

Responsibility for child and adolescent's psychosocial support associated with severe sports injuries

Charlotte Hallquist¹, Ulrika Tranaeus Fitzgerald^{2,3,4}, Marie Alricsson^{1,5,*}

¹Department of Sports Science, Linnaeus University, Kalmar, Sweden

²Stockholm Sports Trauma Research Center, Department of Molecular Medicine and Surgery, Karolinska Institutet, Stockholm, Sweden

³Musculoskeletal & Sports Injury Epidemiology Center (MUSIC), Institute of Environmental Medicine för miljömedicin, Karolinska Institutet, Stockholm, Sweden

⁴Performance and Training Unit, The Swedish School of Sport and Health Sciences, Stockholm, Sweden

⁵Swedish Winter Sport Research Centre, Department of Health Sciences, Mid Sweden University, Östersund, Sweden

The manner in which health professionals and coaches act and decide on treatment and prognosis can influence athletes in a way that not only strengthens them, but it can also reduce their confidence in their own ability. The purpose was to determine who has the responsibility for child and adolescent psychosocial support needed in connection with a severe sports injury as well as investigate whether coaches, physiotherapists and parents are aware of the support that is needed. Qualitative interviews with coaches, parents and physiotherapists with experience of serious sports injuries in young people aged 12 to 16 years old from different sports were analysed using content analysis. The study showed that all actors independently imparted communication as being the major problem and indicated that the role of a coordinator was missing. They imparted cognitive, emotional and behavioural reactions in children, which were considered to be more common in


younger children as indicated in previous studies. Coaches felt they had lack of education and time; parents described their disappointment in caregivers and personality changes in their children in connection with the injury. Physiotherapists felt that rehabilitation was often served as a substitute for the sport and that they therefore had greater responsibility for the child than they had been educated for. Results should be communicated to participants who are involved in children's and adolescent's sports to increase their knowledge and thus allow them to be able to give our children the best possibility, regardless of whether they return to the sport or not.

Keywords: Coaches, Parents, Physiotherapist, Rehabilitation, Sports injuries, Youth

INTRODUCTION

Only few studies have been conducted on the knowledge and understanding of specific kinds of psychosocial support that athletes need in connection with a serious injury. Studies available have referred to coaches at the top level, where the coach is employed and athletes in general are slightly older (Podlog and Eklund, 2007). Athletes who return to sport after a serious injury try to regain the technical ability (Taylor and Taylor, 1997) and put more focus on the injured area (Williams and Roepke, 1993); moreover, they experience great concern (Bianco, 2001; Gould et

al., 1997; Kvist et al., 2005; Rotella, 1985), which can increase the risk of recurrence of injury (Williams and Andersen, 1998). The coaches' experience is therefore of great importance when it comes to athletes return to sport (Bianco, 2001; Gould et al., 1997; Johnston and Carroll, 1998). Furthermore, according to Podlog and Eklund (2007), they have an important role in whether the athlete returns to the sport. The parental perspective of injured young athletes has also been studied (Podlog et al., 2012). This study discussed parents' concern regarding injury rehabilitation, in particular, the adolescents' need for social support. They investigated whether social support was also an important factor

*Corresponding author: Marie Alricsson  <http://orcid.org/0000-0001-6653-3414>
Department of Sports Science, Linnaeus University, SE-391 82 Kalmar, Sweden
Tel: +46-73-8012299, Fax: +46-63-165626, E-mail: marie.alricsson@lnu.se

Received: October 4, 2016 / Accepted: December 6, 2016

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

together with the perception of return to the sport, from the young injured athletes' point of view (Podlog et al., 2013). Return to sport was evaluated as being successful or less successful depending on the capability to play at full potential, without pain and being able to accomplish goals.

According to Thomeé et al. (2007), the manner in which health professionals and coaches act and decide on treatment and prognosis can influence the athlete in a way that not only strengthens them, but it can also reduce their confidence in their own ability.

