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'I coach them, I treat them, I listen to them': the multifaceted role of the coach – a qualitative study on stakeholders' perspectives on injury prevention and management in Senegal (Africa)

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ABSTRACT

Objective To explore sports injury prevention and management strategies, barriers and facilitators, within an elite sport context in Senegal, by giving voice to the stakeholders (including coaches, health professionals, athletes) that are working or competing in the country. The study was conducted as Senegal prepares to host the Youth Olympic Games in 2026.

Methods Between February and May 2025, we conducted a qualitative study, with 16 semistructured interviews of athletes (n=5), coaches (n=7) and health professionals (n=4) locally involved in sport at the national level. Interviews were transcribed verbatim and then analysed following the three coding phases of grounded theory: open coding, axial coding and selective coding, before being analysed using ATLAS.ti software.

Results According to these Senegalese elite sports stakeholders, injury prevention is mostly informal and individually led by coaches, often lacking alignment with international standards. Intervention remained reactive rather than proactive and injury management was limited by financial, logistical and cultural constraints. Coaches emerged as central and versatile stakeholders, frequently taking on medical, educational and emotional roles in the absence of structured multidisciplinary systems. Gender-determined practices and mental health stigma further complicated care, especially for women athletes.

Conclusion This study highlights the essential role of coaches in injury prevention and management within sports structures of Senegal, even at the elite level. Our findings underscore the need to strengthen support structures with appropriate tools, education and resources. Developing context-specific and culturally relevant strategies is crucial to improve athlete health and promote injury prevention practices in resource-limited settings.

INTRODUCTION

Sport supports physical, mental and social well-being, but injuries, common among athletes at all levels of practice, can have lasting health and economic consequences.^{1–4} In recent years, both the prevention and management of sports injuries have evolved

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Sports injury prevention remains a challenge, especially in low-resource settings with limited medical infrastructure.
- ⇒ Internationally proven prevention programmes often fail during implementation when not adapted to local practices, beliefs and constraints.
- ⇒ There is still limited field-based knowledge on how sports injuries are prevented and managed across West African countries.

WHAT THIS STUDY ADDS

- ⇒ According to elite sports stakeholders in Senegal, injury prevention is mainly guided by empirical experience, due to a lack of formal training and structured resources.
- ⇒ The coach has a central, multifaceted role in care, support, coordination and decision-making.
- ⇒ Traditional healing practices frequently coexist and are more affordable, but sometimes conflict with modern medical approaches in injury prevention and management.
- ⇒ Despite structural and cultural barriers (eg, limited equipment, reliance on traditional medicine, gender disparities and cultural norms), the study revealed a strong motivation among local stakeholders to improve injury prevention and management practices, especially if evidence-based tools and resources are tailored to their context.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Findings support the urgent need for the adaptation of evidence-based educational tools and training strategies to be context-specific, low-cost and culturally grounded for low-resource countries.
- ⇒ The study can inform policymakers and guide the design of injury prevention programmes aligned with the Olympic values of safety, inclusion and equitable access to sport, particularly in the context of the 2026 Youth Olympic Games in Dakar.



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considerably. The publication of international guidelines, advances in medical protocols and increased attention to return-to-sport criteria have contributed to better standards of care.^{5–8} Meanwhile, strong scientific evidence has confirmed the efficacy of structured injury prevention strategies, particularly neuromuscular training programmes, in reducing injury incidence and severity.^{9–13} Yet, efficacy demonstrated in controlled settings does not necessarily translate to effectiveness in a real-world context.¹⁴ Implementation strategies are therefore paramount to maximising the real effectiveness of prevention measures.¹⁵ To establish these strategies and ensure they align with the expectations of athletes and stakeholders on the ground, it is essential to gather information on the contextual and environmental characteristics in which athletes operate.^{15–18}

While sports injuries are a global concern, little is known about how they are managed and prevented in low-resource settings, and particularly in sub-Saharan countries, since most scientific studies to date have been conducted in Europe and in North America.¹⁹ Sports injuries are also frequent in those regions,^{20 21} highlighting significant impact on health that could benefit from structured injury prevention and management educational programmes. For example, a study on 360 high-school soccer players in Rwanda revealed a high injury prevalence of 75%, underscoring the necessity for urgent and proactive measures in terms of prevention and injury management.²² Similar trends were observed across other studies in African contexts, with, for example, a very high injury incidence of 78.6% during the Combat Sport African Games in 2015, often due to inadequate medical structures and lack of protective gear usage during games.^{23 24} These numbers raise concerns about how athletes are supported on a daily basis, and whether current systems can cope with injury management demands.

As the 2026 Youth Olympic Games in Dakar (Senegal) approaches (the first Olympic event ever held in Africa), the need for context-specific strategies has never been more pressing. This major international event offers a unique opportunity not only to strengthen sport infrastructures and athlete preparation, but also to use sport as a vehicle to highlight health priorities. However, capitalising on this momentum requires a thorough understanding of the field reality: who is involved, how injuries are managed, what barriers exist and what the needs are. Therefore, the aim of this study was to explore the practices of field stakeholders in terms of injury prevention and management of injuries in elite sports as well as the needs, facilitators and barriers encountered in Senegal (Africa). Using a qualitative grounded theory approach, we sought to capture the voices of key field stakeholders to inform the future development of more tailored, sustainable and impactful health and education strategies in those settings.

METHODS

Study design

We used a qualitative study design and grounded theory method, following a Straussian approach,²⁵ which emphasises systematic coding and the development of conceptual categories through constant comparison. Grounded theory was selected due to its capacity to generate concepts and explanatory frameworks directly from field data, particularly in under-researched contexts.²⁵ To ensure transparent reporting of the present study, consolidated Criteria for Reporting Qualitative Research guidelines were followed.²⁶

Participants

Following ethical approval, potential participants were identified and contacted between February and May 2025 using a

multisource recruitment strategy. Initial contacts were facilitated by a local stakeholder (CB), who works closely with national sport federations and identified potential participants based on professional networks. CB did not take part in the interviews or data analysis. A minority of participants was therefore known professionally to CB through institutional collaborations; no participants were personally known to the other authors prior to the study. Additional contacts were provided by the Senegalese Ministry of Sports and by the Dakar 2026 Youth Olympic Games Organising Committee (COJOJ—*Comité d'Organisation des Jeux Olympiques de la Jeunesse Dakar 2026*), which facilitated access to medical and technical staff affiliated with several national federations.

Eligible participants were individuals aged 16 years or older, actively involved in elite sport (first national division or international level) in Senegal at the time of the study and belonging to one of three stakeholder groups: athletes, coaches or health professionals. All potential participants received written information regarding the study objectives and procedures and were invited to participate voluntarily. Written informed consent was obtained from all participants prior to the interviews.

