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INTEGRATING SUSTAINABILITY IN  
ATHLETES' DIETARY CHOICES

# SUSTDIET NATIONAL REPORT





# SUMMARY

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# 1. SUMMARY

This National Report is 1 out of 6 reports created under the EU-funded project “Integrating Sustainability in Athletes Dietary Choices”, which is a KA2 ERASMUS+ Sport project, that aims to promote sustainable food consumption and to facilitate the shift to healthy, sustainable diets, by supporting the integration of sustainability in sport nutrition in Germany, Greece, Malta, Portugal, Spain, and Turkey.

The National Reports aim to present the results of several interviews taken to elucidate the situation surrounding athletes’ dietary choices in each national context, as a step towards achieving the objectives presented above. The interviews involved several different target groups, namely athletes, coaches, and sport nutritionists/dietitians, who were inquired on eating habits, knowledge on healthy and sustainable diets, as well as on their willingness to change towards more sustainable options, and perceived barriers. All results are presented disaggregated by country, and by professional status (athletes, coaches, sport nutritionists/dietitians).

This report refers to Spain and is structured as follows: first, the report shows an introduction about the current dietary habits in Spain to understand the general situation of the country. Secondly, it demonstrates the current dietary intake of the Spanish athletes that have been interviewed. It also presents their real and perceived knowledge about sustainability and illustrates their willingness to change nutritional habits in favor of more sustainable ones. Moving on, it exhibits how sport nutritionists/dietitians and coaches perceive their own role in implementing changes in their athletes’ diets, including the main barriers athletes face regarding diet sustainability.

It is important to note that, interviews were taken using a 5-point Likert Scale, ranging from “strongly agree” to “strongly disagree” options. Detailed percentages for most answers are given in parenthesis, where SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree.



## 2. INTRODUCTION

The European project “Integrating sustainability in athletes’ dietary choices” aims to reduce the impact of the food industry on climate change. Indeed, by a healthier and more sustainable EU food system it is possible to achieve a complete overhaul of the EU's food system towards climate neutrality by 2050 and the new milestone target of 55% reduction by 2030. This a national report for Spain, which aims to review the results for the interviews that have been conducted to athletes, coaches, and dietitians to see what the current tendencies on dietary preferences are and what is the willingness to change their dietary habits into more sustainable ones.

Spain is a typical Mediterranean country which follows mainly a Mediterranean diet. This type of diet consists of olive oil as the main source of fat, abundant consumption of vegetable products, bread and cereals are part of the daily diet, little consumption of processed products and moderate amount of meat, and abundant consumption of fish and fruit (Fundación Dieta Mediterránea, 2022). According to Aranceta (2001), the Spanish food patterns underwent dramatic changes between the 1960s and the 1980s, when the country experienced an enormous rural-urban migration. This has affected the dietary patterns, by including an important increase in fat intake, up to 44% energy intake from fat in the 1980s. However, the trend changed in the 1990s, and current fat supply provides an average of 37% of energy intake, and, as a result, the protein intake is 200% of the recommended level (Aranceta, 2001).

The typical Spanish diet is divided into 4/5 meals during the day: breakfast, small meals (also known as Tapas), lunch, a snack (also known as Merienda), and dinner. According to Sierra (2020), breakfast is the smallest meal of the day, and it is typically a light and continental meal. Tapas are usually eaten well after breakfast but before the big mid-afternoon lunch. These smaller meals consist of small plates like canapés or finger food and may be either warm or cold dishes. Tapas vary greatly from region to region and season to season. The midday meal is the largest meal of the day. It is a big meal and typically includes multiple courses and wine. At lunch, Spaniards usually eat (Sierra, 2020):



- Vegetable, bean, or seafood soup (often rice, potato, or pasta-based)
- Fresh fish or seafood, roast chicken or lamb, fried potatoes, or rabbit stew
- Green salad or vegetables
- Flan, a light pastry, fresh fruit, or ice cream
- Coffee and liqueur or brandy

It is also important to underline that bread is always found on the Spanish table: it is plentiful and fresh, and it is used to mop up sauces (Sierra, 2020). After the midday meal, Spaniards usually have a snack in the late afternoon, which is particularly important for children, who always seem to have lots of energy to play soccer in the streets and other fun activities (Sierra, 2020). This meal can consist of a piece of French-style bread with a piece of chocolate on top to a piece of bread with chorizo sausage, ham, or salami (Sierra, 2020). The last meal of the day is dinner. Dinner is a significantly lighter meal than lunch and the portions served at dinner are usually smaller, and plates are much simpler. For example, dinner might include fresh fish or seafood or a portion of roast chicken or lamb with fried potatoes or rice. An omelet and fish with a green salad on the side are also quite common (Sierra, 2020).

