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The relationship between medical and health procedures and sports injuries in senior football players: A field study of senior football players in the State of Medea

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***Abstract*---**This study aimed to investigate the relationship between medical and health procedures and sports injuries in senior football players in Medea, Algeria. The study used a descriptive-analytical approach with a survey methodology. The sample included all senior football players in Medea for the 2022-2023 season. Striving to enhance player health and reduce athletic injuries, we propose a multifaceted approach: regular, thorough medical assessments for accurate health monitoring, comprehensive educational materials and programs promoting preventative healthcare practices, and clear communication of the direct impact of medical procedures on injury rates. By implementing these measures, we can build a robust healthcare framework that prioritizes player well-being and minimizes the risk of sports-related injuries. The study also found that a large proportion of players in the sample consume stimulants such as coffee and tea. However, the majority of players do not smoke or use drugs or doping.

***Keywords*---**medical procedures, sports injuries, senior football.

1. Problem Statement

Sporting injuries are a major challenge facing the advancement of sports performance and the transition from one level to another. The lack of awareness among some players and coaches about the causes of injuries and how to prevent them often leads players to make mistakes that may be technical, tactical, or due to poor training load management, lack of preparation of the body's internal and external systems, or the structural system's lack of readiness to accept the effort that falls on the athlete. Injuries are not limited to the higher levels, but they

occur at all levels, and they may occur during training, in a match, in practical lessons, and even in the practice of light recreational activity. The percentage of occurrence of these injuries and their types vary, and their association with the type of activity practiced varies. Therefore, it is essential to always keep in mind the principle of player safety first and to put all the possibilities in place to prevent or repeat injuries to reduce their severity. This can be done by taking all necessary measures during training and matches and being fully prepared to provide first aid when an injury occurs. Neglecting first aid measures at the time of a minor injury, which plays a vital role, can lead to bad consequences and can double in severity in determining the athlete's sporting future[1].

Many studies have sought to explain why some people may get injured when engaging in physical and sporting activity. These studies have adopted two main ideas: first, the dietary behavior adopted by athletes in their daily diet, and second, the healthy behavior practiced by athletes in their daily lives. These studies have documented and highlighted that these behaviors play a major role in the occurrence or prevention of the appearance of different injuries, such as cancer, for example, or cardiovascular diseases, or to prevent physical inactivity[2].

Identifying the social and cognitive aspects of food and health for players, along with identifying areas of weakness in these aspects, is one of the most important factors in protecting against the risk of injury during physical and sporting activity to some extent. In addition, most previous studies confirm the importance of social knowledge based on dietary and health behaviors, perceptions, and personal beliefs in the prevention of sports injuries[3].

However, the practice of any sport activity is subject to conditions, including conducting medical examinations, which help to avoid many mistakes that may lead to health complications that negatively affect the practitioners. The importance of medical procedures is highlighted, especially for the younger category who have never undergone medical examinations before, due to the specificity of this category from the training point of view. The laws and regulations governing football in our country have stipulated the compulsory conduct of examinations, whereas Article 70 of the laws governing the Algerian Football Federation stipulates the obligation for each player to undergo chest and heart examinations to be allowed to join the club and enter the competition. However, it is noted that these examinations remain insufficient as they are held at the beginning of the season.

Based on the researcher's field experience in the sports field, it has been observed that most sports clubs do not give any attention to the medical and health procedures for players, not to mention that they do not assign a medical and dietary specialist to follow up on the medical and health aspects of their players.

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[1]Martens, R.. Sport competition anxiety test. Champaign: Huma n Kin Publishers ,1977, p125

[2] Humphries, D., & Krummel, D. A. Perceived susceptibility to cardiovascular disease and dietary intake in women. American Journal of Health Behavior, 1999, p250-260.

[3] Johnston, D . W., Johnston, M. , Pollard, B., Kinmonth, A. , & Mant, D . MotivationIs Not Enough: Prédiction of Risk Behavior Following Diagnosos of Coronary Heart Disease From the Theory of Planned Behavior. Health Psychology, 2004, p 23.

As a result, coaches implement training programs without any idea of the player's health level or their health practices, which leads to many physical and functional injuries.

Some athletes have been exposed to cases of sudden death during sports competitions as a result of the high effort exerted, which increases the physical and health capabilities of athletes, leading to increased stress on the functioning of the internal functional systems and leading to the occurrence of fatal complications[4].

Therefore, it is necessary to identify the medical and health aspects of athletes so that coaches can take into account the health level and condition of the player before starting to give him training doses. Due to the high prevalence of various types of sports injuries in different parts of the body among athletes, this topic has captured the researcher's attention in an attempt to understand the nature of these injuries, their direct and indirect causes, and the relationship between these injuries and the medical and health procedures of these players. Based on this, we pose the following general question:

Is there a correlation between medical and health procedures and sports injuries in senior football players?

