

Anxiety Instrument Application on Water Ski Athletes who had Experienced Injury

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Abstract: Injuries experienced by athletes during training and matching can affect their psychological behavior and performance. Coach should know the condition of their athletes, not just physical but also psychological conditions, especially anxiety. This study aims to apply anxiety instruments to water-ski athletes who have suffered injuries. The study was conducted on 12 national ski air athletes of Indonesia ever injured who will follow the SEA Games 2015 in Singapore. The method used in this research is descriptive research method with survey technique that is using Re-Injury Anxiety Inventory (RIAI) including Re-Injury Anxiety Rehabilitation (reliability RIA-R $\alpha=0.98$) and Re-Injury Anxiety Re-Entry into competition (reliability RIA-RE $\alpha=0.96$). The results of the study showed that the anxiety level of national ski air athletes of Indonesia who have experienced injury as follows: 67% experienced low anxiety, 16% experienced moderate anxiety, and 16% experienced high anxiety. An athlete's anxiety when re-entering the competition increases compared to anxiety during the rehabilitation process. This information helps the coach know the condition of his athlete's anxiety, so the coach can provide the help needed by the athlete including referring to the sports psychologist to speed up the healing process of his injury.

1 INTRODUCTION

Injuries experienced by athletes both during training and compete are not just about physical aspects but also related to psychological aspects. Psychological reactions such as stress, fear of back injury, negative emotions, and mood disorders (Naoi and Ostrow, 2008; Sparkes, 2000; Vergeer, 2006). Often encountered that an athlete who has experienced a sudden injury suffered psychological disorders such as suddenly fears excessive associated with the injury. Athletes experience symptoms of anxiety and insecurity that can disrupt his physical condition and performance. Heil in Walker et.al (2009) says that a lack of confidence and self-confidence athletes who have been injured may affect the feeling of a back injury that can also affect his hesitant performance. Therefore, an assessment of the psychological condition of an injured athlete usually consists of cognitive, emotional, and behavioral assessments (Clement et al., 2013).

Anxiety is a psychological condition that tends to be unstable. Anxiety means feeling choked (Setyobroto, 2001). Psychologist Sigmund Freud describes and defines anxiety as an unpleasant feeling, followed by certain physiological reactions

such as changes in heart rate and breathing. The term of anxiety refers to feelings of discomfort and fear, coupled with some unpleasant physical symptoms, including muscle tension (tense muscles), an accelerating heartbeat, breathing hoars, dry mouth, sweating and trembling. When the anxiety gets worse, the outlook becomes opaque, the feeling is choking, the body feels hot and cold, nausea, and frequent urination or diarrhea.

Saparinah and Sumarmo Markum in Djumidar, et al (2012) argue that when a person's stress is too great for him or herself to be unable to cope or when one's stress persists, anxiety will arise. To some extent, it is natural that an athlete has a fear of losing his opponent, his concerns serve as a precaution to act more carefully and not in a hurry. But if an athlete's worries are exaggerated, he becomes afraid of doing wrong, not daring to make decisions and too wait. Excessive anxiety is characterized by unpleasant feelings, so the athlete is more focused to exert his energy to restore the balance of his condition. This will reduced the concentration of the athlete in the face of his opponent (Martens in Gunarsa et.al, 1996).

Uncomfortable injury usually will continue to imprint and cause anxiety to the athlete. Athletes who

have very high anxiety usually will more and more make mistakes at the time of performance. The anxiety is caused by excessive fear and pain experienced. The psychological response displayed by the athlete will determine and significantly influence the quality and speed in the rehabilitation or healing process (Brewer, 1994). Besides that, it is also said that social support can also accelerate the athlete's healing from injury, including emotional support, instrumental, information, and appraisal (Hagger et al., 2005; Hogan, 2002).

