# ROUNDTABLE REPORT
The good things in life: coffee as part of a healthy diet and lifestyle

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Introduction

In November 2015, consumer research conducted by the Institute for Scientific Information on Coffee (ISIC) surveyed over 4,000 adults across 10 European countries, to understand their beliefs, behaviours, and knowledge regarding a healthy diet\(^1\).

The research results suggest that consumers are confused about the potential health effects of coffee, in part due to them receiving information which is not in line with the latest science.

To further explore the research findings, ISIC invited three eminent experts representing public health nutrition, preventive medicine, and consumer behaviour to review and discuss the latest scientific research on coffee and health, consumers’ knowledge and attitudes, and the role of healthcare professionals in disseminating healthy diet advice.
Roundtable on coffee and a healthy diet: the panellists

**Professor Chris Seal**  
*Professor of Food and Human Nutrition, and Chair of Board of Studies, Food & Human Nutrition BSc at Newcastle University, UK.*  

Professor Seal’s research interests include the effect of diet on health and disease, with a particular focus on the role of wholegrain foods, fruits and vegetables in cardiovascular disease prevention, and the effects of diet on antioxidant status.

**Professor Lluís Serra-Majem**  
*Director of the Research Institute of Biomedical and Health Sciences, Las Palmas de Gran Canaria University, Spain.*  

Professor Serra-Majem is a medical doctor with a Ph.D. specialising in preventive medicine and public health. He has conducted extensive epidemiological research, including National Nutrition Surveys, and has a special interest in the Mediterranean diet. He is the author of more than 800 publications, including 395 papers in international scientific journals.

**Dr Agnès Giboreau**  
*Research Director, Institut Paul Bocuse, France.*  

Dr Agnès Giboreau has a PhD in Food Science and a MSc in Cognitive psychology. She is associate researcher in the Neuroscience Research Centre of Lyon and a cofounder of several research societies, with Le Sensolier and CENS (European Center for Health and Nutrition). Her research activity focuses on consumer perception and eating behaviour in real contexts.
Foreword

Although healthcare professionals across the Western world agree on the definition a healthy diet, many consumers still find it difficult to identify exactly what they should eat and drink and how much they should consume.

Coffee is a prime example of how a popular and well-researched beverage can still cause confusion. With over 1,000 components, coffee is complex. It is also a deeply-ingrained part of many people’s daily rituals, and often the nucleus of social occasions. Consumers are therefore understandably eager to know what role coffee can play within their diet. The problem is not that they are short of information, but that it is hard to identify which sources are reliable, outdated, or, perhaps, biased.

The facts about coffee are: coffee can be consumed as part of a healthy diet, and current scientific research suggests that moderate consumption of 3-5 cups of coffee a day can reduce the risk of some common, serious health conditions, including type 2 diabetes, cardiovascular disease, and cognitive decline.

Although coffee offers some significant potential health benefits, ISIC’s consumer research suggests that many European consumers are confused about coffee’s impact on their health, even sometimes believing statements such as ‘coffee increases the risk of heart disease’, despite scientific research suggesting the contrary. The survey also revealed that respondents were using online sources and media outlets as their primary point of information about coffee and health, instead of seeking advice from doctors, nurses and dieticians. Nevertheless, the research suggested that even the advice given by healthcare professionals is not always in accordance with what the latest science suggests.

This report outlines ISIC’s roundtable discussion about the consumer research findings, and suggests ways in which healthcare professionals and consumers can work together to reduce the prevalence of the major and chronic conditions that continue to spread across Europe; highlighting in particular the central role healthcare professionals play in the dissemination of accurate health information.

Professor Chris Seal
Newcastle University, UK
Executive summary

Food, fluid and physical exercise are essential to maintaining a healthy lifestyle. However, public awareness of the components of a healthy lifestyle is limited, and 76% of Europeans surveyed by ISIC said they needed more information on health and wellbeing.

Coffee is a popular beverage chosen for both its sensory properties and physiological benefits. The enjoyment of coffee can be influenced by many factors, such as the time of day, setting and the social company, as well as its more obvious taste and aroma attributes. Although many people choose coffee at the start of the day to feel more alert (69% of those surveyed said that they did not feel awake until they’d had a cup of coffee), only a small number are aware of the other potential physiological benefits associated with drinking coffee.

