

Perceived motivational factors for female football players during rehabilitation after sports injury – a qualitative interview study

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Compliance with a rehabilitation program is significant among athletes following a sports injury. It is also one of the main factors that influence the rehabilitation process; moreover, the outcome is also influenced by the athlete's motivation. It is primarily an autonomous motivation, resulting in rehabilitation adherence. The aim of this study was to investigate the perceived motivation of female football players during rehabilitation after a sports injury and the extent to which these motivating factors were autonomous. Qualitative interviews, based on a semistructured interview guide with injured female football players undergoing rehabilitation, were analyzed using content analysis. The motivational factors that were described were their set goals, social support as well as ex-

ternal and internal pressures during rehabilitation. The perceived autonomy varied somewhat but overall, they experienced external motivation; therefore, the behavior was not entirely self-determined. Results are expected to provide a better understanding of women football players' motivation in relation to their rehabilitation; hence, physiotherapists and coaches who are part of the rehabilitation process can contribute by increasing the autonomous motivation, thus, improving the compliance and outcome of the rehabilitation.


Keywords: Autonomy, Motivation, Qualitative study, Sport

INTRODUCTION

Sports injuries are a side effect of any sporting activity (Schneider et al., 2006). In Swedish elite football, about 78% of male players and 66% of female players have injuries causing loss of time from football during a season (Hägglund et al., 2009). The high incidence (65% to 95%) of elite football players who are injured during a season is also consistent in other countries (Ivarsson et al., 2014). From these results, it can be concluded that the risk of suffering from any kind of injury due to football is quite high. This is a dilemma since physical activity is emphasized as an important part of a healthy life (Faude et al., 2010; Krustup et al., 2009), and sport-related injuries are a problem in public health for both adults and children (Faude et al., 2013). Sports injuries

can also be a problem from an economic perspective, due to the cost of healthcare caused by the increased number of injuries (Janssen et al., 2012; Krist et al., 2013; Tranaeus et al., 2017) as well as psychological aspects during rehabilitation (Covassin et al., 2015; Wiese-Bjornstal, 2010).

When a sports injury occurs, not all athletes will return to the sport because of the risk and fear of re-injury (Heijne et al., 2008; Kvist et al., 2005; Norlin et al., 2016). The characteristics of those who do not return to the sport after an injury is usually young women without previous experience of injuries (Johnson, 1997; Nordahl et al., 2014). If the athlete, however, chooses to continue, it means not only a break from sports participation during rehabilitation, but also a greater risk for re-injury (Knowles et al., 2006), which may be a result of an early return to the sport and

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inadequate rehabilitation (Hägglund et al., 2009; Haxhiu et al., 2015).

Those who perform the clinic or home-based physical therapy have observed poor compliance with rehabilitation training or players completely refraining from participating in rehabilitation (Bassett and Prapavessis, 2007; Haxhiu et al., 2015). One of the main factors that affect the compliance with rehabilitation and the outcome is the athlete's motivation (Arden et al., 2013; Brewer et al., 2003; Fältström et al., 2016; Hagger et al., 2005; Ryan et al., 2008). An athlete's motivation becomes especially important in periods of little or no improvement in the rehabilitation process because it challenges the athlete's commitment to continue (Mohd Nor, 2001; Nordahl et al., 2014). Participation in rehabilitation after a sports injury is primarily autonomous motivation when the behavior is self-determined (Chan and Hagger, 2012; Dishman and Ickes, 1981; Duda et al., 1989; Levy et al., 2008). Autonomy means actions based on one's interests and values (Ryan and Deci, 2000) and is characterized by an internal locus of control (Podlog and Eklund, 2007).

Athletes who have autonomous motivation in their sport also show the same during rehabilitation (Chan et al., 2011). Some individuals have high autonomous motivation during rehabilitation, and others may experience an external pressure from coaches or teammates to participate in competitions despite the injury (Podlog and Eklund, 2006). Athletes can feel an internal pressure to meet the personal high expectations on their performance during and after the rehabilitation (Podlog et al., 2011). Previous studies show that athletes can experience different motivational factors during rehabilitation following a sports injury, and the level of autonomy can vary (Fältström et al., 2016; Norlin et al., 2016).