Ahead of the 2015 SEA Games, almost all national ski air athletes of Indonesia who are the team of SEA Games 2015 sustained injury. This happens because water ski includes extreme sports that use means that can be dangerous. Injuries suffered by Indonesian water skiing athletes include upper extremities, lower extremities, or a combination of both. The types of injuries suffered consist of acute injuries and chronic injuries. Taylor and Taylor (2007) mentioned that an acute injury (trauma) is a sudden injury, such as an ankle sprain, which can be detected immediately, that is, the pain that is directly related to the injury. While chronic injuries (severe or sickly) develop slowly from low exercise, and are continuously experienced during exercise. The pain is initially mild and it is usually difficult to connect the beginning of the pain to a particular injury event.

In the water ski, there are 3 (three) numbers that are contested: Slalom, Trick, and Jumping (Mattalata, 2000). Injuries that generally occur on water ski athletes based on the number of matches are: 1) Slalom: tearing of muscles or fractures on the shoulders, sprained on the ankle; 2) Trick: strains on the ankle and upper and lower arms, back and hip injuries; 3) Jumping: sprain on the knee, ankle, neck injury, fracture on the shoulders and thighs.

To evaluate the progress of Indonesian sporting achievement can be seen through the results of international championships or a popular sporting event such as South East Asian Games (SEA Games) which is regularly held every two years. Achievements of Indonesian water ski athletes still need to be improved. Singapore, Malaysia and Thailand which are the top-rated waters ski rivals in every game. Meanwhile, at this time all national water ski athletes of Indonesia has experienced injury. On the other hand, they require strong physical preparation, high motivation, and ability to overcome the anxiety that is felt due to the injury they experienced. If the anxiety condition of an injured athlete can not be overcome, the condition will hamper the athlete's efforts to perform optimally to achieve the expected performance in the match.

Meanwhile, the focus of the coach has been more on training, not on the psychological aspects experienced by injured athletes (Clement et al., 2013). Whereas there are enough references to psychosocial strategies that can be done for injured athletes such as goal setting, imagery, positive self-talk, and relaxation (Beneka et al., 2007). Before providing such psychosocial strategies, the coach must first know about the extent of anxiety felt by the injured athlete.

This research intends to apply the anxiety instruments to the national ski air athletes of Indonesian which is the team of SEA Games 2015 that has been injured. According Arikunto (2006), the data collection instrument is a tool chosen and used by researchers in its activities to collect the activities become systematic and facilitated by it. Meanwhile, according to Sugiyono (2010), research instrument is a tool used to measure natural and social phenomena observed (research variables).

Instruments as data collectors, according to Suryabrata (2008) is a tool used to record (generally quantitatively) the circumstances and activities of psychological attributes. These psychological attributes are technically classified as cognitive attributes and non-cognitive attributes. Suryabrata points out that for cognitive attributes, the revelation is a question. As for non-cognitive attributes, the revelation is a statement. The validity of the instrument is defined as the extent to which the instrument records or measures what it is intended to record or measure. Whereas instrument reliability refers to the consistency of the results of data recording (measurement) if the instrument is used by the same person or group of persons at different times, or if the instrument is used by different people or groups of people at the same time or at different times.

Walker et al (2009) states that athletes think of his injury both during the therapy process and when going back to training and doing competition. Some symptoms are experienced such as: nausea, sweating, and tense. These symptoms are cognitive symptoms (eg: negative thoughts, and worry) and somatic symptoms (eg: physiological responses). Thus, anxiety athletes who have experienced injury divided into two, namely: 1) anxiety during the rehabilitation process; and 2) anxiety on returning to the competition. Based on the above description, the instrument of anxiety instrument application that will be conducted in this research is the application of valid and consistent measuring instrument to collect quantitative information about athlete's anxiety that has been injured, both anxiety during rehabilitation process and anxiety on returning to the competition.

Through the application of anxiety instruments to the national water ski athletes of Indonesian who have experienced injury, the coach is expected to get valid information about the psychological condition that the athlete actually feels.

2 METHODS

This research is descriptive research using survey technique. The sample of this study is all national water ski athletes of Indonesia which is a team of SEA Games 2015 who have experienced injury that amounted to 12 athletes (7 man athletes and 5 woman athletes).

