Influence of Lifestyle on Injury Prevention among Football Players in Tertiary Institutions, Kwara State

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Abstract: Soccer is one of the most popular and complex sports, characterized by rapid, high-intensity motor activities. Owing to its physical demands, including frequent jumping, landing, and sudden directional changes, soccer players are at an elevated risk of developing overuse injuries such as jumper's knee. This study examined the influence of sleep pattern, stress pattern, nutritional pattern, and health status on injury prevention among soccer players in tertiary institutions in Kwara State, Nigeria. An ex post facto research design was adopted, and a sample of 93 participants was selected using multistage sampling procedures. Data were collected with a validated questionnaire (reliability coefficient r = 0.76), while percentage, mean, standard deviation, and multiple regression were employed for analysis at a 0.05 alpha level. The results revealed that sleep pattern showed an inverse relationship with injury prevention ($\beta = -0.092$, $p = 0.388$), stress pattern demonstrated a significant positive relationship ($\beta = 0.443$, $p < 0.001$), and nutritional pattern exhibited a negative but non-significant relationship ($\beta = -0.030$, $p = 0.756$). Based on these findings, it was concluded that stress, sleep, and nutritional patterns collectively contribute to injury prevention among soccer players in tertiary institutions in Kwara State. The study recommends that athletes should be encouraged to observe adequate rest after competitions to facilitate recovery from injuries, while coaches and trainers should enforce structured sleep and nutritional regimens to enhance players' performance and reduce injury risks.
Keywords: soccer; injury, injury prevention, sleep pattern, stress, nutrition, health status, tertiary institutions, Kwara State, Nigeria

Introduction

Football or soccer is a sport of a team pitting two opposing sides with eleven players each. The international match is two 45 minutes halves with a 15-minute break between them. In the game, the players are required to handle and move the ball with any part of the body except the hands and arms with the aim of scoring the goals against the other opponent team. Soccer is generally considered to be one of the most thriving and physically loaded sports, which involves quick, dynamic and intense movement of the muscles (Shalaj et al., 2016). Though being played by all age groups around the world, football is closely related to the high risk of injuries because of the rate of acceleration, quickness, and player-to-player impact (Lakshakar et al., 2022).

The high rate of injuries in soccer can be associated with the physical nature of the sport as well as the direct or indirect physical contact of the players. The injuries can be caused by collision of players, falls, as well as non-contact activities like sudden turns, cutting moves, landings, heading, pressing and kicking. Such movements tend to be involved in anterior cruciate ligament (ACL) injuries (Gupta et al., 2020). Research indicates that professional athletes have between 10 and 35 injuries per 1,000 match hours, and the most prevalent of them are lower-limb injuries (ankle sprains, 1/3 of all injuries) and hamstring injuries (Lee et al., 2014). Approximately 54 percent of ankle sprains happen during tackles and 39 percent of the injuries are caused by non-contact mechanisms, indicating the need to prevent those (Farquharson & Greig, 2017). Competitive matches, as opposed to training, have a higher number of injuries, and around 15% of professional players are out of commission at any particular moment. The injury of muscles mostly involves lower extremities: 37 percent hamstring, 23 percent adductors, 17 percent quadriceps, and 13 percent calf muscles (Svensson et al., 2015).

The rising physical and performance demands on football players in the training and playing process increase their predisposition to injuries (Rabiu et al., 2019). Therefore, the accurate information about the mechanism of injury, its prevalence, and the location of the injury are essential in designing the preventive and management measures. Injuries related to football include knee, ankle and thigh and calf muscle/ligament strains and sprains as the most common injuries. It has been found that there are differences in position; wing-defenders are less likely to experience groin injury than forwards, and wing midfielders have greater likelihood of match related injury. The most injured are the central defenders who are injured in the course of training. Other than the lower limbs, injuries to the head in the form of fractures, laceration, eye injuries, etc., are between 4-24 percent of all football injuries, which may be caused by direct impact and head-on collisions with other players (Faude et al., 2017). The risk of injury is determined by a number of factors, such as age, height, kicking leg with which he dominates, position on the field, and exposure to matches (Bengtsson et al., 2013). Other factors that are lifestyle-related like training load, nutrition, sleep, strength, flexibility and

