



## Perceptions of division 1 and 2 footballers on diet sportsman

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### Abstract

Football remains one of the most popular sports in the world. Therefore, whatever their cultures, players, depending on the nature of training and matches, will have energy and nutritional needs necessary to meet the demands of a sport in perpetual evolution. This study was to assess the perceptions of footballers in divisions 1 and 2 on the athlete's diet. A group of 502 footballers from division 1 and 2 of Benin, selected according to the exhaustive method, participated in the interview on their perceptions of the athlete's diet. The respondents declared that the food consumption conditions are not the same in the regrouping and outside the regrouping. The players surveyed find that outside the group, it is often difficult to stay hydrated, to eat well while having good hand hygiene at the table and to organize the taking of meals. As far as grouping is concerned, the meals are not always varied and their constitutions do not favor good performance. However, visible efforts are made by the team management staff on the point of the organization of meals, hydration and hygiene of the hands of the players.

**Keywords:** food perceptions, sports performance, football, food consumption

### Introduction

Football is an intermittent and physically demanding team sport (Książek, 2020) [12]. It is characterized by repeated high-intensity exercises, such as running with the ball, sprinting and jumping, which deplete energy reserves, cause fatigue and reduce performance (Bangsbo, 2014). These physiological demands place a heavy strain on the body's energy reserves. The state of the body is then correlated with sports performance.

A balanced diet is one of the factors that positively influence sports performance. A nutritional excess or deficiency can negatively affect sports results. But when adjusted for purpose, food rations can be effective during training and competition. A well-balanced nutritional strategy has been proven to support performance and recovery in athletes (scribano-Ott, 2021) [4]. Hence the importance of specifying nutritional recommendations according to the periods of the sports season in order to optimize performance (Dobrowolski, 2020) [11]. The diet of a footballer can be conditioned by several determinants.

Indeed, in Benin, two contexts characterize the diet of a footballer. The first is the family and/or the business where he feeds when he trains with his club. The second context is that of the groups organized by the federation to prepare for major competitions. In this case, the footballer consumes exclusively the meals offered by the restaurateur or constitutes his own menu from the buffet available to him. In any case, it is essential that the athlete be well informed about food issues in order to put them into practice by opting for good food choices.

Beninese footballers through the Beninese Football Federation (FBF) regularly participate in various national and international competitions, but without being able to win significant victories. The food aspect, essential to good performance and the maintenance of good health, is totally

neglected by federal leaders and club leaders. Whether in regrouping or outside regroupings, Beninese footballers do not benefit from any nutritional monitoring from a specialist. It is therefore important to collect the perceptions of Beninese footballers on the athlete's diet. The objective of this study is to assess the perceptions of footballers in divisions 1 and 2 on the athlete's diet during regroupings and outside regroupings.

### Material and Methods

#### 1. Topics

In an exhaustive way, 502 footballers from divisions 1 and 2 of Benin who met the inclusion criteria were interviewed. The inclusion criteria were : having a sports license for the 2020 sports season and playing in a first or second division club ; have participated at least once in a pre-competition group; be willing and available to participate in the survey despite the barrier gestures relating to Covid-19; give informed and written consent. The participants had been informed of the conditions for carrying out the collection of information and had been reassured of the anonymity and confidentiality of the data collected.

#### 2. Study protocol

This was a cross-sectional study carried out from June to August 2020 in the form of a survey with the individual interview technique. The questions used during the interview were translated into the following languages : Goun, Fon, Yoruba, Bariba, Dendi, Mina. In order to limit bias, the double translation technique made it possible to carry out the interview in languages other than French. The reliability of the interview guide was assessed by a pre-test with ten footballers not included in the study sample in order to correct questions that posed comprehension

problems. During the interview, follow-up questions helped to reframe the discussion.

At the beginning, the participants were reassured that the recordings would be destroyed after their exploitation. Each participant was interviewed only once. A recorder was used for this operation. A staff of eleven investigators trained by a technical team from the Sport, Health and Evaluation Research Unit (URSSE) of the National Institute for Youth, Physical Education and Sport (INJEPS) had facilitated the collection of data.