The research instrument used to collect data is the form of a closed questionnaire that has been provided the answer so that the respondents just choose (Arikunto, 2006). The questionnaire used is an adaptation questionnaire from RIAI (Re-Injury Anxiety Inventory) which is a standard or valid

instrument made by Walker et.all (2007). Items or statements about Re-Injury Anxiety Rehabilitation (RIA-R) are at 1, 3, 5, 7, 9, 11, 14, 16, 18, 21, 25, 27 (favorable items) and 24 (unfavorable item). Items or statements about the Re-Injury Anxiety Re-Entry Competition (RIA-RE) are at 2, 4, 6, 8, 10, 12, 15, 17, 19, 20, 22, 23, 26, 28 (favorable items) and 13 (unfavorable items). Assessment for the favorable items as follows: Never = 0; Rarely = 1; Sometimes = 2; Always = 3. While the assessment for the unfavorable items as follows: Never = 3; Rarely = 2; Sometimes = 1; Always = 0 (Juriana et.all, 2017).

Internal consistency or reliability of RIAI instruments is $\alpha = 0.70$, with details are the reliability of RIA-R $\alpha = 0.98$ and the reliability of RIA-RE $\alpha = 0.96$. As for norm assessment is determined criteria as follows: total value < 32 = low anxiety level; total value $32-50$ = medium anxiety level. total value > 50 = high anxiety level; (Walker et all, 2007). While the technical analysis used in this study is descriptive statistics with a simple percentage technique.

Table 1: Re-Injury Anxiety Inventory for Indonesia Water Ski athletes.

	N	R	S	A
1. I am worried about becoming re-injured during rehabilitation	0	1	2	3
2. I am worried about becoming re-injured during re-entry into competition	0	1	2	3
3. I feel nervous about becoming re-injured during rehabilitation	0	1	2	3
4. I feel nervous about becoming re-injured during re-enty into competition	0	1	2	3
5. I have doubts that I will remain injury free during rehabilitation	0	1	2	3
6. I have doubts that I will remain injury free during re-entry into competition	0	1	2	3
7. I feel on edge about becoming re-injured during rehabilitation	0	1	2	3
8. I feel on edge about becoming re-injured during re-entry into competition	0	1	2	3
9. I am worried that I may not do as well as I could in rehabilitation due to re-injury worries	0	1	2	3
10. I am worried that I may not do as well as I could on returning to competition due to re-injury worries.	0	1	2	3
11. My body feels tense about rehabilitation because of re-injury worries	0	1	2	3
12. My body feels tense about re-entering competition because of re-injury worries	0	1	2	3
13. I feel confident that I will not become re-injured during re-entry into competition	0	1	2	3
14. I am worried about failing during rehabilitation due to my re-injury worries	0	1	2	3
15. Ia worried about failing when re-entering into competition due to re-injury	0	1	2	3
16. Re-injury worries about rehabilitation make my body feel tense	0	1	2	3
17. Re-injury worries about re-entry into competition make my body feel tense	0	1	2	3
18. I am worried about performing poorly during rehabilitation due to re-injury worries	0	1	2	3
19. I am worried about performing poorly during re-entry into competition due to re-injury worries	0	1	2	3
20. I am worried about failing to achieve full re-entry into competition due to re-injury worries	0	1	2	3
21. I feel my stomach sinking due to rehabilitation	0	1	2	3
22. I am worried that others will be disappointed if I become re-injured during re-entry into competition	0	1	2	3
23. The thought of re-injury during re-entry into competition make my palm sweaty	0	1	2	3
24. I am confident about no becoming re-injured during rehabilitation because I mentally picture myself staying injury free	0	1	2	3
25. I am worried about concentrating during rehabilitation because of re-injury worries	0	1	2	3
26. I am worried about about concentrating during re-entry into competition because re-injury worries	0	1	2	3
27. My body feels tight due to re-injury worries during rehabilitation	0	1	2	3
28. My body feels tight due to re-injury worries during re-entry into competition	0	1	2	3

*N= never, R= rarely, S= sometimes, and A= always

3 RESEARCH RESULT

Based on the research data known some description or profile about the sample as follows:

- Based on sex: 58% man and 42% woman
- Based on age: 33% are under 20 and 67% 20-40 years old
- Based on race number: Slalom 17%, Trick 17%, Jumping 25%, and Overall 42%
- Based on type of injury: extremities above 25%, lower extremity 33%, and a combination of 42%.
- Based on duration of therapy: 50% under 1 month and 50% 1-3 months

3.1 Anxiety Levels of Indonesian Water Ski Athletes Who Have Experienced Injury

Below is presented data on the results of statistical calculations and histogram of anxiety level of Indonesian water ski athletes who have experienced injury:

Table 2: Anxiety Level of Indonesian Water Ski Athletes Who Have Experienced Injury.

	Statistical Value
Highest Score	62
Lowest Score	4
Average	34
Standard Deviation	94.52

From the calculation of the anxiety level of Indonesia water ski athletes who have experienced injury showed that: 68% (8 athletes) have low anxiety levels (score below 32), 16% (2 athletes) have moderate anxiety levels (score 32 -50), and as many as 16% (2 athletes) have high anxiety level (score above 50).

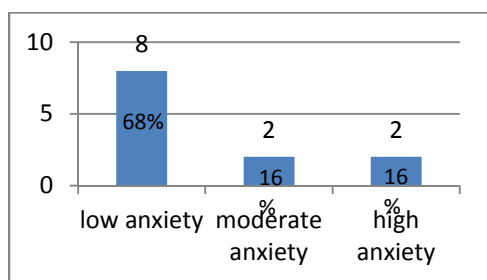


Figure 1: Histogram of Anxiety Level of Indonesian Water Ski Athlete Who Have Experienced Injury.

3.2 Anxiety Levels of Indonesian Water Ski Athletes Who Haved Experienced Injury During the Rehabilitation Process

Below is presented data on the results of statistical calculations of anxiety level of Indonesian water ski athletes who have experienced injury during rehabilitation:

Table 3: Anxiety Level of Indonesian Water Ski Athletes Who have Experienced Injury during the Rehabilitation Process.

	Statistical Value
Highest Score	58
Lowest Score	0
Average	30
Standard Deviation	36.2

Walker et al (2007) only makes norms of criterion assessment for the total anxiety score, but did not make norms of criteria assessment for anxiety scores during rehabilitation process. Therefore, based on existing data the researcher makes norms of assessment based on group or within-group norms (Siregar and Nara, 2002), so for anxiety during rehabilitation is determined as follows: score below 7 = low anxiety level, score 7-14 = moderate anxiety level, and score above 14 = high anxiety level.

From the calculated level of anxiety level of Indonesian water ski athletes who have experienced injury during rehabilitation prcess showed that: 34% (4 athletes) have low anxiety levels (score below 7), 33% (4 athletes) have moderate anxiety levels score 7-14), and as many as 33% (4 athletes) have high levels of anxiety (score above 14).

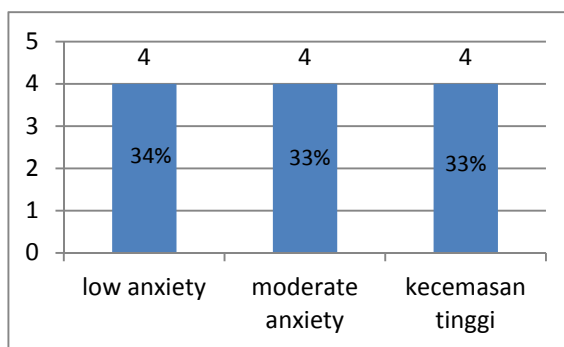


Figure 2: Histogram of Anxiety Levels of Indonesian Water Ski Athletes Who Have Been Injured during the Rehabilitation Process.

3.3 Anxiety Levels of Indonesian Water Ski Athletes Who have Experienced Injury on Re-Entry Competition

Below is presented data on the results of statistical calculations of anxiety level of Indonesian water ski athletes who have experienced injury on re-entry competition.