Moderate coffee consumption at 3-5 cups a day can be part of a healthy balanced diet, providing fluid and small amounts of some nutrients, such as potassium, magnesium and niacin. A growing bank of research shows that moderate coffee consumption contributes to overall hydration status and is also associated with a range of potential health benefits, including reduced risk of type 2 diabetes and cardiovascular disease, improved alertness, and a reduced risk of age-related cognitive decline.

ISIC’s consumer research suggested that respondents often struggled to recognise the potential health effects of coffee, with 49% believing it may cause health problems, and many gaining their information from the internet and other media sources.

Although ISIC’s research suggests that healthcare professionals are less likely to be a source of information for consumers about coffee drinking and healthy lifestyles, it is this group who are best placed to provide scientific information and help consumers live healthy lifestyles. Ensuring that healthcare professionals have access to up-to-date and accurate information is a vital step in the dissemination of balanced information to the public.
What is a ‘healthy lifestyle’?

Professor Seal introduced the discussion on healthy lifestyles by stating that there is now a general consensus across Europe and North America as to what constitutes a healthy lifestyle. It is understood that reducing total fat intake, increasing fruit, vegetable and fibre intake, ensuring adequate hydration, and incorporating physical activity can help to maintain a healthy body weight.

When it came to evaluating their own health, 70% of ISIC survey respondents described their lifestyle as either ‘fairly healthy’ or ‘very healthy’, with those in the 25-34 year age group most likely to say they have a healthy lifestyle (72%). Given the overall rise in obesity and related health problems in Europe, some respondents may be over-confident about their own health, which is far from unusual and the phenomenon is widely studied2,3. Despite over two-thirds of respondents describing their lifestyle as healthy, 76% said they needed more information on maintaining a healthy lifestyle; highlighting conflicting opinions on their state of health, and their knowledge about healthy lifestyles.

Scientific evidence suggests that the Mediterranean diet has significant health benefits, particularly in terms of reducing the risk of cardiovascular disease. Professor Seal highlighted the PREDIMED study, a large Spanish study with Professor Serra-Majem as one of the authors, which concluded that a 30% reduction in the risk of developing cardiovascular disease was associated with this style of diet5. Although the precise mechanisms are not fully defined yet, it is proposed that key elements include greater intakes of fruit, vegetables, grains (particularly wholegrains), fish and seafood, together with smaller amounts of meat, and supported by the consumption of plenty of fluids. The potentially beneficial roles of antioxidant nutrients, polyphenols and fibres found in food and beverages are of particular interest, with fruits and vegetables as well as coffee providing significant amounts of these compounds. Coffee, for example, is on a par with vegetables and wholegrains as a source of antioxidants.
Adequate hydration is also vital in a healthy lifestyle. The European Food Safety Authority concluded that a cause and effect relationship has been established between the dietary intake of water and the maintenance of normal and physical cognitive function. A variety of beverages are acknowledged as contributing to fluid balance, including water, milk, tea, coffee, and juices, as well as fluid provided by foods. ISIC’s consumer research suggests that 36% of consumers mistakenly believe drinking coffee leads to dehydration. Whilst caffeine itself is a mild diuretic, studies measuring hydration status with moderate to high intakes of coffee show that drinking coffee does not affect total body water or distribution of water in the body, and does not cause dehydration.
The research into coffee and health

Coffee plays a role in a social context, as a morning pick-me-up, a regular social habit, and during break times. It has a popular taste and aroma, which figure largely in the intricate and varied sensory satisfaction provided by a well-made cup of coffee. While coffee is often regarded simply within its social or ritual functions, it is also an important source of fluid and provides a number of potential protective health benefits, along with certain nutrients and antioxidants, such as chlorogenic acids and melanoidins, which together contribute to the overall role of coffee in a healthy diet. Professor Serra-Majem highlighted that it is for these reasons the effects of coffee consumption are of great interest to healthcare professionals and researchers.

Despite the scientific evidence, ISIC’s consumer research suggests that the role of coffee as part of a healthy diet and lifestyle are not fully understood across Europe. Although it is well recognised that moderate coffee consumption can increase concentration and alertness, many are unaware of coffee’s other suggested benefits; almost half of respondents surveyed by ISIC stated that coffee may cause health problems. EFSA suggests that 400mg of caffeine from all sources, the equivalent of up to five cups of coffee per day, is consistent with a healthy lifestyle\textsuperscript{15}. Pregnant and breastfeeding women are advised by EFSA to consume no more than 200mg of caffeine, the equivalent of up to two cups of coffee per day, from all sources\textsuperscript{15}.