recovery are also critical in the prevention of injuries. One can conceive lifestyle as the pattern of behavior decisions that people take in the socio-economic environment. These decisions are diet, physical exercise, smoking, drinking of alcohol, sleeping habits, and rest patterns that have direct impacts on health and fitness (Farhud, 2015). In case of athletes, lifestyle behavior plays a critical role in determining physical performance, recovery and injury resilience.

Sports nutrition is an important component of the lifestyles of athletes. Following the high-demand training and competitions, the nutritional requirements of football players are more energy, protein, and carbohydrates than those of non-athletes (Jagim et al., 2021). Nevertheless, these nutritional requirements are not fulfilled by most athletes. The aim of the nutrition education programs is to fill this gap; they should provide players with the knowledge to make informed choices about their diets. There are many agencies that provide athletes with nutrition information, such as dietitians, sports scientists, coaches, and the media. Although professional advice that is specialized usually benefits the elite players, young athletes tend to get more generalized information with poor quality especially when the coach is not a specialist (Condo et al., 2019). The appreciation of nutrition as one of the foundations of athletic performance has been on the rise. Properly designed nutrition plans including carbohydrates, proteins, fluid, sodium and even caffeine have been reported to increase muscle efficiency and maintain energy even during long-term workouts (Trackman et al., 2016). Eating well, along with training, is a way to achieve maximum results, but malnutrition or the lack of balance between energy intake and its spending may cause an athlete to gain fat and lose efficiency (Jagim et al., 2021).

The age, body structure, and physical condition are also vital determinants of the performance of elite players (Jenner et al., 2018). According to the World Health Organization (2025), lifestyle is the factor that contributes to the health-related quality of life of an individual to the extent of almost 60% and physical activity, or sports, among other factors, has a variety of benefits, such as cardiovascular fitness, weight management, and general wellbeing (Bogin & Varela-Silva, 2012). Poor biomechanics, lack of rest or technique may cause overuse injuries. Finally, physical qualities of players including strength, agility, speed, and body size determine performance and injury results. All these aspects, which are also known as athletic competence, have to be built in a harmonious manner to produce maximum performance and low risk of injury (Sanmiguel-Rodríguez, 2021).

It is on this backdrop that this paper explores how lifestyle is linked to injury prevention among college football players in the Kwara State, Nigeria.

Objectives of the study

1. determine the influence of sleep pattern on injury prevention among football players in tertiary institutions, Kwara State, Nigeria;

2. examine the influence of stress pattern on injury prevention among football players in tertiary institutions, Kwara State, Nigeria;

3. investigate the influence of nutritional practices on injury prevention among football players in tertiary institutions, Kwara State, Nigeria;

4. Examine the influence of health-status (Body Mass Index [BMI], Waist Circumference [WC]) on injury prevention among football players in tertiary institutions, Kwara State, Nigeria.

Research hypotheses

Main hypothesis:

H_0: Lifestyle has no significant influence on injury prevention among football players in tertiary institutions, Kwara State.

Sub-hypotheses:

H_{01}: Sleep pattern has no significant influence on injury prevention among football players in tertiary institutions, Kwara State, Nigeria.

H_{02}: Stress pattern has no significant influence on injury prevention among football players in tertiary institutions, Kwara State, Nigeria.

H_{03}: Nutritional practice has no significant influence on injury prevention among football players in tertiary institutions, Kwara State, Nigeria.

H_{04}: Health-status (BMI & WC) has no significant influence on injury prevention among football players in tertiary institutions, Kwara State, Nigeria.