### 3. Data collection tool

This interview guide consisted of 18 questions, including 13 main questions and 5 follow-up questions. It was divided into four parts, namely : importance of the footballer's diet ; organization of meals ; hydration ; hand hygiene at the table.

### 4. Variables

The variables concerning the perceptions of the footballers on the diet outside the regroupings and during the regroupings were related to : importance of the footballer's diet; organization of meals; hydration and hand hygiene at the table. The interview data was processed by content analysis using Sphinx software. The transcription of the interviews was carried out by retaining from the intervention of the interviewees, the answers to the questions and the essential opinions according to the different axes retained for the study. The answers provided by the respondents were coded according to the themes addressed in order to develop a summary of each part. After the analysis and interpretation, we proceeded to link the information within the same axis.

## Results

### 1. Anthropometric characteristics of footballers in divisions 1 and 2

The division 1 and 2 players surveyed were on average  $24 \pm 3$  years old and weighed on average  $67.5 \text{ kg} \pm 7 \text{ kg}$ ; they were  $172\text{cm} \pm 6\text{cm}$  tall. The average BMI of all footballers in the study was normal with a value of  $22.4 \pm 2 \text{ kg/m}^2$ .

The survey took into account two contexts: during the regrouping and outside the regrouping. Each context is composed of four sub-parts, namely: importance of food for footballers, organization of meals, importance of water for footballers and hand hygiene at the table.

### 2. Outside of groups

#### 2.1 Importance of the footballer's diet outside of groupings

In the process of a person's development, the consumption of food plays a key role, since it provides the body with the nutrients needed on a daily basis to promote its good health. Indeed, in athletes, this diet deserves rigorous monitoring. It occupies a large place in the achievement of performance, because the way of eating determines the fact of winning or losing a competition (Arcusa, 2019).

For the players of divisions 1 and 2 surveyed, the footballer's diet during competition must be balanced including, among other things, elements such as eggs, fruits and vegetables. The footballer must have a healthy diet with a low amount of oil, salt and sugar. It is in this sense that the respondent E26 declared that: "A player who does not eat, physically he cannot respond on the field. So food plays a big role in the life of a footballer if he wants to have a

performance. The good performance of the footballer is only possible thanks to a controlled diet favoring the compensation of the energy expended during the effort. It is in this context that the respondent E5 therefore affirmed that "the role of food is to allow one to have the strength to exercise well, to have good health in all it is the body therefore he has to be in good shape to respond at the right time".

The majority of respondents perceived food outside groupings as necessary with monitoring taking into account the quality and quantity of meals consumed to maintain good health and to optimize performance. But this is not always the case in practice. On this point, all the footballers surveyed said they did not practice good eating habits. Respondent E10 therefore confided, "Without lying to you, the food we eat at home does not give us the strength necessary to perform well in the field. We must have follow-up to guide us in our diets at home as a player so we manage like that. "

In addition, all respondents highlighted the absence of a dietician within the clubs to benefit from nutritional monitoring in order to guarantee performance during competitions. They also said that the lack of nutritional monitoring in football in the Republic of Benin leads them to adopt bad eating habits on a daily basis.

#### 2.2 Organization of meals

All the respondents were unanimous on the fact that an athlete and moreover a footballer must necessarily respect the intake of three meals a day, that is to say, respect the intake of breakfast, lunch and dinner. It is important that he eats at fixed times, especially taking the time necessary to properly ingest each food. Similarly, the consumption of meals must be organized on training days and match days. It is in this sense that respondent E8 declared that "The meal of a footballer must be organized, that is the very central point; I can't eat 30 minutes from a game or training. In everything you need organization, you have to eat 3 hours before playing a match or before going to training. You have to eat quickly to digest well.

#### 2.3 Importance of water for footballers

Hydration plays a crucial role for a footballer during training and matches. According to the respondents, water is essential for any footballer, because during exercise a footballer expends energy and therefore loses water through sweat. Thus, permanent rehydration, even without being thirsty, is necessary. Respondent E9 therefore affirmed that "Everyone knows that water is life, it is very important for an athlete and he must take a lot of it". Some respondents said that during exercise, the footballer sweats a lot and must therefore take a lot of water, because water gives them energy. In addition, the respondents affirmed that "water is the source of life and allows the player to delay the onset of fatigue and therefore should be included in his diet". On average, respondents claimed to drink at least two to three liters of water a day. Also, during exercise, some players said they took advantage of every opportunity to stay hydrated in order to have more energy to continue the activity.

