

17th International Congress of Dietetics (ICDA)

Are we underestimating
the health effects of yogurt?

▶ **WEDNESDAY, 7th SEPTEMBER, 2016**

5:15 pm - 7:15 pm

CONGRESS CENTRE, GRANADA, SPAIN

YINI SYMPOSIUM

Are we underestimating the health effects of yogurt?

7th September 2016
5:15am - 7:15 pm

Chaired by
Olivier Goulet & Luis A. Moreno



Hôpital Necker-Enfants Malades,
Paris, France



Public Health, University of
Zaragoza, Spain

Yogurt and lactose: cooperation for nutrition (25 min)

- ▶ **Lorenzo Morelli, Istituto di Microbiologia UCSC, Piacenza-Cremona, Italy**

Yogurt consumption for a healthy diet & lifestyle (25 min)

- ▶ **Luis A. Moreno MD, PhD, Public Health, University of Zaragoza, Spain**

Yogurt in practice: simple swaps to improve nutrition (25 min)

- ▶ **Azmina Govindji, RD MBDA, London, UK**

Yogurt, a sustainable food (25 min)

- ▶ **Adam Drewnowski PhD, Center for Public Health Nutrition, University of Washington, Seattle, USA**

▶ Learn more about yogurt at
www.yogurtinnutrition.com



This symposium aims at rediscovering the health effect of yogurt consumption, as a simple basic food to be part of a healthy & balanced diet.

The lactose in yogurt is digested more efficiently than other dairy sources of lactose because **the bacteria inherent in yogurt assist with its digestion**. That's why yogurt is traditionally consumed throughout the world among populations seemingly unable to **digest lactose**. The first talk will provide a historical overview of the studies demonstrating lactose digestion and tolerance from yogurt by lactose-intolerant people and remind **how yogurt can have a positive effect for lactose malabsorbers**¹.

The capacity of a single food such as yogurt to influence diet quality and metabolic health depends on its composition and its potential to modify the rest of food consumption, presumably via **effects on appetite control**. Indeed, recent studies have associated yogurt consumption with **better overall diet quality, a more diversified diet and more adequate nutritional**^{2,3,4,5}. The author will explain how recent studies reveal that yogurt consumption may be **the signature of a healthy diet & lifestyle**.

Nutrient-dense food choices can help people to meet their nutritional requirements without consuming excess calories, and eating yogurt appears to be a **good marker of diet quality**. This interactive session will illustrate how simple yogurt swaps can **improve nutrition**. The versatility of yogurt, as well as the texture and mode of eating, lends itself well to enjoyment of foods.

Finally, after defining what sustainability means considering 4 complementary dimensions (environmental, economical, social and health), the author will develop how yogurt can be considered as a **sustainable choice**.

References

1. Savaiano D., Am J Clin Nutr., 2014 May; 99(5 Suppl): 1251S-55S.
2. Wang H. et al., Nutr Res., 2013 Jan; 33(1): 18-26.
3. Zhu Y. et al., Eur J Nutr., 2015 Jun; 54(4): 543-50.
4. Cormier H. et al., Eur J Nutr., 2015 Mar 15.
5. Keast D.R. et al., Association between Yogurt, Dairy, Calcium and Vitamin D intake and obesity among U.S. children aged 8-18 years: NHANES, 2005-2008. Nutrients 2015, 7, 1577-1593.



LORENZO MORELLI

Chair professor of Food Microbiology and Director,
Istituto di Microbiologia UCSC,
Piacenza-Cremona, Italy

Dean of Faculty of the Istituto di Microbiologia Università Cattolica S.C. since November 2009.

Food microbiologist; his research interest is focused of **the characterisation of the probiotic action of *Lactobacilli***, including their safety assessment as well as the characterization of the gut microbiota composition in humans and animals.

Involved in a number of **EU funded research project** devoted to the characterization of beneficial microbes, he was the scientific coordinator of the first European funded research project focused on probiotic ingredients in food (FLAIR project, 1991) as well as Scientific coordinator of another European project, named ACE-ART (2003-2007), devoted to the assessment of **the presence of antibiotic resistance genes in lactic acid bacteria, including probiotics**.

Member of FAO panels which have prepared the **guidelines for probiotics (2001-2002) and prebiotic (2007) assessment**.

Member of the Scientific Committee of the Italian Section of the International Dairy Federation.

Lorenzo Morelli is the author of **150 papers**, he is in the list of the top Italian Scientists (www.topitalianscientists.org).