Professor Serra-Majem summarised key findings of scientific research on coffee and health in the following three areas:

- Research suggests drinking 3-4 cups of coffee per day is associated with approximately 25% lower risk of developing type 2 diabetes when compared to consuming none or up to 2 cups, with each additional cup of coffee (up to 6-8 per day) being associated with a 5-10% lower risk of developing type 2 diabetes\textsuperscript{9,10}.

- Research suggests coffee consumption is associated with a reduced risk of cardiovascular disease, proposing a ‘U-shaped’ curve with optimal effect at 3-5 cups of coffee per day\textsuperscript{11,12}.

- Research suggests regular, life-long moderate coffee consumption at 3-5 cups per day is associated with a reduced risk of developing Alzheimer’s disease by up to 20%\textsuperscript{13,14}.

The roundtable experts suggested that consumers may not always distinguish between coffee and caffeine, viewing it purely as a stimulant, missing out on coffee’s specific components and suggested physiological benefits.
A consumer perspective on coffee drinking

Coffee not only fulfils a physiological need by providing fluid and other compounds, but also plays a role within a social context. Coffee is part of many people’s daily routine, with ISIC’s research showing that 67% of Europeans say they ‘can’t imagine life without coffee’. The research also suggested that the most popular places to drink coffee are at home, at work, and in coffee shops and cafés.

Dr Agnès Giboreau discussed the range of factors that contribute to the enjoyment of a cup of coffee, such as sensory aspects (taste and aroma); and the physical environment, describing the combination of all these factors as the ‘meal experience’ or ‘consumption occasion’. 67% of ISIC’s research respondents said a main reason for drinking coffee was the taste, and 38% said they love the smell. Since coffee is often consumed with others, for example, at work or in a café, the context of the social environment also influences a person’s enjoyment of their coffee. Even the particulars of coffee drinking, such as whether the cup is cardboard, plastic or china, and use of metal, plastic or wooden spoons, can impact the overall perception of the drink’s quality.

Factors influencing the overall ‘meal experience’

- **The Individual**
  - Body
  - Mind
  - Family
  - Social Class
  - Culture

- **The Food & Drink**
  - Ingredients
  - Process
  - Quantity
  - Dressing

- **The Context**
  - Table & plating
  - Ambiance
  - Service staff
  - Other guests
Dr Giboreau discussed the role of coffee as part of an overall ‘meal experience’, where it can contribute to both the social ritual of a meal and the nutritional intake. Consumers may, however, forget that the coffee they drink is as much a part of their diet as the food on their plate. Habits such as taking coffee with sugar or cream therefore affects the overall healthiness of the diet. Personal habits, such as the way someone takes their coffee, are often based on experiences and cultural backgrounds, and so changing behaviour must be consistent with culture, beliefs and typical habits.

Recommendations for a healthy diet, as discussed by Professor Seal, include advising consumers to reduce intakes of both fat and sugars. Dr Giboreau explained that small, incremental modifications are most effective at introducing longer-lasting changes to a person’s diet. With the example of coffee, consumers who add sugar to their drink could be encouraged to focus on a gradual reduction, so that over time they become accustomed to beverages with less or no sugar. The same principle applies to reducing fat by swapping cream in their coffee for lower fat milks.
Communicating the potential benefits of coffee

ISIC’s consumer research suggests that most consumers obtain their information on coffee and health from the internet and media sources (such as magazines and TV) rather than from qualified healthcare professionals, and it is vital that consumers are not misled by incorrect statements. For example, 56% of the survey respondents who believed that ‘drinking coffee increases the risk of heart disease’ heard this either online, in a newspaper/magazine, or on TV. Only 16% said they heard it from a doctor, nurse, or dietician.

