

Analysis of Sports

by Muhamad Diffa

Submission date: 12-Oct-2026 02:40PM (UTC+0700)

Submission ID: 3057588724

File name: document_4.pdf (277.52K)

Word count: 3292

Character count: 17751

athletic performance, and even lead to long-term cessation of sports activities (Herdiandanu & Djawa, 2020).

According to Mustafa (2022), Sports injuries are pains caused by exercise that result in injuries, wounds, or damage to muscles, joints, and other body parts. According to Herdiandanu & Djawa (2020), an injury is a condition that occurs in the body, causing pain, heat, redness, swelling, and impaired function in muscles, tendons, ligaments, joints, or bones due to excessive physical activity or accidents. There are several sources of sports injuries: 1) External factors such as body contact, sports equipment used, and field conditions; 2) Internal factors such as imperfect muscle and joint coordination, unequal leg and limb sizes, insufficient warm-up; weak physical and mental condition of the athlete; and 3) Overuse, such as excessive or continuous muscle use, improper technique, or anatomical abnormalities.

One of the sports that has the potential to cause injury is cricket. Cricket is a team sport that requires technical skills, strength, speed, and endurance. The game's characteristics involve repeated sprints, sudden changes of direction, and intense involvement of the upper and lower body. Cricket is one of the oldest sports in the world, originating in England, and has grown rapidly in many South Asian countries, such as India, Pakistan, Bangladesh, and Sri Lanka. In the past ten years, cricket in Indonesia has developed, although it is not as popular as soccer or badminton. Since its establishment in 2000, the Indonesian Cricket Association (PCI) has become the official body responsible for regulating cricket competitions and developing cricket athletes.

According to McLeod et al (2023), the most common injuries occur among bowlers, with an incidence rate of 78%, attributed to repetitive and intense throwing motions. Meanwhile, lower limb injuries are most commonly experienced by batters (36%) and fielders (42%), with the knee (34%) being the most frequent site of injury. These knee injuries are typically caused by sprinting, sudden direction changes, and bending movements during fielding. In the study by Pardiwala et al (2018), the most common injuries were caused by bowling (41.3%), fielding, and wicketkeeping (28.6%). Hamstring injuries are the most common in modern cricket. Acute injuries are the most common (64%-76%), followed by acute-chronic injuries (16%-22.8%) and chronic injuries (8%-22.8%).

Studies on injuries in cricket are important because of the high intensity of the activity and the associated risk of injury during competitive phases such as the East Java Provincial Sports Week (PORPROV). This research will contribute to developing preventive strategies and interventions by coaches and sports medicine personnel at the regional level.

Most scientific publications on injuries in cricket come from countries with a strong tradition in this sport, such as India, Australia, the United Kingdom, and South Africa. These studies typically employ a longitudinal design. This study represents the first epidemiological investigation of cricket injuries conducted within the context of a multi-event provincial-level sports competition in Indonesia, specifically the East Java Provincial Sports Week (Porprov), thereby providing an important initial contribution to the collection of injury history data for cricket athletes at the regional level.

The novelty of this study lies in its focus as the first study to analyze the injury history of cricket athletes at the 9th East Java Provincial Sports Week (PORPROV). The findings of this study are expected to contribute to the literature on cricket injury epidemiology in Indonesia and serve as a basis for coaches, medical teams, and sports administrators in designing evidence-based injury prevention and management programs. The 9th East Java Provincial Sports Week (Porprov) brought together the best athletes across the province. Cricket athletes competed fiercely in this championship. Such conditions inevitably increase the risk of injury, particularly for athletes with poor physical preparation or a history of previous injuries.

METHOD

This study is a quantitative descriptive study using a cross-sectional approach. This approach was used to determine the prevalence of injuries experienced by cricket athletes during the 9th East Java PORPROV Championship in 2025. This study was conducted using purposive sampling, a sampling method based on specific considerations or criteria set by the researcher, with the following inclusion criteria.

