Salud, Ciencia y Tecnología. 2025; 5:1500
doi: 10.56294/saludcyt20251500

ORIGINAL

Dental and Gum Health and Its Relationship to Sports Injuries Among Physical Education and Sports Science Students

Salud Dental y de las Encías y su Relación con las Lesiones Deportivas en Estudiantes de Educación Física y Ciencias del Deporte

Nagham Salman Kareem[1], Sundus Burhan Adham[1]

[1]College of Physical Education and Sports Sciences. Al-Muthanna University, Iraq.

Cite as: Salman Kareem N, Burhan Adham S. Dental and Gum Health and Its Relationship to Sports Injuries Among Physical Education and Sports Science Students. Salud, Ciencia y Tecnología. 2025; 5:1500. https://doi.org/10.56294/saludcyt20251500

Submitted: 09-08-2024 **Revised:** 02-11-2024 **Accepted:** 22-02-2025 **Published:** 23-02-2025

Editor: Prof. Dr. William Castillo-González

Corresponding Author: Nagham Salman Kareem

ABSTRACT

The research sought to assess the condition of teeth and gums and their correlation with sports injuries among physical education and sports science students. The research sample aimed to identify the interest in dental health and the correlation between dental and gum health and sports injuries. As far as the method of the study, a descriptive technique was used to align with the study's nature, using a random sample of students via a questionnaire that included gender and inquiries about dental and gum health. A questionnaire was developed to detect sports injuries among students. After analysing the data, the researchers concluded that neglecting oral and gum health adversely impacts the body and may lead to damage. The study reached some important conclusions, the best of which were that students often neglect dental care, consume unhealthy food, and don't undergo medical examinations due to pain and injury exposure. The researchers advised focusing on the causes of injuries, implementing preventive measures, ensuring complete healing before resuming activities, addressing variables that mitigate the risk of accidents or their consequences, and prioritizing tooth and gum health. Further research was essential to ascertain the types of injuries and identify the job areas for their prevention.

Keywords: Gum Health; Physical Education; Sports Injuries.

RESUMEN

La investigación buscó evaluar el estado de dientes y encías y su correlación con las lesiones deportivas entre estudiantes de educación física y ciencias del deporte. La muestra de la investigación tuvo como objetivo identificar el interés por la salud dental y la correlación entre la salud dental y de las encías y las lesiones deportivas. En cuanto al método de estudio, se utilizó una técnica descriptiva para alinearse con la naturaleza del estudio, utilizando una muestra aleatoria de estudiantes a través de un cuestionario que incluía género e preguntas sobre salud dental y de encías. Se desarrolló un cuestionario para detectar lesiones deportivas entre los estudiantes. Después de analizar los datos, los investigadores concluyeron que descuidar la salud bucal y de las encías afecta negativamente al cuerpo y puede provocar daños. El estudio llegó a algunas conclusiones importantes, la mejor de las cuales fue que los estudiantes a menudo descuidan el cuidado dental, consumen alimentos poco saludables y no se someten a exámenes médicos debido al dolor y la exposición a lesiones. Los investigadores aconsejaron centrarse en las causas de las lesiones, implementar medidas preventivas, asegurar la curación completa antes de retomar las actividades, abordar variables que mitiguen el riesgo de accidentes o sus consecuencias y priorizar la salud de dientes y encías. Era esencial realizar más investigaciones para determinar los tipos de lesiones e identificar las áreas de trabajo para su prevención.

Palabras clave: Salud de las Encías; Educación Física; Lesiones Deportivas.