As for the sub-questions, they were as follows:

- Is there a correlation between the use of substances (stimulants, smoking, and doping) and sports injuries in senior football players?
- Is there a correlation between positive health practices and sports injuries in senior football players?
- Is there a correlation between preventive medical procedures and sports injuries in senior football players?

2. Research Hypotheses

General Hypothesis

« There is a correlation between medical and health procedures and sports injuries in senior football players. »

Sub- Hypotheses

- There is a correlation between the use of substances (stimulants, smoking, and doping) and sports injuries in senior football players.
- There is a correlation between positive health practices and sports injuries in senior football players.
- There is a correlation between preventive medical procedures and sports injuries in senior football players.

[4] Conner, M. , & Norman, P. Predicting health behaviour: Research and practice with social cognition models. Buckingham: Open University Press, 2005, p.178.

3. The objectives of the study

- ❖ To identify the existence of a correlation between substance use behaviors (stimulants, smoking, doping) and sports injuries in senior football players.
- ❖ To identify the existence of a correlation between positive health practices and sports injuries in senior football players.
- ❖ To identify the existence of a correlation between medical and preventive procedures and sports injuries in senior football players.

4. Operational Definitions of Key Concepts

4.1. Sports Injuries: For this study, sports injuries are defined as all injuries that senior football players of the Medea state teams affiliated to the National Division II and Inter-League Divisions are exposed to.
4.2. Medical and Health Procedures: These are preventive treatment measures that are taken without resorting to medication or drugs. They are implemented through guidance and advice from the doctor and coach to avoid accidents and injuries[5]. For this study, it refers to all measures taken by the club or the player, such as medical examinations, tests, or health practices for the player.

5. Methods and Methodology of the Study

5.1. Research Methodology

Based on the topic of our study: "The Relationship Between Medical and Health Procedures and Sports Injuries in Senior Football Players", we will explore the topic, reveal its aspects, and identify the relationship between its elements, to clarify the impact of the independent variable on the dependent variable. In response to the nature of the study, we adopted the descriptive analytical approach in its survey style, as it is appropriate for the nature of this study and its objectives.

5.2. Study Population and Sample

We chose all senior football players of the Medea state teams affiliated with the National Division II and Inter-League Divisions. Their number was 248, distributed over 11 teams.

5.3. Study Fields

- Human field: All senior football players of the Medea state clubs for the 2022-2023 season.
- Temporal field: The period from 15/10/2022 to 12/03/2023.
- Spatial field: This study was conducted in Medea state.

[5] Hamdaoui, I. (1979). Memorandum on the importance of medical examinations for the prevention of sports injuries. Algeria, **p8.**

5.4. Data Collection Tools

To reach solutions to the research problem posed and to verify the validity of the hypotheses of this research, it was necessary to follow the most effective methods through study and examination, where the following tools were used:

Survey of Medical and Health Procedures

The researcher used a questionnaire form, which contains information about the medical and health procedures taken by the management of sports clubs as well as the players belonging to these clubs. The questionnaire included (13) phrases divided into three dimensions:

- Dimension 1: Health and preventive procedures, This dimension includes four questions about the player's health history, including any previous injuries or illnesses, as well as their participation in pre-season physical examinations and injury prevention programs.
- Dimension 2: Substance use: This dimension includes four questions about the player's use of substances, such as stimulants, smoking, and doping.
- Dimension 3: Positive health practices: This dimension includes five questions about the player's health practices, such as their diet, exercise habits, and sleep habits.

Table 1: Describes the medical and health survey

Dimension	Title	Statement Numbers and Directions	Number of Statements	Score
First	Substance Use (stimulants, smoking, doping)	1 (positive) 2, 3, 4 (negative)	4	12 (highest), 4 (lowest)
Second	Positive Health Practices	1, 2, 3, 4 (positive)	4	12 (highest), 4 (lowest)
Third	Taking Health and Preventive Measures	1, 2, 3, 4, 5 (positive)	5	15 (highest), 5 (lowest)

Key to the medical and Health survey

« Likert scale » was used with a three-point scale to make it easy to understand. Therefore, the final estimate of this scale consists of three basic estimates according to the Likert three-point scale. A three-point scale was placed in front of each paragraph: Agree (3), Unsure (2), Disagree (1). As shown in the following table:

Table 2: Represents the score of the medical and health survey

Response Type / Statement Type	Agree	Unsure	Disagree
Positive Statements	03	02	01
Negative Statements	01	02	03

Survey of the Causes of Sports Injuries

The questionnaire on the causes of sports injuries consisted of 13 items in its final form. The items were all negative and covered the following areas: training, playing environment, the player himself, and medical and rehabilitation aspects.

