SRYAHWA PUBLICATIONS

Open Access Journal of Nursing
ISSN: 2639-1783 | Volume 9, Issue 1, 2026
https://doi.org/10.22259/2639-1783.0901001

REVIEW ARTICLE

Effects of Intervention Studies on Subjects with Depression Caused by Sports Injuries: A Systematic Review

Satomi Takeshita[1]*, Ko Sasaki[2], Kayo Morita[3], Yoshihiro Saito[2]

[1]Department of Nursing, Faculty of Nursing, Fukuoka International University of Health and Welfare, Japan.
[2]School of Nursing, Faculty of Nursing, Reiwa Health Sciences University, Japan.
[3]School of Nursing, Faculty of Nursing, Wayo Women's University, Japan.

Received: 06 May 2026 Accepted: 21 May 2026 Published: 01 June 2026

Corresponding Author: Satomi Takeshita, Department of Nursing, Faculty of Nursing, Fukuoka International University of Health and Welfare, Japan.

Abstract

Studies in Japan show that sports injuries have a significant impact on athletes not only physically, but also mentally. For instance, a study of university athletes found that 28–35% of them experienced moderate symptoms of depression. Currently, no unified guidelines have been established for the definition of sports injuries and disorders. This systematic review aimed to assess the effectiveness of intervention studies on subjects with depression caused by sports injuries.We searched the Central Journal of Medicine Web, PubMed, CINAHL/MEDLINE, and the Cochrane Library database and finally selected two articles which met the eligibility criteria. Two researchers conducted this review to evaluate the effectiveness of the intervention programs. In study no. 1, the intervention was conducted in person. The intervention format was cognitive behavioral therapy-based stress management, a technique that aims to deal appropriately with various stressors and has been shown to be effective in improving stress coping skills, reducing anxiety, and improving performance. In study no. 2, three online videos were used. Video 1 provided information on athletes' responses to injury and used the integrated responses to injury model. Video 2 discussed help-seeking and social support, explaining the importance of help-seeking behavior and how to do it. Video 3 explained the signs and symptoms of depression. Help-seeking attitudes, help-seeking intentions, and depression literacy were measured before and after the intervention. However, it was not possible to fully verify thesymptoms of depression caused by sports injuries. Therefore, further randomized controlled trials are warranted in the future.

Keywords: Intervention Studies, Orthopedics, Sports Injuries, Depression, Systematic Review.

1. Introduction

In 2015, the Sports Agency Basic Act on Sport stated that "it is the right of all people to lead happy and fulfilling lives through sports."[1]. Based on this philosophy, we have been working to create a Japan where everyone can truly enjoy physical activity and enjoy a healthy and prosperous life.In addition to improving international competitiveness, the government is working with relevant government ministries and companies to promote health comprehensively and in an integrated manner,to revitalize the local economy, international exchange and cooperation, promote sports for the disabled, and improve school physical education through sports activities. As interest in and awareness of sports increases, attention is being paid to the environment surrounding athletes. The Japan Society of Sports Medicine was established in 2002, focusing on the mental health issues of athletes.[2]In Canada, 68% of athletes competing for Olympic qualification met the diagnostic criteria for depression.[3]Overseas surveys have shown that the incidence of depression in athletes

Citation: Satomi Takeshita, Ko Sasaki, Kayo Morita, *et al.* Effects of Intervention Studies on Subjects with Depression Caused by Sports Injuries: A Systematic Review. Open Access Journal of Nursing. 2026;9(1): 01-09.

is as high as 15–21%,[4,5]Sports injuries and disorders are cited as a significant risk factor for depression, with approximately 30% of student athletes experiencing serious injuries that threaten the continuation of their careers.[6]. Studies investigating issues related to sports injuries and disorders in Japan[7–9] revealed that sports injuries and disorders have a significant impact on athletes not only physically, but also mentally, and that athletes consider injuries as part of the experience of loss.[9–10]Furthermore, a study of university athletes found that 28–35% of them had moderate depressive symptoms.[11] Considering the age at which athletes compete and the high prevalence of depression among adults, there is a high possibility that athletes may suffer from depression.[2.4,12–13] Therefore, support for depressive symptoms associated with sports injuries and disorders is an urgent issue. Overseas, guidelines for injury and disability surveys systematically define injuries and disabilities and specify appropriate methods of investigation. These frameworks have contributed to the development of prevention programs and the establishment of safety measures.[14–16] However, in Japan, a working group aimed at standardizing sports injury and disability investigations was only recently launched in 2020, and no unified guidelines have been established for the definition of sports injuries and disabilities, thus hampering a comprehensive understanding of the actual situation of sports injuries and disabilities.[17]

