

## FROM GREECE TO NORWAY WITH USEFUL KNOWLEDGE

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**Abstract:** *There is a need for a more sustainable diet in many countries. Using Mediterranean principles could provide a possible answer. The principles of the Mediterranean diet and suitability to the Nordic diet have been discussed in courses mainly for Norwegian food and health teachers and students visiting Greece. What benefits do the participants experience after returning home and how do they apply their new knowledge in Norwegian conditions? We studied the themes from the exam papers to find out which knowledge the participants acquired from the course, and how they transferred their knowledge about the Mediterranean diet to Norwegian conditions. We also conducted a survey among the participants; they reported that they felt they benefited from the course. It seems the students are able to translate their knowledge about Mediterranean diet to Norwegian conditions, and the teachers who participated in the course used their knowledge in teaching. Most of the participants use this knowledge in their daily lives.*

**Key words:** Mediterranean diet, sustainable diet, course in specific location, useful experiences

### Background

The diets around the Mediterranean have one thing in common: they are largely based on plant food. Newer dietary recommendations, including the Norwegian Dietary Advice (NDA, 2011), advise us to eat a diet mainly based on plant foods. Although the NDA has not considered sustainability as a main factor, if we follow the recommendations, we are caring about our health and are at the same time more likely to eat a sustainable diet. According to the Food and Agricultural Organization (FAO) of the United Nations (Burlingame, 2010),

*Sustainable Diets are those diets with low environmental impacts, which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.* (p. 7, italics in original)

A diet based on the principles of the Mediterranean diet and using local produce in season could be considered to be both healthy and sustainable.

Every year since 2006 the University of Agder has offered a course in Mediterranean diet for students and teachers in Food and Health (Home Economics). Over the years, about 175 teachers, students, nurses, health workers, and other interested persons have taken part in these courses. The course called *The Mediterranean Diet* has its roots in Lesvos, Greece, where the University of Agder has a course and study center in a restored monastery. Because of the course contents, we believe that the best place to teach such a course is in a Mediterranean country, preferably somewhere where the traditional diet has not completely disappeared. Therefore the course has been taught mainly in Lesvos. The course can give 10 credits in the European Credit Transfer System (ECTS). The participants can choose to write an exam paper after the course and get 10 ECTS as further education for teachers, but it is also possible

to follow the course without writing the exam paper.

In the course the participants learn about the original Mediterranean diet and its health effects (University of Agder, 2006). They are encouraged to find out what foods are available in the local stores, what is produced locally, and whether people grow/produce any food themselves. Part of the course is to get practical experience in preparing food with local produce based on the principles of the original Mediterranean diet. If possible, the participants visit someone in the local community who has a kitchen garden. Here they can get a better understanding of how the diet varies with the season, depending on what can be produced. Some decades back Greek salad was not eaten in winter because tomatoes could not be grown in the winter season, it was a summer food. Fava, a kind of lentil or pea purée, was regarded as winter food and therefore not served during the summer. The use of olives, olive oil, herbs, spices, vegetables, fruits, bread, wine, and dairy products like cheese and yoghurt are discussed. All of this introduces the participants to Mediterranean food culture and meals as a social arena in the Mediterranean area and gives them the background to compare a Mediterranean meal with a Norwegian meal, both when it comes to the food and as a social arena.

The evaluation of these courses has been positive, but we would like to know what knowledge the students have acquired in the course and whether they apply this knowledge after they return home. Our questions are: Is it useful to teach students about the Mediterranean diet in a Mediterranean country? What useable knowledge do students get from a course in the Mediterranean diet? How do students translate their knowledge about Mediterranean diet to Norwegian conditions?