Table 4: Anxiety Level of Indonesian Water Ski Athletes Who Have Experienced Injury on Re-Entry the Competition.

	Statistical Value
Highest Score	62
Lowest Score	0
Average	31
Standard Deviation	42.8

Walker et al (2007) also did not make norms of criterion assessment for anxiety scores on re-entry competition. Therefore, based on existing data the researcher makes norms of assessment based on the group or within-group norms (Siregar and Nara, 2002), so for anxiety on re-entry competition determined as follows: score below 9 = low anxiety level, score 9- 17 = moderate anxiety level, and score above 17 = high anxiety level.

From the calculation of the anxiety level of Indonesian water ski athletes who have experienced injury on re-entry competition showed that: as many as 25% (3 athletes) have low anxiety levels (score below 9), as many as 42% (5 athletes) have moderate anxiety levels (score 9-17), and as many as 33% (4 athletes) have high anxiety level (score above 17).

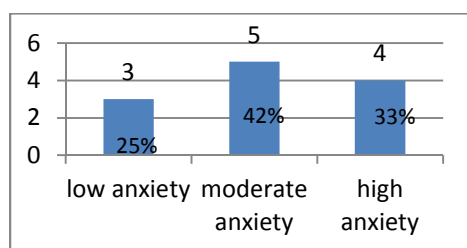


Figure 3: Histogram of Anxiety Levels of Indonesian Water Ski Athletes Who Have Experienced Injury on Re-Entry Competition.

4 DISCUSSION

Application of anxiety instruments for water ski athletes in this study is appropriate. The anxiety

instrument used is a special anxiety instrument, which is in accordance with the condition of an athlete who have experienced injury, namely Re-Injury Anxiety Inventory from Walker et.all (2007). The instrument is considered complete to represent the condition of the injured athlete, as the questionnaire items reveal the anxiety of the athlete during the rehabilitation process and also reveal the anxiety of the athlete on re-entry competition again.

In the application of this anxiety instrument, there is dynamics of athlete's anxiety during the rehabilitation process and anxiety on re-entry competition also can be obtained. So, not limited to the percentage of anxiety in total, or the criteria of anxiety during rehabilitation and anxiety on re-entry competition.. Based on research data obtained that there are five athletes whose level of anxiety is consistent. Two athletes consistently have high anxiety on total score of anxiety, high anxiety during the rehabilitation process and high anxiety on re-entry competition. The other three athletes happen to the contrary, they consistently have low anxiety on total score of anxiety, low anxiety during the rehabilitation process and low anxiety on re-entry competition. In addition, based on research data also known that there are three athletes who increase their anxiety score, when the anxiety on re-entry competition higher than the anxiety during rehabilitation process ($RIA-RE > RIA-R$). Besides, there are two athletes who decrease their anxiety score, when the anxiety on re-entry competition lower than the anxiety during rehabilitation process ($RIA-RE < RIA-R$), and there are two athletes whose the same score between the anxiety during rehabilitation process and the anxiety on re-entry competition ($RIA-RE = RIA-R$). This study have not yet discussed the factors that influence athlete's anxiety during rehabilitation or athlete's anxiety on re-entry competition, such as personality factors and social support (Santi and Peitranтони, 2013; Juriana et al, 2017).

Table 5: Summary of Anxiety Score of Indonesian water ski athletes who have experienced injury.

Athletes	Total Score	RIA-R Score	RIA-RE Score
1	51 (high)	21 (high)	25 (high)
2	12 (low)	4 (low)	0 (low)
3	3 (low)	0 (low)	0 (low)
4	43 (moderate)	13 (moderate)	21 (high)
5	14 (low)	5 (low)	5 (low)
6	29 (low)	12 (moderate)	10 (moderate)
7	31 (low)	15 (high)	12 (moderate)

8	30 (low)	9 (moderate)	18 (high)
9	20 (low)	7 (moderate)	10 (moderate)
10	24 (low)	6 (low)	14 (moderate)
11	33 (moderate)	19 (high)	14 (moderate)
12	52 (high)	20 (high)	26 (high)