Recruitment and data collection were conducted concurrently. In line with grounded theory principles,²⁵ as interviews progressed, emerging concepts guided subsequent recruitment to ensure maximum variation across sports, genders, geographical location and professional roles. A total of 22 individuals were contacted but after 16 interviews (8 on-site and 8 online), no new conceptual properties, dimensions, relationships or concepts emerged during coding and theoretical saturation²⁷ was considered as reached. The final sample included 4 women and 12 men. The mean experience in sport was about 12.4 years among athletes, about 20.7 years among coaches and the mean experience in elite sports settings was about 6.8 years among health professionals. This sample included individuals involved in a wide range of disciplines, ensuring a broad understanding of injury-related practices across sports contexts. The represented sports were football, basketball, athletics, boxing, rugby, volleyball, handball, tennis, wrestling, taekwondo, karate and gymnastics. Among the stakeholders, five were athletes, seven were coaches and four were health professionals (three physicians and one physiotherapist). Participants were involved in a wide range of sports, including football, basketball, athletics, boxing, rugby, volleyball, handball, tennis, wrestling, taekwondo, karate and gymnastics. The number of participants per sport varied according to accessibility and availability and was not intended to support sport-specific comparisons, but rather to capture cross-disciplinary patterns within the elite sport system. Several participants held multiple roles within the sports ecosystem, particularly coaches and health professionals who were also former elite athletes.

To ensure anonymity of the participants, detailed participants' demographic data are not presented, and pseudonyms have been used in the coding and reporting of the results (eg, A001, A002 ... for athletes; C001, C002...for coaches; HP001, HP002 ... for health professionals).

Data collection

The semistructured interviews were conducted by two researchers (CT and LF), both female physiotherapists with postdoctoral training in qualitative research. They were conducted either in person during a field visit to Dakar (February–March 2025) (n=8) or via videoconference (n=8) for participants located in other regions of the country, as well as for those interviewed

after mid-March 2025. This flexible approach was needed to ensure the inclusion of geographically and contextually diverse perspectives. In-person interviews were conducted in private settings (offices within sport facilities, medical centres, etc), in locations chosen by participants. Online interviews were performed with Microsoft Teams and Zoom Meeting. No interviews were conducted in the presence of teammates, coaches or supervisors. They lasted on average 53 ± 22 min.

The interview guide has been conceived by all the research team and was structured around six core exploratory areas (online supplemental material), which were designed to elicit data relevant to subsequent coding and category development: (1) experience of sports injuries, (2) injury management and care pathways, (3) periodic health evaluation, (4) injury prevention, (5) load management, (6) barriers/facilitators and future perspectives. Each theme included open-ended questions and contextual probes. Questions were adapted to the role of the participant.

Prior to the main data collection phase, pilot interviews were conducted by CT with two participants (one coach and one health professional). This allowed the research team to refine the structure and content of the interview guide, ensuring that the questions were contextually appropriate, clear and aligned with the research objectives and local realities.

The interview process emphasised open dialogue and allowed the emergence of new, unanticipated categories/subcategories. Time was dedicated at the beginning of each interview to establish a comfortable and non-judgemental atmosphere. Field notes were taken immediately after each interview to document contextual insights, first analytical impressions and emerging concepts. In line with grounded theory principles,²⁵ the guide evolved iteratively during the data collection process. After each interview, the researchers (CT and LF) reviewed the content to identify new or underexplored topics (eg, traditional medicine, mental health stigma, gendered access to sport). These were progressively integrated into subsequent interviews to enrich the depth and scope of the data. To maintain reflexivity, both researchers (CT and LF) engaged in systematic memo-writing and debriefing discussions throughout data collection and analysis.

All interviews were conducted in French, audio-recorded and transcribed verbatim using *Leexi software* (Leexi SA, Brussels, Belgium). Participants were then invited to review their individual transcripts to ensure accuracy. Transcripts were finally translated into English by CT and manually reviewed for accuracy and completeness before being analysed.

Data analysis

Coding and data analysis were performed on the English transcripts. Data were analysed by CT following the three coding phases of grounded theory: open coding, axial coding and selective coding. *ATLAS.ti* (Scientific Software Development GmbH, Berlin, Germany) was used to support the storage, structuring and organisation of the qualitative data during analysis. Open coding allowed for the identification of initial concepts and the labelling of meaningful excerpts. In the axial coding phase, these concepts were grouped into subcategories based on shared properties. Selective coding involved the integration of these categories into a conceptual framework. Conceptual links between categories were mapped using *Kumu software* (Kumu, California, USA), a qualitative data visualisation platform. Besides, reflective memos were written in French, summarised and incorporated into the English-coded dataset during the axial and selective coding phases. During the early stages of open coding, a subset of transcripts was jointly reviewed and discussed with

LF to refine the coding framework and clarify category boundaries. Throughout the analysis, coding decisions, category development and emerging interpretations were regularly discussed with LF and then, with all the research team, to ensure analytical coherence and reflexivity.²⁵

The findings were then presented to both local stakeholders (CB and NT) to obtain their feedback and ensure that the interpretations accurately reflected the local context. Both were also able to review the final version of the manuscript in English.

Patient and public involvement

Although stakeholders were not directly involved in designing the research protocol, the interview guide and overall approach were informed early on by discussions with local stakeholders. Moreover, a local stakeholder in Senegalese sports education (CB) played an active role in the recruitment. CB and NT also provided substantial feedback during data interpretation and manuscript development, helping to ensure that the analysis accurately reflected local sport structures, healthcare practices and everyday realities experienced by stakeholders in Senegal.

Equity, diversity and inclusion statement

This study was explicitly designed to capture a broad range of experiences and voices across different sociocultural and regional contexts in Senegal. Attention was given to gender, professional background (physiotherapist, surgeons, physicians, psychologists and researchers) and sport discipline. Although most participants were male, reflecting the gender imbalance within high-performance sport structures in Senegal, the recruitment of four women stakeholders was prioritised to reflect women under-represented yet critical perspectives. The research team itself is multidisciplinary, multinational and gender-balanced, with members from Europe, North America and Africa. At the same time, the team engaged in ongoing reflexive discussions to critically consider how differences in professional status, nationality and insider–outsider positioning could influence data collection, interpretation and knowledge production, in line with recommendations on reflexivity in qualitative research.²⁸

FINDINGS

A total of 857 initial codes were identified through open coding across the 16 interviews, which were then grouped into 21 subcategories and subsequently integrated into five core categories through axial and selective coding. This hierarchical process allowed the identification of key relationships between codes, subcategories and core categories, providing an interpretive framework of how injury-related practices are perceived, experienced and managed within the Senegalese elite sport context.

