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Coaches' practices and perspectives on mental and physical preparation in amateur soccer in Skikda Province, Algeria: A pilot study

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Abstract

The aim of this study was to identify the practices and perceptions of coaches on mental and physical preparation in Skikda province, Algeria. The sample consisted of 40 coaches of senior amateur soccer teams. A cross-sectional design was employed in this study. An electronic questionnaire was distributed online to collect data. It consisted of six sections, including informed consent from the coaches, demographics, mental preparation, physical preparation, the relationship between mental and physical preparation, and the challenges coaches face in preparing players mentally and physically. The results revealed that the majority of amateur soccer coaches believe that the goal of mental preparation for amateur soccer players is to enhance self-confidence, improve focus, develop decision-making skills, and alleviate pressure and anxiety before competition. They also see the goal of physical preparation as developing aerobic and anaerobic endurance, injury prevention, and enhancing strength and power. However, their practices in both mental and physical preparation were limited. Regarding the relationship between mental and physical preparation, coaches emphasized the importance of both aspects for amateur players. The absence of sports psychologists, a lack of modern technological resources for training, and limited sports facilities were identified as significant challenges hindering the process of mental and physical preparation. Based on these results, the researchers recommend addressing the identified challenges and reinforce the idea of paying more attention to amateur soccer in Algeria.

Keywords: *Mental preparation, physical preparation, amateur soccer, coaches' practices and perspectives*

Introduction

Soccer is a team sport where success depends on many factors like physical fitness (Chmura et al., 2022), technical performance (Kessouri, 2023), tactics (Memmert et al., 2017), teamwork, and how players think and feel (Sarkar, & Fletcher, 2014). These aspects are all connected, and it's hard to define which is most important (Higham et al., 2014). Additionally, external factors like weather conditions and the state of the field can also influence the game (Bangsbo et al., 2006). So, in soccer, players have to train and prepare for all these various aspects to do well in games and competitions. In particular, players need to strike the right balance between their mental and physical capabilities (Fossati et al., 2021), ensuring that their bodies and minds work harmoniously on the field.

Soccer requires mental toughness, strong focus, and the ability to handle pressure from competition. It also demands quick decision-making skills, which means that a player's mental game is crucial. To succeed in the game, players need to prepare their minds. Mental preparation involves developing various mental qualities needed for good performance in the sport and reducing anything that might hurt their performance (Junge et al., 2000; Najah, & Rejeb, 2016). Mental preparation involves techniques like managing stress, setting clear goals, and finding ways to relax mentally (Kumari, & Kumar, 2016). Coaches use this process throughout the sports season to make sure players perform at their best.

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In parallel with this, physical preparation for soccer players is equally indispensable. It aims to enhance their anaerobic qualities encompassing various explosive elements such as acceleration, change of direction, and jumping ability (Orer, & Arslan, 2016). Also to develop their aerobic and cardiovascular endurance, to enable them to enhance recovery between those actions and complete 90 minutes of the game (Tomlin, & Wenger, 2001). Moreover, it aims to reduce the potential risk of injuries through the implementation of several preventive methods, such as physical exercises specifically designed for this purpose (Neto et al., 2016; Kessouri, 2021).

Physical preparation is not only about planning and identifying appropriate training methods. It extends to the monitoring of players through a series of physical tests and the utilization of measurements and technological devices to assess players' performance and their responses to training sessions (Miguel et al., 2021). Additionally, it involves the utilization of various recovery modalities available to accelerate the recovery process and relieve fatigue (Nédélec et al., 2013). Therefore, physical preparation serves as the cornerstone that assists players in executing various skills and implementing diverse playing strategies and plans (Modric et al., 2022).

There are many studies that aim to investigate coaches' practices and perspectives on physical and mental preparation in athletes in general. Freitas et al. (2013) concluded that the use of psychological techniques by elite Portuguese coaches was limited, as their intervention was mostly based on their extensive experience (as coaches and players). Weldon et al. (2021) found that concentric and eccentric exercises are the most used in training by professional soccer coaches, and the primary challenges they encountered were the complexities in program planning and managing training load due to scheduling constraints and time limitations.

For amateur soccer players, to the best of our knowledge, there have been no studies investigating coaches' practices and perspectives on mental and physical preparation, and for this reason, this study aimed to understand the current practices and perceptions of amateur soccer coaches in Skikda province in Algeria, regarding mental and physical preparation.