According to some respondents, a footballer should always drink water even without being thirsty, as respondent E16 said "Yes, I manage to drink 1 to 2 liters of water a day; even when I am not thirsty, I take water".

Regular hydration is part of the habits of the footballers surveyed and during training the requirement often comes from their coaches who, after each series of exercises, take a break to allow the players to rehydrate. However, some players reduce their water consumption during exercise by saying: "In one day I take 4 liters of water, it eliminates a lot of things from my body. But in matches, I don't take water like that, I only take a little. »

#### 2.4 Hand hygiene at the table

The vast majority of respondents found it necessary to respect the rules of hand hygiene before and after meals. This hand washing gesture has been reinforced by the coronavirus situation (Güner, 2020). Thus, all respondents claimed to wash their hands regularly with soap and water even if they have to use cutlery to eat meals. However, some respondents say that they do not always respect these hygiene rules when they are outside the group, as the respondent E8 pointed out "Naturally I am clean so I wash my hands with soap and water even if I miss sometimes, I try to do it most of the time"

### 3. To groups

#### 3.1 Importance of the footballer's diet

According to the respondents, the regroupings take place in a particular way and according to the time of the match. Indeed, the players are summoned a few hours before the match, as stated by the E21 respondent "Our camp is very simple, the day before you are summoned and you know that your name is on the list and you are told that the group is at 8 a.m. or 9 a.m. and the match at 4 p.m.

The food in the camp is not the same as that outside the regroupings, they affirmed that the meals were less heavy and were served with more care. The organization is made so that the footballers eat hours before the start of the match so that the body has time to digest.

Some respondents are not against the fact that in the regrouping the meals to which they are already accustomed are served to them. Still others said that it was the club doctor who was responsible for giving instructions to the restaurateur so that the meal suited them. The meals at the camps do not take into account the preference of each footballer, but rather it is the same meal for everyone. In yet other clubs, it is up to the club's physiotherapist to suggest the footballers' menu, as the respondent E14 stated "We serve the same meal to everyone at the camp, we have a physiotherapist who is there and who in charge of that and he is in perfect collaboration with the leaders of the club. The choice of our meal is the responsibility of the managers and they know what is good for us as a footballer so no worries about that. Sometimes, the opinion of the footballers is taken in the choice of the meal and the physiotherapist is responsible for monitoring the preparation by the caterers. The food within the camps varies from one club to another. Some respondents claimed to eat well outside the group and believe that the meals at the groups should be better. The words of respondent E10 reinforce this observation "*Normally there must be a difference between the way of eating at home and at the camp, but I eat better at home than at the camp. At the camp with us you are entitled to only one meal before the match so before I come I eat outside*". Regarding the groups that are organized for the players of the national team, the treatments are different according to the comments of the respondents. The financial

resources allow managers to improve their services. For some respondents who participated in these groupings, the meals served there contribute to the achievement of performance, because they affirmed that the meals served allow them to last for the 90 minutes of play. Similarly, these meals are less heavy and facilitate sprints during the match.

Whatever the conditions of the reunion, the players think that it is not normal that they are served the meals they are used to at home. Because in their opinion, leaders are knowledgeable people who know what a footballer needs to perform well.

The observation made within certain clubs is that the menus are often not varied from one group to another, as stated respectively by respondents E8 and E13 "*I'm not sure if what I take at the camp contributes to the performance otherwise it's the rice we eat at the camp just that. I know we have to eat before we play. Well I don't know if it contributes to my performance, since it's the same thing we eat all the time at the camp, but we try to do with it*".