- 1) Athletes who sustained injuries during the championship
- 2) Athletes who were willing to participate as respondents and complete the research questionnaire

The exclusion criteria for this study are as follows:

- 1) Athletes who did not sustain injuries.

The population in this study includes all cricket athletes who participated in the 9th East Java Provincial Sports Week (PORPROV). There were 280 athletes in total.

Research instruments are used to obtain the necessary information. Questionnaires are the primary tools used in this study. According to Winarno (2013), questionnaires are instruments in the form of a series of written questions systematically arranged and used by researchers to collect data or information from respondents related to the studied variables.

After all quantitative data had been collected from the questionnaires completed by respondents, the next step was to analyze the data using percentage analysis techniques. The analysis results are then presented in percentage form to provide a more transparent and more measurable picture of the frequency of each type of injury. The formula used is

$$P = \frac{F}{N} \times 100\%$$

Explanation:

P = Percentage

F = Frequency

N = Number of Respondents

RESULT

This study was conducted to identify and analyze the history of sports injuries experienced by cricket athletes while participating in the 9th East Java Provincial Sports Week (PORPROV) Championship in 2025. Data was collected through questionnaires administered to participating athletes and analyzed based on the type of injury, the location of the injury on the body, and the initial treatment administered. Based on the data analysis, 37 injury cases were reported during the championship.

Table 1. Characteristics of Research Subjects Based on Age, Height, and Weight of Cricket Athletes in the IX East Java Provincial Sports Week Championship

Category	Mean+Std. Deviasi
Age	18,54+2,31

Height (Cm)	164,3+5,92
Weight (Kg)	57,95+8,40

Based on the results of data analysis, it is known that the average age of athletes is 18.54+2.31 years, which indicates that most respondents are in the late adolescence to early adulthood age category. The average height of athletes is 164.3+5.92 cm, while the average weight is 57.95+8.40 kg.

Tabel 2. Distribution of types of injuries among cricket athletes at the 2025 East Java Interprovincial Sports Week Championship

Types of Injuries	Frequency	Percentage (%)
Sprain	5	13,5%
Strain	5	13,5%
Contusion	14	37,8%
Muscle cramp	8	21,6%
Fracture	0	0%
Dislocation	3	8,1%
Open wound	1	2,7%
Shortness of breath	1	2,7%
Total	37	100%

The most common type of injury experienced by athletes is contusion, with 14 cases (37.8%), followed by muscle cramps with 8 cases (21.6%), and sprains and strains, each occurring in 5 cases (13.5%).

Tabel 3. Parts of the body that have been injured

Part	Body Parts	Frequency	Percentage (%)
Head	Head	0	0%
	Neck	0	0%
	Face	1	2,7%
Upper Extremities	Shoulders	3	8,1%
	Chest	1	2,7%
	Elbows	0	0%
	Arms	3	8,1%
	Wrists	2	5,4%

Lower Extremities	Fingers	5	13,5%
	Hips	2	5,4%
	Thighs/hamstrings	10	27,02%
	Knees	2	5,4%
	Calves	1	2,7%
	Feet	7	18,9%
	Toes	0	0%
Total		37	100%

The body parts most frequently injured were the thighs or hamstrings, with 10 cases (27%), followed by the legs, with 7 cases (18.9%), and fingers, with 5 cases (13.5%).

Tabel 4. First aid treatment is provided to athletes when they suffer an injury

First aid for injuries	Frequency	Percentage (%)
RICE method (Rest, Ice, Compression, Elevation)	17	45,9%
Bandaging/stabilization	1	2,7%
Physiotherapy	1	2,7%
Administration of pain relief spray	15	40,5%
Use of medication	0	0
No treatment	3	8,1%
Total	37	100%

The most common first aid treatment for injuries was the RICE method (Rest, Ice, Compression, Elevation), which was used in 17 cases or 45.9% of cases. The second most common treatment was the application of pain relief spray, which was used in 15 cases or 40.5% of total injuries.