INTRODUCTION

Numerous coaches, players, and administrators may disregard or doubt the connection between oral ailments, such as toothaches and gum disorders, and sports injuries or other health issues affecting athletes. Recent studies indicate a correlation between tooth and gum problems and sports injuries, as well as other ailments affecting sportsmen. These studies have demonstrated that dental and gum infections adversely impact the soft and hard tissues adjacent to the teeth and the site of inflammation, while also rendering the athlete's body susceptible to various diseases beyond the oral cavity, including those affecting the circulatory, respiratory, muscular, and nervous systems, thereby detrimentally influencing athletic performance and increasing the risk of injuries.[1] Consequently, it influences technical performance levels and results in athlete injuries. This critical domain has garnered significant attention from researchers and stakeholders, establishing itself as a fundamental component in athlete preparation. Numerous essential facets have been explored through research and study, the findings of which have substantially contributed to the remarkable advancements in elite sports across various countries worldwide.[2] Consequently, study has presently concentrated on using public and private health resources and enhancing sports performance, alongside emphasising disciplines that underpin training science, including sports physiology, biomechanics, and sports medicine, among others. Inflammations caused by tooth and gum disorders (due to bacterial toxins) exert pressure on the nerves next to the jaws, leading to intense headaches, diminishing the player's focus and impairing cognitive function, therefore impacting athletic performance. The dissemination of microorganisms from oral and periodontal illnesses into the bloodstream impacts the athlete's recovery duration.[3] An athlete with an injury, such as to the knee joint, will experience a delayed healing process compared to another athlete without such conditions, along with an increased risk of complications due to the presence of bacteria in the bloodstream. Dental and gum problems significantly impede the healing process and contribute to the onset of different systemic illnesses. The significance of research in examining dental and gum health, alongside its correlation with sports injuries that students may encounter, encompasses the causative factors, injury location and timing, and all pertinent aspects. Additionally, it addresses the primary physical and functional impairments resulting from these injuries, aiming to utilise this information to mitigate injury risk and incorporate it into lectures and sports training.[4]

Research problem

Most current studies confirm that there is a noticeable increase in the rates of injury among students of faculties of physical education and sports sciences annually, and this is a serious problem in itself because it threatens their academic and practical level, so injury is an obstacle to their athletic career.[5] The health of the teeth and gums of students is a factor affecting the functional efficiency of the various systems and organs of the body, as well as the physical aspect and consequently the level of achievement in various sports activities. The increase in physical and nervous effort beyond what the student can bear leads to a decline in his physical and skill level and as a result increases sports injury. It is worth noting that there is no clear and accurate data on the type and nature of the effect of these two phenomena on each other due to the scarcity of studies related to them, which are considered one of the most important issues of scientific research in the field of training physiology and sports medicine. Through the application of various researches in this field, these researches did not reach results from all aspects, and there are many other aspects that need more research and experimentation in the sports field. Therefore, it is necessary to know and study the health of teeth and gums for third-year students of Al-Muthanna University in the College of Physical Education and Sports Sciences and its relationship to sports injuries, which leads to the development of the level of physical fitness of students in an integrated and interconnected manner that will make them more qualified to bear the burden of sports activities and achieve the best results.

Research objectives

1. Identify the interest in dental health and the number and type of sports injuries in the research sample.
2. Identify the relationship between dental and gum health and sports injuries in the research sample.

Research hypotheses

1. There are statistically significant differences in the interest in dental and gum health among the research sample.
2. There is a correlation between dental and gum health and sports injuries among the research sample.

METHOD

As far as the type of the investigation is concerned, the researchers used the descriptive method using the

https://doi.org/10.56294/saludcyt20251500

survey method and correlational relationships because it is one of the most appropriate methods for the nature of the research problem. Moreover, quantitative analysis was utilized incorporating statistical methods to draw conclusions.

Research areas

1. Human field: Third-year students / College of Physical Education and Sports Sciences / Al-Muthanna University
2. Time field: 12/15/2023 - 1/15/2024.
3. Spatial field: Halls and playgrounds of the College of Physical Education and Sports Sciences, Al-Muthanna University.

Research Community and Sample

The research community and sample included third-year students of the College of Physical Education and Sports Sciences / Al-Muthanna University for the academic year (2023-2024) with a total number of (125) consisting of (84) male students (41) female students.

Research tools and means of collecting information

A. Arabic sources and references.
B. Questionnaire.
C. Observation.
D. Information and data entry form.
E. Literature, previous studies and experts.