Codes addressing similar issues were first clustered into subcategories (eg, ‘improvising treatment with local means’), which were then integrated into broader core categories (eg, ‘Injury management and return to sport’). Finally, these were connected through selective coding, leading to five inter-related core categories: (1) *Injury prevention*, (2) *injury management and return to sport*, (3) *sports context and environmental factors*, (4) *systemic and cultural barriers* and (5) *the multifaceted role of the coach*. Together, these five core categories constitute the grounded theoretical framework explaining how injury prevention and management practices are structured within the Senegalese elite sport system. They are presented below, each accompanied by illustrative quotations from athletes, coaches and health professionals [table 1](#). Moreover, in accordance with the grounded theory approach, a conceptual framework was

created to visually represent the relationships between codes and subcategories. Given the important number codes and subcategories and to ensure readability, only the second core category (Injury management and return to sport: ‘There’s theory and there’s reality’) was represented in online supplemental Material.

To synthesise the barriers and facilitators identified across stakeholder levels, we used the socio-ecological model (SEM), adapted by Bolling *et al.*,¹⁴ as an analytical framework, applied a posteriori during the selective coding phase. The SEM was not used to guide data collection or initial coding but emerged during team discussions as a relevant structure to organise the findings and to capture the multiple contextual layers influencing injury prevention and management practices.¹⁴ Accordingly, figure 1 presents higher-order analytical groupings derived from several related codes, across sociocultural, organisational and systemic levels.

Due to word count constraints, additional insights related to periodic health evaluations and barriers to education and knowledge translation are also presented in online supplemental Material.

Injury prevention

Injury prevention in Senegalese sport is largely guided by personal initiative rather than institutional frameworks. Across all groups (athletes, coaches and health professionals), stakeholders described *trying to prevent without formal guidance*, relying on intuitional and personal experience rather than structured programmes. As one coach noted, “We try to prevent injuries, but it’s not structured. Sometimes we just include more warm-up or stretching, or we change the training intensity. It’s experience that guides us, not an official framework.” Without dedicated training or federation-level directives, prevention only depends on the goodwill of individual coaches and health professionals.

Despite these gaps, there was a strong emphasis on *trying to raise awareness through meaningful dialogue*. Both coaches and health professionals consistently described prevention as an act of education, often requiring time, empathy and analogy. One coach explained that he uses comparisons to make athletes understand the purpose of prevention: “You’ve got a brand-new car in excellent condition, but without tires, you can’t drive it. [...] Tires cost less than the car. If I talk about knees, legs, injuries, it doesn’t resonate, but the car analogy does.” Prevention becomes meaningful when athletes grasp its purpose, not just its form.

However, this effort is often undermined by a reactive culture, where prevention emerges only after an incident. Several stakeholders described a widespread tendency of *waiting rather than acting proactively*, acknowledging that conversations about prevention usually occur after injuries. As illustrated by one volleyball athlete: “Most of the time, we react when something has already happened. When there’s an injury, everyone suddenly gets involved, but before that, nobody talks about prevention.”

Others sought to embed prevention into the everyday practice of training, *trying to make prevention meaningful and sustainable* by turning explanation into habit. This perspective was mainly expressed by health professionals, as one explained, “I try to create a routine, so that my athletes are protected, so that in 20 years, they don’t come back to me with cognitive or functional problems”. By adopting this approach, prevention in Senegalese sport is not only technical but relational: it relies on presence, trust and the ability to translate circumstance into shared understanding.

Injury management and return to sport

Stakeholders unanimously described a sharp contrast between written regulations and the lived reality of managing injuries. Across all stakeholder groups, limited financial means, scarce medical infrastructure and fragmented systems often leave athletes and coaches to improvise. Under *coping with limited medical and financial access*, participants from all three groups noted that formal insurance schemes or medical coverage were seldom effective. “Every year, an athlete has to renew their license and pay for insurance”, explained a coach, “but in practice, it provides very little coverage, and certainly not for long-term follow-up”.

As a result, many resorted to *improvising treatment using local means*. This practice was primarily described by coaches, who frequently administered first aid themselves, using whatever was available on site. “During some competitions, we don’t have a full medical team”, said one of them. “The doctor isn’t always there, so the coaches and players provide first aid themselves. We adapt depending on the injury, with what’s available on site.” In the absence of structured rehabilitation, athletes repeatedly reported returning to play too soon, creating a cycle of recurrent injuries and sometimes leading to long-term consequences. This vision was also shared by health professionals.

Financial barriers and cultural aspects also contributed to *privileging traditional medicine over modern medicine*. Athletes and their coaches repetitively emphasised traditional healers as an accessible and trusted alternative. As one athlete explained: “The first time I injured my ankle, I went to a traditional healer. He massaged it, applied herbal mixtures, and after two weeks I was running again. Ten sessions with a healer cost about the same as one with a physio. The choice is obvious.”

Most athletes also described *normalising pain and continuing activity* in a context where injuries are seen as part of sport rather than a warning sign. “Some say, ‘It’s just a sprain, I can play.’ You don’t want to look weak in front of your coach or teammates”, shared a volleyball player. This normalisation reflects both resilience and vulnerability that may obscure the need for rest or care.

Finally, decisions about returning to sport were rarely based on medical criteria, illustrating a lack of *clear criteria for return to play*. Health professionals consistently highlighted this issue. As one of them noted, “We don’t have a standardised protocol for deciding when an athlete can resume sport. It’s mostly based on what the coach feels or on how the player says he feels”. These findings underscore the improvisational character of injury management and return to sport in Senegal, where care is guided more by collective judgement and necessity than by formalised procedures.

Sports context and environmental factors

Beyond performance, sport carries deep social significance. Both coaches and athletes consistently viewed it as a path toward opportunity and described *using sport as a means of social advancement*. A coach reflected: “My kids are from the neighbourhoods, from tough and disadvantaged families. Here, sport is a way out of poverty, especially when there’s no access to education”. For many, sport success offers not only personal fulfilment but also a chance to support their families and communities, or to study abroad, on which injuries can have a huge impact.

Yet daily practice unfolds in difficult material conditions. Stakeholders from the three groups repeatedly described *training and competing despite inadequate infrastructure*,

Table 1 Overview of core categories, subcategories and illustrative quotations derived from the grounded theory analysis