YOGURT AND LACTOSE: COOPERATION FOR NUTRITION

Lactose is the sugar of mammals and plays a relevant role in the very early life; beside its role as energy provider, it exhibits several **health effects in young children**, including a prebiotic effect on the gut microbiota and a positive effect on mineral absorption. *Bifidobacteria* and some *lactobacilli* have developed uptake and fermentation mechanisms of lactose that are the most efficient among the enteric bacteria and they have a major role in "priming" the immune system of neonates.

Nowadays lactose malabsorption is often reported, but frequently as a consequence of an auto diagnosis, without a proper clinical assessment. On the other hand, the genetic basis and the physiology of this malabsorption is still under scrutiny by science and some of the **"dogmas" about lactose intolerance are now under revision**.

Moreover, in case of lactose maldigestion, it is to be considered that the total dairy products avoidance is not an answer, since 1) a small dose of lactose can be digested (12g/day) even by maldigesters and, 2) there is a number of cheeses that, at the end of the ripening period, have no lactose.

But, on top of that, as regards yogurt, it is to note that even EFSA, in the frame of its assessment of claims related to health, according to the EU Regulation 1924/2006, concluded that: "a cause and effect relationship has been established between the consumption of live yogurt cultures in yogurt and **improved digestion of lactose** in individuals with lactose maldigestion."

The mechanism is related to the survival of lactase contained into the yogurt bacteria through the gastric transit, possibly being protected by the bacterial envelopes, even if the cells are no more viable, and facilitated by the buffering action of yogurt.

In the less acidic conditions and slow transit time of the small intestine the lactase is then able to digest the residual lactose, avoiding with this action any troubles to lactose maldigesters. This applies to lactic acid bacteria endowed with an ATP-based lactose transport system, such as the **yogurt bacteria**, whose lactase is active on lactose without any previous phosphorylation. It could be concluded that a more "science-based" view is necessary for a better approach to understand and manage lactose as a nutrient.

References

Deng Y. et al., *Nutrients*, 2015; 7(9): 8020-35. - EFSA Journal, 2010; 8(10): 1763. - Lukito W. et al., *Asia Pac J Clin Nutr.*, 2015; 24 Suppl 1: S1-8. - Savaiano D.A., *Am J Clin Nutr.*, 2014; 99 (5): 1251S-5S. - Szilagyi A., *Nutrients*, 2015; 7(8): 6751-79. - Wahlqvist M.L., *Asia Pac J Clin Nutr.*, 2015; 24 Suppl 1: S21-5.



LUIS A. MORENO MD, PHD

Public Health, University of Zaragoza,
Spain

Luis A. Moreno is Professor of Public Health at the University of Zaragoza (Spain). He is also Visiting Professor of Excellence at the University of Sao Paulo (Brazil).

He did his training as **Medical Doctor** and his PhD thesis at the University of Zaragoza. He studied **Human Nutrition and Public and Community Health** at the University of Nancy (France).

He has participated in several **research projects** supported by the **Spanish Ministry of Health**, and the **European commission** (HELENA, IDEFICS, EURRECCA, ENERGY, ToyBox and iFamily).

He has published more than **250 papers in peer reviewed journals**. He is a former **member of the ESPGHAN** Committee of Nutrition.

YOGURT CONSUMPTION FOR A HEALTHY DIET & LIFESTYLE

Yogurt consumption has been associated with a lower risk of some nutrition-related chronic diseases such as obesity and type 2 diabetes. The association seems to be independent of other lifestyle factors, but there is a potential combined effect of yogurt consumption with such factors. Recent key findings from cohort studies handled in different continents (North & South America and Europe) all tend to show that **yogurt consumption is associated with a healthier eating pattern**. However, there is scarce information on the association between yogurt consumption and lifestyles.

In American men and women, yogurt consumers had a higher Dietary Guidelines Adherence Index (DGA1) score (ie, better diet quality) than non-consumers⁽¹⁾. In US children aged 8 to 18 years, yogurt consumption was associated with higher intakes of calcium, vitamin D and proteins and lower total and saturated fat intakes⁽²⁾.

In children aged 2 to 9 years, from 8 European countries, the highest moderate and vigorous physical activity levels, the highest the yogurt consumption was observed in boys, but not in girls. This association was not observed for milk intake. In adolescents aged 12.5 to 17.5, from 10 European cities, there was a combined effect of physical activity and sedentary behaviours on yogurt consumption. In male adolescents, those performing less than 60 minutes per day of moderate-vigorous physical activity and engaged in screen behaviours for more than 2 hours per day, have a mean consumption of yogurt of 29.84 g/day; however, in those adolescents performing more than 60 minutes per day of moderate-vigorous physical activity and being engaged in screen activities for less than 2 hours per day, their mean yogurt intake was 58.75 g/day (P = 0.008). Similar figures were observed in females; 31.46 and 47.04 g/day, respectively (P = 0.04). This effect was not observed for milk or other dairy products.