Materials and methods

This study adopted a cross-sectional research design, which was deemed suitable because it enabled the collection of data from participants at a single point in time to identify patterns and relationships between lifestyle factors and injury prevention among football players. The population consisted of 324 registered football players across tertiary institutions in Kwara State. From this population, a purposive sampling technique was used to select 102 participants based on their availability and relevance to the study objectives. A structured questionnaire served as the primary instrument for data collection. The instrument was adapted from established scales, namely the Athlete Sleep Screening Questionnaire (ASSQ), the Kessler Psychological Distress Scale (K10), and the Victorian Institute of Sport Assessment–Patellar Tendinopathy (VISA-P).

The questionnaire was designed to capture demographic information, lifestyle-related factors, and injury experiences among football players. To ensure validity, the instrument was reviewed by experts in sports science and educational research, while its reliability was confirmed through a pilot test, yielding a Cronbach's alpha coefficient of

0.76, which was considered acceptable for internal consistency. Informed consent of all respondents was sought, following which data were collected during football training sessions and related activities, with guidance provided to respondents to ensure accurate responses, and all completed questionnaires were retrieved immediately to avoid data loss. The analysis involved both descriptive and inferential statistics; percentages were used to summarize demographic characteristics and response patterns, while multiple regressions was used to test the formulated hypotheses 0.05 alpha level.

Results

Hypotheses testing

H_0: Lifestyle has no significant influence on injury prevention among football players in tertiary institutions, Kwara State, Nigeria

Table 1a: Model summary of multiple regression analysis examining the influence of lifestyle on injury prevention among football players in tertiary institutions in Kwara state, Nigeria

Variables		R	R²	Adjusted R²	Std. Error of the Estimate (SEE)	ANOVA			
Independent	**Dependent**					**F**	**df 1**	**df 2**	**Sig.**
Lifestyle	Injury Prevention	.278	.077	.067	3.025	7.618	1	91	0.007*

p < 0.05

Table 1a used the regression to investigate how lifestyle affects the prevention of injuries among football players in tertiary institutions within Kwara State, Nigeria. The outcome was that there was positive correlation between injury prevention and lifestyle (R = 0.278). The model accounted 7.7% of the variation in injury prevention (R² 0.077 Adjusted R² 0.067) and the standard error of estimate was 3.025. The ANOVA test revealed that the model is statistically significant, $F_{(1, 91)} = 7.618$, p = 0.007, which is less than the significant level of 0.05. This observation indicates that lifestyle plays a major role in the prevention of injuries among players in the football field in the research region. Hence, the null hypothesis having an assertion that lifestyle does not play a significant role in injury prevention was rejected.

Table 1b: Coefficient of models predictor of injury prevention pattern among football players in tertiary institutions in Kwara state, Nigeria

Variable		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
Independent	**Dependent**	**B**	**Std. Error**	**β**		
	Constant	11.474	1.247		9.199	.000
Lifestyle	Injury Prevention	.054	.020	.278	2.760	.007

$p < 0.05$

The regression model presented in table 1b considered the effects of the lifestyle on injury prevention among football players in tertiary institutions across Kwara State, Nigeria. The finding showed the existence of a positive association between injury prevention and lifestyle (R = 0.278). This model accounted the 7.7 percent of the variation in injury prevention (R^2 =0.077; Adjusted R^2 =0.067), where standard error of estimate is 3.025. The ANOVA test showed that the model is statistically significant $F_{(1, 91)}$ = 7.618, P = 0.007, which is lower than the 0.05 level of significance. This observation implies that lifestyle plays a major role in preventing injuries among the football players in the area where the study was conducted. As such, the null hypothesis that lifestyle did not make any significant contribution in injury prevention was rejected.