Core categories	Subcategories	Illustrative quotations
Injury prevention	Trying to prevent without formal guidance	Coach (athletics, male): "We try to prevent injuries, but it's not structured. Sometimes we just include more warm-up or stretching, or we change the training intensity. It's experience that guides us, not an official framework." Coach (karate, male): "I've never received any training specifically about injury prevention. What I do comes from what I've seen others do, from reading a bit, or from my own injuries. There's nothing official that we're told to follow." Health prof. (boxing, male): "Each club does things its own way. The federation doesn't really impose anything in terms of prevention or care. Some coaches try to set up routines; others don't even talk about it."
	Trying to raise awareness through meaningful dialogue	Athlete (wrestling, male): "To raise awareness, you need to be present, to explain, to help people understand." Coach (karate, male): "I take the time to talk. I take the time to explain. You've got a brand-new car in excellent condition, but without tires, you can't drive it. How are you going to move the car forward? The tires aren't the car, but without them, it's a different story. Tires cost less than the car. If I talk about knees, legs, injuries, etc., it doesn't resonate with them—but the car analogy does. If you've got a good car with good tires, you can win.(...) They need to understand that training isn't just about athletic performance. They need to see that prevention is part of training." Coach (karate, male): "At a certain age, they push back against any kind of instruction. You know, it's: I don't want to do this anymore, we always do this. I'd rather just play than keep doing these repetitive, boring movements. So, I try to explain the why, so they understand it's important."
	Waiting rather than acting proactively	Athlete (volleyball, male): "Most of the time, we react when something has already happened. When there's an injury, everyone suddenly gets involved, but before that, nobody talks about prevention. We wait for the problem to appear before we act." Athlete (wrestling, male): "This is the first time someone has come to talk to me about prevention. Most of the time, we wait for the injury instead of seeing what we can do beforehand." Coach (karate, female): "It's always when there's a big injury that we start asking questions. Before that, prevention isn't on the agenda. There's no system to identify risks early."
	Trying to make prevention meaningful and sustainable	Coach (karate, male): "Prevention only works when athletes understand why they're doing it. If it's just exercises we force on them, they won't do it seriously. So, I take the time to explain what it's for, how it protects them. When they see the results, they start to take ownership, that's when it becomes part of their routine." Health prof. (boxing, male): "I try to create a routine so that my athletes are protected, so that in 20 years, they don't come back to me with cognitive or functional problems. That's my job. The best way to raise awareness here is to speak directly to the athletes. Because they understand. When we clearly explain the why and the value of something, they get on board. But like I say, when it comes to prevention, our boxers are up to date about injuries. We talk to them, we explain." Health prof. (rugby, male): "We try to encourage athletes and coaches to participate in these trainings and make them understand that on the ground it can hurt and that there is something to be done.(...) They realise that it's important that they continue to play and be healthy. And as a result, they are asking for training and prevention."
Injury management and return to sport	Coping with limited medical and financial access	Athlete (wrestling, male): "The federation only considers the fight—from the moment the referee blows the whistle to the end of the fight. During that time frame, they take responsibility. But when it comes to getting reimbursed by the insurance, it's a whole different issue." Coach (karate, male): "Every year, an athlete has to renew their license and pay for insurance. In practice, it provides very little coverage, and certainly not for long-term follow-up. There's the theory, and then there's the reality." Health prof. (boxing, male): "The regulations say that doctors must be present during international competitions. But I think some of them haven't been paid in 2 years. So, athletes are left to fend for themselves when injured. Insurance only brings more complications."
	Improvising treatment with local means	Coach (karate, male): "There's a real issue of accessibility. We don't have enough specialised professionals, not enough physios or sports doctors. People do what they can; they treat themselves or go see someone in the neighbourhood. You get treated, you come back to play, and often you get injured again because the rehabilitation wasn't done properly. It's really a question of means and knowledge, we just make do with what we have." Coach (football, male): "During some competitions, we don't have a full medical team. The doctor isn't always there, so the coaches and players provide first aid themselves. We adapt depending on the injury, with what's available on site. There's a real reliance on practical experience rather than on established protocols. It's truly field medicine." Health prof. (taekwondo, female): "To have a well-defined protocol to be able to bring the athlete to the hospital, it's difficult. It's always a problem. Sometimes, it's either the doctor or the coach, we deploy our own means. And the federation says that they will reimburse later. So, there are a lot of constraints."
	Privileging traditional medicine over modern medicine	Athlete (volleyball, male): "We call them traditional healers here. They use products we don't really know, but that's their skill, the knowledge is passed down from father to son. The first time I injured my ankle, I went to a traditional healer. He massaged it, applied some herbal mixtures, and after 2 weeks I was running again. At the hospital, they had just told me it was fine and gave me some medicine. But here, most people go to a traditional healer, not a physiotherapist, because it's cheaper and easier to access. Ten sessions with a healer cost about the same as one session with a physio. The choice is obvious." Coach (karate, female): "When someone gets injured, we try to improvise. We don't have equipment or a physio in the team, so we use whatever's available, rest, massage, some ointment, sometimes heat or local herbal decoctions. We also visit healers who have a good reputation. They know how to massage, how to manipulate joints, they know bones and plants. Sometimes it works very well."

Continued

Table 1 Continued

Core categories	Subcategories	Illustrative quotations
Sports context and environmental factors	Normalising pain and continuing activity	Athlete (volleyball, male): "At the club level, when a player gets hurt, there's a kind of pride in continuing anyway. Some say, 'It's just a sprain, I can play.' You don't want to look weak in front of your coach or your teammates." Athlete (basketball, male): "If a player complains too much, others will say he's exaggerating. So, most of them don't talk about pain anymore. They'd rather hide it and continue training. Only when it becomes really serious do they come forward. It's part of the sporting culture here, enduring pain is seen as a form of courage." Coach (football, male): "Sometimes players get injured but still insist on playing. They say, 'Coach, I can manage.' Even when the medical staff advises rest, they hide the pain to avoid losing their place in the team. Some players even train while injured because they're afraid someone else will take their position. It's a mentality that's hard to change, for them, pain is part of the game."
	Lacking clear criteria for return to play	Athlete (basketball, male): "The return to play depends a lot on the context: if there's an important match, the player will push to come back. The staff might hesitate, but in the end, he'll often play. There's no formal clearance or functional test. It's a collective appreciation: we see how he moves, how he feels, and we decide. It's not ideal, but that's how it works here." Health prof. (rugby, male): "When the doctor gives the green light, that's one thing, but the player's feeling is often the main factor. Some say they're ready just because they don't want to lose their spot. We observe, we discuss, but there's no clear test or objective measure. It's more of a judgement call. We look at how he runs, how he moves, but it's not formal." Health prof. (taekwondo, female): "We don't have a standardised protocol for deciding when an athlete can resume sport. Often, it's based on what the coach feels or on how the player says he feels. We try to do functional tests, but it's not systematic. Sometimes, players return too soon because they feel pressure from the competitive schedule. There's no objective validation; it's mostly experience and common sense guiding us (...) Ideally, there should be collaboration between medical, technical, and physical staff to agree on criteria. But in most cases, it's the coach who decides when the player is ready to come back, not the medical team."
	Using sport as a means of social advancement	Coach (karate, female): "There are a lot of athletes who have travelled, who are in France right now. Sometimes, when we feel that these athletes, they don't do anything here, even though they have talent, we will help them. We buy them a ticket, and they go there (...) There are also quite a few athletes who are in the United States. Recently, we had two athletes who went there, they continued their competition there. It's some help for them to get out of here, to help the family as well." Coach (karate, male): "My kids are from the neighbourhoods, from tough and disadvantaged families. Here, sport is a way out of poverty, especially when there's no access to education. They come from large families, they play sports, they're looking for peace. But when you come from a poor family in Dakar, it's not easy, it slows down your progress." Health prof. (rugby, male): "Most of them have dropped out of school, sport is their way out. But they're also young people who have to take care of themselves and their families, so it's a real challenge."
	Training and competing despite inadequate infrastructure	Athlete (gymnastics/pole vault, male): "Yes, the first thing is the equipment. Many of our gymnasts get injured because of the lack of equipment, the lack of security. We have to make it safe first (...) The problem is that if we don't put it on, for example, I can tell my gymnasts not to try this trick. But if one day, I can't come. The gymnasts will be there with the other coaches. They will try. They will get injured. We lost a gymnast. He died because there wasn't enough security. He fell at the level of his neck and died." Coach (athletics, male): "Right now, we have to use three different sites for training. The stadium is under repair, so sometimes we go to the university field or to another annex stadium. When it rains, we can't use the track. We adapt, we change the programme according to what's available." Health prof. (rugby, male): "We train on sandy fields most of the time. When it rains, the field turns into mud, but we keep training because we have no choice. The kids don't complain, they're used to improvising. That's the reality of our sport here (...) The federation doesn't always provide equipment. We often have to find our own balls, cones, or medical supplies. Sometimes, I even buy things myself so that training can continue." Health prof. (taekwondo, female): "We can't talk about systematic injury prevention when the infrastructure doesn't even allow for basic preparation. Many clubs don't have access to stable surfaces, medical facilities or proper training areas. It's not negligence, it's lack of means."
	Navigating a lack of planning and structured organisation	Athlete (volleyball, male): "There's no clear plan for the season. Sometimes, competitions are announced just a few days before. We have to prepare in a hurry. It's difficult to plan the workload or recovery when the calendar keeps changing (...) Even the communication between institutions is fragmented. You have the Ministry, the federations, the associations, each one does its part, but there's no global vision." Coach (basketball, male): "The federation should provide us with a calendar at the start of the year, but it never happens. We discover the competitions as we go. So, we do a general preparation phase and then try to adjust when something comes up." Coach (karate, male): "There's a lack of structure in how sports are organised here. Everyone works in their own way. There's no national plan for training or injury prevention. If you want to implement something consistent, it depends entirely on individual initiative."
Adapting to environmental and logistical constraints		Athlete (volleyball, male): "In Dakar, there are a few gym and clubs to train in, even in winter. In the south, this is not the case. As soon as it rains, it has to stop and sometimes athletes it takes a while to go back to training because there's no gym. The rainy season plays a big role in the performance of these players because they can go for two or 3 months without playing because it's raining all the time." Health prof. (rugby, male): "We train on sandy fields most of the time. When it rains, the field turns into mud, but we keep training because we have no choice. The kids don't complain, they're used to improvising. That's the reality of our sport here."