Field Research Procedures

Questionnaire On Dental and Gum Health and Sports Injuries

In order to gather information from experts, researchers created a two-axis questionnaire that asked about dental and gum health on one side and about the types, numbers, and causes of sports injuries on the other. The experts were asked to accept or reject the paragraphs as written and to indicate whether any paragraphs needed to be added, deleted, or modified. The questionnaire was finalised after receiving over 80 % approval from experts and specialists. It was then sent to the research sample for evaluation. The response scale was aligned with the questions, and each paragraph was written to convey a positive message.[6] To determine the paragraphs' discriminating power, researchers extracted the internal consistency coefficient and performed statistical analysis. To accomplish this, researchers utilised Pearson's simple correlation coefficient. Then, they presented the results to experts and specialists to determine the validity of the nominated paragraphs. The questions in the nominated paragraphs numbered 26 and were distributed over two fields. After collecting and analysing the data, researchers used the (Ka2) test to distinguish valid paragraphs from invalid ones. The results demonstrated that all paragraphs were accepted because the calculated (Ka2) value for these fields was smaller than its tabular value, which amounted to (3,84) at a degree of freedom (1) and a significance level of (0,05).[7] This seems to indicate that the survey was legitimate. By definition, a stable test is one that produces consistent findings when repeated under same conditions.[3] Researchers used the survey form with a sample of 30 students, half male and half female, for the exploratory experiment. After a week, the same form was used to test the same sample again under the same conditions. Using the basic Pearson correlation coefficient, the researchers were able to derive a stability coefficient for the questionnaire form; this value reached 0,88, suggesting that the form is stable. Regarding the two subjects covered, the experts vouch for the questionnaire's neutrality and praised its clarity and the simplicity with which respondents could answer the questions.[8]

Exploratory Experiment

The researchers conducted an exploratory experiment in order to identify the negatives that may accompany the application of the tests and questionnaire to the research sample and whether the questionnaire phrases were understood by the research sample members and to know the negatives that the testers went through and overcome them with the main application and to know and determine the time taken to fill out the form. The time taken to fill out the form was (10-15) minutes for each form. The researchers distributed the questionnaire forms to a group of the research community, numbering (40) male and female students. After surveying the testers' opinions about the nature of the questionnaire and the extent of their understanding of its phrases, whether they were understood or not, and whether they had any comments about the wording of its phrases or whether there were any difficulties in answering. It was found that there was no difficulty in answering the questionnaire.[9]

Steps For Conducting the Research

The research steps were carried out by distributing the questionnaire form to the students, and then it was collected and its results were entered into data entry forms for the purpose of statistically processing them and showing the final results of the study (69) forms were received to be the final result of the study.

Statistical methods

The SPSS statistical package was used according to the requirements of the research procedures.

RESULTS

Cleaning teeth daily in the correct and required manner

Table 1. Cleaning Correctly on Daily Manner

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
I don't brush my teeth	00	0	53,00	8	3	Significant
Once/day	08	12				
Twice/week	21	31				
More than 3 times/day	40	58				

While none of the respondents claimed they do not brush at all, most (58 %) said they clean their teeth more than three times daily. The φ^2 value shows a statistically noteworthy difference in everyday cleaning routines.

Drinking soft drinks

Table 2. Dinking Soft Drinks with Percentages

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	11	15,94	19,57	7,81	3	Significant
1 pack/day	34	49,27				
2 packs/day	8	11,59				
More than 3 packs/day	11	15,94				

Approximately 49,27 % of the participants eat one pack of soft drinks each day. The distribution of consumption levels is statistically significant, indicating variations in intake frequency among the respondents.

Cleaning between your teeth daily with a soft brush, floss, water flosser, or other products designed for this purpose

Table 3. Daily Interdental Cleaning Methods

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	25	36,23	5,23	3,84	1	Significant
No	44	63,78				

Approximately 36 % of respondents utilise interdental cleaning instruments (e.g., soft brushes, floss), whilst 64 % do not partake in this activity on a daily basis. The substantial x^2 value validates a non-uniform pattern of interdental cleaning behaviour.

