

# ACL injury prevention in European women's football: exploring knowledge, attitudes and practices in a cross-sectional study

Gabriel Monthuley,<sup>1</sup> Katrine Okholm Kryger,<sup>1,2,3</sup> Evert Verhagen <sup>1,4</sup>

**To cite:** Monthuley G, Okholm Kryger K, Verhagen E. ACL injury prevention in European women's football: exploring knowledge, attitudes and practices in a cross-sectional study. *BMJ Open Sport & Exercise Medicine* 2025;**11**:e002558. doi:10.1136/bmjsem-2025-002558

► Additional supplemental material is published online only. To view, please visit the journal online (<https://doi.org/10.1136/bmjsem-2025-002558>).

Accepted 20 June 2025

## ABSTRACT

**Objective** To assess the knowledge, attitudes and behaviours regarding anterior cruciate ligament (ACL) injury prevention among individuals involved in women's football at all levels, including players and staff across Union of European Football Associations (UEFA) nations. **Methods** A cross-sectional, questionnaire-based survey was conducted to evaluate the knowledge, attitudes and behavioural adoption of ACL injury prevention strategies among players, coaches, medical staff and other stakeholders in European women's football. **Results** A total of 2384 responses from 47 of the 55 UEFA national associations were analysed. While 95% of participants demonstrated awareness of ACL injuries, knowledge of specific exercise programmes to prevent such injuries was limited in coaches (62%) and players (32%), particularly at grassroots and recreational levels. Participants expressed positive attitudes towards integrating prevention programmes into regular routines with 97% expressing they would perform it if it significantly reduced ACL injuries; however, the actual implementation of these programmes remained low across all levels of play with 22% of players, 51% of coaches and 61% of medical staff reported having performed or facilitated an ACL prevention exercise programme. **Conclusion** Despite positive attitudes towards ACL injury prevention, the practical application of prevention programmes in women's football is insufficient, especially below the national top-division level. This highlights the need for targeted educational initiatives to enhance knowledge and facilitate implementation among recreational players, coaches and medical staff.

## INTRODUCTION

In women's football, anterior cruciate ligament (ACL) injuries have garnered increasing media attention in recent years. While ACL injuries are not highly prevalent in the sport,<sup>1 2</sup> their consequences are significant, including prolonged recovery periods,<sup>3</sup> an elevated risk of osteoarthritis<sup>4</sup> and a moderate yet concerning likelihood of reinjury. In severe cases, such injuries can be career-ending.<sup>5 6</sup> Given these impacts,

## WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Women football players face a higher risk of anterior cruciate ligament (ACL) injuries compared with their male counterparts, leading to prolonged recovery and potential long-term consequences like reinjury and osteoarthritis.
- ⇒ Although evidence-based exercise programmes can significantly reduce the incidence of ACL injuries, their consistent implementation across various levels of football remains a challenge.
- ⇒ Barriers to adopting ACL prevention programmes include a lack of awareness, insufficient education and limited access to resources, particularly at the grassroots level. This highlights a gap between the availability of effective strategies and their practical use.

## WHAT THIS STUDY ADDS

- ⇒ This study reveals significant gaps in ACL injury prevention knowledge, attitudes and behaviours among stakeholders in women's football across Union of European Football Associations nations, particularly at grassroots levels.
- ⇒ Despite the low rates of practical implementation, stakeholders exhibit positive attitudes towards integrating prevention exercises into routine training, indicating potential for improvement through targeted educational initiatives and better resource allocation.
- ⇒ The findings underline the need for scalable, practical solutions to bridge the knowledge gap and promote routine incorporation of ACL prevention exercises, especially in grassroots settings where coaches and players may lack adequate support and education.

## HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ This study provides a foundation for future studies exploring targeted interventions like tailored education programmes or context-specific strategies to enhance ACL prevention in women's football.
- ⇒ It highlights the need for practical, scalable solutions like integrating ACL prevention exercises into routine training to address knowledge and implementation gaps, especially at grassroots levels.
- ⇒ Our results suggest mandatory ACL prevention education in coaching certification programmes and promoting policy changes for widespread access to evidence-based prevention resources.



© Author(s) (or their employer(s)) 2025. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ Group.

For numbered affiliations see end of article.

## Correspondence to

Professor Evert Verhagen;  
e.verhagen@amsterdamumc.nl

there is a pressing need to implement effective strategies to reduce ACL injury incidence across all levels of football.