In addition, the effectiveness of support for depression associated with sports injuries may not have been fully verified in Japan.In this study, focused on the field of orthopedics, which is closely related to sports injuries and disorders.We conducted a statistical review of the effectiveness of intervention studies on depression associated with sports injuries and disorders, and obtained suggestions for creating a supportive environment that allows athletes to feel at ease and concentrate on their sport.

2. Materials and Methods

This study was conducted in accordance with the 2020 Minds Clinical Practice Guidelines Creation Manual 3.0.

2.1 Formulation of Clinical Questions and Literature Selection Criteria

This systematic review aimed to assess the effectiveness of intervention studies on subjects with depression caused by sports injuries in order to obtain suggestions for future support structures. A comprehensive literature search was conducted using the Central Journal of Medicine Web, NIH, PubMed, CINAHL/MEDLINE, and the Cochrane Library database. Search keywords included “sports injuries/injuries” and “sports injury” “depression.”The search criteria were limited to intervention studies on topics that were (1) sports-related, (2) orthopedics-related, (3) related to depression, and (4) were not review articles.

Two researchers independently conducted a primary screening of the studiesidentifiedbythe initial comprehensive search, and excluded those that did not meet the clinical questions of this study based on the title or abstract, or those with similar themes or author names.In the second screening, two researchers independently read the full texts and selected and cross-checked the articles that met the inclusion criteria.

2.2 Ethical Considerations

This study strived to protect the copyright of the texts included, and two researchers extracted the results to ensure that the content of each text was not compromised.

3. Results

3.1 Literature Search Results

A flowchart of the literature selection process is shown in Figure 1. A total of 591 results were identified: fiveviaCentral Journal of Medicine Web, 28 via PubMed, 543 via CINAHL/MEDLINE, and 15 via the Cochrane Library.Duplicate references and references that met the exclusion criteria set by this study were removed, and two studieswhose eligibility was confirmed by the researchers were included in the final analysis.

3.2 Overview and Effects of Intervention Studies

3.2.1 Selection of Study Participants, Research Methods, and Dropout Rates

Table 1 shows the selection of the study participants, research methods, and dropout rates for each study.

Table 1. *Subject selection, allocation and dropout rates*

No	Author, year of publication, country	Recruit	Subjects	Allocation method, allocated subjects, blinding	inclusion criteria, exclusion criteria	number of subjects, nimber of dropouts, drpout rate
1	Frank M.P..et al..2003.USA	snowball sampling (varesity and junior varsity collegiate rowersat a major university)	collegiate rowers :34 •intevertion grop :18 Assigned to CBSM Intervention (7men and 11 women) •control group:16 Assigned to Control(7men and 9 women)	alternately assigned respondents toreatment and control conditons until each group consisted of 34 partidipants, health care providers(the university health center medical director and the head athletic trainer) evaluaion was masked	【inclusion crteria】 varesity and junior varsity collegiate rowersat a major university 【exclusion criteria】 ①drug use ②lcohol consumption greater than 10 drinks per week ③use of antibiotics ornontopical steroids within the last 2 weeks	【reasons for dropping out】 •34/NA/NA Six students refused to have their blood drawn, were excluded before the start of the study, and none dropped out because they were before the start of the study ※Total of intervenfion and control group(34)
2	Chantelle.j.. et al..2022. AU	convenience Sampling(recruioted using online convenience sampling)	an athlete(207)	not random not blinding	【inclusion crteria】 ①an athlete who self-identified as an athlete and met at least one of the following criteria①involved in or competed in regular sporting actibities②exercised vigorously for more than 4 h a week or ③would normally meet this requirement but were injured at the time of the suydy ②as residing in metropolitan and regional areas 【exclusion criteria】 very short response times	【reasons for dropping out】 •393/207/47.3