One-third of children and adolescents participating in sports will encounter an injury that requires treatment (Adirim and Cheng, 2003). These children and adolescents should be rehabilitated so they can hopefully return to their sport, but some will not succeed due to various factors. According to Brewer et al. (1995), children and adolescents' reactions to trauma are stronger than in adults. Furthermore, Williams and Andersen (1998) state that great consideration should also be given to developmental differences, not only between individuals, but also within an individual. They describe that there are large variations between thoughts, feelings and behaviours during different periods of life. Young people aged 12 to 15 years old rely on their classmates and parents and are in need of social support and physical skills from their coach. Sports psychology shows that children and adolescents differ in their motivation, emotional response, and ability for self-control in terms of physical activity and sport involvement (Hanson et al., 1992). Therefore, the importance of optimal support and care throughout the entire rehabilitation period is of great importance. Age-related differences and impact of injury are the most neglected areas in sports psychology (Andersen and Williams, 1999; Brewer et al., 1995).

Sports are associated with many positive effects such as improved physical and mental health (Biddle and Asare, 2011), but it can also result in injuries. Research has shown that nearly 50 % of young athletes are injured due to participation in sports (Boström et al., 2016).

The purpose of the present study was to determine who has the responsibility for child and adolescent psychosocial support needed in connection with a severe sports injury as well as investigate whether coaches, physiotherapists and parents are aware of the support that is needed.

MATERIALS AND METHODS

Research design

The study was a qualitative design, where interviews were con-

ducted with coaches, parents and physiotherapists with semistructured interview guides, specific to each group. The semistructured interview guides allow the interviewer to clarify questions and ask probing questions to explore more information (Carter et al., 2011) and give the researcher a greater opportunity to learn more about the issue from the participants (Creswell, 2012).

Procedure

One of the authors contacted sport clubs and physical therapy clinics in middle of Sweden and asked for suggestions of coaches, physiotherapists and parents who met the inclusion criteria for the study. Thereafter, the author contacted prospective participants and informed them about the study and its purpose and asked them if they would participate. Pilot interviews were carried out for each group to ensure that questions were well formulated. However, pilot interviews are not included in the study. Parents and physiotherapists were interviewed in two homogeneous focus groups, with seven informants in the parent group and six informants in the physiotherapy group. The coaches were interviewed in five individual interviews. All interviews began with introductory issues to reach the main issues (Podlog and Eklund, 2007). Interviews were taped and transcribed verbatim by one of the authors.

Participants

The participants were recruited from different sports including handball, football, team gymnastics, artistic gymnastics and ice hockey in Sweden. Strategic selection was made of coaches and parents of children and adolescents aged 12–16 years, with experience of at least one severe sports injury and physiotherapists with professional experience in the treatment and rehabilitation of children and adolescents with severe sports injuries.

The definition of a severe injury was having 2-month absence from participation in sports (Podlog and Eklund, 2007), in line with previous research.

All of the participants signed informed written consent. Ethical approval was obtained from the Ethical Advisory Board in South East Sweden (Dnr. EPK 107-2011), which complies with the Declaration of Helsinki.

Data analysis

Data were analysed using content analysis, which is the process of extracting relevant data beyond the manifest content, including hidden and underlying content, i.e. deeper structure. Content analysis is a process of different stages (Graneheim and Lundman, 2004).

First, the entire text is read through several times to get a whole of the content. Second, meaningful units, i.e., sentences or phrases that contain adequate information for the purpose are identified. As the third stage, condensations of the meaningful units are performed to shorten the text, while maintaining the content. The final stage involves coding of the condensed meaning units into categories that reflect the core messages of the interviews. The categories constitute the manifest content. Themes are formulated, where the latent contents of the interviews are indicated including the author's sense of the underlying message. The theme emerges as an ongoing process throughout the work.

Credibility

Credibility was secured by the author listening to and transcribing the material and reading it through several times to form an overall impression. Two of the authors assisted during the process of condensing meaningful units in the analysis of categories and themes.