The scientific literature provides evidence supporting injury prevention strategies.<sup>7</sup> Exercise-based programmes such as FIFA 11+, Perform+ and Knäkontroll have demonstrated their efficacy in reducing overall injury rates by approximately 25%, with even greater reductions observed specifically for ACL injuries.<sup>7</sup> Despite this, translating these evidence-based interventions from controlled research environments into routine football practice remains a complex challenge requiring multiple levels of engagement.<sup>8,9</sup>

This challenge can be understood through the lens of the knowledge-attitude-behaviour framework, which delineates behaviour change into three interdependent stages: knowledge acquisition, belief or attitude formation and behavioural implementation.<sup>10</sup> This model highlights the importance of addressing gaps not only in understanding and awareness but also in fostering positive attitudes and actionable behaviours towards injury prevention.

In light of this framework, the present study investigates the current state of knowledge, attitudes and behaviours regarding ACL injury prevention in women's football. The survey targets individuals involved at all levels of the sport, including players, coaches, parents/guardians, performance staff, medical personnel and administrative staff across the Union of European Football Associations (UEFA) nations. By exploring these dimensions, this study aims to provide actionable insights for improving the adoption of effective injury prevention strategies in women's football.

## METHODS

This study adhered to the Checklist for Reporting Results of Internet E-Surveys guidelines.<sup>11</sup> Ethical approval was not required as the study involved low-risk questions and did not collect identifiable data.

### Design and participants

This cross-sectional study targeted individuals involved in women's football, including players, coaches, parents/guardians, performance staff, medical personnel and administrative staff in UEFA nations. Before starting the survey, participants were informed about its purpose, estimated completion time, the type of data collected and the identity of the researchers. Participation was entirely voluntary and anonymous, with no identifiable information collected. No incentives were offered.

### Inclusion criteria

Participants were eligible for inclusion if they (1) held a working or playing role in women's football; (2) resided in a UEFA member nation and (3) provided informed consent to participate.

### Box 1 English version of the concepts used in the survey, subcategorised by information on demographics, prior education, knowledge, attitude and behaviour

#### Demographics

Gender.  
Country of residence.  
Role within women's football.  
Highest level of football played/worked in.

#### Education

Prior education on the prevention of anterior cruciate ligament (ACL) injuries.

#### Experience

Personal ACL injury history.  
Personal awareness of teammates/players with an ACL history.

#### Knowledge

Understanding what ACL injury is.  
Agree or disagree: in football, women have a higher risk of sustaining an ACL injury than men.  
Familiarity with the concept of an ACL injury prevention exercise programme.

#### Attitude

Agree or disagree: an ACL injury can be prevented.  
Willingness to perform a regular ACL injury exercise programme if known to reduce ACL injury incidence.  
Minutes they are willing to use on ACL injury prevention.  
Days per week they are willing to use on ACL injury prevention.

#### Behaviour

Prior experience performing or facilitating an ACL injury prevention exercise programme.

## Survey development

The survey was developed based on frameworks from previous studies by Tanaka *et al*.<sup>12</sup> and Alyami *et al*.<sup>13</sup> with initial drafts prepared by GM and EV. The survey underwent a thorough review process involving an expert group to ensure clarity and validity. This process included at least two calls and three rounds of email exchanges. The expert group consisted of eight sports medicine and football experts: three sports physicians, three physiotherapists, two sports scientists and one former professional player. The iterative review process focused on ensuring content and face validity, although achieving construct validity in this context is inherently complex. The final survey was tested for usability and functionality through a pilot test involving native speakers of multiple languages participating in women's football. After these validation steps, the survey was translated and finalised for distribution.

The finalised survey assessed demographics, education, knowledge, attitudes and behaviours regarding ACL injury prevention. Key survey questions are outlined in [box 1](#). The survey is available in online supplemental appendix A.