Materials and method

Sample

The sample consisted of 40 coaches working with first teams (Senior) in amateur soccer clubs in the Skikda province, which is part of the Algerian amateur divisions. Before responding to the questionnaire, informed consent was obtained from all the coaches to participate in the study, and they were granted the right to withdraw their responses before closing the questionnaire. The current study adhered to the guidelines outlined in the Helsinki Declaration for Human Studies (World Medical Association, 2013).

Study design

In this study, a cross-sectional design to investigate the practices and perspectives of soccer coaches in Skikda Province, Algeria was employed, during the 2022/2023 sports season. A structured electronic questionnaire was distributed online for 15 days after the end of all tournaments. This approach allows capturing a snapshot of coaching methods and viewpoints, shedding light on the critical aspects of mental and physical preparation in the context of amateur soccer.

Questionnaire

A questionnaire was employed as a data collection tool. To ensure content validity and reliability, the questionnaire utilized in this study was meticulously formulated, drawing upon various previous studies on coaching practices in soccer (Freitas et al., 2013; McCall et al., 2015; McCall et al., 2020; Beere, & Jeffreys, 2021; Loturco et al., 2022; McQuilliam et al., 2023). This approach aimed to encompass multifaceted aspects of mental and physical preparation specific to amateur soccer in Skikda Province, Algeria. Moreover, an essential step involved enhancing its clarity. The questionnaire underwent a thorough auditing process conducted by distinguished experts in the field of sports training. Their invaluable insights and corrections played a significant role in improving the questionnaire items and ensuring its comprehensiveness, making it suitable for the targeted group of coaches.

The version of the questionnaire was divided into 6 sections, where the first section explained the study's objectives and significance, along with a discussion of participants' rights and their acceptance or refusal to participate in the study. In the second section, demographic data about the coaches was collected. The third section contained four questions about mental preparation in amateur soccer, including its objectives, techniques, methods for assessing psychological status, and how to address mental preparation in the training process. The fourth section similarly addressed physical preparation, covering its objectives, the tests used, injury prevention methods, as well as training load management and monitoring. In the fifth section, four questions were included regarding the relationship between mental and physical preparation. As for the sixth section, it continued the discussion on the difficulties and obstacles encountered in the application of mental and physical preparation for amateur teams. Various methods were used to answer the questionnaire, including multiple-choice options, checkboxes, and providing short answers.

Statistical analysis

Descriptive statistics, including frequencies, percentages, means, and standard deviations (SD), were utilized to provide a clear and comprehensive overview of coaches' practices and perspectives on mental and physical preparation in amateur soccer. These statistical analyses were conducted using software tools such as SPSS and Microsoft Excel.

Results

Demographics

The ages of the coaches participating in the study ranged from 23 to 54 years old. As for years of experience, 45% of the coaches had more than 10 years of experience, 30% had between 6 and 10 years of experience, and 25% had experience ranging from 1 to 5 years. Looking at the coaching certifications of the trainers, 12 coaches held a CAF C certificate (30%), 7 coaches held a CAF B certificate (17.5%), 15% held the highest coaching certificate awarded by the Algerian Football Federation, FAF 3 (n=6), and 10% held the highest certificate granted by the Confederation of African Football, CAF A (n=4). Additionally, 3 coaches possessed an FAF 2 certificate (7.5%), while 3 others held a first-degree coaching certificate granted by the Algerian Ministry of Youth and Sports (7.5%). Meanwhile, only 2 coaches held second-degree coaching certificates (5%), and 3 of the coaches had university degrees in sports coaching.

Mental preparation

Regarding the main objectives of mentally preparing amateur players, 82.5% of the coaches answered that the goal is to develop self-confidence, followed by improving focus (55%), and then enhancing the ability to make decisions under pressure (45%). Additionally, 42.5% stated that the goal of mental preparation for amateur players is to manage nervousness and anxiety before the competition, while the least important objectives were improving team dynamics and communication (20%), enhancing recovery processes (10%), and avoiding overtraining and injuries (5%).