Key to the Survey of the Causes of Sports Injuries

« A Likert scale » was used with a three-point scale to make it easy to understand. The final estimate of this questionnaire is composed of three basic estimates according to the three-point Likert scale. A three-point scale was placed in front of each item, with the following values: Agree (1), Unsure (2), Disagree (3).

5.5 Study Variables

- Independent variable: The experimental variable, the variable whose effect on the phenomenon is to be determined[6]. In this study, the independent variable is medical and health procedures.
- Dependent variable: The variable resulting from the effect of the independent variable[7]. In this study, the dependent variable is sports injuries in football players.

6. Presentation, Analysis, and Discussion of the Study Results
6.1. Descriptive Statistics for Study Variables

The mean, standard deviation, and coefficient of variation were calculated to determine the descriptive characteristics of the study variables. The following table shows these results:

Table 3: Presents the descriptive statistics for the medical and health procedures variables of the study sample

Dimension	Mean	Standard Deviation	Coefficient of Variation	Sample Size
Substance Use (stimulants, smoking,	09.06	1.65	%18.21	248

[6] Zian Omar. M, (1996) Scientific Research, Its Methods and Techniques, University Publications House, Algeria, p.54

[7] Muhammad Ali Mohamed. (1986). *Sociology and the scientific method*. Dar Al-Maaref University, Alexandria, Egypt,p4.8.

doping)				
Positive Health Practices	08.21	1.98	%24.11	248
Taking Health and Preventive Measures	07.96	2.23	%28.01	248

Based on Table 3, we note that the mean score for the first dimension, which concerns the use of substances (stimulants, smoking, and doping), of the medical and health procedures questionnaire is (09.06) with a standard deviation of (1.65) and a coefficient of variation of (18.21%). Since the coefficient of variation is less than 30%, the dispersion of the scores is low and the sample is homogeneous. The mean score for the second dimension, which concerns positive health practices, of the medical and health procedures questionnaire is (08.21) with a standard deviation of (1.98) and a coefficient of variation of (24.11%). Since the coefficient of variation is less than 30%, the dispersion of the scores is low and the sample is homogeneous. The mean score for the third dimension, which concerns the implementation of health and preventive measures, of the medical and health procedures questionnaire is (7.96) with a standard deviation of (2.23) and a coefficient of variation of (28.01%). Since the coefficient of variation is less than 30%, the dispersion of the scores is low and the sample is homogeneous.

Table 4: Presents the descriptive statistics for the total score of the medical and health procedures survey and the total score of the sports injuries survey for the study sample.

Variable / Tool	Mean	Standard Deviation	Coefficient of Variation	Sample Size
Total Score for Medical and Health Procedures Survey	24.53	4.56	%18.58	248
Total Score for Sports Injuries Survey	27.83	7.76	%27.88	248

Based on the previous table, we note that the mean score for the total score of the medical and health procedures questionnaire was (24.53) with a standard deviation of (5.56) for the study sample. The coefficient of variation was (18.58%). Since the coefficient of variation is less than 30%, the dispersion of the scores is low and the sample is homogeneous. The mean score for the total score of the sports injuries questionnaire for the same sample was (27.83) with a standard deviation of (7.76). The coefficient of variation was (27.88%). Since the coefficient of variation is less than 30%, the dispersion of the scores is low and the sample is homogeneous.

6.2 Presentation and Analysis of the Results of the First Hypothesis

« There is a correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and sports injuries in football players. »

Table 5: Shows the correlation coefficients between the use of substances (stimulants, smoking, and doping) and sports injuries in football players

Variable	Correlation Coefficient (r)	P-Value	Sample Size	Statistical Decision
Substance Use (stimulants, smoking, and doping)	0.817	0.001	248	Statistically significant

« The correlation is statistically significant at the 0.01 level of significance. »

Table 5 shows that there is a correlation between the use of substances (stimulants, smoking, and doping) and sports injuries in high school athletes in Dararia. The correlation coefficient was 0.817, which is statistically significant at the 0.01 level. This confirms that there is a positive correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and the causes of sports injuries in the study sample, which consists of football players.

Based on the findings, we conclude that there is a correlation between behaviors related to substance use (stimulants, smoking, and doping) and the general causes of sports injuries in football players. This relationship is a positive one.

6.3 Analysis of the results of the second hypothesis

« There is a correlation between positive health practices and sports injuries in football players. »

Table 6: shows the correlation coefficients between positive health practices and sports injuries in football players.