Continued

Table 1 Continued

Core categories	Subcategories	Illustrative quotations
Systemic and cultural barriers	Challenging the stigma of women in sport	Athlete (karate, female): "A woman is simply expected to be a housewife. She's not supposed to have big dreams for herself. That's why we rarely see women involved in sports, especially not in competition (...) But I see sport differently. Sport changes a person—it shapes character. Those who don't play sports won't develop that same mindset. I also believe that women should participate in sports because sport is health." Athlete (volleyball, male): "Here in the Dakar region, there's no real issue. But in the villages, that's where the problem lies. And I've seen firsthand that those beliefs are still deeply rooted. Changing mindsets is nearly impossible. A while ago, I tried to submit a proposal to address a serious issue I've seen in my area: early marriage. When I entered sixth grade, some girls in my class were already married. I was shocked, it's far too early (!) There are also cultural beliefs that prevent women from dressing a certain way to do sport. Some sports, like gymnastics, are considered especially problematic. Asking a woman to do a forward or backward roll, to open her legs..."
	Facing social and family pressure to conform	Athlete (gymnastics/pole vault, male): "Very few women reach elite-level sport in Senegal. Many give up along the way, often due to social pressure, lack of family support, or myths surrounding sport. You hear things like Sport makes women masculine or Sport can make you lose your virginity. These harmful misconceptions sadly discourage many young girls from continuing. Even though mindsets are slowly evolving, there's still a long way to go before women's sport is fully valued and supported in society." Health prof. (army, female): "Women keep playing sports for a shorter period of time. At some point with marriage, pregnancies, women start to neglect sport a little bit. They have to manage their families very early."
	Silencing mental health and emotional struggles	Athlete (volleyball, male): "Mental health is invisible in sport policies here. There's no prevention, no education about stress, burnout, or emotional health. When an athlete stops performing, people say he's lazy or not motivated, but nobody asks what's really going on." Athlete (basketball, male): "When you say you're anxious, they tell you you're mentally weak, you're on the margins, all that. So, it's rather frowned upon in the end to be anxious, to be afraid of performance, etc. It's rather frowned upon by the team. A Senegalese athlete must be strong."
	Enduring emotional distress without support structures	Coach (football, male): "Today, people forget that mental health is one of the determinants of performance (...) If the players are anxious, the traditional communicator shows the essence of the flag, talks about the history of Senegal, about the match. But mental health is not addressed individually." Health prof. (rugby, male): "We're not talking about mental health or mental preparation either. Today, it's something that coaches want to invest in. They are getting closer to us to see what can be done. We are a little helpless. Right now, I'm in the process of attracting a mental coach, but it would be a first."
	Caring for athletes beyond the field	Coach (karate, male): "Some athletes come to me to talk about personal issues, school, family, money. I can't ignore that. It's part of our job to listen. I often say prevention starts with dialogue. If they trust you, they'll tell you when something's wrong before it becomes serious." Health prof. (boxing, male): "My role doesn't stop when the training session ends. Some of my boxers come from very difficult backgrounds. I check if they've eaten, if they've gone to school. Sometimes I even help them pay for transport. You can't separate the athlete from the person, if they're not okay outside, they won't perform inside." Health prof. (rugby, male): "We're not just coaches. We become mentors, sometimes parents. When a player gets injured, we don't only think about recovery, we think about how he's doing at home, if he's depressed, if he's still motivated. Because here, when you stop sport, you lose everything, your friends, your identity."
Guiding and protecting through personal commitment	Substituting medical responsibilities	Coach (karate, male): "Many of us coaches are doing the work of physiotherapists, doctors, and psychologists without having the qualifications. We do it because we care, but also because the system leaves us no choice. If we don't act, no one will." Coach (athletics, male): "When one of my athletes gets injured, I use my own experience to treat them. I've been around long enough to know what works. Sometimes, it's just rest and massage. But we can't rely on official medical support, it's almost non-existent." Coach (karate, female): "We're asked to make sure the athletes are fit, that they don't get injured, that they come back fast if they do, but without any medical support or guidance. In the end, we take on responsibilities that go far beyond our role." Coach (basketball, male): "As coaches, we have multiple roles. I coach them, I treat them, I listen to them."
	Guiding and protecting through personal commitment	Coach (karate, male): "When I coach, I see it as a commitment to each athlete. I have to guide them, even when they're not performing well. Some come to me for advice about life, not sport. I take that seriously, because in our context, the coach's word has weight: It can motivate, but it can also break." Coach (basketball, male): "We have to be role models. These athletes are watching us all the time—how we speak, how we act. So, our responsibility goes far beyond the sport. We protect them by showing them the right path, the right behaviour. It's a form of education."
	Acting like a spiritual father	Coach (basketball, male): "The coach is in the middle of everything. He is always solicited by the children. It's like their spiritual father. Even when they don't work at school, they call the coach to talk to them." Coach (karate, male): "I call them my kids. They come for advice, not just about training but about life, school, religion. I don't take that lightly. I try to guide them with values." Coach, (athletics, male): "For me, it's about transmission. I'm not just teaching techniques; I'm trying to give them something that will stay, values, behaviour, respect. That's what a father does, not just a coach."