The organization within the clubs in Benin being particular, the food aspect in the preparation does not respect international standards. Under these conditions, the meals served weigh down the players and poor performances are recorded at the end of the matches. These respondents claimed to have very often blamed the meals eaten before the match. These words from the E15 respondent reinforce this state of affairs "*when you eat something too heavy before playing and you don't give a good result at the end of the match, ah, it's going to murmur in the locker room. Players will openly say that's what we ate.*"

#### 4. Organization of meals

According to the footballers surveyed, the organization of meals at the camps must be done so that the footballers eat at least three times a day. This is not the case during the regroupings organized by the clubs in Benin.

The footballers surveyed said that during the regroupings, the organization is made so that they are entitled to only one meal on the day of the match. However, this single meal is served to them at least 3 to 4 hours before the matches in disposable dishes and everyone takes the time necessary to eat.

#### 5. Importance of water for footballers

The footballers surveyed are unanimous on the fact that water occupies a very important place in the preparation of the athlete. Thus, after each meal, the leaders put sachets of running water or bottles of mineral water at the disposal of the footballers. Similarly to the effort, the arrangements are made by the leaders to allow the players to hydrate themselves as stated by the respondent E13 "*There is water there without lying to you we are not short of water ; we drink as we want*".

Some respondents said they drink enough water at every moment of the day, as respondent E6 points out "Yes, we get enough water at the camp ; there are packets of water, we have the tap". However, other footballers surveyed, in order not to have difficulties during exercise, say they control their water intake, such as respondent E16 who said "At the camp, I don't take enough water ; I just take what is needed. If I drink too much, my stomach will be bloated so I just take a little water to quench my thirst. »

## 6. Hand hygiene at the table

According to respondents, washing hands with soap and water is necessary. But very often at the regrouping, the water and soap device does not exist. As respondent E9 said, "No, in the camp there is no monitoring of hygiene rules ; we don't have soap or a towel to be able to clean our hands properly before eating, but we make do with it". For some respondents, hand hygiene is a personal behavior and everyone should make arrangements to do it, you do not necessarily need an order before doing it, especially when you have to sit down to eat.

## Discussion

In the process of a person's development, the consumption of food plays a key role, since it provides the body with the necessary nutrients on a daily basis to promote its good health. In athletes, this diet deserves rigorous monitoring. It occupies a large place in the achievement of performance, because the way of eating determines the fact of winning or losing a competition (Arcusa, 2019). All the footballers surveyed believe that it is important for the sportsman to have a balanced and varied diet in order to claim to be efficient and to win during the matches. Indeed, the nutritional aspect is a factor of sports performance designed to meet the nutritional needs of athletes. The timing of meals and the quality of food consumed before, during and after exercise have a performance benefit, making nutrition an integral part of an athlete's success (Thomas, 2016).

Also, several footballers in this survey believe that good performance is possible thanks to a controlled diet, favoring the compensation of the energy expended during the effort. Nutritional intake has been shown to play a crucial role in improving sports performance, adaptation to training loads and accelerating recovery after exercise (O'Brien, 2021). Good nutritional practices must be observed daily by an athlete throughout a sports season, regardless of their practice status, because the objective of training and competition is performance (Beasley, 2015; O'Brien, 2019). However, as far as the respondents in this study are concerned, their daily nutritional practices do not favor the achievement of good performance. They also think that the absence of a dietitian within the clubs is the cause of these practices which are not favorable to sports performance. However, nutritional monitoring of athletes at all times of the season should be the priority (Burke, 2011). This nutritional monitoring when done by a dietitian has proven to be effective and beneficial for the athlete's career (Closen, 2019; Renard, 2020), because the use of other sources of nutritional information is not recommended because than unreliable (Cockburn, 2014).

Indeed, the dietitian is responsible for organizing meals for athletes while respecting the number, schedules and composition according to the objectives and the period of the sports season. At this level, the respondents in this study believe that a footballer must organize his meals for the day and control the intake before exercise. These remarks join the recommendations of AFSSA (2000) which suggests that the food rations of an athlete should be personalized and adapted to his objectives. The food rations will take into account the type of training (frequency, intensity, environment) and the personal characteristics (morphology, nutritional history, nutritional status and culture, allergies and food preferences) of the athlete. Also, footballers think that the meal before a competition must be taken at least

three hours (3 hours) before to allow the body to digest. According to comments collected from footballers, this rule is strictly respected during pre-competition regroupings. Although the assembly takes place on the day of the match, club officials ensure that the last meal is taken at least three hours (3h) before the assembly.