RESULTS AND DISCUSSION

Since description and interpretation are closely related in qualitative research, we chose to integrate the results and discussion in order to avoid repetition and improve readability. The results of the study generated two themes with three categories for the coaches, two themes with three categories for the parents and two themes with four categories for the physiotherapists. Common theme for all categories was communication. Additional themes included education, personality, and social and medical support. The themes and categories answered the questions: Who is responsible for children's and adolescent's need for psychosocial support in connection with a serious physical injury; and what knowledge do those who come into contact with these children and adolescents have to help them to recover and return to sport. Themes and categories are presented in Fig. 1.

Coach

Communication

The coaches in this study experienced a sort of frustration. They were often alone with many children and adolescents who sought attention for their conditions. As children and adolescents who are injured require more attention, coaches felt they could not provide the care due to variety of factors such as lack of time and knowledge.

Collaboration: The coaches expected that health professionals, especially physiotherapists and chiropractors should contact them to

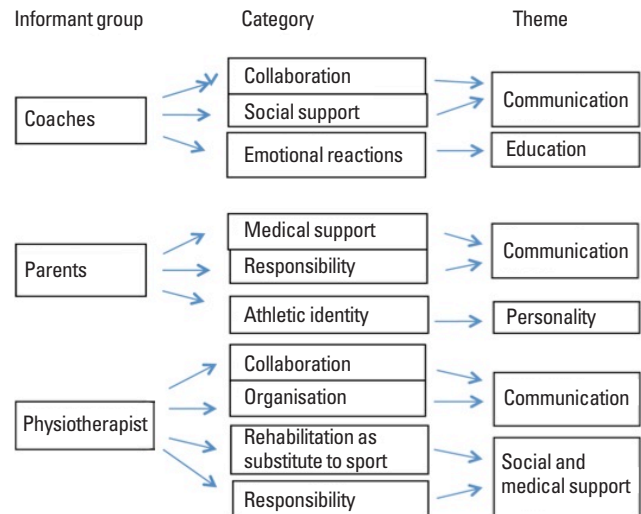


Fig. 1. Analysis schedule for categorising information with the themes of each informant group.

provide information and instruction on how to proceed with the injured child or adolescent. Although the coaches often sought information themselves via the child's parents, they did not feel they had the time for it. Often, the coaches were present in their free time in the evenings and weekends when nursing staff were not on duty. At the same time, they showed understanding that no physiotherapists were able to contact them. The coaches thought that it was absolutely impossible to get in touch with the doctors, who never contacted the coaches themselves. As one coach puts it:

I came to the emergency room as the coach and accompanied a child who had fractured a collar bone during a match; instead of taking my name and contact information and giving me information regarding the child's status, their only concern was that I was not a parent. Society is built upon a tradition that you have a family, and the parents have the responsibility. (Coach)

Social support: Coaches conveyed the importance of children and adolescents feeling welcome even if they are hurt, and they felt that the child should have the coach's full understanding of how he or she felt due to the injuries. Coaches felt that some children were more difficult to talk to than others and thought that maybe they were looking for more support from their teammates. However, this was not always the case; sometimes they chose to withdraw and maybe stop playing the sport. The coaches did not know if someone had the responsibility, but just thought that someone else will take responsibility. Brewer et al. (1995) describe in their study that acutely injured children who lack self-confi-

dence and control of their rehabilitation are more sensitive to emotional distress because of injury, which again emphasises that young athletes are in greater need of social support than adults in connection with a sports injury. Coaches felt that children could easily get performance anxiety and try to do more than they really were ripe for, like in Taylor and Taylor's results (1997). The coaches in this study believed that parents had important role to support their children, which was not always the case. According to them, parents often lacked knowledge about how their child was actually doing. Previous studies have also demonstrated that athletes often stop participating in their sports because of high expectations from coaches and parents, which can be one of the causes of "burnout" - a multidimensional syndrome (Creswell and Eklund, 2006; Gould, 1996; Gould et al., 1996; Gustafsson et al., 2008). In a group of Swedish young sportsmen, estimated 1%–2% stopped participating in sports because of "burnout" (Gustafsson et al., 2007), and the figure is expected to rise with increased training and more competitions at younger ages (Gould and Dieffenbach, 2002). Some of the coaches suggested that it might be beneficial to have some kind of mentor of the same age as the child. This would allow the child to talk with and vent his or her feelings with someone who had previously been through basically the same injury. Further, it may be comforting for the child to talk to someone completely outside. This is also something that Podlog and Dionigi (2010) addressed in their study when referring to "role models."