Drinking tea or coffee

Most of the responders (62,31 %), sip one to two cups of tea or coffee every day. The consumption trend often shows statistical significance.

Table 4. Effects of Tea and Coffee Consumption

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	00	0	91,94	7,81	3	Significant
1-2 cups/day	43	62,31				
3-4 cups/day	19	27,53				
5-6 cups/day	07	10,14				

Drinking milk weekly

Table 5. Weekly Milk Consumption

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	46	66,66	66,71	7,81	3	Significant
Once/week	11	15,94				
Twice/week	10	10,41				
More than three times/ week	02	2,98				

The consumption of milk is low, with 66,66 % of respondents not consuming milk on a weekly basis. The statistical significance of the variations in consumption frequencies is evident.

Ensuring to see the dentist once a year to have my teeth checked and cleaned

Table 6. Annual Dental Checkup and Cleaning

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	13	18,84	26,79	3,84	1	Significant
No	56	81,15				

The statistical test indicates a substantial disparity in dental visit frequency, as a significant majority (81,15 %) do not attend an annual dental exam.

Eat fruit daily

Table 7. Daily Fruit Consumption

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	13	18,84	26,79	3,84	1	Significant
No	56	81,15				

The majority of respondents do not achieve the daily fruit ingestion recommendation, as only 18,84 % consume fruit on a daily basis. This variation is statistically significant.

Eating fruit sweets daily

Table 8. Daily Fruit and Sweets Consumption

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	00	0	53,02	7,81	3	Significant
Once/week	08	11,59				
Twice a week	21	30,43				
More than three times/week	40	57,97				

Table 8 shows a statistically significant trend pointing a possible area of dietary concern: 57,97 % of the research sample eat fruit sweets more than three times per week.

Constant bad breath or bad taste

Table 9. Persistent Bad Breath or Unpleasant Taste

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Rarely	8	11,59	37,02	7,81	4	Significant
Once/week	12	17,39				
Twice/week	10	14,49				
More than three times/week	39	56,52				

More than half of the participants (56,52 %) encounter chronic halitosis or an unpleasant taste exceeding three times weekly. This distribution has statistical significance.

Do you smoke?

Table 10. Smoking Frequency with Percentages

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Not a day	00	0	19,57	7,81	4	Significant
A day	11	15,94				
Two days	16	23,18				
Three days	8	11,59				

No respondents indicated complete abstinence from smoking, however diverse frequencies were observed, with the most prevalent response being “Two days” (23,18 %). The x^2 test indicates large disparities in smoking frequencies.

Replacing your toothbrush every 3 or 4 months

Table 11. Recommended Toothbrush Replacement Guidelines

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	43	62,31	91,94	7,81	3	Significant
No	26	37,53				

A majority (62,31 %) follow the guideline of replacing their toothbrush every 3 to 4 months. The variance is statistically significant.

Eating fast food

Table 12. Eating Fast Food Frequency with Percentages

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	11	15,94		66,71		Significant
Once/week	46	66,66				
Twice/week	10	10,41				
More than three times/week	02	2,98				

The majority of respondents (66,66 %) reported consuming fast cuisine on a weekly basis. There are substantial variations in the aggregate consumption pattern.

https://doi.org/10.56294/saludcyt20251500

Using Siwak clean teeth

Table 13. Using Siwak clean teeth

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Rarely	40	57,97	19,39	5,99	2	Significant
Daily	17	24,63				
Twice a week	12	17,39				

Drinking sweetened juices (unnatural)

Table 14. Drinking Sweetened Juices

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Do not take	00	0	91,94		7,81	Significant
1 pack/day	19	27,53				
2 packs/day	43	62,31				
More than 3 packs/day	07	10,14				

The use of Siwak for dental hygiene is uncommon among the majority of respondents, with around 58 % indicating that they use it infrequently. This behaviour is statistically significant.