DISCUSSION

The results of this study indicate that contusions (bruises) are the most common type of injury experienced by cricket athletes during the 9th East Java Provincial Sports Week (PORPROV). Contusions accounted for the highest proportion of identified injury cases, with 14 cases or 37.8% of all reported injuries. The finding regarding the high incidence of contusions aligns with EunsonTane (2023) research, which identified contusions as the most common type of injury in the head and face area, particularly

among elite cricket players in that country. In cricket, catching high-speed balls, attempting run-outs, and accidental collisions during fielding are highly likely to cause bruises on the body's soft tissues.

The research results also indicate that muscle cramps rank second highest in the distribution of injury types, with 8 cases or 21.6%. This aligns with Zondo et al (2023) findings. Their study indicated that injury mechanisms in cricket are dominated by overuse and repetitive rapid rotational movements, which significantly contribute to muscle cramps and strains (muscle strain).

The results of this study indicate that the body part most frequently injured is the thigh or hamstring muscles, with 10 cases (27.0%), followed by the foot with 7 cases (18.9%), and the fingers with 5 cases (13.5%). These findings align with the research by Goggins et al (2022) which reported that hamstring strains are one of the most common injuries among professional cricket players, with higher incidence rates occurring during sprinting between wickets and long-distance fielding. Injuries to the feet, which ranked second in frequency, are likely related to sudden stops, landing after jumping, and direct contact with a high-speed ball.

Injuries to the third finger were the third most common in this study, often occurring during the fielding phase when athletes caught high-speed balls or made direct contact with the bat. In line with the research by Ahearn et al (2015) professional cricket players at Gloucestershire County Cricket Club demonstrated that most hand injuries occur during the fielding phase, with the little finger and ring finger most frequently involved, and distal interphalangeal joint dislocation being the dominant type of injury.

Based on the research findings, it was found that the most common initial treatment for injuries among cricket athletes during the 9th East Java Provincial Sports Week Championship (PORPROV) was the use of the RICE method (Rest, Ice, Compression, Elevation), with 17 cases, accounting for 45.94% of all injury incidents. The RICE method is an internationally recognized standard protocol for the initial management of soft tissue injuries, aimed at reducing pain, swelling, and preventing the injury from worsening before further treatment is administered.

The second most common treatment was administering a pain-relieving spray, which was performed in 15 cases (40.54%). This treatment is frequently applied because it provides rapid pain relief, is easy to administer in the field, and does not require complex

medical procedures. Scientific literature supports the effectiveness of cryotherapy spray or vapocoolant in quickly and safely alleviating musculoskeletal pain. According to research by Ballester Herrera et al (2025), cryotherapy spray significantly reduces pain (as indicated by a decrease in VAS scores). It improves joint mobility, both in the short and long term, with 35% of participants experiencing improvement within 10 seconds and 80% within 3 minutes after application.

Meanwhile, immobilization/stabilization and physical therapy were each performed in only 1 case (2.7%). This low figure is likely due to limited facilities or medical personnel available at the competition site, or because some athletes chose to use simpler, faster treatments. No treatment was reported in 3 cases (8.1%), which is a particular concern as it may worsen the injury condition and prolong recovery time.

CONCLUSION

This study identified 37 cases of injuries sustained by cricket athletes during the 9th East Java Provincial Sports Week (PORPROV) Championship in 2025. Based on type, the most common injury was contusion (37.8%), followed by muscle cramps (21.6%), and sprains and strains, each accounting for 13.5% of total cases. Based on the location of the injuries, the most commonly affected body parts were the thighs or hamstrings (27.0%), followed by the feet (18.9%) and fingers (13.5%). Regarding initial treatment, the RICE method (Rest, Ice, Compression, Elevation) was the most commonly used procedure, applied in 45.94% of cases, followed by pain relief spray in 40.54% of cases. Other treatments, such as bandaging/stabilization and physiotherapy, were only found in a few injury cases, while 8.1% of cases did not receive any initial treatment.

