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Training with Cognitive Behavioral Techniques for the Control of Precompetitive Anxiety

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Abstract---Various research in Sports Psychology has shown that a high level of pre-competitive anxiety negatively influences the performance of athletes. The proposed intervention program, expressing the combined use of Jacobson's Progressive Relaxation and Cognitive Restructuring, is implemented in the male volleyball and school volleyball school teams of the Orestes Acosta Sports Initiation School, in time from February to May 2016, with the participation of the Sports Medicine Center of Santiago de Cuba. Different psychological procedures are used before the development of the program and once it is finished: the Spielberger Anxiety Test, Daily Thought Record, Psychological Inventory of Sports Execution, and Attitude for Competition, Observation and Interview, as well as an evaluation provided by the coaches about the sports performance of the teams. For the statistical processing of the data, the SPSS 12 software package is used. With the execution of this program, it is intended to provide athletes with psychological skills from the behavioral cognitive, which allow them to control the high level of state anxiety against training and skills and in turn optimize your sports performance; It is also considered appropriate to encourage professionals in this area to systematically use Cognitive-Behavioral Techniques.

Keywords---baseball, cognitive-behavioral, pre-competitive anxiety, psychology, volleyball.

1 Introduction

Many sporting activities take place in competitive conditions, in which performance acquires decisive importance. It depends on both professional success and self-esteem or social appreciation, in addition to the prestige of a community or country. All these factors mean that sports performance can be negatively affected due to doubts or fears that arise when they are not considered capable of performing properly and when they think that their abilities are not sufficient to meet the demands of the task.

High performance in sports has always been directly related to psychological aspects. Professionals in this branch who have been working to improve sports performance for several decades have tried to study how the psychological characteristics of athletes influenced their results (García, 2004). Many of the failures were attributed to problems due to anxiety management and others were even listed as "phobia of success". Subsequently, other authors have studied anxiety more intensely and how it affects sports performance; Studies and research conducted in this area refer to a directly proportional relationship between the high degree of anxiety and the deterioration of sports performance (Rodríguez *et al.*, 2020). Likewise, other researchers point out in a related study that athletes with a high degree of anxiety do not have coping skills, presenting negative behaviors, feelings of guilt, defeatist attitudes, and performance errors are overrated by interpreting in a much more severe way than athletes. With low anxiety

(Weinberg & Gould, 1996). From the statistical point of view, the existence of a negative relationship between the state of anxiety and the degree of sports performance is announced, in the sense that athletes who have a higher degree of performance have more moderate anxiety and state traits than athletes of lower performance. A high state of anxiety can cause reactions such as fear, anger, irritability, worry or guilt; This is identified with a series of physical and psychological symptoms, reaffirming that this symptomatology generates negative effects on sports performance, especially on the ability to make decisions, whose influence is decisive in an activity where action alternatives must be decided in a short time. Moments of time (Buceta, 2003). Precompetitive anxiety syndrome is one of the causes that affect performance, its control by the subject appears as one of the most important pillars on which the ideal state of sports performance in the competitions is based.

A large group of researchers develops questionnaires or anxiety scales specifically for sport, considering them better predictors of behavior and manifestations of anxiety in this field and in correlation there is a tireless work to establish more effective strategies for anxiety management on the sport (García, 2004). Several countries such as the United States, Spain, Canada, Italy, and Holland, Australia have developed intervention strategies since Cognitive-Behavioral Therapies, a therapeutic current that has had the greatest impact since the second half of the 20th century, due to its harmless effect and the possibility that can give individuals to acquire new forms of coping. The use of Cognitive-Behavioral Techniques in the clinical area has been wide and well recognized in terms of its effectiveness, in the treatment of various psychological disorders (Izquierdo, 2005; Mora *et al.*, 2003). In International Sports Psychology, several authors who have studied for years the incidence of anxiety in sports performance, have continued to investigate the effectiveness and effectiveness of some Cognitive-Behavioral Techniques for managing it, so the literature includes studies conducted in athletes of individual disciplines, applying a Comprehensive Cognitive-Behavioral Model with techniques of Relaxation, Visualization and Activation; Other research has identified and modified irrational thoughts in middle-class athletes. In Cuba, different studies have been carried out, some of them related to anxiety levels and stress response in Cuban athletes, as well as anxiety and its relations with the degree of sports performance (González, 2001 & Chang & Torres, 2019). In Santiago de Cuba, Relaxation, Visualizations as well as some incipient studies related to the use of Rational Behavioral Emotional Therapy in Sport have been used interchangeably, supported by the Albert Ellis study center in the United States, which is why this proposal Training would constitute a frame of reference for future interventions in sports with balls, assuming positive results with the application of the same.