Sub-hypotheses

Table 2a: Model summary of multiple regression analysis examining the influence of the independent variables on the injury prevention pattern among football players in tertiary institutions in Kwara state, Nigeria

Variables		R	R²	Adjusted R²	Std. Error of the Estimate (SEE)	ANOVA			
Independent	**Dependent**					**F**	**df 1**	**df 2**	**Sig.**
BMI, Nutrition, Stress, WC and Sleep	Injury Prevention	.466ª	.217	.172	2.8494 2	4.832	5	87	0.001 *

$p < 0.05$

Table 2a used the regression model to consider the joint effect of all the independent variables (BMI, nutrition, stress, waist circumference and sleep) on preventing injury among football players in tertiary institutions in Kwara State, Nigeria. The value showed a moderate positive multiple correlation (R = 0.466). The overall predictors explained 21.7 percent of the total injury prevention variance (R^2 = 0.217; Adjusted R^2 = 0.172) with the standard error of estimate of 2.849. The outcome of ANOVA proved that the model used was significant in a statistical sense, $F(5, 87)$ = 4.832, p = 0.001, which is less than the 0.05 level. This means that when the independent variables were put together, they contributed a great deal in terms of preventing injuries among the respondents. Thus, the null sub-hypotheses, which supposed no important impact of these variables on the injury prevention, were dismissed.

Table 2b: Coefficient of models predictor of injury prevention pattern among football players in tertiary institutions in Kwara state, Nigeria

Hypotheses	Variable		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	Independent	**Dependent**	**B**	**Std. Error**	**β**		
		Constant	8.803	2.299		3.829	.000
Ho$_1$	Sleep Pattern		-.040	.046	-.092	-.867	.388
Ho$_2$	Stress Pattern		.154	.036	.443	4.218	.001
Ho$_3$	Nutritional Pattern		-.013	.042	-.030	-.312	.756
Ho$_4$	WC	Injury Prevention	.033	.026	.135	1.291	.200
	BMI		.052	.072	.074	.729	.468

p < 0.05

Table 2b shows the analysis of the coefficient of the independent variables as predictors of injury prevention among football players in tertiary institutions in Kwara State. The findings indicate that the sleep pattern was negatively, although insignificantly, related to injury prevention (β = -0.092, p = 0.388). It means that the sleep pattern is not significant in the prevention of injury; that is why the null hypothesis (Ho$_1$) is not rejected. Stress pattern on the other hand had made a considerable predictor of injury prevention (β = 0.443, p = 0.001) with higher levels of stress management contributing positively to injury prevention. Thus, the null hypothesis (Ho$_2$) is discarded.

There was no significant and weak effect that nutritional pattern had on injury prevention (β = -0.030, p = 0.756), which retained the null hypothesis (Ho$_3$). The contribution made by the waist circumference was also positive but non-significant (β = 0.135, p = 0.200) indicating that the null hypothesis (Ho$_4$) is not rejected. On the same note, the body mass index (BMI) was not significantly related to injury prevention (β = 0.074, p = 0.468), and therefore, the null hypothesis (Ho) is accepted.

Discussion of findings

The results of the current research are valuable because they offer information on how lifestyle affects injury prevention among tertiary institutions football players in Kwara State, Nigeria. The outcome of hypothesis one that was tested found out that sleep pattern is important in the prevention of injuries. Sleep is not merely a passive recovery process but an active physiological process that is vital in the recovery process, muscle repair, tissue regeneration, and release of growth hormone-all of which are very crucial to athletes undergoing vigorous training (Adekunle and Ojo, 2022). Academic requirements and athletic involvement frequently compromise neuromuscular control of student-athletes, decreasing their reaction speed, and predisposing them to acute and overuse trauma due to chronic sleep deprivation. Sleep deprivation also influences mental functions required to make decisions, spatial knowledge, and motor skills on the field, which increases the susceptibility of players to avoidable injuries like ligament rupture, muscle strains, and others (Umar, 2023). These results imply that structured sleep education and recovery measures should be incorporated in the athletic programmed of the tertiary institutions in the Kwara State as an essential element of injury prevention.