End of career represents a unique type of transition in life that all athletes go through (Wylleman et al., 2004). Transitions can be divided into normal and abnormal (Schlossberg, 1984). Normal transitions occur when the athlete decides to leave the sport and abnormal and unexpected transitions occur, for example, when the athlete suffers a sports injury (Blinde and Greendorfer, 1985). Many researchers have acknowledged that athletes who end a sports career can experience a range of emotions such as sadness, loss of identity, loneliness, anxiety and fear, loss of self-esteem, depression, alcohol abuse and even suicide (Alfermann et al., 2004; Lally, 2007; Pearson and Petitpas, 1990). According to Stoltenburg et al. (2011), the reactions when the athlete ends with a sport are stronger if one has a strong sporting character because the sport is very important for the person as an athlete. Most athletes do not develop a life after the sport. With the knowledge that children's reactions to injury is greater than in adults (Brewer et al., 1995), it is very important to catch children when they stop their sport for whatever reason and thus hopefully prevent children from feeling bad and help them to understand that they have

some kind of affiliation, even without their sport.

I actually have an athlete who quit sports due to the pressure from his home. It was like he was able to relax and dared to make mistakes when his dad did not join him without being afraid of not getting dinner that day. (Coach)

There are different views among the coaches in this study as to how best to get the children back into the sport. All the coaches, however, agreed that something should be done to facilitate children's return to the sport. The coaches in team sports felt that it seemed to be harder for girls to return to the sport than boys. They felt that girls could be unfair to each other and not as supportive as the boys usually are. This feeling that girls could be unfair to each other compared to boys is not something that was noted by coaches of artistic gymnastics, having had experience training both girls and boys, but they agreed that girls found it harder to return to sport compared to boys.

If we were able to choose, we would like to keep her as team manager because she is a really nice person. I think she experience this as a hard time. Many have been very cruel to her. (Coach)

Education

All those interviewed felt that there was lack of education. Having some form of psychological training was viewed as being rare. They had attended various courses organised by different associations, but mostly involving injuries and emergency care without touching the psychological aspects of a sports injury. Some coaches also stated that they lacked skills in emergency care, especially in the case of "parenting coaches." Children were often treated as small adults and not as children. Physiotherapists and the chiropractor believed that the educational level of many coaches should be improved in the area when they encounter great ignorance of coaches and parents.

Sport-related educations in leadership are in general focused towards action on the pitch and not how you feel. I have more use of the courses I have taken in working life, I believe... and also my experience, of course. (Coach)

Emotional reactions: All those interviewed described the feeling that children who suffered a sports injury were undergoing major trauma. They saw that children's emotional reactions were very strong, and the younger they were the greater reactions. This is in

line with previous studies (Brewer et al., 1995; Nordahl et al., 2014). They all also agreed that family and friends were most important during the injury period, while parents described that it was not until afterwards that they realised how the injury had actually affected their children. The coaches agreed that it was entirely dependent on them as to whether the children retained their interest in the sport over the injury period or not, but, of course, it was also about the support they received from home and their inner desire. This finding is in line with that from earlier study by Podlog and Dionigi (2010) in which they described that athletes have to overcome psychological barriers that arise due to lost confidence, fear of reinjury, feeling of isolation from the team and time pressure to return to the sport. Coaches felt that they could help children better if they had previous experience of working with injured children and adolescents. Due to the fact that educational level was quite low regarding psychological aspects, coaches in this study believed that having experience was very important.