Taking into account the demonstrated influence of psychological preparation in good sports performance and the demands that are increasingly demanding, it has become a challenge for psychologists to delve into the search for interventions that are replicable and effective in the preparation of our athletes, as well as providing them with psychological resources that contribute to their sports excellence (Pérez & Dionisio, 1996). During the final stage of the general preparation of the Baseball and Sala Volleyball school teams, certain somatic and behavioral symptoms of state anxiety were observed, which were corroborated by the psychometric results of the techniques applied in this period. Knowing that one of the variables that negatively affect athletic performance is the state of high anxiety, it is in our interest to implement a training program in Cognitive-Behavioral Techniques for the control of precompetitive anxiety in these teams. The present work aims to design a training program with Cognitive-Behavioral Techniques for the control of precompetitive anxiety in the School Volleyball and Baseball school teams (García, 2003; Horse, 2001). Thus, specific objectives are determined to ensure that athletes become familiar with the use of these techniques and recognize their benefits for sports performance in general, as well as promoting adequate regulation of the high level of anxiety manifested by them.

2 Materials and Methods

A training program in Cognitive-Behavioral Techniques is carried out in the teams of the school category of Hall and Baseball Volleyball of the School of Sports Initiation "Orestes Acosta" of Santiago de Cuba, which met the requirements established for This program, in the period from February to May 2016. The work universe is made up of 42 athletes, which is the absolute enrollment of each of the Sala and Baseball Volleyball teams. This training program focuses on a specific area "the sport of collective participation competition", in which the human factors involved are, on the one hand, and directly, the athletes themselves and, on the other, coaches or technicians, executives and audience attending the competition show.

These two teams express common characteristics:

- a) Psychological characteristics. Regarding the psychological characteristics, we can confirm that the population under study have great similarity in factors such as sports motivations, interests and expectations.

- b) Biological characteristics. Personal characteristics such as sex and physical aptitudes.
- c) Social characteristics. They constitute the fundamental and priority basis for choosing this study based on the fact that our athletes all belong to the same sports category.

All are trained in the use of the proposed Cognitive-Behavioral Techniques (CBT). The program is carried out with the consent of the Department of Psychology of the Provincial Center of Sports Medicine (CEPROMEDE) and the School of Sports Initiation "Orestes Acosta" of Santiago de Cuba. Inclusion criteria for the study population: athletes of the male volleyball room and baseball school category of the "Orestes Acosta" Sports Initiation School; suitable for training, according to the coach's criteria;

- a) Exclusion criteria: athletes from another category (youth, social); Female athletes.
- b) Exit criteria: Lack of systematic sessions (incurring three or more absences); voluntary abandonment by the athlete.

Methods used unstructured observation. It is done with the aim of detecting possible manifestations of anxiety (increased motility, blockages, incoherence, rigid and expectant posture, position changes, continuous movement of feet, and hands, salivation, excessive swallowing, sweating, tears, agitated breathing, stuttering and distractibility) during the development of the sessions, training, stops and competitions. Terrain tests It is a set of methods, research techniques that are applicable to the athlete on-site and under the conditions of training and competition. It has a practical nature, they are quick to do, they are applied according to the sport and it has specific objectives. The tests that we will take into account for our program will be the Pulsometry (it is performed with the use of a stopwatch, to record the athlete's heart rate between 10 and 15 seconds, where the average is approximately 15 to 17), the respiratory rate (the number of times he breathes between 10 and 15 seconds is taken) and the appreciation of time (based on the fact that the temporal appreciation is affected by states of excitation or inhibition, with the use of a stopwatch the athlete is asked when he thinks he has certain time in seconds), because it will allow us to know the occurrence of the physiological changes of athletes.