However, it is essential to highlight that there have been many alterations to the diets of the Spaniards especially during the COVID-19 pandemic. Indeed, as Del Pozo et al. (2021) report, in March/April 2020, just when the lockdown had been implemented, there has been an average increase in food consumption, compared with 2019, of more than 40% for all food groups, with significant peaks in: alcoholic beverages (75%), appetizers (60%), eggs (59%), sugar and sweets (52%), and vegetables (50%). With no doubts, the COVID-19 pandemic and the restrictions implemented by most countries to control it have been associated with dietary changes in the population, and, therefore, a significant proportion of the population increased food purchases or overall intake (Del Pozo et al., 2021).

Although the alterations of food consumption and intake in Spain, the country still scores an acceptable overall score for food sustainability in the food sustainability index of the Barilla Centre for Food and Nutrition (2022) of 70.90 points. However, many things can still be improved, and this is the aim of this project. This is the reason we have interviewed athletes, coaches and nutritionists, as they are potentially viewed as role models by an extensive range of society and, therefore, can become powerful voices to reduce the impact of the food industry on climate change (Meyer, 2020). Thus, in the following chapters we will analyse our results in order to understand the current dietary patterns, so to later develop useful guidelines to improve the food sustainability of their diets.





# 3. ATHLETES' DIETARY INTAKE

## 3.1. Dietary Intake

As expected, Spanish athletes reported a high meat consumption rate overall. Chicken and pork were consumed most frequently, for which 60% reported a consumption rate of at least 2-4 times per week for both types of meat. Red meat is also very common in the athletes' diet, as about 40% of the responders eats beef 2-4 times a week and hamburgers/meatballs at least once a week. About 10% of the respondents eat at least daily all kind of meats except beef.

On the other hand, a very low consumption of fish was found. Indeed, most of the respondents do not eat or eat at least once a month any kind of fish. The most consumed fish is white or frozen fish, where about more than 40% of the responders eat at least once a week. Following this, oily, fresh, or canned fish is eaten the most by 30% of the athletes at least once a week. The least consumed fish is shellfish (such as crabs, prawns, and mussels) where about 80% of the responders never eat it or eat it at least once a month.

Dairy product consumption was relatively high among Spanish athletes, with eggs being consumed the most often. Indeed, eggs were eaten even more frequently, with 30% of respondents consuming them daily, and 50% eating them 2-4 times per week. Cheese consumption is moderate, as about 40% of the athletes either never eat it or eat it once a month. It no surprise that olive oil has a very high consumption rate: 10% eat between 4 and 5 times a day, 40% eat it between 2-3 times a day, while the rest of the responders eat at least 2-4 times per week.

It is also important to mention that we have noticed a high intake of potatoes, rice, and pasta, as 40% of the responders result eating them between 2-4 times a week, and 10% of them eat them 5-6 times a week. Fruit and vegetables' intake were below the recommendations, were the mean intake were 2 portions/day. Bananas seem to be the most popular fruit, as 20% of the respondents eats them about 5-6 times per week. On the other hand, the most popular vegetables are sweet peppers, about 30% eat them 2-4 times a week, while the 10% eat them 5-6 times a week, and lettuce, where 50% of the athletes eat it about 2-4 times a week and 10% 5-6 times a week. Sweets and snacks are very uncommon amongst the interviewed athletes, as the great majority has answered that they either never eat them or at least once a month.



## 3.2. Awareness on Sustainable Diets

All interviewed athletes stated that they understand what a healthy diet consists of (60% A, 40% N), and everyone claimed they knew the impact their own diet exerts on their health (80% SA, 20% A).

On the other hand, only 40% (A) were certain about the constitution of a sustainable diet, while the rest of them had a neutral position (40%). However, it follows that 20% of responders disagreed on what a sustainable diet consists of. Importantly, the majority of the interviewees were certain about the impact his or her diet has on the environment, and only 20% perceived themselves as having no knowledge on the subject.

The above is in line with answers provided on the statement that “diet sustainability is a global issue”, where 80% answered positively and only 20% (10% D, 10% SD) of the responders did not understand the topic of diet sustainability altogether. However, most of the responders reported being neutral (50% N) about the pollution that the food they consume generates and only 30% of them seem to fully understand the impact of the food industry on the environment (10% SA, 20% A).