Of the two intervention studies on depression associated with sports injuries chosen for the final analysis, study no. 1 was a randomized controlled trial comparing the effects of an intervention between an intervention group and a control group.The other (study no. 2) was a pilot study involving only the intervention group. Studyno. 1 described the randomization method for subject group allocation and blinding, and was an intervention study with a preventive effect to reduce the incidence of injuries and depression in athletes. Study no. 2 was an intervention study aimed at improving the ability of athletes to seek help and enhancing their depression literacy. Although the participant selection criteria were clearly stated in both studies, their content was not uniform. In study no. 1, participants who had used drugs within the past 2 weeks, consumed more than 10 drinks of alcohol per week, used antibiotics or non-topical steroids, and refused to have blood drawn at the time of study participation were excluded. Whereas, in study no. 2, participants in rural areas who may have not been able to access psychological

support services were excluded. The dropout rate for study no. 1 –calculated afterthe study registration and at the start of the intervention – was zero. The participants in study no. 2 were provided with pre- and post-intervention surveys via an online link. A total of 393 participants started the online survey, while 207 (53%) completed it. The study authors excluded 56 participants who left the survey blank, 120 who only partially completed the survey (three or more missing variables), and eight who completed the online video intervention earlier than the duration of the intervention (7.13 min; responses less than 8 min were excluded). The dropout rate was 47.3%.