## Theory

After World War II the Greek government was concerned about the living conditions of the population and saw the need to improve these conditions. They invited the Rockefeller Foundation to carry out a major epidemiological survey on the island of Crete to find out how best to raise the standard of living for the population. The epidemiologist Allbaugh (1953) carried out an investigation into the life of the population in Crete. Included in this study was a survey of the dietary characteristics of the members of one out of every 150 households on the island. The survey of the dietary characteristics showed that the population had a mainly vegetarian diet, with a lot of cereals, vegetables, fruits, and nuts and only small amounts of milk, meat, and fish. Olive oil and bread were part of every meal, and wine was consumed in moderate amounts. Wild herbs were also gathered and used. Although Allbaugh and the Rockefeller Foundation were the first to record the diet in Crete, Keys (1995) was the person who first showed an interest in the diet in southern Italy and Crete and its possible health effects. He noticed the very low rates of heart disease in the region, and together with colleagues, he started a series of investigations in seven countries into diet and other factors that could cause coronary disease.

There is not one specific Mediterranean diet but rather a collection of traditional eating habits common in countries bordering the Mediterranean Sea (Sofi, 2009). The dietary patterns in these countries vary considerably, but they all have some features in common. Like the diet of Crete in the 1950s, which has become the standard for the Mediterranean diet, these diets are characterized by abundant plant foods (i.e. fruits, vegetables, breads, cereals, potatoes, beans, nuts, and seeds). Fresh fruit is the typical daily dessert, and olive oil is the principal source of fat. Dairy products (principally cheese and yogurt)

and fish and poultry are consumed in low to moderate amounts; zero to four eggs are consumed weekly; red meat is consumed in low amounts; and wine, if consumed, is consumed in low to moderate amounts normally with meals. This diet is low in saturated fat (< or = 7-8% of energy) with total fat ranging from < 25% to > 35% of energy throughout the region (Willett et al., 1995).

Since the Seven Countries Study (see <http://www.sevencountriesstudy.com>), a large number of research projects have been carried out to find out more about the effect of adherence to the Mediterranean diet. Sofi, Cesari, Abbate, Gesini, and Casini (2008) published a meta-analysis of 12 studies. In their conclusion they say

This meta-analysis shows that adherence to a Mediterranean diet can significantly decrease the risk of overall mortality, mortality from cardiovascular diseases, incidence of or mortality from cancer, and incidence of Parkinson's disease and Alzheimer's disease. (p. 6)

Bere and Brug (2010) discussed whether the term *Mediterranean diet* is a misnomer. They looked at the 12 studies in Sofi et al.'s (2008) meta-analysis and commented that only four of the 12 studies were carried out in Mediterranean countries. Of the rest, six were from the United States, one from Australia, and one from Sweden; therefore, the majority of participants in the studies included in the meta-analysis came from non-Mediterranean populations. Also, all the studies used a score for adherence to Mediterranean diet that was first presented by Trichopolou et al. (1995). Although the original Trichopolou et al. study took place in Greece, these subsequent studies did not; hence, in the subsequent studies, common foods were divided into different food groups, and the participants in the studies are given points according to what they eat. The food groups were general and were not for Mediterranean foods in particular.

When points were given for eating fruits or vegetables, the actual food eaten may be very different in Crete and Sweden. The diets used in the surveys were based on the traditional eating pattern in the Mediterranean area in the 1950s and 60s. Local foods with similar nutritional content to the foods eaten in the Mediterranean area were used in the studies. Bere and Brug (2010) pointed out that there were many reasons, both cultural and environmental, to promote regional diets with locally produced foods based on the principles of the Mediterranean diet, rather than a diet based on specific Mediterranean foods.

### Method and Analytical Strategy

Since 2006 the University of Agder has presented a total of nine courses in Mediterranean diet: eight on the island of Lesvos and one in Tuscany, Italy. After each course, the students have been asked to evaluate the course. Most of the evaluations have been very positive. However, more information was needed to answer our question: What useable knowledge do students get from a course in the Mediterranean diet in a Mediterranean country?