Variable	Correlation Coefficient (r)	P-Value	Sample Size	Statistical Decision
Positive Health Practices	-0.940*	0.001	248	Statistically significant

« The correlation is statistically significant at the 0.01 level. »

Table 6 shows that there is a negative correlation between positive health practices and the causes of sports injuries in football players. The correlation coefficient was -0.940, which is statistically significant at the 0.01 level. This confirms that there is a negative correlation between positive health practices and the causes of sports injuries in the study sample, which consists of football players.

Based on the findings, we conclude that there is a negative correlation between the behaviors related to substance use (stimulants, smoking, and doping) and the general causes of sports injuries in football players.

6.4. Analysis of the results of the third hypothesis

« There is a correlation between the behaviors related to taking health and preventive measures and sports injuries in football players. »

Table 7: Shows the correlation coefficients between the behaviors related to taking health and preventive measures and sports injuries in football players.

Variable	Correlation Coefficient (r)	P-Value	Sample Size	Statistical Decision
Health and Preventive Behaviors	-0.845*	0.001	248	Statistically significant

« The correlation is statistically significant at the 0.01 level. »

From Table 7, we can see that there is a correlation between the behaviors related to taking health and preventive measures and sports injuries in football players. The correlation coefficient was -0.845, which is statistically significant at the 0.01 level. This confirms that there is a negative correlation between taking health and preventive measures and the causes of sports injuries in the study sample, which consists of high school athletes in Dararia. Therefore, the correlation is statistically significant at the 0.01 level. Based on the findings, we conclude that there is a correlation between taking health and preventive measures and the general causes of sports injuries in football players. This relationship is an inverse relationship.

6.5 Discussion of the results

Discussion of the results of the first hypothesis

The first hypothesis was as follows:
"There is a correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and sports injuries in football players."
To verify the results of the first hypothesis, the Pearson correlation coefficient was used to confirm the existence of a correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and the causes of sports injuries. We obtained the following table:

Table 8: Shows the type of relationship between the behaviors related to the use of substances (stimulants, smoking, and doping) and the causes of sports injuries for the total sample of the study

The Relationship between the behaviors related to the use of substances (stimulants, smoking, and doping) and the causes of sports injuries	Pearson Correlation Coefficient (r)	Determination Coefficient (r^2)	Nature of the Relationship
Behaviors related to substance use(stimulants, smoking, and doping)	*0.817	0.667	Positive, Strong
Sports injuries			

« The correlation is statistically significant at the 0.01 level. »

The results of the table above show that the correlation coefficient between the two variables, "behaviors related to the use of substances" and "sports injuries," is 0.817. This correlation coefficient is statistically significant at the 0.01 level. The coefficient of determination (r^2) is 0.667, which means that 66.7% of the variance in sports injuries can be explained by the use of substances. This confirms the statistical significance and reality of the correlation between the two variables under study. The value of Sig, which is 0.001, is less than 1%.

This means that there is a strong positive correlation between the two variables. In other words, as the use of substances increases, the risk of sports injuries increases. Therefore, there is a positive correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and the causes of sports injuries in football players. This can be explained by the significant impact that the use of these substances can have on human health in general and on the health of athletes in particular. This is especially true if these substances are consumed on a daily and random basis, which is not compatible with the body of an athlete who is in a state of continuous physical exertion.

The results of the study also suggest positive indicators of the non-consumption of these substances among the participants in the study. For example, the vast majority of players do not consume smoking or drug substances. This is due to the awareness of the participants of the effects of these substances on their health and the possibility of their exposure to injuries. They acquired this awareness due to several factors, the most important of which are family education, as well as the fact that these substances are prohibited in the sporting environment and rejected by Algerian society.

In confirmation of the results of the first hypothesis, researchers in this field believe that athletes should not overconsume or quit taking stimulants and replace them with substances with nutritional value that benefit the body. Sami Al-Saffar and others (1990) confirm that athletes should reduce their intake of tea and coffee and focus on milk. They also add that athletes should abstain from smoking because of its physical harm to their health. Therefore, researchers advise athletes to avoid all types of smoking, whether it be cigarettes or hookah, to preserve the health of the player and achieve the best competitive levels.

Researchers (Egger, Duggleby, Hobbs, Fall & Cooper, 1996) also confirmed that the behavior of smoking cigarettes is a risk factor for liver cell cancer. Smoking is also strongly associated with an increased risk of heart disease, as well as osteoporosis. Samiaa Khalil Mohamed (2004) pointed out that smoking and alcohol have a significant impact on the tissues of the body, especially the nervous system. The use of medications by the player without a prescription can lead to injury, endanger him, and sometimes lead to addiction. The use of doping and drugs can also deprive the player of concentration and neuromuscular balance, which can expose him to injury.