In conclusion, yogurt consumption seems to be also **associated with healthy lifestyle behaviours** such as high levels of physical activity and low levels of screen based activities in children. These new findings suggest that yogurt consumption might represent a **global signature of a healthy diet and lifestyle**.

References

1. Wang H. et al., Nutr Res., 2013 Jan; 33(1): 18-26.
2. Keast D.R. et al., Nutrients, 2015, 7, 1577-1593.



AZMINA GOVINDJI, RD MBDA

Registered Dietitian & Nutritionist,
London, UK

Azmina is an **award-winning dietitian, international speaker and best-selling author**. She is a media spokesperson for the British Dietetic Association (BDA), resident dietitian to www.patient.co.uk, and previous spokesperson and nutrition expert for UK's Change4life Campaign and NHS Choices.

She has served as a **member of several Boards and Committees on national health organisations** including the British Heart Foundation, Diabetes UK, Diabetes Research and Wellness Foundation, BDA Public Relations Committee and BDA Executive Council. Her television appearances include Sky, BBC and ITV news, and lifestyle programmes such as *This Morning* and *The One Show*. She is Co-Founder of the award-winning RDUK monthly professional twitter chats (www.rdukchat.com) that reach an average of 1.5 million people and involve between 60-85 expert nutrition participants.

Azmina has written over a dozen **books on weight management and diabetes**. She was Chief Dietitian to Diabetes UK for eight years and now runs her own nutrition consultancy. In her spare time, she is Global Director of the award-winning non-commercial online resource, The Ismaili Nutrition Centre (www.theismaili.org/nutrition).

She offers authoritative opinion on a range of diet-related topics and her lively personality and down-to-earth approach help her to simplify scientific dietary principles for the media and the general public.

YOGURT IN PRACTICE: SIMPLE SWAPS TO IMPROVE NUTRITION

Dietitians are skilled in tailoring dietary advice to the individual, by taking into account factors such as lifestyle habits, food preferences and beliefs, and culture. Improving nutrient profile of a client's diet often involves **swapping unhealthy foods for healthier choices**. This presentation will focus specifically on how yogurt can offer nutritional health effect as a "swap food" in sweet and savoury dishes, and at different times of the day, for different groups of people.

A number of studies⁽¹⁾ amongst different age and population groups link **better nutrient intakes** - for example of protein, calcium, magnesium, zinc, vitamin D and riboflavin - as well as higher overall diet quality, with **increased intake of dairy foods including yogurt**. Nutrient-dense, low energy-dense food choices such as yogurt can help people to meet nutritional requirements without consuming excess calories.

This presentation will include practical examples of how replacing foods with yogurt can improve the nutrient profile of a meal or snack, especially in terms of calcium, protein, and magnesium. Presented nutrient data will depict how **swapping out regular foods for yogurt** can help to reduce energy intake, and how yogurt instead of other food examples can provide an increased portion size within the same calorie content.

Dairy foods are integral to global recommendations for a **balanced eating plan** and this is a key food group: US Dietary Guidelines 2015⁽²⁾ advise on a shift to consuming more dairy products in nutrient-dense forms, recommending low fat yogurt rather than cheese; The UK Eatwell Guide⁽³⁾ graphic portrays plain yogurt as a daily source of dairy foods; Spanish Food-Based Guidelines⁽⁴⁾ recommend we have milk and dairy products including yogurt every day.

Practical suggestions on how yogurt can be incorporated into a daily menu will be discussed, and delegates will be directed towards user-friendly infographics and resources that can be used with clients.

References

1. Weinberg L.G. et al., J Am Diet Assoc., 2004; 104(6): 895-902. - Wang H. et al., Nutr Res., 2013; 33(1): 18-26. - Zhu Y. et al., Eur J Nutr., 2015 Jun; 54(4): 543-50. - Cormier H. et al., Eur J Nutr., 2016 Mar; 55(2): 577-87. - Keast D.R. et al., Nutrients, 2015, 7, 1577-1593.
2. Dietary Guidelines for Americans, 2015-2020, eighth edition.
3. Public Health England, The Eatwell Guide - helping you eat a healthy, balanced diet, 2016.
4. FAO, Food-based dietary guidelines, Spain, 2008.