The self-determination theory, SDT, describes how social and environmental factors affect a person's autonomy and self-determined behavior, well-being, mental health, and related performance (Podlog et al., 2011). A self-determined behavior should support the individual's needs and experiences of competence, autonomy, and relatedness as well as influence motivation (Ryan and Deci, 2000). Motivation is described as a continuum from amotivation, extrinsic motivation to intrinsic motivation (Ryan and Deci, 2000). The understanding of SDT therefore is useful as an explanation for the experiences during rehabilitation and when returning to sports after a sports injury (Podlog and Eklund, 2007); furthermore, it can serve as a framework for coaches and physiotherapists in their efforts to assist athletes in the rehabilitation process, thus, allowing them to return to their sport (Podlog and

Eklund, 2006).

Motivation is important during the rehabilitation process including an understanding of what kind of motivation that is experienced during rehabilitation (Santi and Pietrantonio, 2013). By understanding what factors motivate athletes in the rehabilitation process, physiotherapists and coaches will be better able to support athletes to comply with the rehabilitation process (Christakou and Lavalley, 2009). It is therefore of interest to explore injured athletes' motivation for adherence to rehabilitation. The number of female players is growing worldwide, with an increasing number of severe injuries faced by these players. To explore motivational factors, a qualitative interview study is the most suitable method because it contributes to increased knowledge of human phenomena as perceptions, experiences, and thoughts (Carter et al., 2011).

The purpose of the present study was to investigate the perceived motivational factors for female football players during rehabilitation after a sports injury and to explore if these motivational factors were experienced as autonomous.

MATERIALS AND METHODS

Research design

The study was a qualitative design, including interviews with injured female football players during their rehabilitation. The interviews followed a semistructured interview guide that allowed the interviewer to ask probing questions and to clarify answers (Carter et al., 2011). The qualitative approach provided a greater understanding of the players' experiences through the open-ended questions in the interview guide.

Participants

The participants consisted of a purposeful sample of female football players. The inclusion criterion was female football players with an ongoing sports injury that needed more than 2 weeks of rehabilitation (Table 1).

The participants were informed about the purpose of the study, as well as the voluntary nature of participation and the option to avoid answering questions during the interview if experienced as inappropriate. Thereafter, they gave their written consent to participate. Participants were also given the opportunity to read the transcriptions and approve the texts. All identities were excluded in the texts.

Ethical approval was obtained from the Ethical Advisory Board in South East Sweden (Dnr EPK 147-2013), and the study was

Table 1. Description of the participants

Age (yr)	Injury location	Years in sport	Time since injury	Previous injuries
23	ACL, meniscus	16	13 mo	Yes
21	ACL	12	3 yr	No
23	Ankle	NA	1 mo	Yes
18	ACL, meniscus, and cartilage	10	2 yr	Yes
20	ACL	13	2 yr	Yes
20	ACL	14	12 mo	No

ACL, anterior cruciate ligament; NA, not announced.

conducted in accordance with the Declaration of Helsinki for Human studies.

Interview guide

To conduct the interviews, a semistructured interview guide was followed to standardize the interviews, while at the same time allowing room for the differences in the players' stories. The interview was initiated with a number of background questions about the player, their active time as soccer players, and their injury. The interview guide then included open questions about the player's own thoughts and experiences regarding the injury, possible reactions, behaviors, and treatments from external health providers on the injury and the rehabilitation, the players' experiences relating to the rehabilitation, goals, and motivation linked to the rehabilitation, as well as management of ups and downs in the rehabilitation process. The interview guide thus focused on both internal and external motivational factors as well as individual experiences in connection with the injury and the rehabilitation, which may have affected the perceived motivational factors.

Data collection

Injured female football players who played in different teams in Sweden were contacted by the first author and informed about the study and its purpose. Six injured players volunteered to participate and signed a written consent. Prior to the interviews, two pilot interviews were completed to test the interview guide. These interviews were not included in the study. Appointments were made with each of the interviewees individually, and the interviews were conducted in person and recorded. The interviews lasted between 26 and 45 min and were transcribed verbatim.

Data analysis

Data were analyzed using content analysis, which includes manifest and latent content including hidden and underlying content. Content analysis is a process involving different stages, as

described by Graneheim and Lundman (2004). The transcriptions were read several times to get a comprehensive view of the content, meaning units, i.e., sentences or phrases that contain adequate information for the purpose were identified. The meaning units were condensed to shorten the text while the core was still maintained. The next stage involved coding of the condensed meaning units into categories that reflect the core messages of the interviews. Finally, themes were formulated from the categories, where the manifest and the latent content of the interviews were included. Themes emerged as an ongoing process throughout the analysis. The interviews and the analysis were done in Swedish and later translated for the manuscript.