Koubaa (1999) mentions that doping is the cancer of sports. Lord Killanin, the former president of the International Olympic Committee, said that they kill sports and are a major danger to the global Olympic movement, as well as to the health and physical side and the accidents of death. The death of English cyclist

Simon in 1967 in a race around France and the confirmation of his use of doping is a warning to everyone about the potential health damage of their use.

Riyadh and Al-Najmi (1999) also confirm that doping is the use of various industrial means to raise the physical and psychological efficiency of the individual in the field of competitions or training, which may lead to health damage. Based on the above, it can be said that there is a positive correlation between the behaviors related to the use of substances (stimulants, smoking, and doping) and sports injuries in football players of the senior category of the province of Medea. This means that the first hypothesis has been confirmed.

Discussion of the results of the second hypothesis

The second hypothesis was as follows: "There is a correlation between positive health practices and sports injuries in football players."
To verify the results of the third hypothesis, the Pearson correlation coefficient was used to confirm the existence of the correlation between positive health practices and the causes of sports injuries. The following table was obtained:

Table 09: Shows the nature of the relationship between positive health practices and sports injuries for the entire study sample.

The relationship between positive health practices and sports injuries	Pearson Correlation Coefficient (r)	Determination Coefficient (r^2)	Nature of Relationship
Positive Health Practices	-*0.940	0.883	Negative, Strong
Sports Injuries			

« The correlation is statistically significant at the 0.01 level. »

Based on our observations of the results of Table 9, we found that the correlation coefficient between the variables (positive health practices, sports injuries) was (-0.940), which is statistically significant at the 0.01 level. Since the coefficient of determination (r^2) is 0.883, which means that 88.36% of the variance in sports injuries can be explained by positive health practices, this confirms the statistical significance and validity of the correlation between the variables under study. This is also confirmed by the Sig value of 0.001, which is less than 1%.

From this, we can conclude that there is a strong negative correlation between the variables of the second hypothesis. In other words, the better the positive health practices of the students of the Sports High School in Dararia, the lower the incidence of sports injuries among them.

Therefore, there is a negative correlation between the positive health practices of football players and the causes of sports injuries. This can be explained by the personal health awareness of most players. This awareness is due to several factors, the most important of which is the influence of families on these players through raising them to acquire positive health practices.

The results showed that about half of the sample, members do not undergo posture tests, although they pay great attention to sitting and walking positions

even outside of training hours and the impact of these positions on body image and health in general. This is what was stated by (Hajar, Bakri, 1984), who emphasized the complete ignorance among athletes of the importance of body alignment and moderation, as it is one of the necessary issues for athletes who are exposed to strenuous training that any mistake in it can lead to deformities in the posture, which will result in injuries.

Both (Hassanine and Raghab, 2003) also confirmed that poor posture has a significant impact on health status, personality, work, growth, success, psychological and behavioral aspects, and on joints, muscles, and vital organs. Micheli (Micheli, 1983) also pointed to postural deviations in his classification of the risk factors that lead to sports injuries.

The results also showed that most players sleep for enough hours, exceeding 8 hours a day, which in itself is an indicator of the players' awareness of the importance of the body getting enough sleep to recover the energy lost during sports training. This duration is sufficient for recovery and returning the body to its normal state, especially after performing physical exertion associated with training and competitions, which causes the body to lose its energy reserve. This supports the idea of keeping the athlete from recovering and avoiding sports injuries. This is what was stated by (Jabrine Mahmoud Al-Manasra, 2009) in his book The Real Reasons for Sports Injuries, where he emphasized that many athletes spend their time during the evening hours until the early morning, which exposes them to fatigue and exhaustion until their day becomes night and their night becomes day, which leads to a disruption in his life in all its aspects, whether social, health, or psychological, which in turn reflected on his work and scientific performance and the weakness of his physical ability during exercises or periodic competitions, which may expose him to sports injuries.

Risan Kheribat Majid (1991) also pointed to the need to give the body periods of rest for the continuity of the effectiveness of the body's organs and to avoid injuries. Moufti Ibrahim Hammad (1998) also confirmed that the ideal duration of sleep that an athlete should get is between 7 and 8 hours a day. As the results showed, most of the sample members use sun protection and heat avoidance measures, or rather avoid exposure to sunlight during hot weather, especially during training. This shows that the sample members are aware of the dangers of exposure to high temperatures. Studies indicate that exposure to high temperatures leads to a significant loss of fluids in the body and that fluid loss has complications on the safety of humans in general and athletes in particular, especially during training or competition.