**Table 1** Respondent demographics

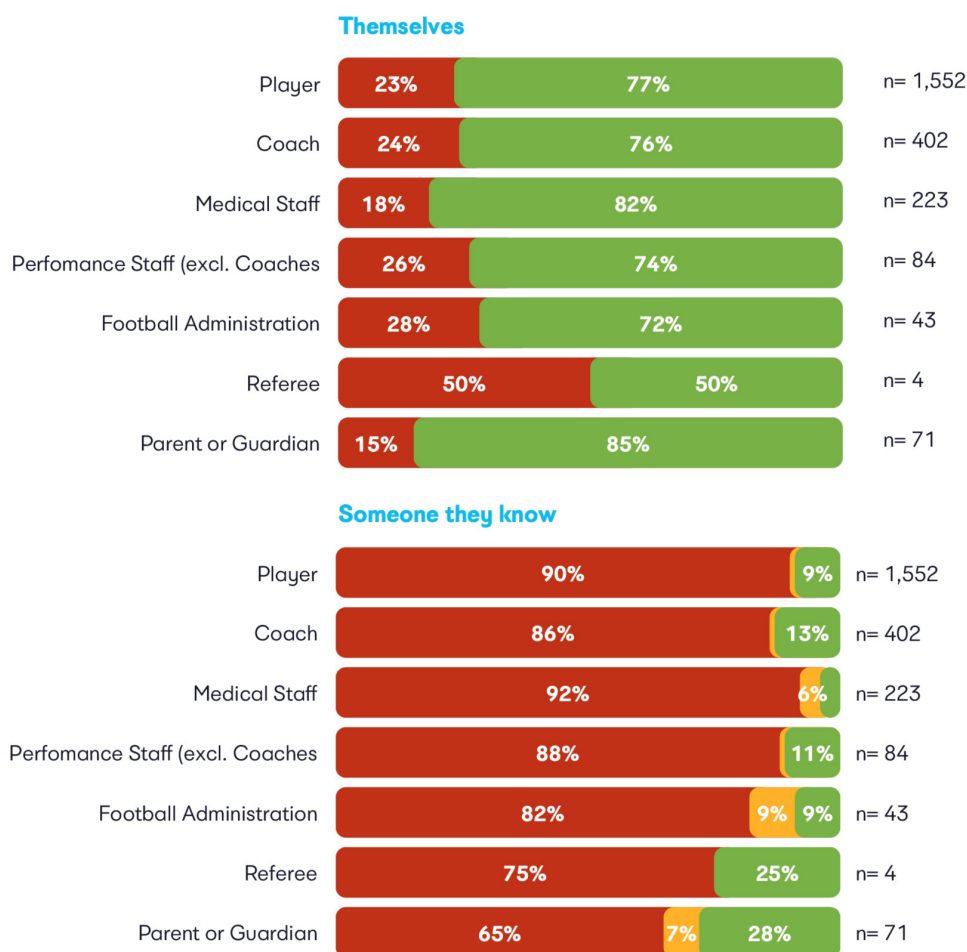
	Player	Coach	Medical staff	Total
Number of responses	1557 (71%)	407 (18%)	223 (10%)	2178
Gender				
Man		247	114	361 (17%)
Woman	1562	154	106	1817 (83%)
Prefer not to say		6	3	9 (<1%)
Playing level				
Grassroots/recreational/regional	455	230	48	733 (34%)
National-level league	483	89	50	622 (28%)
Top division	555	76	98	729 (33%)
Prefer not to say	64	12	27	103 (5%)

Numbers presented as respondent n with percentage of total in brackets.