Semi-structured psychological interview. It is done to athletes before starting the program with the objective of deepening, according to their own references, in the most common thoughts, emotions and behaviors that they have experienced in situations that generate anxiety during periods of training and competitions. They will be qualitatively evaluated according to the athlete's own reference in:

- a) States and positive thoughts: when the athlete experiences a feeling of well-being, optimism, self-confidence, self-control, self-discipline, combativeness, creativity, and motivation both in training and in competitions. Taking into account the answers in the interview questions, they are aimed at this.
- b) Negative states and thoughts: when the athlete manifests apathy, demotivation, disinterest, dejection, pessimism, lack of self-confidence, low self-esteem: hopelessness, fear, anger, and indifference. Taking into account the answers in the interview questions, they are aimed at this.

Spielberger anxiety test. Questionnaire of 15 items in which the answers are framed in a scale of values from 1 to 4, from which the athlete will choose the answers according to the intensity with which he presents the cited symptoms. It is used to measure situational anxiety, at the beginning and after the end of the program. Automatic Journal of Automatic Thought (RDPA). During the development of the sessions, thoughts and states related to sports performance are controlled. It will be used to detect cognitive dysfunctions in relation to their emotional state and behavior in situations of anxiety in training and skills. It is oriented from the first meeting with the athletes and is reviewed during the development of all the sessions. They will be given a sheet divided into different columns corresponding to situations, thoughts, emotions, and behaviors. You are guided that when you experience an unpleasant emotion (you are shown a list of emotions each clearly explained, in order that they can identify themselves, in a better way), write down the situation that seems to "trigger" the emotion and What do you think, then record how you act under those circumstances (what you did or said).

They will also be explained that an order is not necessary for the completion of the Registry. This protocol is in the care of athletes, they will be asked to try to collect that information once or twice a day. Once the dysfunctional thoughts are identified and work is done to replace them, athletes are asked to add new interpretations to the same situations in this register. By means of a subjective scale registered by the coaches (two for each team), the global improvement of the sports performance is valued, taking into account the technical actions carried out during the training, stops and competitions of each of these sports.

- a) Volleyball: serves, passes, blocks, shots, receipts, and fouls.
- b) Baseball: defensive and offensive errors, timely batting, offensive average, driven races, punches received and propped, bases for balls awarded.

It is important to emphasize that the usefulness of this program can also be corroborated by comparing the results of the psychometric tests (IPED, APC) performed before starting and at the end of the program, given that

psychological indicator that is essential for good sports performance. The IPED reports the behavior of seven psychological indicators (self-confidence, negative strength, attention control, visualization control, motivation, positive energy, activity control), related to sports performance and evaluated through the following qualifications: need Help, improve and excellent skill. The APC consists of 28 questions referring to how the athlete feels willing for the next competition. The following indicators are evaluated: Strength certainty, Meaning of the competition, Orientation towards the opinion of others, Assessment of the strength of the opponent.

After applying the diagnostic techniques described above, the training with cognitive-behavioral techniques is applied. The sessions take place in a cool place, of course, they are oriented to athletes who came with baggy clothes to perform the relaxation exercises. With a periodicity of twice a week and for four months this treatment is carried out in 33 sessions with a duration of approximately one hour. The first session includes everything related to the framing, which is why, from day one, the filling of the Daily Registry of Automatic Thought (RDPA) is oriented; the eleven subsequent sessions include training in the long relaxation speech and phase 1 and 2 of Cognitive Restructuring begin to be applied; in the other ten sessions, the training in relaxation is continued with the medium discourse and the development of phase 2 of Cognitive Restructuring continues; from the twenty-third session until the penultimate session, the shortest discourse of relaxation is worked on and phases 3 and 4 of the Cognitive Restructuring are developed, in all these sessions the Daily Registers of Automatic Thoughts are verified and also oriented, to add the new interpretations until the last session; At the end the closing session takes place. The statistical analysis will be carried out using the SPSS version 12 computer package with a 95% confidence level.