Consumer awareness of coffee and healthy lifestyles:

49% believe drinking coffee may cause health problems
71% believe that coffee does not help to reduce the risk of type 2 diabetes
42% believe that coffee drinking increases risks of cardiovascular disease
63% do not think it helps mental decline in older adults
79% believe that moderate coffee consumption can increase concentration and alertness

ISIC’s consumer research has confirmed a significant interest in healthy lifestyles, but points to a need for more information to help consumers make positive choices. Whilst key dietary messages such as ‘consume five portions of fruit and vegetables a day’ and ‘eat less fat, salt and sugar’ are well known, 39% of Europeans surveyed by ISIC were uncertain about the potential health effects of coffee – despite its popularity as a daily drink. The panel suggested that although healthcare professionals may be familiar with terms such as ‘antioxidants’ and ‘polyphenols’, such terms may not be understood or interpreted correctly by patients given literature or seeking information on the internet. The three experts were unanimous in their support for accurate, science-based information that healthcare professionals can discuss and talk patients through in a simple, straightforward way.
The roundtable highlighted the unique position healthcare professionals hold, acting as a conduit between scientists and consumers. Healthcare professionals are trained to look objectively at scientific information, assimilate the details, and communicate the conclusions to their own patients. It is vital, therefore, to ensure that healthcare professionals are well-informed with accurate and up-to-date scientific information so they can confidently educate consumers. Most healthcare professionals are required to follow programmes of Continual Professional Development (CPD), particularly nutritionists and dietitians, and this helps to maintain their knowledge-base of current science.

However, the experts commented on the difference between nutritionists and dietitians, and medics and general practitioners: the latter group’s study being more focused on disease treatment rather than prevention, and thus the latest health and nutrition research may not always fall within their purview.

Anecdotal evidence shared during the roundtable suggests that some healthcare professionals may impart their own experiences to patients, advising them to avoid coffee as they themselves experience wakefulness after drinking coffee in the evening for example. In fact, individual reactions to caffeine are more marked in some people than in others, depending on factors such as genetics, habituation and differing absorption rates. Caffeine intake in moderation does not cause any problems for the majority of people.

The panel agreed that encouraging consumers to learn more about coffee could result in behavioural change, as consumers begin to appreciate its role within a healthy diet.
Can coffee be enjoyed as part of a healthy diet?

Yes, moderate coffee consumption at 3-5 cups per day has been associated with a range of desirable physiological effects and fits within a healthy diet and active lifestyle. Pregnant and breastfeeding women are advised by EFSA to consume no more than 200mg of caffeine, per day, from all sources. This is equivalent to 2 cups of coffee per day.
Conclusion

ISIC’s research concluded that consumers may be confused by information on healthy lifestyles, with many not aware of the potential physiological benefits of coffee, or even believing inaccurate statements.

Most survey respondents confirmed that they would like more information on healthy lifestyles. It is key that the information available to them is accurate. Based on ISIC’s research findings, most consumers obtain information on coffee and health from the internet or media sources such as magazines, with health professionals being a less-utilised resource.

There was unanimous agreement amongst the expert panel that healthcare professionals, including dietitians, nutritionists and clinicians, are the best source of reliable, scientifically-grounded information on healthy lifestyles for consumers. They are also best placed to advise consumers on where to find reliable information on coffee and a healthy diet. Healthcare professionals could also encourage consumers to analyse the credibility and validity of health information they read or see in the media. It was agreed that this group of professionals should be supported with regularly-updated educational material to ensure that the advice they give is accurate at all times.

About ISIC

The Institute for Scientific Information on Coffee (ISIC) is a not-for-profit organization, established in 1990 and devoted to the study and disclosure of science related to “coffee and health.” Since 2003 ISIC has also supported a pan-European education programme, working in partnership with national coffee associations in nine countries to convey current scientific knowledge on “coffee and health” to health care professionals.

ISIC respects scientific research ethics in all its activities. ISIC’s communications are based on sound science and rely on evidence and scientific studies derived from peer-reviewed scientific journals and other publications.

ISIC members are six of the major European coffee companies: illycaffè, Jacobs Douwe Egberts, Lavazza, Nestlé, Paulig, and Tchibo.

www.coffeeandhealth.org
The good things in life: can coffee and caffeine enhance sports performance?

References

1. 4119 respondents across 10 European countries were surveyed by ISIC through an independent research company in November 2015.


4. NHS Choices, 'The eatwell plate'. Available at: http://www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx


7. EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA) (2011) Scientific Opinion on the substantiation of health claims related to water and maintenance of normal physical and cognitive functions (ID 1102, 1209, 1294, 1331), maintenance of normal thermoregulation (ID 1208) and "basic requirement of all living things" (ID 1207) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. European Food Safety Authority (EFSA), Parma, Italy.


17. A. Giboreau in contribution to ISIC’s Roundtable on Coffee and a Healthy Diet.