The categories and themes are discussed in relation to the previous research and motivational factors (Côté et al., 1993; Deci and Ryan, 2002).

In qualitative studies, the results are evaluated in terms of trustworthiness such as credibility, dependability, confirmability, and transferability (Graneheim and Lundman, 2004).

Credibility was established by listening to the interviews repeatedly and reading the transcriptions to check that no parts of the texts were systematically excluded. The first author is involved in football and has experience in sports medicine, sports psychology, and research in these areas, similar to the coauthors, who all contributed to this study. The development of the interview guide will vouch for the studies' dependability. The pilot interviews also ensure the quality of the interview guide and the interviews. The transcriptions were analyzed and discussed among the authors (confirmability). Finally, the interviewees' experiences are, in most parts, similar to each other. Whether these results can be transferable to other groups of injured athletes is up to the reader to determine.

RESULTS

Four motivational factors were identified as salience for the football players during the injury rehabilitation: reasons for compliance with rehabilitation, goal setting, social support, and stress, which influenced the motivation level. These factors and the state of autonomy will be discussed below.

Reasons for compliance with rehabilitation

The participants were motivated to participate in the rehabilitation because they were eager to return to football or other physical activities, including having the possibility to make the decisions themselves. They also discussed the importance of rehabili-

tation, regardless of whether or not to return to sport, to reach a general well-being. Some of the interviewees still wanted to achieve personal goals in football, and all of the participants were passionate about the game and the lifestyle as football players. This passion was a strong motivation to participate in the rehabilitation. Being a football player was connected to a strong athletic identity.

“Okay, I love football! By then, I couldn’t think of a life without football, actually. So, it was like that I couldn’t think of a life without football, which made me fight hard during rehab.”

The social aspect of the fellowship within the team was a strong motivator to comply with the rehabilitation. The same reason was also expressed as a fear of being excluded from the group during the injury. Some felt it was motivating to do the rehabilitation beside the football field in parallel with the regular training. Others said that they felt a lack of relatedness to the team if they did rehabilitation close to the others in the team.

“But, it is tough when you can’t join them, and I felt that I never met them since I was in the gym and they were outdoors.”

Lack of support from coaches when undergoing rehabilitation beside the team made some of the players avoid the teams’ training sessions and decreased the sense of belonging to the group. Some players tried to perform the rehabilitation at home but felt lonely and unmotivated to continue. One player explained the importance of strong motivation and goal setting to be able to complete the rehabilitation at home. Most of the interviewees stated that it was motivating to visit a gym for the rehabilitation exercises since they met friends and felt a fellowship and belonging.

Goal setting

Goal setting was important to all the players and motivated them during the rehabilitation.

“These goals, they motivated me and I was aware of when I reached a step and was able to manage the next goal too.”

Goal setting and short-term goals were helpful when the exercises felt boring and were performed at the same level for a lengthy period. One player experienced that coming close to reaching a goal made her lose motivation to push all the way to achieve the goal. Rehabilitation after a severe injury takes a long time, and having time set goals helped players to be motivated to continue the process. The goals changed, with some players being very eager and motivated to return to football at the same level to some feeling that it was more important to feel well and have a functional body.

“...and then, after a while I understood that I will not be able to reach the same level. But I still want to play and contribute somehow.”

Participants stated that it was difficult to set realistic goals when they did not know what to expect and were uncertain about the severity of the injury. Some participants were uncertain and found it difficult to be motivated since they did not know what kind of injury they had or the severity or length of the rehabilitation.

Social support

Social support from family and friends was experienced as highly motivating to continue with the rehabilitation. The support was experienced as positive and was never connected with pressure to succeed with the rehabilitation or pressure to return to football.

“They wanted the best for me and I wanted to reach my goals. They wanted me to fulfill my wishes. But, it was never like: come on, we want you to play football soon. I never felt like that. It was more me who wanted to play again.”

Participants described the need for support during tough times in the rehabilitation, especially when hitting adversity. It was during those times when they had doubts as to whether they were able to complete the rehabilitation. Teammates and injured athletes also motivated the interviewees to comply with the rehabilitation program. This support consisted of training together, making them feel as if they were still important to the team and belonged to the team, which motivated them to strive for return to play. The support from coaches has been viewed as diverse. Those who described receiving support from coaches experienced it as very comforting. Some coaches asked the players how they were proceeding and how things were going both inside and outside of football, which was much appreciated. Physiotherapists provided important support too and explained the purpose and importance of each part of the rehabilitation.