Bleeding gums when brushing teeth

Table 15. Bleeding Gums Causes and Solutions

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Daily	29	42,02	57,76	11,1	5	Significant
Once/week	02	4,89				
Twice/week	19	27,53				
Three times/week	12	17,39				
Four times/week	05	07,24				

Gum bleeding when brushing is most commonly described as a daily event (42,02 %). The response pattern is statistically significant, demonstrating variations in the frequency of this condition.

The preceding data illustrate that the health of teeth and gums varies among College of Physical Education and Sports Sciences students. We find that the majority of students brush their teeth after every meal to prevent plaque buildup. This is the major cause of tooth decay and gum disease. Teeth cleaning is critical and should be done at least twice a day with a brush and fluoride toothpaste, as well as once a day with special floss and twice a year at the dentist to prevent sports injuries and other disorders. They rely on fast food in their daily diet, drink soft drinks on a daily basis, and drink tea or coffee in moderation. The majority of them do not drink milk, which we all know is important because it contains calcium, which is necessary for the teeth, because it strengthens the teeth, resists decay, and prevents bacteria from entering the body through the teeth. They also do not eat fruits and berries on a daily basis, as this prevents tooth decay. Cranberries may help prevent tooth decay. Experts concur that berries contain antioxidants. They are also known for their ability to combat microorganisms caused by tooth decay. Fruits high in vitamin C, such as oranges, lemons, and apples, contain vitamin C, which is required for healthy teeth, gums, and bones and aids iron absorption. It may be taken as tablets.[10]

Excessive consumption of confections and students' dependence on energy beverages and sugary juices. The majority of pupils hardly utilise the Siwak for dental hygiene. The Siwak combats pathogens. It has anti-inflammatory properties that may manifest in the oral cavity and provides analgesic effects for toothaches. The Siwak has an astringent compound that fortifies the gums. It also includes a compound that safeguards the teeth from decay and other agents that facilitate the expulsion of phlegm. The Prophet (PBUH) also advocated it as a prophylactic and therapeutic measure for tooth and periodontal problems.

According to the above, the athlete must emphasize the health of the mouth and teeth, because they

are very important for the athlete's future and their diseases are not limited to them only, but affect all the body's systems. Accordingly, a periodic dental examination must be performed in specialized centers to avoid complications of dental diseases that threaten his athletic future.[11]

Presentation and analysis of the results of the questionnaire form, second axis: sports injuries
Do you get a medical examination when you feel pain?

Table 16. When to Seek a Medical Examination for Pain

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	09	13,04	37,68	3,84	1	Significant
No	60	86,95				

How many injuries do you have during the school year?

Table 17. Common School Injuries and Their Causes

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
From (1-3)	11	15,94	66,71	7,81	3	Significant
From (4-6)	46	66,66				
From (7-9)	10	10,41				
More than (10)	02	2,98				

Did you return to exercise before you were fully recovered from the injury?

Table 18. Early Return to Exercise with Percentages

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	60	86,95	37,68	3,84	1	Significant
No	09	13,04				

Did you continue your training despite your injury?

Table 19. Frequency of Training Practices Conditions

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	53	76,81	19,84	3,84	1	Significant
No	16	23,18				

When did you get the injury?

Table 20. Injury Possible Conditions

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
During the warm-up	12	17,39	19,39	5,99	2	Significant
In the middle of the lecture	40	57,97				
In the final exam	17	24,63				

What are your most common areas of concern?

Table 21. Common Areas of Concern and Possible Solutions

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Head	02	2,89 %	57,76	11,1	5	Significant
Forearms	02	2,89 %				

https://doi.org/10.56294/saludcyt20251500

Legs	19	27,53 %
Knee joint	12	17,39 %
Wrist	05	7,24 %
Ankle joint	29	42,02 %

What are the causes of sports injuries?