We have three sources of data. The first is the post-course evaluation forms from all participants. On the last day of the course the students were asked to anonymously answer in writing four open-ended questions:

1. How did you get information of the course?
2. What did you especially like about the course?
3. What can be done to improve the course?
4. Other comments?

Asking the student to evaluate the course on the last day, we ensured 100% response rate. The students were not given the possibility to discuss their answers. We summarized the answers from all

evaluations to get the main opinion of the students.

Secondly, we studied the topics that the students chose for their exam paper. The exam paper can be written individually or by 2-3 people together. So far 72 people have written 54 exam papers. They have all been included in the results. The students were free to choose their own topic for the exam paper, as long as it had some connection to the course content (University of Agder, 2006). In the evaluation of the course, they remarked that it was inspiring to be allowed to write about a theme of one's own choice. The themes have been grouped into six categories. The themes were quite varied:

1. Comparative studies
2. Commodities used in Mediterranean cooking
3. Lifestyle diseases
4. Teaching
5. Changing attitudes
6. Other

Because the authors have been responsible for all nine courses, we were able to include all topics for the exam papers.

The third source of data is a questionnaire with questions relevant to our research sent by email to all 175 participants from 2006-2014. The questionnaire had 10 questions: eight structured and two open-ended. The first four questions were about the background of the participants and why they chose to do the course. The next four were about the contents of the course and what use it is for them today. The last two questions were open-ended, and the participants were asked to express what they liked about the course and what could be done to improve it. These two questions coincide with two questions in the course evaluation. These questions were asked to see if they still felt the same about the course after one or more years. Unfortunately the response rate for the survey was very low (22 %). The reason for the low response may be that for some it

was several years since they did the course. Due to the limited response, we have only quoted the most common answers.

## Results and Discussion

The evaluations told us that the courses were interesting and varied and different from other courses in the university. Cooking with a local cook and learning how the same ingredients were used for many different dishes are mentioned as positive experiences. The participants also commented that it was inspiring to experience the food and culture of a different country. The course renewed the inspiration for teaching food and health and working with health promotion. The evaluations show that we have reached the aim of the course (University of Agder, 2006).

Most of the participants who answered the questionnaire were teachers (60%). The rest were students (20%) and people from other walks of life (20%) who were interested in doing the course. The teachers answered that they use their knowledge in their teaching, their daily life, and in social connections. The rest of participants who answered said that they use it in their daily lives. Teacher training students say that they want to use their knowledge when they start teaching. The participants found the course useful and feel that they have benefitted from the course both professionally and personally. In connection with answering the questionnaire, they commented that they have become more aware of their own diet: both when it comes to sustainability and their own health. They have changed their diet to include more locally produced foods, more vegetables and fruit, and they use oil when cooking instead of the traditional Norwegian margarine and butter. This response is in line with the Mediterranean diet and also the Norwegian Dietary Advice (Bere & Brug, 2010). Many of the participants are in charge of the food

for their families. This means that when they want to change their own diet, the diet for the family changes, too. When entertaining, they serve healthier food to their friends.

As stated above, the themes for the exam were grouped into six categories. The 54 papers were categorized as follows:

1. Comparative studies: 18 papers (e.g. *The Diet in Greece and Norway* and *Meals in Greece and Norway*).
2. Commodities used in Mediterranean cooking: 7 papers (e.g. olive oil, tomatoes, beans and lentils).
3. Lifestyle diseases: 10 papers (e.g. overweight and diabetes 2).
4. Learning Resources: 8 papers (e.g. theoretical and practical lectures about the Mediterranean diet for use in Norwegian schools).
5. Changing attitudes: 5 papers (e.g. more fruit and vegetables in the Norwegian diet).
6. Other: 6 papers (e.g. *The Attitude to Time in Greece and Norway*).