The athlete should take at least three meals a day as suggested by the recommendations of AFSSA (2000). However, some respondents, although they agree with these recommendations, declare that their financial means do not favor the taking of three meals a day on a constant basis. This state of affairs could induce a nutritional imbalance in these footballers and jeopardize their sporting performance. It has been proven that a healthy eating practice and good hydration are necessary for a high performance athlete (Belval, 2019). Depending on whether the athlete is at the regrouping or outside the regrouping, his diet should be aimed at performance during matches. Going green, or regrouping, is usually done before a competition. Its objective, on the nutritional level, is to ensure the maintenance of an optimal state of hydration and to maximize the reserves of muscle and hepatic glycogen. Also to avoid the early depletion of reserves under the effect of 90 minutes of intense effort. In the Beninese context and according to the comments of the respondents, food at the group is entrusted to a restaurant owner who is responsible for offering a meal for all the players and sometimes with the help of the club's physiotherapist. For some respondents, the physiotherapist or club doctor is in the best position to offer meals during regroupings, because they know what suits a footballer. On the other hand, other respondents in this study believe that the meals served during reunions do not reflect the diet of a footballer who is preparing for a competition.

This bitter observation is made, because meals during pre-competition gatherings generally take the form of buffets defined in specifications drawn up by the team dietitian at the start of the season. The challenge of going green is to meet the specific nutritional needs of players while respecting their preferences and eating habits. When two teams are equal, during their competition, the margin between victory and defeat is generally small. But diet can be the difference between winning and losing. Nutritional monitoring as well as the restoration of water and electrolyte balance are strategies to take into account when preparing for a competition in order to achieve the objectives of sports performance (Maughan, 2002) <sup>[11]</sup>.

A healthy and balanced diet according to the needs of an athlete should be accompanied by permanent hydration. These are the words of all the respondents on the question concerning the importance of water for a footballer. They also think that during exercise, the athlete loses a lot of water through sweating and should hydrate regularly. And it has been proven that in hot and humid environments like in Benin, water practices should allow athletes to be permanently hydrated. This will avoid losses of more than 2% of body mass that affect sports performance. However, excessive fluid intake can lead to overhydration and discomfort during exercise which could affect performance (McDermott, 2017). Thus, current recommendations for good water practices suggest that you should drink 200ml of fresh water every 20 minutes, start exercise in a state of hydration, control overhydration during exercise, rehydrate after exercise and before a next effort (McDermott, 2017;

Bergeron, 2012; Racinais, 2015). However, water needs are individual, as they depend on the rate of sweating, the intensity of the effort, the environmental conditions, the duration of the effort and the gastric capacity (Sawka, 2007; McDermott, 2017). This is how some respondents claim to considerably reduce their water intake during exercise in order to be able to continue without difficulty.

According to the respondents, the water intake outside the regroupings or during the regroupings is controlled by each player. The role of the leaders in the grouping is to provide the players with running water or mineral water. This lack of follow-up could lead to poor hydration practices among footballers and regularly expose them to dehydration-related damage. In addition, the rules specific to each sporting environment in which it is practiced, the sports equipment, as well as the availability of drinks during training and competition can influence the ability to maintain a permanent state of hydration (Belval, 2019).

It is essential that athletes have a good knowledge of sports nutrition in order to select and consume the foods appropriate to their energy needs in order to achieve good performance and maintain good health beyond their sports career (Michael, 2016).

### Conclusion

It was a question of appreciating the perceptions of the footballers of divisions 1 and 2 on the food of the sportsman. The perceptions of division 1 and 2 footballers in Benin on the diet of an athlete describe the unfavorable environment for the practice of football in Benin. The results obtained confirm that it is essential to improve the food aspect in the follow-up of footballers in order to claim to have high-level performances. The strategic support of qualified sports nutrition professionals should be sought to strengthen this aspect of performance.

### Data Availability

The dataset generated and analyzed is not publicly available due to the promise made to footballers to keep the data confidential when queried but is available from the corresponding author upon request.

### Competing Interests

The authors declare that they have no competing interests.

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