Moving on to the perceived importance of various aspects of food sustainability, respecting labour rights during production had the highest score. Indeed, all participants responded that they find very important their food is produced without child labour (90% SA, 10% A) and without labour exploitation (70% SA, 30% A). Also, 90% of the respondents strongly agreed that the production/manufacturing company respects the labour rights and wages of their employees. Other important factors were local production of the food (10% SA, 60% A) and if food is produced organically (10% SA, 60% A).

The topic of respecting the environment is also popular amongst the interviewed athletes: 60% of them answered that it is important that their food is produced in an environmentally friendly way, as well as it is produced with minimal CO<sub>2</sub> emissions and without disturbing the balance of nature. The only disagreements that we have found are the packaging of the products and if the food has the fair trade/logo certification, as about 10% disagree on its importance.



### 3.3. Barriers to Access

All athletes demonstrated willingness to change to a more sustainable diet, although many argue that exist many barriers restricting them from doing so. Indeed, 70% of all athletes agreed that there is a general lack of knowledge regarding the impact that food has on the environment. This can be seen when athletes have been asked if they are sustainable-conscious about their eating habits, where 30% of the responders strongly disagree on this and 20% of them has a neutral position. It also important to tackle intrinsic barriers that limit diets to be more sustainable, such as habits, time, inadequate self-efficacy etc., as 40% agree and 20% strongly agree that these factors prevent them from switching to a more sustainable diet.

Most of athletes disagree (50% D, 30% N) that there is a lack of all the energy components necessary for a sustainable diet and 70% disagree with the fact that there is a lack of product quality in sustainable food. Most of them answered positively on the fact that sustainable food is easily accessible in their community (50% A, 20% SA). Therefore, as a result, this demonstrates that this project is relevant and guidelines must be developed, especially as many athletes confirm that there is a general lack of knowledge on the impact that their diets produce and how they could help reduce their impact on the environment.





## 3.4. Willingness to Change

As mentioned before, the majority of athletes are willing to change their diet to a more sustainable one. Indeed, all athletes either agree or strongly agree that they should take action towards sustainability and that they are aware on the fact that the environment has changed negatively compared to when they were younger. Also, the great majority agree that policymakers should take action towards sustainability (70% SA, 10% A, 20% SD). This data clearly shows that most of the athletes are concerned about climate change and that they are aware that we must act not only as a community but also as individual in order to reduce our impact on the environment.

This is also demonstrated by the fact that athletes are willing to sacrifice for food consumption to contribute to sustainability and safeguard the environment. Indeed, 60% of the responders would be willing to pay more, spend more time, travel, and prepare for a more sustainable diet. It is also surprising, in a country like Spain where there is a high intake of meat, that 60% of the athletes agree that they would like to limit their meat consumption and switch to plant-based food (40% A, 10% SA). Athletes would also like to limit the amount of food they waste, as 90% of them responded positively on this (70% A, 20% SA).



## 4. THE ROLE OF COACHES AND SPORT NUTRITIONISTS/ DIETICIANS

### 4.1 Coaches

All coaches reported knowing what a healthy diet consists of (50% SA, 50% A), and all the interviewed coaches stated that they fully understand the impact diets exert on health (100% SA). On the other hand, when asked what a sustainable diet consists of, although more than half answered positively (66%), the others adopted a neutral position, therefore demonstrating some confusion about the topic. Despite this, the majority of the coaches understand the impact that the diet can have on the environment (50% SA, 34% A, 16% N), but not everyone considered this as a global issue, as 50% of them stayed neutral about this statement.

When it comes to buying food, most of them consider the impact the acquired product has on the environment (34% SA, 34% A), although the rest of the responders stayed neutral or disagreed. Surprisingly, most of the coaches are aware to pollution that is produced during in food production system (16% SA, 50% A), but when asked if coaches should play an important role in the climate change mitigation strategies, some disagreement was found. Indeed, 16% of them strongly disagree/disagree, while 34% stayed neutral. This shows that coaches, although being aware of the impact that food has on the environment are not yet ready to play a major role in this, as they probably do not have the right knowledge and resources to contribute to this situation.

Coaches have also answered some questions about their perception about the level of alignment of their own views with sport nutritionists/dietitians, as well as with athletes. In specific, most coaches believed that their professional expectations and views align with sport nutritionists, both in terms of what constitutes a healthy diet (84% SA, 16% A), as well as in terms of diet sustainability (50% A, 50%N).