From the exam papers we see that some of the participants have been their own guinea pig— experimenting on him- or herself. Of course, these experiments were not scientific, but they systematically collected data and found answers to something they wondered about. One person cooperated with her doctor to see if it was possible to lose weight on a diet inspired by the Mediterranean diet. She was successful, but she might just as well have lost weight on a different diet. Another participant who never ate fish realized that it is important to eat fish, so she wanted to find out whether she was able to make herself like fish by preparing it in new and different ways. She reported that she had overcome her strong dislike for fish and had started to eat it.

Students showed that they were able to translate their knowledge about the benefits of a Mediterranean diet to Norwegian conditions and to integrate their new

knowledge in their work. The teachers and teacher-students were reminded about other ways of teaching. During the practical cooking lessons in Greece, the teacher sat at the table with the participants, and everybody did the same thing together at the same time, a kind of apprenticeship learning. In this situation, it was easy for the teacher to see if anybody was experiencing problems, and everybody felt included. Many of the teachers commented that they would use this way of teaching more in their practical lessons.

In her exam paper, one participant wrote about an experiment that she conducted with male inmates in the prison where she works. A group of inmates was allowed to take part in preparing their lunch based on the principles of the Mediterranean diet. After a few small initial problems, the inmates enjoyed preparing their own lunch: they ate more fruit and vegetables and foods that were unknown to them that they probably would never choose to eat otherwise. The prison guards reported fewer squabbles between the inmates during the experiment. After the experiment was over, the inmates asked for it to be continued.

Nurses and health workers who participated in the course reported that they spend more time talking to mothers about the importance of giving their children more fruits and vegetables and using the local produce in season like they do in the Mediterranean countries. According to Sofi et al. (2008), the adherence to a Mediterranean diet can significantly decrease the risk of certain diseases.

A visit to a women's cooperative during the course, where they made jams and other products from local produce, inspired some of the participants to do something similar at home. Some participants produced rosehip purée from wild roses, green tomato jam and chutney from tomatoes that would have been thrown away at the end of

the season. They also designed the labels for the products and pamphlets to promote them. In this way they showed that they were able to use local products in a sustainable way (FAO, 2010).

Having been exposed to a new and somewhat different culture, one participant reflected on how it must feel like to come as a refugee to a new country and new culture. She contacted the local refugee center and invited a group of refugee women from different countries to come to her home and cook food and eat together. It was a great experience both for the women and for our participant. The women did not know one another or have a common language, but gradually they opened up, managed to tell their stories to one another, and did not want to leave. In the Mediterranean area meals are important meeting places for families and friends. Eating together is a social occasion. The course participants observed and experienced this during the course (University of Agder, 2006).

It seems that the course participants have come home with new knowledge and inspiration, and they have used it in many different ways.

### Conclusion

The Mediterranean countries have one thing in common: they border the Mediterranean Sea. Apart from that, they vary in religion, culture, ethnicity, economy, political status, and food supply. Consequently, the diet varies from place to

place and country to country (Kiple & Ornelas, 2000). It has been difficult to find a common denominator for all the countries, but several of them seem to have in common the use of locally produced foodstuffs, like vegetables and olive oil. Our research shows that participating in a course on Mediterranean food in a Mediterranean country has given the participants a better understanding of the food and culture of the part of the region where the course was held, an understanding of the variations in the diets in different Mediterranean countries, and that the diet in Crete in the 1950-60s has been defined as *The Mediterranean Diet*. They have gained an understanding of the health benefits of this diet. In the evaluations the participants commented that they got renewed inspiration for teaching food and health.

From the survey we see that the teachers used their knowledge in teaching food and health. Most of the participants also used their knowledge in their daily life and in social occasions.

For the written exam, the students were allowed to choose their own theme. The themes varied from the benefit of the Mediterranean diet in lifestyle diseases to commodities used in Mediterranean cooking, comparison of the diet in Greece and Norway, and preparing (and trying out) lectures in food and health for use in Norwegian schools. In the papers, the students showed that they are able to translate their knowledge about the benefits of a Mediterranean diet to Norwegian conditions.

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