agriculture did not immediately respond to requests for comment on the case. The Case is Miyoko's Kitchen Inc vs Karen Ross (Secretary of the California Department of Food and Agriculture) and Stephen Beam (Branch Chief of the Milk and Dairy Food Safety Branch of the California Department of Food and Agriculture). 3:20-cv-00893 filed 02/06/20 in the US District Court for the Northern District Of California.

Margarine by any other name?

According to FDA standards of identity, butter must contain 80% milk fat, while margarine must contain80% fat but it doesn't have to come from milk fat. Vegetable oil 'spreads,' meanwhile, typically contain up to 40% water.

While some commentators say brands such as Miyoko's , Califia Farms and Kite Hill are using the term plant-based 'butter' in order to present what is basically margarine as something new and exciting, Miyoko's argued that the State of California was violating its rights to free speech by "prohibiting the company from making truthful statements about the identity, quality, and characteristics of vegan and plant-based products."

The brands pictured above have also argued that the inclusion of premium ingredients such as coconuts, cashews, almond milk and tiger nuts in these next-gen products differentiates them from traditional margarine brands that use cheaper vegetable oils such as soy, palm, and canola.

In his ruling on August 21, Judge Richard Seeborg acknowledged that the standard of identify for butter may stipulate 80% milk fat, but said the question at issue in this case is whether Miyoko's use of the word 'butter' in close proximity to terms such as 'vegan,' 'made from plants,' and 'cashew & coconut oil spread,' amounts to misleading commercial speech. And the State, he argued, had not made that case.

Follow the fiber people!!

VIVAPUR® MC/HPMC

Methyl Cellulose (MC)
Hydroxypropylmethyl Cellulose (HPMC)

Water soluble cellulose derivatives with characteristic property of reversible thermal gelation

Multi-functional Benefits

- **Emulsifying properties**
  Hydrophilic and lipophilic groups function to stabilize emulsions
- **Aeration**
  Facilitate air incorporation, independent of ions present
- **Cold water soluble**
  Depending on product type, viscosities of 15-40,000 mPa.s at 2% solution
- **Reversible Thermal Gelation**
  Thicken or gels during thermal processing. Reverts back to liquid upon cooling
- **Film Formers**
  Create effective barriers in food against oil penetration and moisture migration
- **Non caloric**
  Contribute zero calories

APPLICATIONS

- Nondairy whipped toppings
- Deep fried products
- Formed products
- Egg replacement in bakery
- Gluten free bakery
- Batters and coatings
- Edible films and glazes

JRS INDIA

B/ 816, Lodha Supremus II,
Road No. 22, Wagle Estate,
Thane (W) Maharashtra- 400604,
Tel: 022 40243817-21

Email:
rohit.raut@jrsindia.com
meeta.raheja@jrsindia.com

Ask our technical experts how they can provide further help to meet your specific finished product goals

DUPONT
Danisco

This is plant-based for the mass-market

Plant-based is right on the verge of going mainstream.

#DaniscoPlanit
#PlantBasedNOW

But getting there is about far more than making a tasty product. It's about knowing what consumers want before they do. It's about delivering on the promise of a healthier diet. It's about creating a food system that's better for consumers and better for the planet.

And it's about a product that tastes so good it makes mouths water and stomachs rumble.

That's what Planit is all about. Tailored solutions and services that help our partners keep ahead of consumer demand. Are you ready to take plant-based mainstream?

Planit
Your recipe for success in plant-based

Visit food.dupont.com for more