Barriers and facilitators of sports injury management

Country/culture

SOCIO-CULTURAL ASPECTS:

- Ⓢ No consideration of mental health
- Ⓢ Culture, norms and stigma
- Ⓢ Traditional vs modern medicine
- Ⓢ Nutritional barriers
- Ⓢ Muslim religion (Ramadan)
- Ⓢ Gender inequality

STRUCTURAL AND ECONOMIC ASPECTS:

- Ⓢ Health care is expensive
- Ⓢ Regional disparities
- Ⓢ Theory vs reality
- Ⓢ Lack of sports infrastructures
- Ⓢ Financial constraints

PERCEPTIONS AND ROLE OF SPORT:

- Ⓢ Sport is not a priority
- Ⓢ Sport profession under evaluated
- Ⓢ Sport is very popular
- Ⓢ Sport is a mean of social advancement

Staff

ROLES AND RESPONSABILITIES:

- Ⓢ Engaged/passionate
- Ⓢ Multi-role
- Ⓢ Strong relationship with athletes
- Ⓢ Desire to improve athletes' health
- Ⓢ First responder to injury/ manages the injury on the field
- Ⓢ Finances athletes' care

TRAINING AND RESOURCES:

- Ⓢ Lack of equipment
- Ⓢ Lack of training

CARE:

- Ⓢ No standardized protocols
- Ⓢ Mainly based on experience (for coaches)

Federations/clubs

SPORTS POLICY:

- Ⓢ Performance > Health
- Ⓢ Lack of medical care vision
- Ⓢ Lack of medical commission in many federations

FINANCIAL AND HUMAN RESOURCES:

- Ⓢ Lack of trained health and sports professionals
- Ⓢ No (or non-efficient) insurances

GOVERNANCE AND LEADERSHIP:

- Ⓢ Political instability (staff turnover)
- Ⓢ Poor communication in and between federations
- Ⓢ Vision and decision rely on the president's goodwill
- Ⓢ Limited opportunities provided for coaches' education

CARE:

- Ⓢ Lack of injury follow-up
- Ⓢ No structured referral network
- Ⓢ Non-standardized and sporadic health evaluations

Athlete

SOCIO-ECONOMIC ASPECTS:

- Ⓢ Disadvantaged background
- Ⓢ Financial constraints
- +/- Family support

PERCEPTIONS:

- Ⓢ Return to play pressure
- Ⓢ Injury are normalized/banalized
- Ⓢ Coach perceived as a mentor

ATTITUDE:

- Ⓢ High motivation

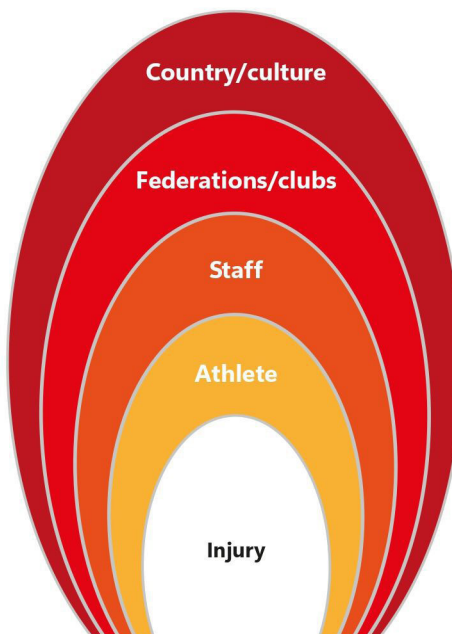


Figure 1 Barriers and facilitators of sports injury management in Senegal (Africa)—adapted from Bolling *et al* model (2019).

sandy fields, broken mats and limited equipment. “We train on sandy fields most of the time”, said a rugby health professional. “When it rains, the field turns into mud, but we keep training because we have no choice.” This commitment to continuity demonstrates remarkable resilience but also increases injury risks.

A recurrent frustration concerned *navigating a lack of planning and structured organisation*. This issue was mainly raised by athletes and coaches involved in team sports. Calendars are unpredictable, communication fragmented and roles poorly defined. “There’s no clear plan for the season”, explained an athlete. “Competitions are announced just a few days before. It’s difficult to plan the workload or recovery when the calendar keeps changing.” Participants noted that more predictable scheduling and clearer seasonal planning could support better workload management, recovery and injury prevention without necessarily requiring additional resources.

In this unstable environment, adaptation becomes second nature. Across sports and regions, stakeholders described *adapting to environmental and logistical constraints* by relocating practices, reducing training intensity or modifying exercises according to weather and available facilities. One athlete, however, highlighted important regional disparities, stating: “In Dakar, there are a few gyms, but in the south, when it rains, everything stops. Some athletes go for months without training”. This reveals a sports culture defined by perseverance and improvisation, one that continues to thrive despite limited infrastructure and resources.

Systemic and cultural barriers

Two pervasive challenges emerged across interviews that can also play a role in sports injury prevention approach: gender inequality and mental health stigma. Participants from all stakeholder groups referred to *challenging the stigma of*

women in sport, emphasising how cultural norms restrict women’s participation and visibility. “A woman is simply expected to be a housewife. She’s not supposed to have big dreams for herself”, said a woman athlete. Athletes and health professionals also highlighted that some families consider certain movements ‘inappropriate’ for women, especially in sports such as gymnastics, revealing the persistence of moralised conceptions of femininity in sport.

Women athletes also face *social and family pressure to conform*, often forced to abandon training after marriage or pregnancy. This constraint was consistently described by athletes and health professionals. One health professional stated, “Women keep playing sports for a shorter period of time. They have to manage their families very early”. Such expectations severely limit their progression and reduce women’s representation in competitive environments.

Parallel to these gendered constraints, participants highlighted the tendency to *silence mental health and emotional struggles*. Across stakeholders’ groups, emotional distress, anxiety and fear of failure were rarely recognised as legitimate concerns. “When you say you’re anxious, they tell you you’re mentally weak. A Senegalese athlete must be strong”, explained a basketball player. This attitude reinforces a culture of silence, where vulnerability is equated with weakness.