The psychological aspects may have to do with low knowledge among the coaches. With relevant medical support I do think that the understanding and closer contact can make it easier. (Coach)

Parents

Communication

Parents in the study experienced major lack of communication, both within and between healthcare and sport. They often sought information themselves, which highlights the importance of having qualified people with experience close to the children, including both coaches and health professionals.

Medical support: Parents conveyed a resignation to medical care. They described that some doctors found it difficult to understand importance of rapid response, in the case of sports injuries in children and adolescents. Parents felt that ending up with a doctor with great interest and knowledge in sports injuries was crucial for their children to get the right care. Some of the parents were very satisfied with the communication in healthcare, while others thought it was very bad. Some had, for example, received responses from physiotherapists indicating that they did not have time to contact the parents. Some also described that their child had a much more difficult time when returning to the sport than during rehabilitation. The parents felt that children themselves had difficulty talking about their feelings, especially boys, whereas girls often found security in confiding in their friends.

Finally, after nagging a lot, they did notice that there was a large injury in the cartilage and that is supposed to hurt quite a bit. (Parent)

Responsibility: Parents in the study completely agreed that they were the legal guardians who had the ultimate responsibility for their children. Since parents felt that communication was a big problem, some of them suggested that some form of written rehabilitation plan could facilitate this communication that was lacking. They felt that a document issued by the attending healthcare professional for the child, clearly stating the objectives to be achieved, as required by the child, coach, parent, and physiotherapist as well as a timetable would be beneficial. They thought that it was also more practical for a child to look at a piece of paper and follow a plan and that it would increase security knowing that everyone involved had the same information and goals to work towards. Most parents agreed that the support that their children should receive in connection with primarily return to the sport could be conducted in a different manner than the current, but they also agreed that it was related to the specific coach the child had as well as his or her involvement.

We are next of kin, right. We have the final responsibility sort of and one cannot change that. When it comes to elite transition, then it is more serious and someone ought to be responsible for the rehabilitation. (Parent)

Personality

The parents in the study noticed major personality changes in their children following their injury, and they described the wide variation in children's coping strategies and how it affected their personality and ability to return to the sport.

Athletic identity: Parents felt insufficient and had difficulties to respond to their children when they were injured and thus could not find an outlet for their energy through their sports participation, which they were accustomed to. Most did not believe that the coaches would contact their children and wondered what would happen and how they would feel, since this made children lose their identity as athletes. The family's support is very important for the injured young athletes. Parents described that the children seemed to experience emptiness, became irritable and found it harder to concentrate, which hampered their school work.

Right then I understood what it was all about. I didn't understand that he was depressed. He was at the very bottom. (Parent)

What has emerged in this study, which was not addressed in previous studies, is the parents' experiences when their children suffer a sports injury. The parents felt that it was difficult to see their children being injured, hard to fight their way through the medical care, and some did not believe that their children got the right response from the sports when they returned to their sport after the injury.

She loves soccer and it's incredibly hard (that she is injured) and she can't go out on the pitch, and that is really hard for us. It really is mentally hard. (Parent)

Physiotherapists

Communication

Physiotherapists in this study felt that much responsibility lay with them, as they did not always have the knowledge. They also felt that communication was of central importance for the children to get safe rehabilitation and return to the sports as soon as possible.

Collaboration: Physiotherapists considered that it was the coaches' responsibility to contact them to get the information about the injured child, which was rarely done even if they left contact information with children and parents. This applies both for rehabilitation and above all in connection with return to sport. Several of the physiotherapists stated they never talked to any coach. Those who had contact with coaches felt that collaboration worked only if there was already an established contact and that one had to maintain contacts for a long time to gain the confidence of the coaches. They disclosed that there were communication problems with doctors as well as problems getting help with rapid diagnostics.