As (Assfar, 1990) notes, exposure to high temperatures leads to a significant loss of fluids from the body, thus reducing the athlete's weight. He also adds that a lack of fluids in the blood causes cramps in the player. (Hazaa, 2009) also confirmed that exposure to hot weather during periods of physical exertion has negative effects not only on athletic performance but also on the athlete's overall health.

(Salamah, 2000) also confirmed that hot and humid weather, even at rest, leads to a disruption in the body's ability to maintain the internal body temperature of

tissues and cells, which leads to a decrease in the body's ability to eliminate excess heat, exposing it to injuries.

(Lemuel. w. Taylor. v 2012) also confirmed that fluid loss due to sweating during physical exertion in hot weather leads to noticeable changes in both the circulatory system and the fluid and electrolyte balance system in the body. Dehydration carries with it negative consequences for physical performance on the one hand and the safety of the athlete and the health of his body systems on the other hand. It is also clear to the eye that the occurrence of dehydration leads to a decrease in the body's ability to resist the rise in body temperature, exposing the athlete to heat injuries.

The results also showed that most of the sample members care about brushing their teeth at least twice a day. This suggests that there are significant positive indicators among the sample members about the relationship between dental diseases and their association with many other diseases that may be directly caused by dental disease.

Recent studies have shown that there is an overlapping relationship between dental and gum diseases with sports injuries and other diseases that occur in athletes. These studies have shown that dental and gum inflammation will not only negatively affect the soft and hard tissues surrounding the teeth and near the site of inflammation, but also expose the athlete's body to other diseases far from the oral cavity, including the circulatory system, the respiratory system, the muscular system, and the nervous system, which negatively affects athletic performance and leads to injuries for the athlete. This was confirmed by both (Jabrine Mahmoud Al-Manasra, 2009) in his book "The Real Reasons for Sports Injuries" as well as a study by (Inas Ahmed Hatreya, 1999).

Based on the foregoing, it can be said that there is an inverse correlation between positive health practices and sports injuries in football players. This suggests that the second hypothesis was confirmed.

Discussion of the results of the third hypothesis

The third hypothesis was as follows:
"There is a correlation between behaviors related to taking health and preventive measures and sports injuries in football players."
To verify the results of the third hypothesis, the Pearson correlation coefficient was used to confirm the existence of a correlation between behaviors related to taking health and preventive measures and sports injuries. We obtained the following table:

Table 10: Shows the type of relationship between behaviors related to taking health and preventive measures and sports injuries for the total sample of the study

The relationship between behaviors related to taking health and preventive measures and sports injuries	Pearson Correlation Coefficient (r)	Determination Coefficient (r^2)	Nature of Relationship
Health & Safety Behaviors	-*0.845	0.714	Strong Negative
Sports Injuries			

« The correlation is statistically significant at the significance level of 0.01. »

Based on our observations of the results of Table 10, we found that the correlation coefficient between the variables (health and preventive measures, sports injuries) was (-0.845), which is statistically significant at the significance level of 0.01. Since the determination coefficient (r^2) is 0.714, which means that 71.4% of the variance in the dependent variable is explained by the independent variable, this confirms the statistical significance and validity of the correlation between the variables under study. This is also confirmed by the Sig value of 0.001, which is less than 1%.

Therefore, there is a negative correlation between the behaviors related to taking health and preventive measures for football players and the causes of sports injuries. This can be explained by the importance of health and preventive measures, such as regular check-ups, blood pressure measurements, and tests for various vital organs such as heart and blood sugar tests. These preventive measures have a positive relationship with preventing sports injuries.

This is confirmed by the findings of (Abu Al-Ala Abdel-Sayed, 1984), who stated that the safety of functional devices makes the athlete a person capable of performing all the movements required of him during training and exempts him from falling into injuries that can occur during training. (Alawi, 1995) also added that one of the physical factors that have a clear impact on the sporting level and on which the possibility of reaching the highest sporting levels is based is the functional foundations of the body's systems. The sporting activity, especially in the sport of the world levels, requires the safety of the functional aspects of the various body systems. In this regard, (Faraj, 1999) indicates that it is the duty of those working in the field of physical training to be aware of the physiological and chemical changes that occur to the athlete, which may be an obstacle to the progress of his level, and to work to overcome these obstacles with good preparation in advance using modern scientific methods and means.

The results showed that a significant proportion of the sample members did not perform these tests. The researcher attributed this to several factors, the most important of which are:

- Most players do not play in national teams that require their players to undergo these tests.
- The lack of professionalism of their clubs and the lack of available financial resources to perform these tests for all players.

- The lack of awareness of most players of these tests and their importance.

The results of the current study are consistent with the study of (Mazen Abdel-Hadi and others, 2008), and they do not agree with the study of (Belboul Mousa, 2015).