Regarding the second question in this section, which focuses on the various techniques used by coaches to mentally prepare their players, Figure 1 illustrates the coaches' responses. The most

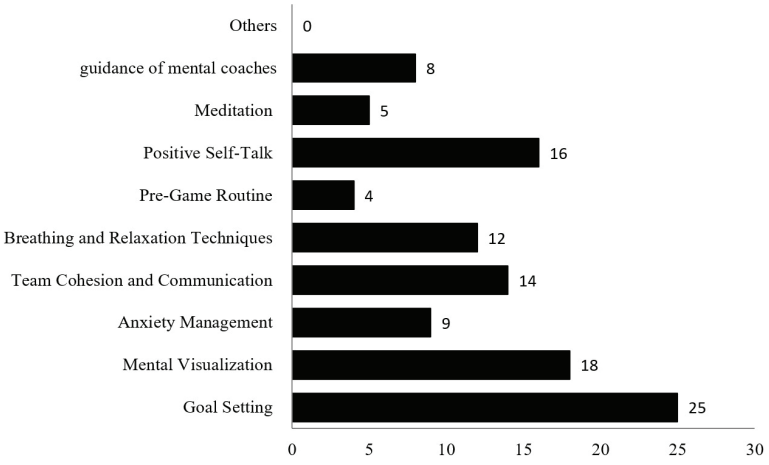

FIGURE 1 Mental preparation techniques used by the coaches

common response was 'goal setting' (n=25), followed by 'mental visualization (n=18) and 'positive self-talk.'

For the third question, which revolves around the methods used to measure the psychological state of players, it is evident from Figure 2 that the most common response was 'observing players' behaviors during training and matches' (n=20), 'Conducting standardized tests to measure psychological state' (n=20), and 'communication with the player' (n=17)

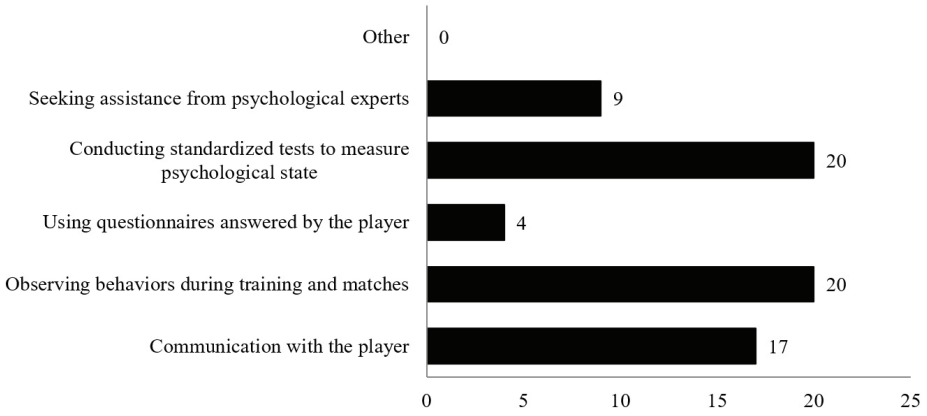

FIGURE 2 Methods employed by coaches to assess the psychological state

The last question in this section, which pertained to addressing the mental preparation of the players, where 20 coaches (50%) responded by providing players with the necessary resources for self-mental training, and 16 coaches (40%) integrated mental training sessions with regular training sessions. Additionally, 14 coaches (35%) indicated conducting separate training sessions for mental preparation. Five coaches (12.5%) mentioned conducting individual sessions for players. One coach (2.5%) provided a different response, stating that when they notice something with a player or many players, he tries to address the issue by talking to all the players to benefit from their teammates' experiences.