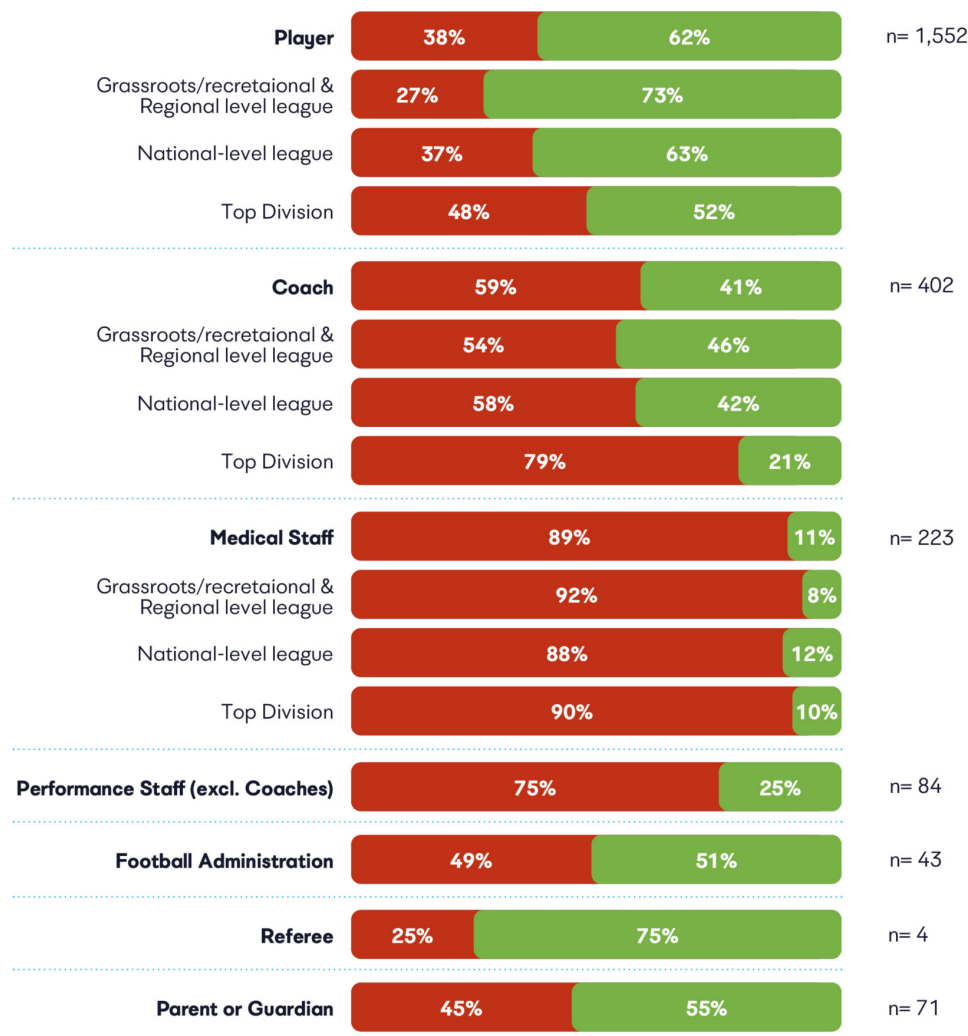
### Survey distribution

The survey was built using General Data Protection Regulation (GDPR) compliant 123FormBuilder (123FormBuilder, Timișoara, Romania). The survey was disseminated through two primary channels. The

UEFA Medical Unit drafted a circular email, which was subsequently distributed to the presidents of all 55 UEFA national associations. This email requested that these presidents' women's football departments disseminate the survey to pertinent clubs. Furthermore, through a



**Figure 1** Percentage of responders who have previously sustained an ACL injury themselves or know of a teammate or other player who had sustained an ACL injury. Red indicates 'yes'; orange indicates 'not applicable'; and green indicates 'no'. ACL, anterior cruciate ligament.



**Figure 2** Percentage of respondents with prior education on ACL injury prevention per role and competition level. Green indicates 'yes'; red indicates 'no'. ACL, anterior cruciate ligament.

UEFA Media Release, respondents were directed to the UEFA website, which provided a direct hyperlink to the survey for the broader women's football community. Responses were collected between 6 December 2023 and 31 January 2024.

### Data analysis

Survey responses were screened to confirm eligibility based on inclusion criteria, and incomplete surveys were discarded. Timestamps were checked, and no anomalies were detected. Data were exported into Excel (Microsoft 365, Redmond, WA) for analysis. Descriptive statistics, including counts and percentages, were calculated for closed-ended questions relative to the total number of respondents.

## RESULTS

### Respondents

The survey received a total of 2660 responses. However, 276 responses were excluded due to incomplete informed consent (n=147), non-residence in a UEFA member nation, failure to disclose the country of residence

(n=77), or lack of a playing or working role in women's football (n=55). This left 2384 valid responses for further analysis.

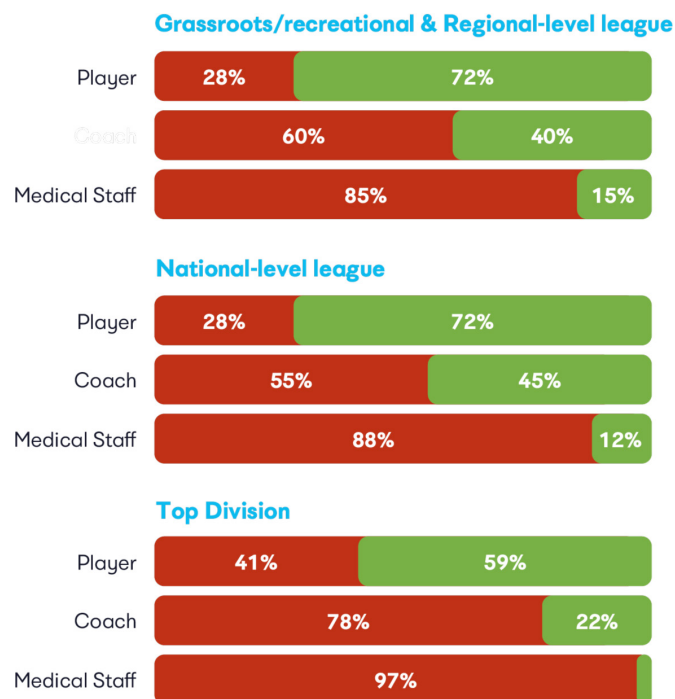
### Participant demographics

The majority of respondents were women football players (65%, n=1557), followed by coaches (17%, n=407), medical staff (9%, n=223) and performance staff, parents/guardians, football administration staff and referees (all <5% each). A small number of participants (<1%, n=5) indicated dual roles as both players and coaches. Respondents represented a range of competition levels and 47 of the 55 UEFA national associations. For further analysis, only players, coaches and medical staff were considered due to the low response rates in other participant groups. A detailed breakdown of responding player, coach and medical staff demographics is shown in [table 1](#).