Table 22. Causes of Injuries

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Insufficient warm-up.	09	13,04	49,34	11,1	5	Significant
Low physical fitness	06	47,82				
Overexertion	30	47,82				
Unhealthy nutrition	18	26,08				
Lack of attention to dental and gum health	04	5,79				
Poor equipment used in training.	02	2,89				

Did you undergo medical examinations before joining the work?

Table 23. Medical Examination Conduct Frequency

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	11	15,94	32,01	3,84	1	Significant
No	58	84,04				

Are you subject to medical supervision during working hours?

Table 24. Workplace Medical Supervision Levels

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	14	20,28	24,36	3,84	1	Significant
No	55	79,71				

Is your nutrition appropriate for exercise?

Table 25. Exercise Nutrition Appropriateness

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Yes	12	17,39	29,34	3,84	1	Significant
No	57	82,60				

How do you see the college playgrounds?

Table 26. College Playground Attendances

Response	Frequency	Percentages	Calculated K2	K2 Tabulated	Freedom Degree	Sig.
Suitable	20	28,98	6,86	5,99	2	Significant
Unsuitable	33	47,82				
Unsuitable	16	23,18				

By observing the above tables, the results showed that the cause and type of sports injuries differ among students of the College of Physical Education and Sports Sciences, as we conclude that the majority of students do not undergo medical examinations when they feel pain, and that they are injured (4-6) times per academic year, and that they return to training without having fully recovered and have not undergone appropriate rehabilitation, and they continue their training despite being injured, and that in the middle of the lecture is the period in which injuries occur at a greater rate, and they confirm that the injuries that occur to them at a greater rate are in the lower side (ankle joint, legs), and they see that overexertion is one of the reasons leading to injury at a greater rate, and that they do not conduct medical examinations before joining the school, and are not subject to medical supervision during school, and do not take appropriate meals after each practical lecture, and the majority of students see that the playing field is completely unsuitable for practicing the game in the best conditions.

DISCUSSION

The findings and conclusions of the first axis concerning tooth and gum health indicate that students exhibit a lack of interest in this area, as shown by their neglect of oral hygiene, few dental visits, and a predominant reliance on fast food, soft drinks, and sugary beverages, coupled with insufficient fruit consumption. The second axis concerning the causes and kinds of sports injuries among students indicated that they are susceptible to injuries ranging from four to six occurrences throughout the academic year. The researchers ascribe this to students' failure to seek medical evaluation while experiencing discomfort, citing several causes for this behaviour. Numerous injuries occur throughout the academic year owing to excessive exertion by students, inadequate warm-up routines, insufficient rest, and poor nutritional practices, which may lead to student injuries.[12]

The return to exercise before completely recovering from the injury and exerting excessive effort, thereby preventing the correct rehabilitation from the injury. This is the result of the students' disregard for their health, as they refrain from engaging with the student while he is ill, which puts him at risk of injury. Additionally, it is imperative that he refrain from participating in activities while he is uncertain as to whether or not he has fully recovered from an injury, as this may result in the injury reoccurring or transforming into a chronic condition, which could have a detrimental impact on the student's future. Injuries are most frequently sustained during the warm-up, the midst of the lecture, and occasionally during the final examinations. The ankle joint and the legs are the areas that are susceptible to injury.[13]

CONCLUSIONS

Based on the results analysis, the study reached to conclusions that students do not visit the dentist regularly. moreover, the type of food eaten is unhealthy and affects the body and can be a cause of gum bleeding. Finally, the majority of students do not undergo medical examinations when they feel pain and they are exposed to injury (4-6) times per academic year.

RECOMMENDATIONS

1. Paying attention to the type of healthy food consumed, as it must contain all the complete nutritional values.
2. Paying attention to the causes that lead to injury and working to prevent them.
3. Paying attention to the playgrounds and equipment used and warming up sufficiently and not returning from injury until after ensuring recovery and other factors that reduce the occurrence of injuries or their complications.
4. Organizing courses for students to prevent sports injuries.