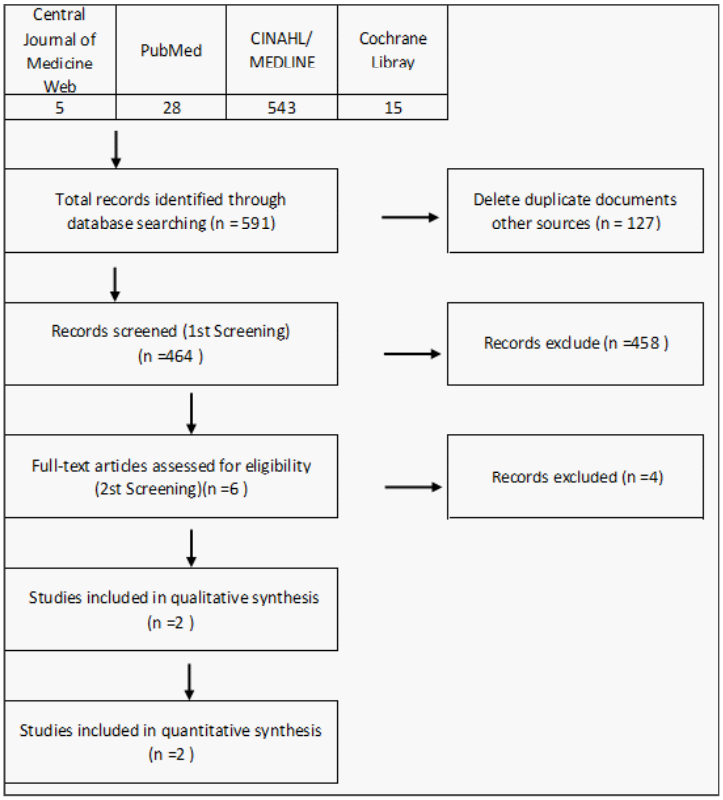

Figure 1. *Literature Search Flowchart*

3.2.2 Overview and Effects

In Table 2, subject selection, allocation and dropout rates are presented. Study no. 1 was an in-person intervention, whilestudy no. 2 was an online video intervention.In study no. 1, blood samples were drawn from the participants before practice to assess their cortisol levels. They were then stratified by sex and athletic level (national and junior national teams) and divided into two groups: a cognitive-behavioral stress management group (seven men, 11 women) and a control group (seven men, nine women). Athletic training, psychosocial assessment, and blood sampling were repeated in exactly the same manner the following week. The frequency of medical visits and the number of days of injury or illness from the start of the study until three months after the intervention (end of the season) were recorded. A licensed psychologist and clinical psychology intern administered the cognitive-behavioral stress management group in person. The program used was a structured 7-session cognitive behavioral therapy CBT)-based stress management intervention in the form of stress immunity training specifically designed for competitive athletes and was developed and implemented by the researchers. Sessions 1–2 included an explanation of the effectiveness of CBT interventions to reduce psychological distress and improve athletic performance.Sessions 1–3 included the acquisition of structure-based relaxation strategies including muscle relaxation and diaphragmatic breathing training. Then, in sessions 4–7, the participants were trained in cognitive-based strategies e.g., visual-motor behavior rehearsal, emotional imagery, and cognitive restructuring. All group sessions included self-disclosure and encouraged participants to express their emotions through written exercises. The final group session introduced participants to relapse prevention strategies to promote the continued use of CBT-based stress management skills. Participants were instructed to practice these strategies daily. In sessions 2 and 4, the participants were provided with two researcher-developed videos for relaxation and motor skill development, respectively. This was followed by brief self-monitoring of records and sessions. The participants were asked to reflect on their responses to

the assignment exercises to reinforce their use of the CBT-based stress management techniques during the sessions and address any problems they encountered. The control group received a 2-hour group-supervised stress management education session. Except for one brief relaxation session, the feedback sessions were only informational.

Table2. *Research methods and results*

No	Author, year of publication, country	Program, session, duration, no. of sessions, session duration (no of sessions), intervention methods Therapists (number)	Session contents	Evaluation scale	Result	Control group
1	Frank M.P.et al..2003.USA	a licensed psychologist and a clinical psychology intern ・developed a structured intervention hat used a stress-inoculation training(SIT) : 7-session CBSM ・with the exception of a single session in week 4, the group met twice weekly for 35 to 40 min for 3 weeks.	Sessions 1-3 *cognitively based strategies* (visual motor behavioral rehearsal, emotive imagery, and cognitive restructuring diaphragmatic breathing exercises: Sessions 1-3) (progressive muscle relaxation, 【skills acquisition】 *somatically based relaxation strategies* facilitated participants emotional expression through a written exercise（session 2) 【experiential exercise : emotional expression】 (session 1and 2) interventions to relieve psychological distress and enhance athletic performance 【conceptualization】 informed regarding the efficacy of cofnitive behavioral ※all group sessions encouraged self-disclosure as saved for cortisol concentration ※following a SIT format ※a blood draw was collected the prior to practice and : session4-7) 【application components inclusive of didactic information】 homework assignment homework processing modules	【life-event scale for college athletes (LEAC)】 【brief assessment of mood(BAM)】 【serum cortisol】	※the direct path coefficient from group assignment to postintervention negative affect (–.47), the coefficient from group to days out (–.41), and the coefficient from negative affect to days out (.43) were all statistically significant ※ follow-up univariate analysis of covariance (ANCOVA) revealed that athletes in the CBSM condition experienced significantly fewer days out due to injury and illness than control group athletes F(1, 29) = 7.05, p < .05 (effect size, η2 = .196; equivalent Cohen's d = .99) *there were nonsignificant gender*→F(1, 29) =0.65p>.05,and*Group*× Gender interaction effects, F(1, 29) = 0.06, p > .05. ※significantly fewer office visits than control group athletes, F(1, 29) = 4.36, p < .05(effect size: η2 = .131; equivalent d = .78), and there were nonsignificant gender, F(1, 29) = 0.88 p > .05Group × Gender interaction effects →F(1, 29) = 0.18, p > .05 ・statistically significant intervention group effect Wilis's Lambda = .760,F(2.28)=4.43,p<.0.5 ・nonsignificant gender and group × gender intervention group effects. Wilks's lambdas＝.968 and .983 Fs(2,28)=0.47 and .24 ps>.60.	2-hr group-administered stress management education session