### Prior education and experience with ACL Injuries

Among all respondents, 23% (n=548) reported having previously sustained an ACL injury, with similar proportions observed among players (23%, n=363) and coaches





**Figure 3** Familiarity with ACL injury prevention exercise programmes by respondent role per competition level and role. Green indicates 'yes'; red indicates 'no' or 'not sure'. ACL, anterior cruciate ligament.

(24%, n=98) (figure 1). Furthermore, 88% (n=2104) of all respondents knew of a teammate or player who had sustained an ACL injury. The median age of first ACL injury for any participant who had sustained an ACL injury was 18 years (range: 12–44 years) for players, 23 years (range: 12–51 years) for coaches and 19 years (range: 14–60 years) for all respondents combined.

The percentage of respondents with prior education in ACL injury prevention varied by role (figure 2). While 89% (n=198) of medical staff had received such education, the numbers were lower for coaches (59%, n=241) and players (38%, n=596). Education levels were also influenced by playing level: only 27% of grassroots players (n=123) and 54% of grassroots coaches (n=246) had received an education, compared with 48% (n=269) and 79% (n=60) at the top division level, respectively.

### Knowledge of ACL injuries in women's football

Almost all respondents (95%, n=2261) indicated they understood what an ACL injury was. Furthermore, 90% (n=2153) agreed with the statement, 'In football, women have a higher risk of sustaining an ACL injury than men'.

However, only 45% (n=1083) were familiar with exercise programmes to prevent ACL injuries. Familiarity was highest among medical staff (91%) and coaches (62%) but lower among players (32%). Familiarity levels were influenced by playing or coaching level and personal ACL injury history (figure 3).

### Attitudes towards ACL injury prevention

Most respondents (77%, n=1846) agreed that 'an ACL injury can be prevented'. Nearly all (97%, n=2312) indicated they would participate in a regular exercise programme if it significantly reduced ACL injury risk.

Regarding the time commitment for such a programme, most respondents preferred 2–3 sessions per week, with session durations distributed across 0–15 min, 15–30 min and 30+ min. There was a visible difference between playing level and the time or frequency respondents were willing to dedicate (figure 4).

### Behaviours around ACL injury prevention

Despite the positive attitudes and some knowledge of ACL injury prevention, only 22% of players, 51% of coaches and 61% of medical staff reported having performed or facilitated an ACL prevention exercise programme (figure 4). Participation rates were higher among top-division players, coaches and medical staff (figure 5).

## DISCUSSION

This study explored the knowledge, attitudes and behaviours regarding ACL injury prevention among individuals involved in women's football at various competitive levels within UEFA national associations. The findings indicate widespread awareness of ACL injuries and a generally positive attitude towards prevention programmes. However, gaps in knowledge and implementation, particularly at lower levels of competition, highlight the need for targeted interventions to enhance education and facilitate the adoption of injury prevention strategies.

### Education

Education emerged as a significant factor influencing both knowledge and behaviour. Only 48% of respondents had received prior education on ACL prevention, with notable discrepancies between roles. Most medical staff (89%) had received education, but only 59% of coaches and 38% of players had similar exposure. This lack of education is particularly problematic at the grassroots level, where coaches often bear full responsibility for training.

To address this, coaching education programmes should incorporate mandatory modules on ACL prevention. Applied education, focusing on creativity, cocreation and context-specific content, has been shown to enhance implementation.<sup>14–16</sup> UEFA and national associations could play a pivotal role in standardising these educational efforts, ensuring that all coaches are equipped to implement evidence-based prevention programmes.