If the collaboration is there, then it works well, but if there are new contacts it does not. It is rare that the coach contacts me; it is more often that the coaches think that they can handle this by themselves. One has to work on and maintain contacts. (Physiotherapist)

Organisation: It was much easier for those clubs that had a physiotherapist associated with it, who participated in the training. It emerged during the interviews that they wished to have a part-time employed physiotherapist to sit down and talk to the coach and discuss the exercises. As a result, the coaches felt calmer and safer, which also rubs off on the children. This was also described by Podlog and Dionigi (2010), where the coaches emphasised the

importance of direct communication with those treating the athlete to succeed in his or her return to the sport as soon as possible.

We do not get paid to spend time calling coaches. And they might not understand that. (Physiotherapist)

Social and medical support

Physiotherapists in this study felt that they often had very good contact with children and adolescents as they spent time together for long periods, often several times a week, and shared a lot of emotions with them during their injury. They believed that children often felt great confidence and trust in their experience and knowledge, but it was a difficult balance working with injured children and adolescents because you had to be very sensitive about how they felt from time to time.

Rehabilitation as a substitute for sport: Physiotherapists serve a useful purpose regarding the children's identity as athletes. They felt that the children seemed to find a new identity during their rehabilitation. The children got to meet others in the same situation as them, and they felt they experienced a bond with the physiotherapist, who was viewed as their new coach and someone they could turn to in order to discuss their situation. They also noticed that as children got older, they began to think more about the risks and consequences of returning to the sport, and questioned if it was really worth it. They thought that they sometimes could see that other interests had greater importance for the injured child than return to the sport, and some of them also experienced their injury as liberation from the sport. They wanted deeper knowledge of cognitive behavioural therapy to be able to respond to children's needs in the best way.

It's painful to tell them how long time it takes. They want to start playing tomorrow and one says that it does not work. It is so painful to tell them that. It is very sad as a fellow human being to say something negative like that to someone who is just passionate for the sport. (Physiotherapist)

Responsibility: Physiotherapists in the study were fully aware that they had medical responsibility for rehabilitation, but they also believed, like parents, that it was the parents who had overall responsibility regarding what is best for the child. They believed that the children who were most successful in rehabilitation were the ones who got the best support from home, had great confidence and trust in themselves and believed in his or her own body, which Nordahl et al. (2014) described in their study. Responding

physiotherapists also described that they noticed that those children whose parents pushed too much and did not let the rehabilitation take its time were less successful in returning to the sport. Physiotherapists also had a feeling that adolescents in their late teens had more difficulty to return to the sport after an injury, but they noticed no gender differences, unlike the coaches.

The parents are very committed; sometimes, sometimes you have to ask them to stay outside the room. Sometimes they push too much. It's easier to talk to the child if you are alone, but the first time it can be good to have a parent there. (Physiotherapist)

Summary of the analysis

All participants agreed that there was not just one individual who had the role as coordinator in case of injury. Children and adolescents who have been injured due to sports convey a cognitive, emotional and behavioural reaction to the parents, which is in line with previous study which found that the younger the child, the greater the reaction (Brewer et al., 1995). Because children do not often have much previous experience with all the different participants, they do not seem to be afraid of having pain again, without fear to fail again and not being able to train dominates. It may be a sign that children can tolerate relatively high amount of pain, but they view their own rehabilitation and time of injury as very emotional and stressful period.

How to best take care of our injured children and adolescents remains to be resolved. Having special requirements for sports teams for children and adolescents has been discussed among the informants independently. A clinic that focuses on sportsmen, including children and adolescents, with combined expertise in the area could facilitate communication and thus give children greater security. Further, they would know that they can have knowledge and effective help in one place and that they can feel connected with others in similar situations and thereby strengthen their identity as athletes. A complement could be that the gym opens its activities for younger ages, then, of course, with available instructors to teach children how training should be conducted in the best way to lay good foundation for continued physical activity. It is also of great importance that sports clubs take responsibility and do not focus on chronological age when it comes to competitions, but instead look at biological age because children develop so differently. There must be clear guidelines on who has what responsibility, and these lines must be followed; otherwise, it will be the children who are the most affected. The purpose of

sports is physical activity for our children to lay good and positive foundation for the future.