BIBLIOGRAPHIC REFERENCES

1. Önsüren AS, Eroğlu H, Aksoy C. Faculty of sports science students, physical education teachers, and athletes' level of knowledge and attitude about mouthguards. BMC Oral Health. 2024;24(1):57. https://doi.org/10.1186/s12903-023-03675-8

2. Bryant S, McLaughlin K, Morgaine K, Drummond B. Elite athletes and oral health. Int J Sports Med. 2011;32(9):720-4. https://doi.org//10.1055/s-0031-1279777.

3. Abd Aliwie AN. A Pragmatic Analysis of Wish Strategies Used by Iraqi EFL Learners. Salud, Ciencia y Tecnología - Serie de Conferencias [Internet]. 2024 Aug. 12 [cited 2024 Sep. 6];3:.1151. Available from: https://conferencias.ageditor.ar/index.php/sctconf/article/view/1151

4. Needleman I, Ashley P, Meehan L, et al. Poor oral health including active caries in 187 UK professional

male football players: clinical dental examination performed by dentists. Br J Sports Med. 2016;50(1):41-4. https://doi.org/10.1136/bjsports-2015-094953.

5. Kerr IL. Mouthguards for the prevention of injuries in contact sports. Sports Med. 1986;3(6):415-27. https://doi.org//10.2165/00007256-198603060-00004

6. Newsome PR, Tran DC, Cooke MS. The role of the mouthguard in the prevention of sports-related dental injuries: a review. Int J Paediatr Dent. 2001;11(6):396-404. https://doi.org/10.1046/j.0960-7439.2001.00304.x

7. Kvittem, B., Hardie, N. A., Roettger, M., & Conry, J. (1998). Incidence of orofacial injuries in high school sports. Journal of public health dentistry, 58(4), 288-293. https://doi.org/10.1111/j.1752-7325.1998.tb03011.x

8. Aliwie, A.N.A., 2024. A Pragmatic Study of Irony in Dickens' 'A Tale of Two Cities'. Forum for Linguistic Studies. 6(6): 147–161. DOI: https://doi.org/10.30564/fls.v6i6.7056

9. Abd Aliwie, A.N., 2025. A Pragmatic Analysis of Persuasive Arguments in the 2011–2020 US Presidential Campaign Speeches. Forum for Linguistic Studies. 7(1): 480–494. DOI: https://doi.org/10.30564/fls.v7i1.7243

10. Abd Aliwie, A. N. (2025). Conversational Silence in Harold Pinter's The Birthday Party: A Pragmatic Perspective. International Journal of Arabic-English Studies. https://doi.org/10.33806/ijaes.v25i2.860

11. Soğukpınar Önsüren, A., Eroğlu, H., & Aksoy, C. (2024). Faculty of sports science students, physical education teachers, and athletes' level of knowledge and attitude about mouthguards. BMC Oral Health, 24(1), 57. https://doi.org/10.1186/s12903-023-03675-8

12. Galic, T., Kuncic, D., Poklepovic Pericic, T., Galic, I., Mihanovic, F., Bozic, J., & Herceg, M. (2018). Knowledge and attitudes about sports-related dental injuries and mouthguard use in young athletes in four different contact sports—water polo, karate, taekwondo, and handball. Dental Traumatology, 34(3), 175–181. https://doi.org/10.1111/edt.12394

13. Sepet, E., Aren, G., Dogan, D., Tolgay, C. G., & Ilguy, D. (2014). Knowledge of sports participants about dental emergency procedures and the use of mouthguards. Dental Traumatology, 30(5), 391–395. https://doi.org/10.1111/edt.12105

FINANCING

The authors did not receive financing for the development of this research.

CONFLICT OF INTEREST

None.

AUTHORSHIP CONTRIBUTION

Conceptualization: Nagham Salman Kareem, Sundus Burhan Adham.
Data curation: Nagham Salman Kareem, Sundus Burhan Adham.
Formal analysis: Nagham Salman Kareem, Sundus Burhan Adham.
Drafting - original draft: Nagham Salman Kareem, Sundus Burhan Adham.
Writing - proofreading and editing: Nagham Salman Kareem, Sundus Burhan Adham.