Stakeholders also discussed *enduring emotional distress without support structures*, lamenting the absence of psychologists or mental-skills coaches. “We’re not talking about mental health or mental preparation”, said a health professional. “Right now, I’m trying to attract a mental coach, but it would be a first.” These testimonies underline the urgent need to integrate psychological support and to broaden the notion of athlete health beyond physical care.

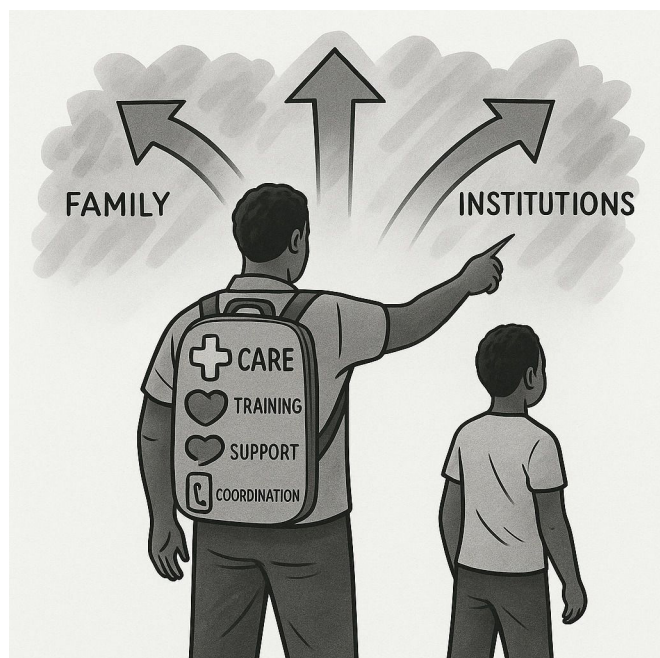


Figure 2 Illustration of the central and multifaceted role of the coach, navigating into foggy weather when it comes to injury prevention or injury management.

The multifaceted role of the coach

According to stakeholders' perspective, the coach stands out as the central pillar of the system, a bridge between institutional gaps and athlete needs (figure 2). Across all groups, stakeholders consistently described coaches as *caring for athletes beyond the field*, extending their responsibilities to social, emotional and even financial support. "Some athletes come to me to talk about personal issues, school, family, money. I can't ignore that. This is part of our job to listen", said one coach.

Coaches also frequently reported *substituting medical responsibilities*, performing tasks normally handled by physiotherapists or doctors. This situation was repeatedly highlighted by the coaches themselves and shared between sports (except for football). "Many of us coaches are doing the work of physiotherapists, doctors, and psychologists without having the qualifications", admitted one of them. "As a coach, we have multiple roles. I coach them, I treat them, I listen to them", said another one.

Their engagement often stems from a deep moral and emotional bond, *guiding and protecting through personal commitment*. As one coach explained, "We have to be role models. These athletes are

watching us all the time, how we speak, how we act. So, our responsibility goes far beyond sport".

For many, this mentorship takes on a near-spiritual dimension, *acting like a spiritual father* to their athletes. Several coaches explicitly used familial metaphors to describe their relationship. "I call them my kids", said a coach. "They come for advice, not just about training but about life, school, religion. I try to guide them with values." In the Senegalese sports landscape, this paternal figure fills the void left by limited institutions, embodying care, authority and continuity in a fragile system.

In this context, injury prevention largely depends on the coach's capacity to integrate preventive messages and routines into daily practice, positioning the coach as a central actor in both performance and injury prevention.

DISCUSSION

This qualitative study explored how injury prevention and management are understood and implemented within the elite sport context in Senegal, while identifying the main barriers and facilitators shaping these practices. In a country where sports participation continues to grow and where the upcoming 2026 Youth Olympic Games in Dakar offer a significant opportunity for visibility, this represents a unique and timely opportunity to give voice to different local stakeholders (coaches, athletes and health professionals) and better understand how sports medicine functions in a resource-limited and culturally embedded system.

The findings highlighted that while coaches, health professionals and athletes share a strong commitment to athlete well-being, their actions often rely on improvisation and personal initiative rather than structured systems. This reality reflects both resilience and vulnerability within the Senegalese sports ecosystem, where institutional gaps are filled by human connection and experience-based knowledge.

In contexts where access to healthcare is either limited, expensive or logistically complex, prevention becomes not only a medical concern but a structural imperative.^{29 30} As many Senegalese athletes come from vulnerable socio-economic backgrounds, injuries can rapidly jeopardise not only their sport trajectory but also their broader life prospects.³¹ Therefore, in such environments, injury prevention takes on an entirely different meaning, one that is less about optimisation and more about necessity. Yet, the idea of anticipating and acting upstream doesn't seem to be part of the dominant mindset in the current context. The findings revealed that prevention remained largely informal and reactive, relying on individual goodwill rather than structured frameworks.

Despite these challenges, the willingness of coaches and medical professionals to protect their athletes is evident. Many coaches strive to implement basic preventive routines using dynamic warm-ups, cooldowns and explanations tailored to their athletes' realities. However, there is a significant gap between these practices and evidence-based neuromuscular training programmes, such as FIFA 11+, Get SET or Funball programmes.^{9 16} These protocols are not widely disseminated in Senegal, and their visibility therefore remains limited among local stakeholders. Moreover, cultural adaptation is often lacking, which can hinder their relevance and uptake. Many of these materials are developed and delivered by individuals from different backgrounds and ethnic groups, making it harder for coaches and athletes to identify with the content. This underscores the critical need for improved dissemination strategies, greater visibility and culturally grounded resources. Equally essential is raising awareness about the value and effectiveness



Figure 3 Key factors to work on to improve injury prevention and management in the future in Senegal (Africa).

of such programmes, as many stakeholders remain insufficiently informed or engaged regarding the role of structured prevention in supporting athlete health and performance. Similar implementation barriers have been reported in other sport contexts, highlighting the importance of adapting prevention strategies to local organisational and cultural realities.^{14 32–34}

Throughout the study, one figure emerged as the central actor of the entire system: the coach. Repeatedly described as a spiritual father, mentor, coordinator and protector, the coach holds a central position in the life of the athlete, often surpassing that of medical professionals, teachers or even parents (figure 2). He listens, adapts, protects and guides. This intense investment, while admirable, reveals a profound systemic deficiency: coaches are forced to wear multiple hats because no one else is available or trained to take over. This phenomenon echoes the concept of task-shifting, commonly used in global health, where non-medical personnel take over roles typically reserved for trained health professionals due to systemic gaps.

This omnipresence reflects both structural necessity and cultural norms. In many African settings, hierarchical relationships and interpersonal trust are key to social organisation. The coach embodies this dynamic, acting as a social mediator and decision-maker whose opinion carries significant influence. Yet, while many coaches display a deep sense of responsibility, their work is often unsupported by federations or institutions. They also lack formal training in injury management, mental health and athlete development, and most learning is acquired empirically, through observation or personal experience. This reality creates disparities in knowledge and practice and exposes athletes to uneven care. Evidence from elite European football further supports the importance of coaching behaviours, as transformational leadership styles have been associated with lower rates of severe injuries and higher player availability.³⁵ All these aspects strengthen the need for specific educational programmes and support for coaches in this context.