	【reasons for dropping out】 ・393/207/47.3	【Video 1】 ・Help-seeking intentions General Help Seeking Questionnaire (GHSQ) 【Video 2】 ・Help-seeking attitudes Attitudes Towards Seeking Professional Psychological Help (ATSPPH-SF) scale 【Video 3】 ・Depression literacyDepression Lit eracy Scale (D-Lit)	【Video 1】 ・Help-seeking intentions outlined content on the Integrated Response to Injury Model 【Video 2】 ・Help-seeking attitudes the importance and methods of help-seeking behavior 【Video 3】 ・Depression literacy described the signs and symptoms of depression	three online videos ・Videos were brief (2–3 min)	specifically developed by the lead author (CJ) online videos	Chantelle,j..et al..2022.AU	2

In study no. 2, three structured online videos developed by researchers were used. Video 1 provided information on athletes' responses to injury and used the integrated responses to injury model.Video 2 discussed help-seeking and social support, explaining the importance of help-seeking behavior and how to do it,[18-20] Video 3 explained the signs and symptoms of depression.[21,22]No control group was included, and help-seeking attitudes, help-seeking intentions, and depression literacy were measured before and after the intervention. The videos were delivered via YouTube, and the entire 15-step program took 20 min to complete.

4. Discussion

4.1 Research Impact

4.1.1 Participant Dropout Rate

No dropouts occurred instudy no. 1.In the control group, the intervention was conducted in person according to a structured program consisting of seven sessions. The intervention format was CBT-based stress management in accordance with the format of stress immunity training, a technique that aims to deal appropriately with various stressors and alleviate maladaptive cognitive and behavioral responses. It is a training method that has been shown to be effective in improving a person's stress coping skills, reducing anxiety, and improving performance. It can be applied not only to resolving stressful situations in the present but also to those that may be faced in the future.[23] Additionally, CBT-based stress management has been proven to reduce fatigue, depression, and cortisol responses to intense athletic training in university athletes and accelerate physical and psychological recovery after surgery.[24,25]The aim of study no. 1 was for individuals to acquire stress-coping skills and increase their stress tolerance through three stages, including 1) education, 2) technique acquisition and rehearsal, and 3) adaptation and follow-through. The reason for the lack of dropout rates cannot be generalized. However, one possible reason is that it is a system that allows participants to continue learning so that they can acquire skills step by step. In addition, it is possible that the participants' desire to learn stress management before they become injured or ill, and to be able to compete without anxiety, influenced their active participation and continuation in the program.

In study no. 2, the dropout rate was high at 47.3%. Convenience sampling, used as the recruitment method, allows for the easy and rapid collection of large amounts of data. Furthermore, it is effective for preliminary surveys and exploratory research. However, there is a possibility that only those interested were attracted, which may affect the generalizability of the results.[26,27]In addition, since participation is considered a makeshift measure, the motivation of participants is likely to be low, with a high possibility ofmany missing values.This may have

been the reason for the high dropout rate.However, the participants who have completed the entire program likely did so because the intervention program used videos embedded in YouTube that could be viewed anytimeand because it was a short intervention program that could be carried out at one's own pace. In addition, since online interventions including mental health supportcan be implemented without human intervention, they can be easily carried out.[28]

4.1.2 Program Effectiveness in Intervention Studies

The results of the studies included in the present analysis showed differences in the intervention methods, number of interventions, duration of interventions, and content of each session. However, both studies had a program structure based on CBT.For subjects who have developed depression symptoms due to sports injuries, intervention programs using CBT may be an effective approach.

In study no.1, CBT stress management significantly reduced the number of days of illness or injury and reduced the number of medical visits. Study no. 2 significantly increased the intention of the participants to seek help from mental health professionals and online/telephone services. Moreover, attitudes towards seeking help and depression literacy also improved significantly. Student athletes are known to be underrepresented in seeking treatment for mental health disorders, with up to 90% reporting inadequate help-seeking behavior.[29-31)]Factors that prevent people from seeking help may include the fear of expressing personal feelings, the fear of admitting that there is a problem, and embarrassment.[32)] Although the participants of the two studies were not athletes who had suffered from trauma or injury, both studies showed that information, education, and learning how to deal with trauma or injury or depression before they experienced it could have a preventive effect on the onset of depression.

The ethical guidelines for sports coachesstate that the role of a coach is to pay attention to the health of players and take care to prevent injuries and illnesses.[33)]Therefore, it is necessary to build an education system for sports coaches and athletes regarding sports injuries and their relationship with depression.