Stress

At the same time as the players felt support from others, there were also times when they felt pressure. This pressure was experienced as increasing motivation as well as also decreasing from time to time. When too many people asked about the injury and how things were going, it felt more negative than supportive. To not lose their position in the team, some of the interviewees experienced pressure to return to football quickly.

“If she is doing well in the team, then I might lose my position due to my injury. Then, I think, like during a competition, I will return and anything else is not possible.”

Some of the participants mentioned that coaches wanted them to return to the sport quickly, and one of them stated:

“She had high expectations of my speedy return to football. And I felt that I was not able to do that so don't push me and don't ask me all the time.”

This pressure made this player lose her motivation and her goal to return to football. Other participants expressed that physiotherapists suggested that they should quit football and that there were conflicts between the physiotherapists' suggestions and the players' goals. On the other hand, this motivated one of the players to work harder to prove that the physiotherapist was wrong. Participants also added that the physiotherapists were disappointed and negative when players did not make an expected progress during the rehabilitation, which decreased motivation. One of the interviewees stated that she was first of several injured players and felt pressure to be a role model to the others during the rehabilitation and show the possibility to return to football. Some mentioned that having role models was motivating. However, they also added that knowledge of others with the same kind of injury not making it back to football decreased their motivation.

Some of the interviewees talked about the need for acceptance of the situation when motivation was low due to boring repetitive exercises that were also painful, although they knew that such exercises were good for them and in the direction of their goal.

Even though there was a lapse in time between the injury and the interview, the interviewees' experiences and thoughts were in the same vein.

DISCUSSION

The most important findings in the present study were that players had several factors, which motivated them to comply with the rehabilitation process. The factors included social support, having goals during rehabilitation, and internal and external pressures. In terms of goals, the players had to adhere to the rehabilitation program to be able reach the goal of returning to the sport, as described also by Podlog and Eklund (2006). Furthermore, the participants described a desire to achieve personal goals, passion for football, strong athletic identity, and importance of relatedness with the team, as well as maintaining their physique.

Another reason for their motivation to participate in rehabilitation was they wanted to have control over their own lives, which is in line with self-determination theory of Ryan and Deci (2000).

The fact that many of the players felt alone in their rehabilitation process and not as belonging to the team is also consistent

with the findings by Podlog et al. (2011). They argue that players undergoing rehabilitation after an injury may feel isolated from the team; thus, the players and the coach, and the feelings of belonging and being part of a team can be beneficial to the rehabilitation process, especially for players who expressed a strong athletic identity (Podlog et al., 2011). Podlog and Eklund (2006) asserted that the success of an athlete's return to sport may be related to the extent to which the environment around them meets their psychological needs of competence, autonomy, and relatedness. To perform their rehabilitation with the football team may be a way to stay in an environment that meets their needs of being together. Also, vice versa, for those players who prefer to avoid the football team, maybe this is because the player feels that she does not belong to the team due to the injury (Podlog and Eklund, 2006). Similarly, it will be their need to have an environment that stimulates their sense of autonomy where the football team can bring mixed feelings, some perceive self-determination to be together, but before their injury the environment was self-chosen. The training facilities and the environment might then contribute to an increased feeling of competence, independence, and relatedness (Podlog and Eklund, 2006), because it is an environment that they had been able to choose to go to, even if they were not injured. Physiotherapy premises, in contrast, can lead to a sense of diminished self-determination and thus, is not an intrinsic motivation to perform the exercise, as it is not an environment that they themselves would have otherwise chosen to stay in. Regardless of the case, how players perceive the environment as they perform their rehabilitation training is important because an environment that stimulates the sense of competence, independence, and relatedness contributes to a greater autonomy and internal motivation (Podlog and Eklund, 2007).

Players also talked about goals as an important part of their rehabilitation process. The goals seemed to work as motivation factors to continue the rehabilitation process. This reasoning is supported by Christakou and Lavalley (2009) who argue that goals work as a motivating factor, which increases the effort to reach the goal, and thereby increases focus, endurance, and direction for the athletes to continue, which is an important part of rehabilitation after an injury. Furthermore, it has been shown that the goals with the rehabilitation contribute to increase the compliance of rehabilitation training as well as increase confidence in believing that one can achieve the main goal (Christakou and Lavalley, 2009). If the goals are realistic, it is also beneficial from a motivational point of view, together with time bound goals that are important for the injured players. This is a part of the principle in SMART

goals, which stand for: specific, measurable, action-oriented, realistic, time-based, and self-determined, and it serves to optimize the objectives (Podlog et al., 2011). In this way, it is also a useful method to increase motivation, wherein the goal itself can serve as a motivating factor. Podlog et al. (2011) suggest that physiotherapists should ensure that the players' goals follow the SMART model and determined by the players themselves to optimize the objective and its effects on motivation.