Coaches have also been asked what is important for their food. Regarding animal sustainability, all of them either strongly agrees or agrees that animals should be treated in a friendly way during the food production process (50% SA, 50% A). Also, all coaches agreed that their food should be produced without exploitation nor child labour, as well as that the manufacturing company respects labour rights and wages of their employees (84% SA, 16% A). When it comes to the environment, coaches had always answered positively in relation to the preparation, production, and packaging of the food in an environmentally friendly way, as well as that the food to be produced without disturbing the balance of nature.



Finally, coaches were asked about the barriers athletes face to sustainable food and their willingness to drive their athletes to change their dietary habits. Some mixed opinions about the accessibility of sustainable food in their respective communities were found, as 50% strongly agreed and the 16% agreed, but 34% still thinks that this is not true. All coaches answered positively when asked if they would like to drive their athletes to a more sustainable diet (50% SA, 34% A, 16% N), although not everyone would be ready to make some sacrifices as paying more, spending more time and preparing for it, as 34% disagreed and 16% stayed neutral.

## 4.2 Sport Nutritionists/ Dietitians

As expected, the great majority of nutritionists/dietitians reported to understand what a healthy diet is (80% SA, 20% N) and the impact that it can have on health (100% SA). They also seem to know what a sustainable diet consists of (40% SA, 40% A, 20% N) and they have the same understanding of the impact that a diet can have on the environment. Forty percent agreed and 20% strongly agreed that sustainable diets are a global issue, while 40% adopted a neutral position. Only 40% take into consideration the impact of food on the environment when buying it, while 40% stayed neutral and 20% disagreed. Also, a lack of knowledge regarding the awareness about the pollution that food produces was noticed, as 60% of the responders stayed neutral, but 40% agreed. Also, different reactions regarding the role that nutritionists and dietitians should play in the mitigating strategies to help reducing climate change were found. Indeed, 40% of the respondents disagree with the statement "dietitians and nutritionists should play an important role", while 40% stayed neutral and only 20% agreed.

All nutritionists and dietitians either agreed (60%) or strongly agreed (40%) that food should be produced in an animal friendly way. Also, all of them agreed that food should be produced without exploitation, child labour and that production companies have to respect their workers' rights and their wages. There has been also a general agreement on the fact that food should be seasonal (60% A, 40% SA), local or regional (40% SA, 40% A, 20% N) so to minimize CO2 emissions during the whole food production/management process (60% SA, 20% A, 20% N).



Regarding the accessibility of sustainable food, 60% of the responders agreed that it is easily accessible in their community, although 20% of them stayed neutral and 20% disagreed with this statement. There have been also some mixed reactions to the quality access when buying sustainable food for athletes, as only the 20% of the responders agreed, while the rest either stayed neutral (20%), disagreed (40%) or strongly disagreed (20%). Regarding willingness to change, the majority of nutritionists and dietitians either agreed or strongly agreed that they would like to drive their athletes towards a more sustainable diet (20% SA, 60% A, 20% D). They all agreed that it is very important to reduce the amount of food waste (60% SA, 40% A), although the majority of them are not ready to make sacrifices (20% SA, 40% N, 40% SD), which reflects the respondents' opinions on their conviction to change to a more sustainable diet (20% SA, 20% A, 20% N, 40% D).

## 5. CONCLUSION

In conclusion, the majority of responders (athletes, coaches, and nutritionists/dietitians) are well aware about the impacts that diet has on health. On the other hand, many of the responders still showed to be unsure about the impacts that diet has on the environment due to a lack of knowledge and barriers that prevent them to know more about the topic. Many responders, except for dietitians/nutritionists, are also less aware of what a sustainable diet consist of because of a general lack of knowledge.

Despite this, the great majority of the responders showed interest about moving towards a more sustainable diet, although many barriers (such as, money, time, and preparation) limit their willingness to change. All respondents find very important that the food production process should not be characterised by labour and child exploitation, as well as that animals should be treated in a friendly way. The majority of the responders also agreed that food production should take into consideration the environment so to limit the CO<sub>2</sub> emissions and the negative impacts on nature.

However, although the interest that the responders have shown towards moving to a sustainable diet, many are still not convinced or ready to make the sacrifices that this type of diet implies. This is why it is important to make useful guidelines for these professionals in order to make it easier for them to switch to a sustainable diet and to give them the right resources to do so.



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