Analysis data of this individual athlete's anxiety should be a concern of the coach to provide the assistance or strategies needed by the athlete to overcome his anxiety immediately. Based on various references, there are many strategies that can be done by the coach. The results of the Cerment et al (2013) study in the United States in line with Larson's (1996) study in the United Kingdom show that the three most commonly applied psychosocial strategies of coaches to assist their injured athletes are: keeping athletes engaged in teams, creating goal-setting, and creating new variations in recovery exercises. Besides, another forms of psychological intervention for injured athletes include: education, imagery, biofeedback, self-talk, recreation, communication opportunities, relaxation, counseling programs, and medications (Santi and Peitrantoni, 2013; Juriana et al., 2017).

This study has limitations mainly concerning the limited sample size of only 12 athletes. However, the sample is national ski air athlete of Indonesian which is the team of SEA Games 2015. Although psychological or anxiety responses are subjective, the response of this national athlete's research sample is thought to provide a representative picture of other water ski athletes. Measurement of anxiety can indeed be done in various ways, such as: physiological measurement, observation, and psychometric measurement (Jannah, 2016). Measurements with questionnaires as in this study have advantages and disadvantages. The athlete could have given an unreal answer so the actual conditions were not revealed. However, during the data collection process researchers do direct mentoring of athletes. Researchers provide an explanation of the purpose and benefits of data retrieval. This direct accompaniment, in addition to minimizing errors in the interpretation of the statements contained in the questionnaire, is also a form of education to the athlete about the importance of paying attention to psychological mental conditions especially after injury.

This research is only produce the initial data, but the application of psychological data retrieval especially to athletes who suffered injuries in Indonesia today has not been done. The results of this

study is a first step to increase the coach's attention about the psychological condition of the injured athlete. In addition, the application of anxiety instruments to water ski injured athletes is also a form of sports psychology service or as one of the efforts to help Indonesian national water ski athletes who have suffered injuries. Through an anxiety instrument application on national athlete who has experienced this injury, the coach is expected to get information about the psychological condition that the athlete actually feels. Besides concerns to exercise, the coach also noticed the emotional reactions of the injured athlete. Coaches should not be trivial to emotional reactions because if not resolved can become dangerous such as anger, frustration, or emotional withdrawal (Cerment et al, 2013). Cognitive, emotional, and behavioral reactions also occur dynamically in injured athletes. Anxiety will affect the mind of the athlete, a negative thought will affect the emotional reactions as well as the behaviors displayed by the athlete. In the rehabilitation process, this dynamic will affect the quality and speed of physical and psychological recovery (Brewer, 1994).

The results of this study can be followed up by subsequent researchers by adding more samples, or involving national athletes from other sports. The results of this study should also be followed up with the provision of advanced services in the form of psychological strategies that can accelerate the recovery of athletes who suffered injuries. One of the strategies that coach can apply is to use Lazarus's BASIC ID model in Clement et al (2013). The BASIC ID in question is a summary of Behavior, Affect, Sensation, Imagery, Cognition, Interpersonal relationship, and Drugs. The trainer first identifies how the athlete's behavior is injured, how he feels, what body sensations he experiences, whether there is an image in the athlete's mind about his injury, what effects in the athlete's mind are due to the image, how his social life after injury, and wheter athlete using illegal drugs.

5 CONCLUSION

Based on the results of research data processing, it can be concluded that: the national ski air athletes of Indonesia who have been injured 67% experienced low anxiety, 16% experienced moderate anxiety, and 16% experienced high anxiety. Besides that, most Indonesian water ski athletes who have experienced injury during the rehabilitation process have low anxiety (34%), and most Indonesian water-ski

athletes who have experienced injury on re-entry the competition experienced moderate anxiety (42%).

Thus, some of the things that can be suggested based on the conclusion are as follows: 1) Indonesian waterski athletes and coaches need to have more knowledge about sports injuries; 2) Athletes and coaches should better understand the psychological aspects (other than the physical aspect) when injured; 3) The coach invites the injured athlete to consult the Sports Psychologist to get assistance and accelerate the recovery process.

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