All interviews were conducted and transcribed in a uniform manner by the same author, which contributes to increasing trustworthiness. Another strength of this study was strategic choice of sample with the variety of sports, including team sports and individual sports. Also both genders of coaches and athletes were sought to obtain as varied information as possible. Focus groups were chosen for parents and physiotherapists with the hope that they would find more support from each other and discuss their different experiences and thoughts. Individual interviews were chosen for the coaches, as the author is aware from personal experience that coaches are not keen on passing on their knowledge and experience in a large group. The outcome of the interviews went well among the various participants, and all participants actively participated in the interviews and found that it was valuable for them to participate. Disadvantage of this study may be that it only had a limited audience, and the question is whether the results reflect how it looks in general or whether it is more of an urban phenomenon. It is therefore of great importance to make clear that the results are related to Swedish children and adolescents in Sweden at different levels and may not be applicable to other individuals such as older athletes or children who do not live in big cities. On the other hand, the strength of qualitative research is to get rich and sensitive data with the goal of producing knowledge (Marecek, 2003).

Coaches, parents, and physiotherapists were interviewed about child and adolescent psychosocial support in connection with a sports injury. All three groups agreed that there was lack of communication. No one acted as the coordinator. The findings include the coach's lack of training and time, parents' disappointment in medical care and sense of personality changes in their children in connection with the injury. Physiotherapists felt that they acted as a major source of social and medical support for these children and adolescents.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

Adirim TA, Cheng TL. Overview of injuries in the young athlete. *Sports Med* 2003;33:75-81.