(Raphael, 1990) emphasizes the importance of conducting a thorough medical examination for players one month before the start of the season to conduct further tests in case of a suspected suspicion during the initial examination for the accuracy of the medical examination. This is in addition to continuing to undergo regular medical examinations to monitor the health condition continuously, especially before the match, with the presence of a health card and the player's medical history.

The results also showed a small proportion of the sample members who are interested in seeing a dentist without feeling pain. The researcher attributed this lack of interest to the lack of awareness of the seriousness of the association of dental disease and inflammation of the oral cavity with many other diseases that may affect the human body as a result.

The researchers mention the utmost importance of the safety of the teeth and that any disease leads to their damage and consequently the loss of the first means of natural digestion for humans, which leads to the non-digestion of food in the mouth and causes great damage to the stomach and causes indigestion, which leads to the decrease in energy that inevitably leads to a decrease in the level of athletic performance of the player, not to mention the bad smell of the mouth, which violates the general fitness of society.

(Mazen Abdel-Hadi Ahmed, 2008) they consider that seeing a dentist without feeling pain is one of the health and preventive measures to avoid many dental diseases. Both (Abu Al-Ala Ahmed, and Kamal Abdel Hamid, 1984) emphasized the importance of taking care of the teeth and oral cavity by visiting the dentist without feeling pain. In conclusion, it can be said that there is a negative correlation between the behaviors related to taking health and preventive measures and sports injuries among football players. This confirms the validity of the third hypothesis.

6.6 Presentation, analysis, and discussion of the results of the general hypothesis

The General Hypothesis was as follows:
"There is a correlation between medical and health procedures and sports injuries in senior football players."
To verify the results of the general hypothesis, the Pearson correlation coefficient was used to confirm the existence of a correlation between medical and health procedures and sports injuries. We obtained the following table:

Table 11: shows the type of relationship between medical and health procedures and sports injuries for the total sample of the study.

variables	Mean	Standard Deviation	Sample Size	Pearson Correlation Coefficient (r)	P-value	Relationship Nature
Medical and health procedures	24.53	4.56	248	-0.961*	0.001	Very Strong Negative
Sports injuries	27.83	7.76				

« The correlation is statistically significant at the significance level of 0.01. »

Based on our observation of the results of Table 11, we found that the correlation coefficient between the variables (medical and health procedures, sports injuries) was (-0.961), which is statistically significant at the significance level of 0.01. The coefficient of determination (r^2) is 0.9235, which means that 92.35% of the variance in the dependent variable is explained by the independent variable. This confirms the statistical significance and validity of the correlation between the variables under study. This shows that there is a strong inverse correlation between the variables of the general hypothesis.

Interpretation of the results of the general hypothesis

The general hypothesis stated that "There is a correlation between medical and health procedures and sports injuries in senior football players."
The results showed that there is a strong correlation between the medical and health procedures of senior football players and the causes of sports injuries. This can be explained by the fact that the players' responses were similar for each statement in the questionnaire. On the one hand, the correlation was strongly negative, meaning that the better the medical and health procedures practiced by senior football players, the lower the incidence of sports injuries. This is confirmed by (Abdel Rahman Zaher, 2004), who states that conducting comprehensive medical examinations before, during, and after training and competition helps to reduce the occurrence of injuries.

As for the dimension related to the use of substances (stimulants, smoking, and anabolic doping), practicing it will inevitably lead to an increase in the incidence of sports injuries. (Samea Khalil, 2007) and (Ousama Riyad, 1999) both confirm that the significant impact of smoking and alcohol on body tissues, especially the nervous system, as well as the player's use of prescription drugs without a prescription, can lead to injury and expose him to danger and sometimes addiction. The use of stimulants and drugs causes the player to lose focus and neuromuscular balance, exposing him to injury.

As for the two statements of the dimensions (positive health practices, health, and preventive measures), the players' answers to them were not positive, especially those related to positive health practices and health and preventive measures. This is due to several factors, the most important of which are the lack of interest of the sample members in these practices, despite their awareness of their

importance, in addition to the non-compulsory nature of some of these procedures by the school or clubs for which these students are active. In this regard, both (Merkin and Hoffman, 1997) mention that sports injuries are due to the lack of taking health and preventive behaviors, which ultimately lead to a decrease in the processes in the internal parts of the body and make them unable to perform their functions. Osama Riyad also emphasized the mandatory submission of all players to medical examinations and tests to avoid the participation of unqualified players who are at risk of injury if they are involved.