Physical preparation

Regarding the first question about the main objectives of

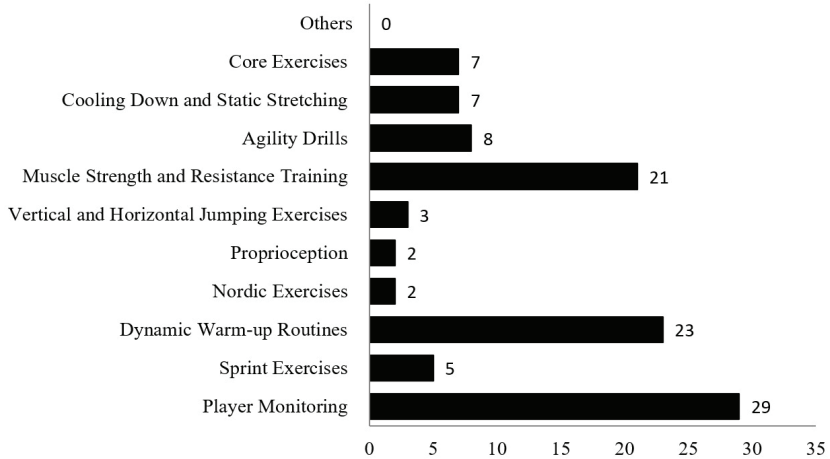

FIGURE 3 Injury prevention strategies used by the coaches

physical preparation for amateur players, 70% of the coaches answered that the goal is to improve both aerobic and anaerobic endurance, followed by injury prevention (62.5%), and then enhancing strength and power (45%). Additionally, 30% stated that the goal of physical preparation for amateur players is to improve recovery and fatigue management, while 25% mentioned that the goal is to develop agility. Furthermore, 22.5% of them indicated that the goal is to assist in carrying out tactical duties. The least important objectives were improving flexibility and mobility (15%), and one coach mentioned that all of these suggestions are the main goals of physical preparation for amateurs (2.5%).

For the strategies employed in injury prevention, the most common response was 'Player monitoring' (n=29), 'Dynamic warm-up routines' (n=23), and 'Muscle strength and resistance training' (n=21). Figure 3 highlights coaches' responses.

In the third question in this section, which focused on the tests used by coaches during the sports season, as shown in Figure 4, the most common response was 'laboratory tests' (n=19) and 'speed tests' (n=14).

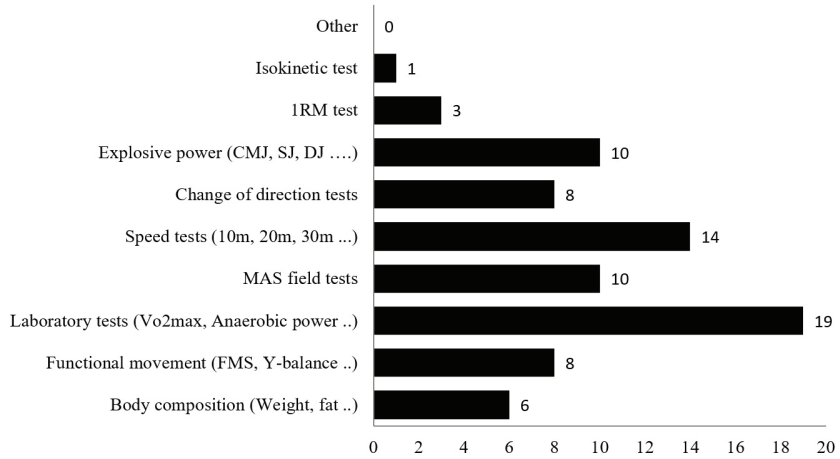

FIGURE 4 Tests used by coaches to assess their amateur players

In the last question in this section, which pertained to the management and monitoring of training load by coaches for amateur soccer players, the most common response was 'observation' (n=25), and Figure 5 provides a detailed description of the number of responses for each procedure.