- Alfermann D, Stambulova N, Zemaityte A. Reactions to sport career termination: A cross-national comparison of German, Lithuanian, and Russian athletes. *Psychol Sport Exerc* 2004;5:61-75.
- Andersen MB, Williams JM. Athletic injury, psychosocial factors and perceptual changes during stress. *J Sports Sci* 1999;17:735-741.
- Bianco T. Social support and recovery from sport injury: elite skiers share their experiences. *Res Q Exerc Sport* 2001;72:376-388.
- Biddle SJ, Asare M. Physical activity and mental health in children and adolescents: a review of reviews. *Br J Sports Med* 2011;45:886-895.
- Blinde EM, Greendorfer SL. A reconceptualization of the process of leaving the role of competitive athlete. *Int Rev Sociol Sport* 1985;20:87-94.
- Boström A, Thulin K, Fredriksson M, Reese D, Rockborn P, Hammar ML. Risk factors for acute and overuse sport injuries in Swedish children 11 to 15 years old: What about resistance training with weights? *Scand J Med Sci Sports* 2016;26:317-323.
- Brewer BW, Linder DE, Phelps CM. Situational correlates of emotional adjustment to athletic injury. *Clin J Sport Med* 1995;5:241-245.
- Carter RE, Lubinsky J, Domholdt E. *Rehabilitation research: principles and applications*. 4th ed. St. Louis (MO): Elsevier Saunders; 2011.
- Creswell JW. *Research design: qualitative, quantitative, and mixed methods approaches*. 4th ed. Los Angeles: Sage; 2012.
- Cresswell SL, Eklund RC. The nature of player burnout in rugby: Key characteristics and attributions. *J Appl Sport Psychol* 2006;18:219-239.
- Gould D. Personal motivation gone awry: Burnout in competitive athletes. *Quest* 1996;48:275-289.
- Gould D, Bridges D, Udry E, Beck L. Coping with season-ending injuries. *Sport Psychol* 1997;11:379-399.
- Gould D, Dieffenbach K. Overtraining, underrecovery, and burnout in sport. In: Kellmann M, editor. *Enhancing recovery: preventing underperformance in athletes*. Champaign (IL): Human Kinetics; 2002. p. 25-35.
- Gould D, Tuffey S, Udry E, Loehr J. Burnout in competitive junior tennis players: II. A qualitative analysis. *Sport Psychol* 1996;10:341-366.
- Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today* 2004;24:105-112.
- Gustafsson H, Hassmén P, Kenttä G, Johansson M. A qualitative analysis of burnout in elite Swedish athletes. *Psychol Sport Exerc* 2008;9:800-816.
- Gustafsson H, Kenttä G, Hassmén P, Lundqvist C. Prevalence of burnout in adolescent competitive athletes. *Sport Psychol* 2007;21:21-37.
- Hanson SJ, McCullagh P, Tonymon P. The relationship of personality characteristics, life stress, and coping resources to athletic injury. *J Sports Exerc Psychol* 1992;14:262-272.
- Johnston LH, Carroll D. The provision of social support to injured athletes: a qualitative analysis. *J Sport Rehabil* 1998;7:267-284.
- Kvist J, Ek A, Sporrstedt K, Good L. Fear of re-injury: a hindrance for returning to sports after anterior cruciate ligament reconstruction. *Knee Surg Sports Traumatol Arthrosc* 2005;13:393-397.
- Lally P. Identity and athletic retirement: a prospective study. *Psychol Sport Exerc* 2007;8:85-99.
- Marecek J. Dancing through minefields: toward a qualitative stance in psychology. In: Camic PM, Rhodes JE, Yardley L, editors. *Qualitative research in psychology: expanding perspectives in methodology and design*. Washington, DC: American Psychological Association; 2003. p. 49-69.
- Nordahl B, Sjöström R, Westin M, Werner S, Alricsson M. Experiences of returning to elite alpine skiing after ACL injury and ACL reconstruction. *Int J Adolesc Med Health* 2014;26:69-77.
- Pearson RE, Petitpas AJ. Transitions of athletes: developmental and preventive perspectives. *J Couns Dev* 1990;69:7-10.
- Podlog L, Dionigi R. Coach strategies for addressing psychosocial challenges during the return to sport from injury. *J Sports Sci* 2010;28:1197-1208.
- Podlog L, Eklund RC. Professional coaches' perspectives on the return to sport following serious injury. *J Appl Sport Psychol* 2007;19:207-225.
- Podlog L, Kleinert J, Dimmock J, Miller J, Shepherd AM. A parental perspective on adolescent injury rehabilitation and return to sport experiences. *J Appl Sport Psychol* 2012;24:175-190.
- Podlog L, Wadey R, Stark A, Lochbaum M, Hannon J, Newton M. An adolescent perspective on injury recovery and the return to sport. *Psychol Sport Exerc* 2013;14:437-446.
- Rotella RJ. The psychological care of the injured athlete. In: Bunker LK, Rotella RJ, Reilly AS, editors. *Sport psychology: psychological considerations in maximizing sport performance* Ithaca, NY: Movement; 1985. p. 273-87.
- Schlossberg NK. *Counseling adults in transition: linking practice with theory*. New York: Springer; 1984.
- Stoltenburg AL, Kamphoff CS, Lindstrom Bremer K. Transitioning out of sport: The psychosocial effects of collegiate athletes' career-ending injuries. *Athl insight - Online J Sport Psychol* 2011. Available from: <http://www.athleticinsight.com/Vol13Iss2/Feature.htm>
- Taylor, J, Taylor S. *Psychological approaches to sports injury rehabilitation*. Gaithersburg (MD): Aspen Publishers; 1997.
- Thoméé P, Währborg P, Börjesson M, Thoméé R, Eriksson BJ, Karlsson J. Determinants of self-efficacy in the rehabilitation of patients with anterior cruciate ligament injury. *J Rehabil Med* 2007;39:486-492.
- Williams JM, Andersen MB. Psychosocial antecedents of sport injury: review and critique of the stress and injury model. *J Appl Sport Psychol* 1998;10:5-25.

Williams JM, Roepke N. Psychology of injury and injury rehabilitation. In: Singer RN, Murphy M, Tennant LK, editors. Handbook of research on sport psychology. New York: MacMillan; 1993. p. 81539.

Wylleman P, Alfermann D, Lavallee D. Career transitions in sport: European perspectives. Psychol Sport Exerc 2004;5:7-20.