### Knowledge

According to the knowledge-attitude-behaviour model, knowledge forms the foundation of behaviour change.<sup>10 17</sup> In this study, 95% of respondents were familiar with ACL injuries—consistent with Tanaka *et al*'s findings among National Collegiate Athletic Association (NCAA)

		Player	Coach	Medical Staff
<b>1 x week</b>				
0-15 min	Grassroots/recreational & Regional-level league	3%	7%	1%
0-15 min	National-level league	1%	2%	0%
0-15 min	Top Division	1%	1%	0%
15-30 min	Grassroots/recreational & Regional-level league	2%	5%	2%
15-30 min	National-level league	1%	1%	0%
15-30 min	Top Division	1%	0%	0%
30 min+	Grassroots/recreational & Regional-level league	0%	1%	0%
30 min+	National-level league	0%	1%	0%
30 min+	Top Division	0%	0%	1%
<b>2-3 x week</b>				
0-15 min	Grassroots/recreational & Regional-level league	7%	22%	5%
0-15 min	National-level league	6%	8%	4%
0-15 min	Top Division	7%	4%	11%
15-30 min	Grassroots/recreational & Regional-level league	10%	15%	7%
15-30 min	National-level league	9%	5%	11%
15-30 min	Top Division	11%	4%	17%
30 min+	Grassroots/recreational & Regional-level league	3%	2%	1%
30 min+	National-level league	5%	2%	1%
30 min+	Top Division	3%	1%	5%
<b>Daily</b>				
0-15 min	Grassroots/recreational & Regional-level league	1%	2%	2%
0-15 min	National-level league	2%	3%	3%
0-15 min	Top Division	2%	4%	2%
15-30 min	Grassroots/recreational & Regional-level league	1%	1%	1%
15-30 min	National-level league	4%	2%	2%
15-30 min	Top Division	5%	3%	4%
30 min+	Grassroots/recreational & Regional-level league	2%	2%	1%
30 min+	National-level league	4%	1%	1%
30 min+	Top Division	5%	3%	3%

**Figure 4** Time commitment respondents were willing to invest in ACL injury prevention programmes. Green indicates >10%, light red indicates 5–10%, dark red indicates <5%. ACL, anterior cruciate ligament.

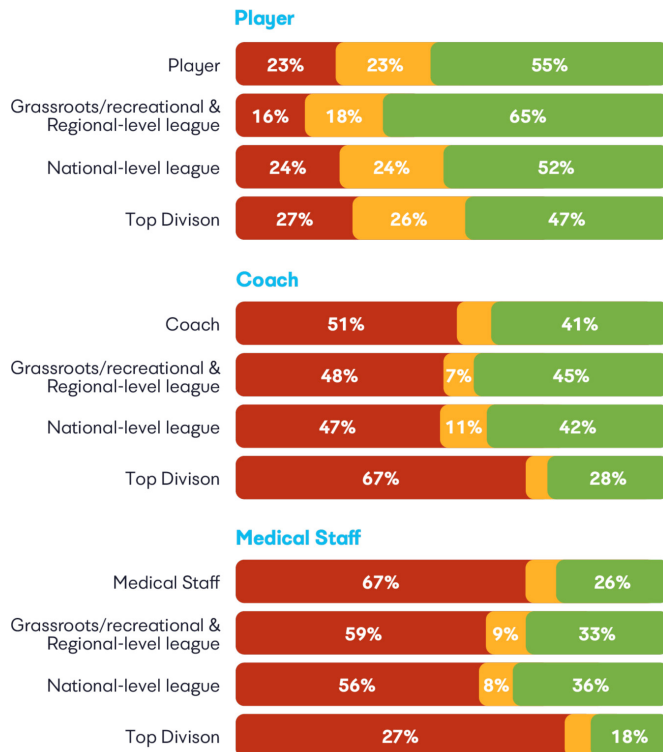
athletes<sup>12</sup> but markedly higher than Alyami *et al*'s report among athletes in Saudi Arabia.<sup>13</sup> Despite this high awareness, only 45% of participants were familiar with exercise programmes designed to prevent ACL injuries. Players, particularly those in grassroots or recreational settings, demonstrated the lowest familiarity (28%), highlighting a critical gap in knowledge.

Medical staff unsurprisingly exhibited the highest level of familiarity (91%), reflecting their specialised training. However, only 62% of coaches were aware of prevention programmes. While medical or performance staff commonly facilitate injury prevention at top division clubs, at grassroots, the coach is primarily responsible. It is, therefore, concerning to see that while 92% of medical staff at the top division were familiar with prevention

programmes, only 60% of grassroots coaches were. Given grassroots coaches' pivotal role in facilitating all aspects of training, including injury prevention, their lack of knowledge warrants immediate attention. Future strategies must prioritise equipping grassroots coaches with accessible, practical knowledge to promote effective injury prevention.