4.2 Research Limitations and Prospects

The present analysis reviewed participants who developed symptoms of depression due to sports injuries. Considering the differences in eligibility criteria, exclusion criteria, and intervention methods between the two included studies, as well as differences in the competitive level and sport of the participants, some doubts remain as to whether the implemented programs were of maximum benefit to the athleteswho developed depression due to sports injuries.

5. Conclusion

For participants who developed symptoms of depression due to sports injuries, the effects of the two intervention studies were assessed using a systematic review. However, due to lack of previous research, it cannot be said conclusively that the methodology has been established as a useful approach for supporting an environment in which athletes can feel at ease and concentrate on their sport. Therefore, it is necessary to conduct randomized controlled trials while ensuring a high quality of intervention skills in the future.

Acknowledgments

The authors gratefully acknowledge the constructive feedback and support provided by individuals and institutions during the preparation of this review. Their input contributed to enhancing the quality of the manuscript.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

6. References

1. Japan Sports Agency. Basic Act on Sport. Ministry of Education, Culture, Sports, Science and Technology; 2011. (Enacted June 24, 2011; amended 2014.)
2. Yoshihiro Y, Masayasu S. Mental Health of Athletes. *Nihon Univ J Med*. 2021;80(2):71-74.
3. Hammond T, Gialloreto C, Kubas H, Davis H. The Prevalence of Failure-Based Depression among Elite Athletes. *Clin J Sport Med.* 2013;23(4):273-277.
4. Nixdorf I, Frank R, Hautzinger M, Beckmann J. Prevalence of Depressive Symptoms and Correlating Variables among German Elite Athletes. *J Clin Sport Psychol.* 2013;7:313-326.
5. Yang J, Peek-asa C, Corlette JD, Cheng G, Foster DT, Albright J. Prevalence of and Risk Factors Associated with Symptoms of Depression in Competitive Collegiate Student Athletes. *Clin J Sport Med.*2007;17（6）:481-487. https://doi.org/10.1097/jsm.0b013e31815aed6b
6. Samuel RD, Tenenbaum G. How do athletes perceive and respond to change-events: an exploratory measurement tool. *PsycholSport Exerc*. 2011;12:392-406.
7. Oka K, Takenaka K, Kodama M. Psychological problems of injured athletes in relation to sports

injuries: trends and issues in research, *Jpn J Health Psychol*. 1995;8(2):30-43.