ADAM DREWNOWSKI, PHD

Center for Public Health Nutrition,
University of Washington, Seattle, USA

Dr. Adam Drewnowski is a world-renowned leader in the **study of obesity and social disparities in diets and health**. He is Professor of Epidemiology and the Director of the **Center for Public Health Nutrition** at the School of Public Health. He is also the Director of the University of **Washington Center for Obesity Research**, which addresses the environmental, social and economic aspects of the obesity epidemic. Dr. Drewnowski is Adjunct Professor of Medicine and is a Joint Member of the Fred Hutchinson Cancer Research Center in Seattle.

Dr. Drewnowski' is the inventor of the **Nutrient Rich Foods Index**, which rates individual foods based on their overall nutritional value, and the **Affordable Nutrition Index**, which helps consumers identify affordable healthy foods. He has conducted extensive studies on **taste function and food preferences**, exploring the role of fat, sugar, and salt on food preferences and food cravings. His studies on **bitter taste genetics** have explored consumer acceptance of bitter phytochemicals in vegetables and fruit.

Dr. Drewnowski has been the leader in studies of spatial epidemiology of diets and health, using innovative GIS approaches to study the **geographic distribution of food spending, diet quality and obesity rates**. Dr. Drewnowski has served on the Standing Committee to Prevent Childhood Obesity of the Institute of Medicine, National Academy of Sciences and is a public trustee of the International Life Sciences Institute (ILSI).

He is the author of over **200 research papers**, numerous reviews and book chapters, and a frequent participant and invited speaker at scientific meetings, conferences, and symposia. Dr. Drewnowski has advised government and international agencies, foundations, and think tanks.



YOGURT, A SUSTAINABLE FOOD

The definition of sustainable nutrition security comprises four major domains: health, economics, society and the environment. Sustainable foods and – by extension – sustainable diets need to be nutritionally adequate, healthy and safe, economically affordable, culturally acceptable, and sparing of biodiversity and ecosystems, including environmental resources: land, water and air. It is most important to note that nutritional value is an integral component of sustainability. Low carbon footprint is of little use when the food has minimal nutritional value. **Sustainable foods need to be affordable, acceptable and nutrient rich.**

Dairy products, including yogurt, provide significantly more nutrients than calories. Nutrient profiling models aim to separate foods that are energy dense from foods that are nutrient rich. **As a source of bone building lacto-nutrients, notably calcium, low energy density yogurt qualifies as a nutrient-rich food.** Highest nutrient density scores are awarded to those yogurts that are unsweetened and lower in saturated fat. New metrics of affordable nutrition have confirmed that **dairy products, including yogurts, are the lowest-cost source of dietary calcium and a very affordable source of high-quality protein.** Yogurt and other dairy products are well integrated into the global food patterns and are a key component of global diet. The supporting evidence on nutrient density and cost of dairy products, initially based on data from the US and France, has been expanded to include countries such as Mexico and Turkey. In Turkey, yogurt is among snacks recommended to be consumed daily by children in schools.

The land, water and energy use by dairy farmers is a separate area of research. On one hand, **animal products including meat and dairy** have a higher carbon footprint per calorie than do grains, oils, and sweets. On the other hand, **their nutrient density per calorie is higher as well.** The question arises at what point is the higher carbon footprint of animal foods offset by their higher nutritional value? Based on multiple studies, the plant food with the lowest land, water and carbon footprint appears to be sugar. This is why the definition of sustainable foods has to include nutritional value and impact on population health. Several studies have linked **yogurt to improved long term health outcomes.**



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YINI Symposium: Are we underestimating the health effects of yogurt?

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.....

2. Your evaluation of the symposium

▶ **What was your overall impression?**

Excellent Good Average Poor

Comments:

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▶ **What was your impression of the scientific quality of the sessions?**

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.....

▶ **How do you evaluate each session?**

- Yogurt and lactose: cooperation for nutrition - Lorenzo Morelli

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Comments:

.....





- Yogurt consumption for a healthy diet & lifestyle - Luis A. Moreno

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- Yogurt in practice: simple swaps to improve nutrition - Azmina Govindji

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- Yogurt, a sustainable food - Adam Drewnowski

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- ▶ **Do you know the website www.yogurtinnutrition.com?** Yes No

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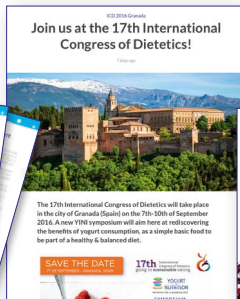


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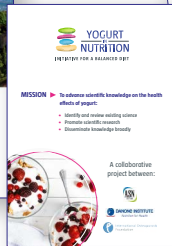
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