### Attitudes

Attitude serves as the bridge between knowledge and behaviour in the knowledge-attitude-behaviour model.<sup>17</sup> Encouragingly, 77% of respondents believed ACL injuries could be prevented—substantially higher than previous findings in youth football, where only 20% of players believed knee injuries were preventable.<sup>18</sup> Furthermore,



**Figure 5** The proportion of respondents who have previously performed ACL prevention exercise programmes per role and competition level. Green indicates 'yes'; red indicates 'no'. ACL, anterior cruciate ligament.

97% of participants expressed willingness to perform a regular injury prevention programme if it significantly reduced ACL injury risk.

Respondents across roles and competition levels were willing to dedicate time to prevention exercises, commonly indicating a preference for 2–3 sessions per week of varying durations. This aligns with the commitment needs of existing evidence-based programmes, such as FIFA 11+, which require manageable time investments of 10–15 min two times a week while delivering significant benefits.<sup>7 15</sup> These positive attitudes present a strong foundation for increasing the adoption of prevention exercises, provided structural and educational barriers are addressed.

### Behaviour

Despite high awareness and positive attitudes, implementing ACL prevention programmes remains limited. More implementation was seen at top division; however, only 22% of players, 51% of coaches and 61% of medical personnel reported previous engagement with prevention exercises. Similar trends have been observed in other studies, where even motivated coaches often struggled to implement injury prevention strategies due to perceived inadequacy in providing technical feedback.<sup>14</sup>

Barriers to implementation include a lack of infrastructure, insufficient training and competing priorities.<sup>15 19</sup> At lower levels of competition, these challenges are compounded by limited access to medical staff and

reliance on undertrained coaches. Addressing these barriers requires tailored solutions, such as integrating prevention exercises into routine training and empowering coaches with the knowledge and confidence to deliver these programmes effectively.

### Strengths and limitations

This study's large sample size (n=2384) and inclusion of diverse roles across UEFA nations strengthen the generalisability of its findings within women's football. However, using a convenience sample may introduce selection bias, as individuals more engaged with ACL prevention were likely over-represented. Additionally, reliance on self-reported data poses a risk of response bias, and the survey's length may have limited the depth of some responses. Future studies should consider longitudinal designs and qualitative methods to explore these topics further.

### Clinical implications

The positive attitudes observed in this study provide a strong foundation for integrating ACL prevention exercises into routine training. We believe this indicates that players, coaches and medical staff require tailored support to overcome barriers and translate knowledge into practice. The willingness of respondents to dedicate 2–3 sessions per week aligns well with existing prevention programmes, which can be adapted to various competition levels.

Despite their training, medical staff did not consistently implement prevention programmes, suggesting additional barriers that require further investigation. Empowering coaches and players through applied education is particularly important in settings without access to medical professionals. Coaching certification programmes should include practical training on injury prevention, ensuring widespread dissemination of evidence-based strategies.

### CONCLUSION

This study highlights significant gaps in knowledge and implementation of ACL prevention programmes, particularly at lower competition levels in women's football. While attitudes towards prevention are overwhelmingly positive, behaviour remains a key challenge. Addressing these gaps will require targeted educational initiatives, greater support for grassroots coaches and integration of prevention exercises into regular training routines. By empowering players, coaches and medical staff with the necessary knowledge and resources, ACL injury prevention can become a standard practice across all levels of women's football in UEFA nations.

### Author affiliations

<sup>1</sup>Medical & Anti-Doping Unit, Union of European Football Associations (UEFA), Nyon, Switzerland

<sup>2</sup>Faculty of Sport, Applied Health and Performance Science, St Mary's University, London, UK

<sup>3</sup>Department of Sport and Exercise Sciences, Institute of Sport, Manchester Metropolitan University Institute of Sport, Manchester, UK

<sup>4</sup>Amsterdam Collaboration on Health and Safety in Sports, Department of Public and Occupational Health, Amsterdam Movement Sciences, Amsterdam UMC Locatie VUmc, Amsterdam, the Netherlands

X Evert Verhagen @evertverhagen

**Contributors** All authors contributed to the writing and critical review of this manuscript. GM and EV developed the idea for the study and the survey. GM and KOK analysed and interpreted the survey data. Final approval of the contents of the manuscript was obtained from all authors. All authors take responsibility for the integrity of the work from conception to publication. EV is the guarantor of the manuscript.

**Funding** The Medical & Anti-Doping Unit of the Football Division of the Union of European Football Associations funded this study.

**Competing interests** The work was conducted through paid roles at UEFA Medical & Anti-Doping Unit. EV is the editor-in-chief of BMJ Open SEM.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

**Patient consent for publication** Not applicable.

**Ethics approval** Ethics exemption was granted due to the low-risk question types and absence of identifiable data collected exempted this study. Participants gave informed consent to participate in the study before taking part.