As for the statements of the dimension related to the use of substances (stimulants, smoking, and anabolic doping), the sample members' answers to them were extremely positive. This confirms the awareness of the sample members of the effects caused by these substances on their health and the likelihood of their exposure to injuries. The acquisition of this awareness is due to several factors, the most important of which are family education, the educational environment, and religious inhibition, in addition to the fact that these substances are prohibited in the sports environment and rejected by Algerian society.

General Conclusion

In this study, we tried to reveal the relationship between the medical and health procedures of football players and their sports injuries, as well as to know the real reasons behind the occurrence of sports injuries for football players and to link them to their medical and health aspects.

In this context, we mention that the two dimensions represented by positive health practices and behaviors related to taking health and preventive measures support and increase the likelihood of avoiding sports injuries in senior football players in the Medea province, and this confirms the negative correlation relationship, so that the degree of causes of sports injuries decreases as the degrees of these two dimensions increase, and this correlation is due to the direct impact of these behaviors on the health of the player by contributing to the development of his personality and the development of the health and physical aspects, and through this development, he works to avoid the occurrence of sports injuries based on these two dimensions.

As for the dimension of the use of substances (stimulants, smoking, doping), it increases the likelihood of sports injuries in players, and this confirms the positive correlation relationship, so that the degree of causes of sports injuries increases as the degrees of this dimension increase, and this correlation is due to the direct impact of the use of these substances (stimulants, smoking, doping) on the health of the individual in general, as they work to reduce the work of the functional vital organs of the body, which leads to these organs becoming unable to perform their functions, which exposes the body to the occurrence of sports injuries.

As for the results that came on the sidelines of the study or what is known as theoretical conclusions, they were as follows:

- ✓ A large percentage of the sample members consume stimulants such as coffee and tea.
- ✓ Most of the sample members smoke and do not consume drugs or dope.
- ✓ The dietary habits of the sample members are average and need more care.
- ✓ Most of the sample members do not give importance to positive health practices.
- ✓ Most of the sample members do not conduct regular medical examinations.
- ✓ Most of the sample members do not realize the importance of medical and health procedures in the prevention of sports injuries.

Future Recommendations

Since the ultimate goal of sports is to improve physical and mental abilities at the same time, to preserve and develop individual health, and since the environment of players is characterized by a lot of randomness and indifference, which helps to disrupt their health aspects, which may harm their health and expose them to many physical and functional injuries, therefore, it is necessary to pay attention to the medical and health aspects of athletes so that coaches can take into account the physical level and health status of the player before starting training or competitions. To improve the medical and health aspects of players, we suggest the following:

- ❖ Hold awareness sessions for football players about the importance of medical and health procedures in maintaining public health.
- ❖ Players must undergo regular medical examinations to accurately identify their health status.
- ❖ Provide magazines, publications, and guidance programs to raise the awareness of players about the importance of health prevention.
- ❖ Awareness of players of the general causes of sports injuries and work to prevent them.
- ❖ Awareness of players of the risks arising from unhealthy procedures and various diseases that arise from unhealthy nutrition.
- ❖ Work to clarify the impact of medical and health aspects in reducing or increasing the occurrence of sports injuries.
- ❖ It is necessary to conduct research and studies to accurately describe the impact of medical and health procedures of athletes on the occurrence of sports injuries.

The researcher also recommends conducting future research to determine the relationship between some health practices and sports injuries, such as the consumption of doping, smoking, dietary supplements, and energy drinks.

Conclusion

The study of the general causes of sports injuries and their association with other variables that affect and are affected by them has been and remains one of the most important fertile fields that requires perseverance and further research to achieve the desired goals of any study.

In this context, this study came, in which we tried to address the medical and health procedures of senior football players in the province of Medea and their relationship with the general causes of sports injuries. These procedures were linked to several behaviors that represent the player's daily health practices, such as the use of steroids, smoking, preventive health measures, and medical examinations. This study aimed to determine the extent of the relationship between these behaviors and the general causes of sports injuries.

Based on the study we conducted and the results we reached, we can say that there is a clear relationship between medical and health procedures and the direct causes of sports injuries during the practice of physical and sports activities among senior football players in the province of Medea. This is due to several factors, the most important of which is the lack of interest of the sample members in these behaviors, despite their awareness of their importance. In addition, some of these procedures are not mandatory, such as the periodic medical examination by the clubs in which these players play. It is also noticeable at this stage that many players do not attach great importance to these behaviors and do not realize their relationship to the occurrence of the injury, not even in terms of treatment or the duration required for recovery. This leads them in most cases to the recurrence of the injury again.

Based on the foregoing, the researcher concluded that it is necessary to give attention to the medical and health procedures of players and to give them greater care in terms of providing the necessary resources for this and working to train qualified specialists for the health and medical care of these players.

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