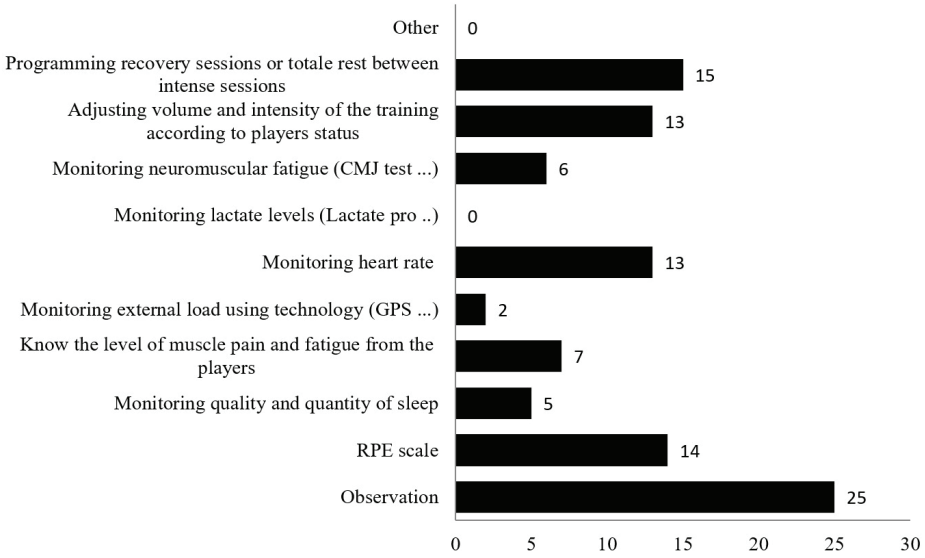

FIGURE 5 Managing and monitoring the training load procedures of the coaches

Relationship between mental and physical preparation

Regarding the two questions posed about the relationship between mental and physical preparation for amateur soccer players, 57.5% of the coaches (n=23) believe that mental strength has a significant impact on physical performance. Meanwhile, 27.5% of them (n=27.5) think that mental strength has some effect on physical performance. Only 12.5% of the coaches (n=5) believe that mental strength does not have a significant impact on physical performance. Additionally, one coach (2.5%) believes that mental strength and physical performance are somewhat unrelated.

As for the second question, which focused on how mental and physical readiness interact to improve the performance of amateur players, 57.5% of the coaches (n=23) answered that mental and physical preparation are equally important for amateur players, 32.5% of them (n=13) indicated that physical preparation is of greater importance for amateurs than mental preparation. Additionally, 7.5% of the coaches (n=3) stated that mental preparation is more important than physical preparation. One coach (2.5%) responded that both mental and physical preparation are not significantly important for enhancing the performance of amateur players.

Difficulties in mental and physical preparation

Table 1 illustrates the difficulties faced by coaches of amateur soccer teams in the process of mental and physical preparation. The most challenging difficulty was the lack of sports psychologists (67.5%), followed by the unavailability of modern training technology (52.5%), the absence of large sports facilities (50%), and the difficulty in evaluating psychological progress for the players (47.5%). The least challenging difficulty was resistance from the players (15%).

Table 1 The Difficulties that amateur soccer coaches face in mentally and physically preparing their amateur players

Ranking	Difficulties	Citations and % of teams
1st	The absence of sports psychology experts	27 (67.5%)
2nd	Unavailability of modern technology used in training	21 (52.5%)
3rd	Lack of large sports facilities	20 (50%)
4th	The difficulty of measuring psychological progress	19 (47.5%)
5th	Resistance from players	6 (15%)

Discussion

The current study aimed to identify the practices and perceptions of coaches regarding the mental and physical preparation of amateur soccer teams in the Skikda province of Algeria. To the best of our knowledge, this is the first study to investigate this topic. Therefore, we believe that these results provide a clear understanding of coaches' perceptions and practices for amateur teams.

Mental preparation

The results of the study indicate that most coaches believe that the mental preparation of amateur soccer players aims to enhance self-confidence, improve focus, enhance decision-making under pressure, and manage stress and anxiety before competitions. These goals are considered primary objectives of mental preparation in soccer (Kumari, & Kumar, 2016), especially since soccer requires confidence, focus, the ability to make decisions, and the capacity to handle pressure during play.

The findings also reveal that the majority of mental preparation techniques used by coaches involve goal setting and mental imagery. Goal setting is a common technique used by athletes to improve sports performance (Healy et al., 2018), and mental imagery is one of the most important methods used by amateur and professional athletes to enhance performance and aid in the rehabilitation process after injury (Ribeiro et al., 2015; Kahlouche, & Bezziou, 2021; Sariati et al., 2021; Seif-Barghi et al., 2012; Zach et al., 2018).

Regarding the assessment of players' psychological states, most responses indicated observations, which involve observing players' behaviors and talking to them. This aligns with the findings of Freitas et al. (2013), where most professional Portuguese soccer coaches rely on communication and observation as psychological preparation techniques, drawing on their coaching experience and past playing experiences. Additionally, most coaches reported using standardized psychological measures, which are considered important and reliable tools for assessing players' psychological states (McAuley, & Gill, 1983; Kawabata, & Zhang, 2018).

Furthermore, most coaches provide players with the necessary resources for self-mental training, integrate mental training sessions with other training components, and conduct separate mental training sessions. This underscores the significant importance of mental preparation for amateur soccer coaches, in line with previous research on mental imagery training for amateurs (Kahlouche, & Bezziou, 2021).