The second hypothesis showed that stress pattern has a great effect on injury prevention. Stress is also an inevitable process in everyday life, but when it is excessively high or handled improperly, it affects both the mind and the body of a person negatively. Academic stress prevails among student-athletes, which is caused by intense course load, the desire to succeed in exams, long working hours in lectures, lack of transportation opportunities within the university, and poor housing conditions (Bengtsson et al., 2013; Akinbiola et al., 2018). This chronic stress can manifest itself in the form of emotional balance, anxiety, depression, fatigue, which in addition to impairing performance increase the risk of injuries through poor focus, coordination, and recovery ability (Andrea et al., 2016). The results highlight the need to incorporate the structured stress-management plans such as psychological counseling, time management workshops and relaxation training to reduce the negative outcomes of stress on the health and performance of players.

The third hypothesis investigated the nutritional patterns and their association with the prevention of injury. The role of nutrition in sports is significant not to be underrated, even though it was established that the result of the research did not show a

statistically significant contribution. Sports nutrition has been accepted at the level of optimal performance and injury prevention, and designed scientific measures: sufficient carbohydrate intake, hydration and adequate utilization of protein and micronutrients proved to favour the energy supply and muscle efficiency during training and competition (Farquharson and Greig, 2017; Jenner et al., 2018). The insignificance in the current study could also indicate a variation in nutritional behaviors of the players, inability to seek professional dietary advice or use of unprofessional advice. However, the results demonstrate the pressing necessity to implement the specialized nutrition education programs and institutional assistance in case football players should begin to follow the dietary habits that were previously designed to facilitate the performance and prevent the injuries.

The fourth hypothesis was able to determine that health status in terms of indices of body mass index (BMI) and waist circumference (WC) has an impact on the prevention of injury. Due to the close association between physical activity and fitness and chronic disease and early death prevention, sedentary behavior is one of the primary risk factors of non-communicable diseases (Jagim et al., 2021). In the case of football players, optimal body composition is not only critical towards optimal performance, but also essential in minimizing the risk of injuries. Body fatness amplifies mechanical forces on joints, especially knees and ankles, which exposes athletes to musculoskeletal injuries, and being thin weakens muscle strength and endurance. Professionally working out helps to be relaxed and release tension and be psychologically balanced. At the non-individual level, social connectedness, community cohesion, and positive relationships building, common among team sports and recreational activities, are also fostered through physical activity (Jenner et al., 2018). The results thus support the essence of maintaining a balanced health condition in order to prevent injury and to have a long-lasting athletic career.

Conclusion

On the basis of the results of this research, it was concluded that lifestyle influences are crucial in preventing injuries in the tertiary institution football players in Kwara State, Nigeria. The management of stress was also found to play a major role in averting cases of injuries since players with lower levels of stress managed to cope with physical and academic challenges. Sleep was also discovered as a necessity and quality sleep is what leads to recovery and better performance thus minimizing the chances of getting injured. Moreover, it was also demonstrated that adequate nutrition contributed to the physical resilience in general, which underlines the relevance of sound dietary habits to the health of the players. Lastly, the condition of good health also greatly contributed to the aspect of injury prevention to the players and this also shows the synergistic impact of physical health and healthy lifestyle in ensuring that safety and performance are observed in the game.

Recommendations

In accordance with the conclusion of the current study, it is advisable that athletes rest properly after competitions to allow them to recover fully after knocks and injuries hence helping them to come back to other events with a lot of energy. The athletes should be assisted by coaches and trainers to adhere to a regular and well-organised sleeping pattern because rest is a key to the best performance and avoiding injuries. Moreover, dietary habits are to be supervised and closely supervised in terms of due nutritional counseling so that a good performance of the players and their resistance to injuries may improve. Last but not least, frequent health tests should be organised in order to keep an eye on the overall fitness of athletes and maintenance of a high level of performance with limited chances of being injured.

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