These findings indicate that the movement characteristics of cricket, including repeated sprints, sudden changes in direction, collisions with high-speed balls, and rapid rotational movements, are significant contributing factors to injuries, particularly to the lower extremities and fingers. The findings of this study have practical implications for coaches, sports medical staff, and sports administrators in developing more effective injury prevention programs through optimizing warm-up routines, strengthening relevant muscle groups, and improving the readiness of facilities and medical support staff at the competition venue.

REFERENCE

- Aheam, N., Bhatia, R., & Griffin, S. (2015). Hand And Wrist Injuries In Professional County Cricket. *Hand Surgery*, 20(01), 89–92. <https://doi.org/10.1142/S0218810415500124>
- Ballester Herrera, M. A., Muñoz Vives, J. M., & Marti, A. (2025). Clinical Evolution and Safety of a Cryotherapy-Based Spray for Mild to Moderate Joint and Muscle Pain: A Descriptive Observational Study. *International Journal of Sports Physical Therapy*, 20(2), 243–252. <https://doi.org/10.26603/001c.128589>
- EunsonTane, H. (2023). Traumatic Head and Neck Injuries in Elite Australian Cricket Players: Retrospective Analysis from 12 Seasons. *Indian Journal of Orthopaedics*, 57(10), 1584–1591. <https://doi.org/10.1007/s43465-023-00916-4>
- Goggins, L., Langley, B., Griffin, S., Peirce, N., McKay, C., Stokes, K., & Williams, S. (2022). Hamstring injuries in England and Wales elite men's domestic cricket from 2010 to 2019. *Journal of Science and Medicine in Sport*, 25(6), 474–479. <https://doi.org/10.1016/j.jsams.2022.02.001>
- Herdiandanu, E., & Djawa, B. (2020). Jenis Dan Pencegahan Cedera Pada Ekstrakurikuler Olahraga Futsal Di SMA. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 08, 97–108. Retrieved from <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-jasmani/article/view/37006>
- McLeod, G., Murphy, M., Gianotti, S., Orchard, J. W., & Fortington, L. V. (2023). Cricket injury in New Zealand: a study of injury insurance claims from 2008 to 2018. *Journal of Science and Medicine in Sport*, 26(2), 109–113. <https://doi.org/10.1016/j.jsams.2022.12.001>
- Mustafa, P. S. (2022). *Buku Ajar Pertolongan Pertama*. Retrieved from <https://books.google.com/books?hl=en%5C&lr=%5C&id=liqeEAAAQBAJ%5C&oi=fnd%5C&pg=PP1%5C&dq=penyalahgunaan+data+rekam+medis+elektronik+pasien+dalam+pelayanan+kesehatan%5C&ots=pnq7SxEi5M%5C&sig=Wlhj2Xz-TMSaaySYCVCh3P12TSY>
- Pardiwala, D. N., Rao, N. N., & Varshney, A. V. (2018). Injuries in Cricket. *Sports Health*, 10(3), 217–222. <https://doi.org/10.1177/1941738117732318>
- Winarno. (2013). Metodologi Penelitian Kualitatif. *Universitas Negeri Malang (UM Press)*, (January), 143.
- Zondo, S., Abdullahi, Y., & Noorbhai, H. (2023). Highlighting Rural Cricket: Prevalence, Aetiology, and Risk Factors of Injury among Cricket Players in a Community Setting. *The Open Sports Sciences Journal*, 16(1), 1–8. <https://doi.org/10.2174/1875399x->



v16-230627-2023-7

Analysis of Sports

ORIGINALITY REPORT

10%
SIMILARITY INDEX

10%
INTERNET SOURCES

6%
PUBLICATIONS

6%
STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universitas Jenderal Soedirman Student Paper	5%
2	jos.unsoed.ac.id Internet Source	3%
3	journal.universitaspahlawan.ac.id Internet Source	1%
4	jope.ejournal.unri.ac.id Internet Source	1%

Exclude quotes

On

Exclude matches

< 1%

Exclude bibliography

On