8. Aoki K, Matsumoto K. Impact of sports injuries and disorders on athletes' psychology. *The Journal of Clinical Sports Medicine.* 1996;13(4):451–458.
9. Kamimuki K. Application of disability acceptance theory to the psychological study of sports injuries. *Bulletin of the Institute of Physical Education, Keio University.* 1997;36(1):1–9.
10. Tomozawa T. Psychological characteristics of university athletes who have suffered sports injuries in Japan: A domestic literature review. *Journal of the Japanese Society of Musculoskeletal Nursing.* 2019;14:45–51. https://doi.org/10.34324/jsmn.14.0_45
11. AmemiyaR, SakairiY.Examining the Relationship between Depression and the Progression of Burnout Among Japanese Athletes.*Jpn Psychol Res*. 2021;64(4):373-384.
12. Wolanin A, Gross M, Hong E. Depression in Athletes:Prevalence and Risk Factors.*Curr Sports Med Rep*. 2015;14:56-60.
13. Yasuda M, Takane S.(2017) The effect of learnability from failure on depressive symptoms in university athletes, *HPR*. 2017;30(1):45-53.
14. Soligard T, Myklebust G, Steffen K, et al. Comprehensive warm-up program to prevent injuries in young female footballers : cluster randomized controlled trial. *BMJ.*2008;337:a2469.
15. Andersson SH, Bahr R, Clarsen B, Myklebust G: Preventing overuse shoulder injuries among throwing athletes: a cluster-randomised controlled trial in 660 elite handball players. *Br J Sports Med.*2017;51:1073-1080.
16. Boden BP, Fine KM, Breit I, Lentz W, Anderson SA: Nontraumatic Exertional Fatalities in Football Players, Part 1: Epidemiology and Effectiveness of National Collegiate Athletic Association Bylaws. *J Orthop Sports Med*.2020;8.
17. Sunagawa N, Ogaki R, Nagano Y, et al. Present status and problems of injury surveillance studies for sports activities in Japanese school. *Japanese Journal of Athletic Training.* 2020;5(2):83–91.
18. Brewer B, Tenenbaum G, Eklund R. *Handbook of sport psychology*;2001. https://doi.org/10.1002/9781118270011
19. Wiese-Bjornstal DM, Smith AM, Shaffer SM, Morrey MA (1998). An integrated model of response to sport injury: Psychological and sociological dynamics. *J Appl Sport Psychol*. 1998;10(1):46–69. https://doi.org/ 10.1080/10413209808406377
20. Tranæus U, Ivarsson A, Johnson U. Stress and injuries in elite sport. In:*Handbuch stressregulation und sport*. Springer; 2018:451-466. https://doi.org/10.1007/978-3-662-49322-9_22
21. Appaneal RN, Levine BR, Perna FM, Roh JL. Measuring postinjury depression among male and female competitive athletes. *JSport Exerc Psychol*. 2009;31(1):60-76. https://doi.org/10.1123/jsep.31.1.60
22. Australian National University. (2001–2021). BluePages: Depression information. BluePages. https://bluepages.anu.edu.au/about-bluepages/.
23. Tanaka O, Koshigawa F, Matsuura M. Study of a stress management program using self-instruction training: Program effectiveness and evaluation by participants *Stress Science Research*. 2014;29:68-76.
24. Smyth EA, Newman P, Waddington G, Weissensteiner JR, Drew MK. Injury prevention strategies specific to pre-elite athletes competing in Olympic and professional sports – a systematic review. *J Sci Med Sport*. 2019;22(8):887-901.
25. Rogers DL, Tanaka MJ, Cosgarea AJ, Ginsburg RD, Dreher GM. How Mental Health Affects Injury Risk and Outcomes in Athletes. Sports Health. 2023;16(2):222-229.
26. Naka Y. The current state of mass questionnaire survey methods (4) – Problems with surveys using significant samples.*Quantitative Japanese Linguistics*. Vol 31. No. 6. 2018:461-476.
27. Andrade C. The Inconvenient Truth About Convenience and Purpose Samples.*Indian J Psychol Med*. 2021;43(1):86-88.https://doi.org/10.1177/0253717620977000
28. Gulliver A, Griffiths KM, Christensen H, Mackinnon A, Calear AL, Parsons A, et al. Internet-based interventionsto promote mental health help-seeking in elite athletes: An exploratory randomizedcontrolled trial. *JMIR*. 2012;14(3):e69. https://doi.org/10.2196/jmir.1864
29. Bird MD, Chow GM, Meir G, Freeman J. Student-athlete and student non-athletes' stigma and attitudes toward seeking online and face-to-face counseling. *J Clin Sport Psychol*. 2018;12(3):347-364. https://doi.org/ 10.1123/jcsp.2017-0010
30. Wahto RS, Swift JK, Whipple JL. The role of stigma and referral source in predicting college student-athletes' attitudes toward psychological help-seeking. *J Clin Sport Psychol.* 2016;10(2):85-98. https://doi.org/10.1123/ JCSP.2015-0025
31. Wiese-Bjornstal DM. Psychology and socioculture affect injury risk, response, and recovery in high-intensity athletes: A consensus statement. *Scand*

J Med Sci Sports. 2010;20:103-111.https://doi.org/10.1111/j.1600- 0838.2010.01195.x

32. Gulliver A, Griffiths KM, Christensen H. Barriers and facilitators to mental health help-seeking for young elite athletes: a qualitative study. *BMC Psychiatry*. 2012;12:157. http://www.biomedcentral.com/1471-244X/12/157

33. Ethical Guidelines for Sports Instructors, *Japan Amateur Sports Association*. https://www.japan-sports.or.jp/Portals/0/data/katsudousuishin/doc/rinri_gidelines.pdf