**Provenance and peer review** Not commissioned; externally peer-reviewed.

**Data availability statement** Data are available upon reasonable request. The data used in this study consists of anonymous participant data collected through an international open survey on ACL injury prevention in women's football.

**Supplemental material** This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

## ORCID iD

Evert Verhagen <http://orcid.org/0000-0001-9227-8234>

## REFERENCES

- Hallén A, Tomás R, Ekstrand J, *et al.* UEFA Women's Elite Club Injury Study: a prospective study on 1527 injuries over four consecutive seasons 2018/2019 to 2021/2022 reveals thigh muscle injuries to be most common and ACL injuries most burdensome. *Br J Sports Med* 2024;58:128–35.
- Montalvo AM, Schneider DK, Silva PL, *et al.* "What's my risk of sustaining an ACL injury while playing football (soccer)?" A systematic review with meta-analysis. *Br J Sports Med* 2019;53:1333–40.
- Larruskain J, Lekue JA, Diaz N, *et al.* A comparison of injuries in elite male and female football players: A five-season prospective study. *Scand J Med Sci Sports* 2018;28:237–45.
- Sepúlveda F, Sánchez L, Amy E, *et al.* Anterior Cruciate Ligament Injury: Return to Play, Function and Long-Term Considerations. *Curr Sports Med Rep* 2017;16:172–8.
- Arundale AJH, Silvers-Granelli HJ, Snyder-Mackler L. Career Length and Injury Incidence After Anterior Cruciate Ligament Reconstruction in Major League Soccer Players. *Orthop J Sports Med* 2018;6:2325967117750825.
- Niederer D, Engeroff T, Wilke J, *et al.* Return to play, performance, and career duration after anterior cruciate ligament rupture: A case-control study in the five biggest football nations in Europe. *Scand J Med Sci Sports* 2018;28:2226–33.
- Crossley KM, Patterson BE, Culvenor AG, *et al.* Making football safer for women: a systematic review and meta-analysis of injury prevention programmes in 11 773 female football (soccer) players. *Br J Sports Med* 2020;54:1089–98.
- Finch CF, Donaldson A. A sports setting matrix for understanding the implementation context for community sport. *Br J Sports Med* 2010;44:973–8.
- O'Brien J, Finch CF, Pruna R, *et al.* A new model for injury prevention in team sports: the Team-sport Injury Prevention (TIP) cycle. *Sci Med Footb* 2019;3:77–80.
- Rahbar T, Garg S, Tripathi R, *et al.* Knowledge, attitude, behavior and practice (KABP) regarding HIV/AIDS among pregnant women attending PPTCT programme in New Delhi. *J Commun Dis* 2007;39:179–84.
- Eysenbach G. Improving the quality of Web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *J Med Internet Res* 2004;6:e34.
- Tanaka MJ, Jones LC, Forman JM. Awareness of Anterior Cruciate Ligament Injury-Preventive Training Programs Among Female Collegiate Athletes. *J Athl Train* 2020;55:359–64.
- Alyami AH, Darraj H, Hamdi S, *et al.* Awareness of Anterior Cruciate Ligament Injury-Preventive Training Programs among Saudi Athletes. *Clin Pract* 2023;13:656–65.
- Joy EA, Taylor JR, Novak MA, *et al.* Factors Influencing the Implementation of Anterior Cruciate Ligament Injury Prevention Strategies by Girls Soccer Coaches. *J Strength Cond Res* 2013;27:2263–9.
- Benjaminse A, Verhagen E. Implementing ACL Injury Prevention in Daily Sports Practice-It's Not Just the Program: Let's Build Together, Involve the Context, and Improve the Content. *Sports Med* 2021;51:2461–7.
- Bruder AM, Crossley KM, Mosler AB, *et al.* Co-creation of a sport-specific anterior cruciate ligament injury risk reduction program for women: A concept mapping approach. *J Sci Med Sport* 2020;23:353–60.
- Bettinghaus EP. Health promotion and the knowledge-attitude-behavior continuum. *Prev Med* 1986;15:475–91.
- Sugimoto D, Myer GD, Barber Foss KD, *et al.* Dosage Effects of Neuromuscular Training Intervention to Reduce Anterior Cruciate Ligament Injuries in Female Athletes: Meta- and Sub-Group Analyses. *Sports Med* 2014;44:551–62.
- Dix C, Logerstedt D, Arundale A, *et al.* Perceived barriers to implementation of injury prevention programs among collegiate women's soccer coaches. *J Sci Med Sport* 2021;24:352–6.