After the injury, the players experienced social support from the family, friends, and the team, which was important for their motivation and an important part of the rehabilitation process; support helps one to not feel isolated and contributes to a sense of relatedness (Podlog et al., 2011). The basic premise of the SDT (Deci and Ryan, 2002) is relatedness, autonomy, and competence, which may explain why the players viewed the social support as a motivating factor and may also increase the internal motivation and autonomy, thus and further increasing the sense of relatedness. When it comes to support from someone with experience, an important factor was to allow for time and access to a physiotherapist, which is in line with the findings of Pizzari et al. (2005). The players' descriptions of the physiotherapists were that they were usually pleasant, knowledgeable, and supportive. Moreover, many of the players had good experiences of meeting with the physiotherapist, who they believed had helped them in their rehabilitation process. The physiotherapists supported them informatively and emotionally, which helped the players to be motivated and to adhere to their rehabilitation training. Mohd Nor (2001) showed that motivation was significant in periods of little or no improvement, as well as the importance of social support when the improvements did not show.

According to Podlog and Eklund (2006), pressure is something that many athletes experience during their rehabilitation process, and the pressure can come from coaches and teammates, which is consistent with what some of the players in this study experienced from teams, coaches, physiotherapists, and others. The pressure to return to football as soon as possible might be experienced as motivating but can also be a stress factor. Hence, it is important for coaches, physical therapists, and others involved in the player's rehabilitation process to be aware of how their behavior can lead to an external pressure. Instead of creating negative pressure, they can help to increase the player's sense of competence, independence, and knowledge as this can have a positive impact on motivation, according to the SDT (Ryan and Deci, 2000).

The internal pressure created by the players themselves was due to the wish to reach goals, and to be able to play football at the

same level as before the injury, which is in line with previous research (Podlog et al., 2011). The interviewees' desire to be constantly motivated to continue the rehabilitation, in order to avoid lost compliance and thereby lose motivation and thus perform their exercises less often, is in line with the phenomenon that Vealey (2005) describes in the motivation cycle. This cycle describes that we do fun things repeatedly and as we get better, we do it more frequently. Players also experienced an internal pressure, as the rehabilitation training was a must in their lives to be able to return to football, which is considered as both an internal and external motivation (Chan et al., 2011).

It is a challenge to optimize rehabilitation after a sports injury by being able to stimulate autonomy and internal motivation where the behavior is self-determined. This is something that trainers, physiotherapists, and others involved in the players' rehabilitation processes have a significant role in. This is because after a sports injury and rehabilitation, the most important aspects are the autonomy and internal motivation to achieve results and to carry out and follow the rehabilitation process (Chan and Hagger, 2012; Dishman and Ickes, 1981; Duda et al., 1989; Levy et al., 2008).

The qualitative approach thus contributed to a more balanced picture and provided a greater understanding of the players' experiences compared to a quantitative study.

The trustworthiness in the present study was satisfactory as all of the interviews were conducted and transcribed in a uniform manner by the first author. The transferability is dependent on the readers' possibility to translate this study into other populations and contexts.

Initially, the goal was to interview more than just the six players, but the transcription and analyses of the interviews revealed that the material was sufficient. The selection of participants should be large enough to give a fair idea, but not excessive, so that an overview of the results can be maintained (Bele et al., 2015). However, a limitation in this context was that the players had reached different stages of their rehabilitation processes, which might affect the differences in motivation, depending on how far they got to their goal. Striegel et al. (1996) argue that 2 weeks after the injury, motivation is important; thus, all interviews are relevant despite the differences in the time since the injury happened.

In summary, the present study indicates several motivational factors affecting female football players' experiences during rehabilitation after a severe injury. These motivational factors contribute, in varying degrees, to an autonomous motivation, but not all

of the players were driven by autonomous motivation. This is because some of them were driven by an external motivation, where rehabilitation training was conducted for those who had a personal interest to get the player to return to the sport. The results from this study may help to increase the understanding of what motivates and influences women football players' motivation to undergo rehabilitation after a sports injury.

CONFLICT OF INTEREST

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

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