Physical preparation

Regarding physical preparation, coaches believe that physical preparation for amateur teams aims to develop aerobic and anaerobic endurance, prevent injuries, and improve strength and power. These objectives are considered fundamental in soccer physical preparation (Turner, & Stewart, 2014). This is especially important in soccer, which requires performing numerous explosive activities repeatedly during a match (Stølen et al., 2005), such as jumps, accelerations, and changes of direction, all of which demand significant muscular strength and power, as well as aerobic capacities to complete 90 minutes and recover between explosive actions (Tomlin, & Wenger, 2001). Given that players are susceptible to injuries (López-Valenciano et al., 2019), physical preparation must work to reduce the risk of these injuries. However, physical preparation aims to develop various components of physical fitness, including flexibility, mobility, agility, and speed, and not just aerobic and anaerobic endurance, strength, and ability. (Walker, & Hawkins, 2017).

Concerning injury prevention strategies, common practices include player monitoring, dynamic warm-up routines, muscular strength, and resistance training. All these strategies are widely used by amateur and professional teams to prevent injuries (McCall et al., 2015; McCall et al., 2020; Kebaili et al., 2023). Interestingly, coaches' responses reveal a lower reliance on neuromuscular and proprioception exercises and eccentric exercises, such as the Nordic exercise, which are essential in injury prevention for professional teams (McCall et al., 2015; McCall et al., 2020) and have proven effective in reducing the risk of ankle, knee and hamstring injuries (Hübscher et al., 2010; Schiftan et al., 2015; Elerian et al., 2019; Peterson et al., 2011).

For the tests used for player evaluation, most coaches rely on laboratory tests such as VO2max and field tests such as speed tests. These practices differ from those of professional soccer teams. Loturco et al. (2022) showed that Brazilian professional teams perform various tests, notably body composition, muscular strength, muscular endurance, anthropometric measurements, cardiovascular endurance, linear speed, change of direction speed, and anaerobic capacity. Similarly, McQuilliam et al. (2023) found that most professional soccer teams assess linear speed, jumping, aerobic fitness, change of direction speed, maximal strength, and power. Beere and Jeffreys (2021) also reported that the most common tests used by professional soccer teams include cardiac screening, body composition, and jump tests like the countermovement jump test.

As for the management and monitoring of the training load, most amateur soccer coaches rely heavily on observation. This method is traditional (Foster et al., 2017) and differs from the practices of professional teams, which utilize modern technological means such as GPS devices and various player monitoring scales (Foster et al., 2017; Loturco et al., 2022; Beere & Jeffreys, 2021). This technology assists in tracking players and providing precise data on the number and type of activities they have engaged in. Consequently, it aids in optimizing training loads and helps in injury prevention (Ehrmann, 2016). The coaches' responses have shown that the least utilized means are technological

tools. This aligns with their answers regarding the difficulties they face in the physical preparation process, as these teams often lack access to and the utilization of technological resources in their training routines.

Limitations and future research

The current study has several limitations. It included coaches in Skikda province only, and the sample size is very small. However, it will serve as a starting point for future investigations. Therefore future studies should include larger samples of coaches and consider to validate the assessment tool. While the current study provided valuable insights into the practices and perceptions of coaches regarding the mental and physical preparation of amateur soccer players in Skikda province, there are areas that merit further exploration in future research. Future investigations could delve into specific aspects that go beyond the scope of our study. This includes conducting detailed examinations of psychological practices integrated into training and pre-competition contexts. Moreover, exploring comprehensive training methods targeting various components of physical fitness and structuring inclusive preparation programs can significantly enrich the existing body of knowledge. Additionally, broadening the study scope beyond Skikda province by including a more extensive and diverse sample of trainers would offer a more comprehensive understanding of practices and perceptions across diverse regions.

Conclusion

In conclusion, this study examined the practices and perceptions of coaches regarding the mental and physical preparation of amateur soccer players in the Skikda province, Algeria. Through the analysis of the results, it became evident that the beliefs of the coaches about mental and physical preparation are largely sound and align with existing literature. Their practices also resemble those of professional teams, although they are somewhat limited. Coaches do not rely on a wide range of psychological preparation techniques, injury prevention exercises, physical tests, and monitoring and managing training loads. Several factors may contribute to this limitation, including the absence of sports psychologists in the field, a lack of large sports facilities, and limited access to modern training technology.

Based on the findings, the researchers suggest the need to improve amateur soccer in Algeria and provide essential resources to support it. This could involve the introduction of sports psychology expertise, investment in sports facilities, and the adoption of modern training technology. Such enhancements would likely contribute to the overall development of amateur soccer in the region.

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Disclosure of interest

All authors declare no conflict of interest.

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