The challenges are further compounded by language barriers and educational gaps. Many coaches do not speak English, which restricts their access to international resources. This emphasises the need for contextually adapted training programmes, designed in local languages and anchored in the lived realities of the communities they serve.³⁶ Given their centrality, equipping coaches with relevant, actionable knowledge should be a priority of any health and development initiative in sport.

In the current context, seeking medical attention for a sports-related injury is also often perceived as unnecessary and having mental health issues is shameful, particularly among young men, who are socialised to appear strong and invulnerable. The belief that a Senegalese athlete must be strong illustrates the tension between traditional values and contemporary health needs, where mental health symptoms are considered primordial to observe and address.^{37 38} Even if comparable patterns of injury normalisation and delayed reporting have been documented in other cultural settings,³³ these cultural norms play a particularly central role in the Senegalese context and should therefore be explicitly considered when designing field-based interventions and educational approaches.

Similarly, the practice of sport among women, particularly in competitive settings, remains rare and often hindered by deep-rooted cultural and social resistance. While some progress has been observed, many girls still drop out of sport early, discouraged by persistent myths linking physical activity to loss of femininity, compromised virginity or a perceived loss of social respectability. These beliefs are further reinforced by the absence of women role models, limited access to medical staff trained in

women athletes' health and environments that are neither inclusive nor responsive to their specific needs. This situation goes against the recommendations recently made by the International Olympic Committee Consensus Statement on Female, Woman and/or Girl Athlete.¹³

Crucially, the marginalisation of women in sport is inconsistent with global standards, such as those established by the WHO,³⁹ which emphasise equitable access to physical activity and high-performance sport. When women faced limited opportunities to participate in sport, whether due to infrastructural barriers, sociocultural norms or institutional gaps, this reflects more than a matter of inequality.⁴⁰ It constitutes a systemic failure to uphold internationally recognised principles of health, inclusion and excellence in sport.^{41 42} Limited access to safe and meaningful sport participation affects not only the physical and mental well-being of women and girls but may also limit the broader contribution of sport to social development. Addressing these challenges requires not only targeted health and sport policies but also sustained engagement with cultural and institutional contexts to support women's safe and equitable involvement at all levels of sport, including elite performance.

Limitations of the study

This study presents some limitations that merit consideration. First, the sample was predominantly male, reflecting the gender imbalance in the local sports system, where women coaches and athletes are under-represented. While four women were interviewed, enabling some discussion of gender-specific issues, these experiences may have been more deeply explored with greater representation by women. Still, gender-related barriers also emerged from male interviewees, indicating shared awareness. Second, while the inclusion of multiple sports enriched the analysis, the diversity of practices also made comparisons challenging. Some disciplines, such as swimming, were absent due to limited in-country representation. Third, data were primarily collected in Dakar or through contacts based in the capital. Although regional perspectives were included through online interviews, fieldwork outside Dakar was limited by logistical constraints. The fourth point is that half of the interviews were conducted online for logistic reasons. While this does not appear to affect data, occasional unstable internet connections sometimes disrupted interview flow. In addition, some participants were recruited through professional networks and key contacts. Although the researchers had no prior relationship with the interviewees and interviews were conducted independently, this approach may have influenced sample diversity. However, major bias is unlikely, as participants represented a range of roles, sports and institutional backgrounds. Finally, the study focused mainly on elite-level athletes. The experiences of those in lower divisions or informal contexts may differ, warranting further investigation. From a grounded theory perspective, the findings should be interpreted as contextually grounded rather than universally generalisable.

Practical implications and research perspectives

Although systemic barriers remain, participants expressed both optimism and determination regarding the future. Some improvements have been observed in recent years, especially in disciplines like rugby, where federations have introduced stronger medical protocols and a structured medical commission. In boxing and basketball, early steps have been taken toward more structured approaches to injury prevention. However, the

pace of change remains slow, uneven and frequently dependent on individual initiative rather than institutional mandates.

The upcoming 2026 Youth Olympic Games serve as both a motivation and a potential catalyst for structural transformation. While they inspire hope for infrastructure improvement and broader recognition of sport's value, several respondents voiced frustration over the lack of actual concrete outcomes thus far, particularly in terms of medical readiness and access to equipment or training facilities. Many of them also remain under construction or unavailable, forcing clubs to modify or cancel training. Besides, there is a risk that the momentum generated by the Youth Olympic Games will dissipate unless sustained by long-term policies. Communication towards federations, clubs, coaches and medical staff (when existing) could prevent or limit this risk.

Several directions were highlighted by the participants of the study, regarding future development. Strengthening partnerships with international organisations, medical institutions and community leaders is considered essential. Awareness campaigns targeting clubs, referees and the broader public were also emphasised. These efforts should be designed to resonate with local culture by being accessible, engaging and rooted in everyday examples. Analogies, storytelling and group dynamics were also mentioned as useful tools for enhancing impact and adherence. This perspective should not only include coaches but also nurses, physiotherapists and medical professionals across the territory, with specific attention to non-urban areas. Clubs should also have more autonomy and be empowered to manage basic injury care and prevention, with contextual tools that reflect the reality on the ground and are not limited to financial means.

Education is another central pillar for progress. Stakeholders highlighted the necessity of local, low-cost and practical training that aligns with on-the-ground realities. Therefore, educational resources must be translated, humanised and delivered in accessible ways. In this way, the educational work, launched by the ReFORM network and dedicated to French-speaking countries, should be continued, both for sports and medical professionals.⁴³ Initiatives such as 'Coach the coach', partnerships in the organisation of seminars and mentorship programmes could also be implemented in the future to address educational needs.¹⁶

Finally, it is essential that opportunities created by the Youth Olympic Games do not fade after the Games. Sustainable structures, reinforced coordination and valorisation of sports professions are key if we want meaningful and sustainable change to be achieved (figure 3).

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Competing interests PE is an Associate Editor for the *British Journal of Sports Medicine*, the *BMJ Open Sports and Exercise Medicine* and the *Scandinavian Journal of Medicine & Science in Sports*. PE is also Editor-in-Chief of the *Journal de Traumatologie du Sport*. CT is Associate Editor of the *Journal de Traumatologie du Sport* and serves on the Editorial Board of *Isokinetics and Exercise Science*. JFK and SL are members of the Editorial Board of the *Journal de Traumatologie du Sport*. JFK also serves on the Editorial Boards of *Science & Sports*, *ACER*, *EJPRM*, *Nature Scientific Reports* and *RMLg*. DH is a member of the medical board of the French Golf Federation. None declared for the other authors. RS is an Associate Editor for the *British Journal of Sports Medicine*.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained directly from participant(s).

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