3 Results and Discussions

Through the interviews carried out, it is observed that in both teams' emotions such as pessimism, defeatism, low self-confidence, insecurity, underestimation of their own abilities, tension, irritability, fear, and frustration prevail. The most frequently referred thoughts are: - I have to gain the confidence of the coaches to be able to team up, - I can't control myself at the start of the competitions, - I'm not at my best, - Sometimes I think I'm going to get injured, - I can't quickly overcome my past mistakes, I cannot concentrate when I need it most, - If I do not make a team I will be a failure, - I think my nerves will betray me, - Coaches must understand me, - The decisions of the referees never favor us, - I can't afford to stay out of the team, - I must reach the national team. The solutions they generally offer to conflictive and stressful situations are Relax (any action other than Relaxation techniques); inhibit within training and even in competitions; absent from training and/or participate in them with a low level of effort; fight with his teammates and even with the coaches; get away from the group; try to work harder in training; blame others for their failures.

It is worth highlighting an aspect that attracted attention powerfully and that almost all the members of both groups fail to identify the causative agents of their own negative thoughts and emotions. These impressions reinforce the need to carry out intervention strategies that allow modifying those psychological references that hinder the good performance of the athlete and the team in general. The results of table 1, are obtained through the Spielberger Test where the level of an anxiety state is collected before starting the program, resulting in more than 70% of the athletes of both teams, evidencing insufficient psychological skills for handling of anxiety.

Table 1
Levels of situational anxiety before the intervention in both teams

Levels of Anxiety	Volleyball Hall	%	Baseball	%
High	9	75	21	70
Normal	2	16	4	13
Low	1	8	5	16
Total	12	100	30	100

In relation to what was obtained The IPED states that in the two teams, taking into account the seven indicators evaluated by the Test, the most representative percentage is in need of help, this being an element that would be detrimental to the sports performance of these teams. In the APC test, observe in both teams' the trend of the indicators evaluated against a possible good sporting performance. It reiterates difficulties in self-confidence.

Training with Cognitive-Behavioral Techniques

During the initial phase, a little resistance is offered because the learning of the techniques is complex, especially where each adolescent must make use of reflection, analysis, interpretation of their own thoughts. However, a gradual empathy and an upward interest in getting involved in the program is achieved since the importance of using these techniques in improving sports performance has been addressed in each session. The program has two rating scales. It is satisfactory when normal and low levels of anxiety prevail, the cognitive modifications are noticeable and/or slight and when the evaluation of sports performance provided by the coaches is average and/or high. It concludes unsatisfactory if the high level of anxiety prevails, remains without cognitive modification or worsens and if the evaluation of sports performance is evaluated as low. At the end of the planned sessions, once again, the diagnostic techniques are applied to evaluate possible modifications in the pre-competitive anxiety states, thus determining important advances. Note in the Graph in figure 1 the transformation in both teams.

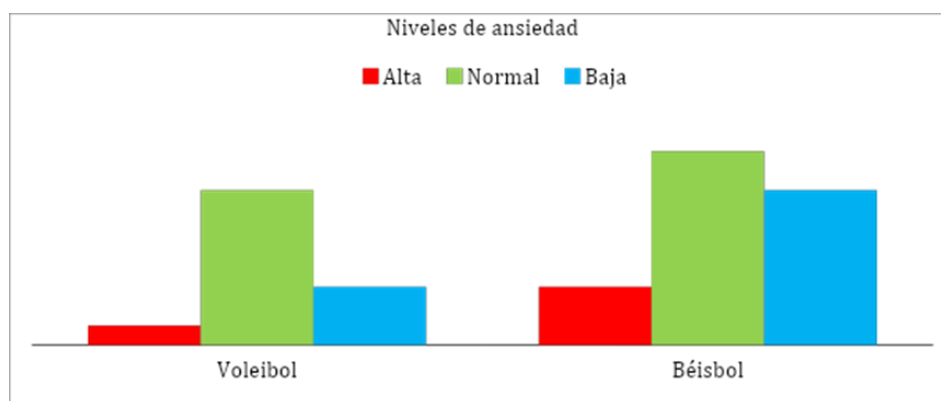


Figure 1. Levels of situational anxiety after the intervention

With the literature review carried out, the trait-state theories of Spielberger and the multidimensional models where physiological, cognitive and behavioral are interrelated are taken as references. The training implemented obtained a satisfactory response in the athletes who were part of the sample.

4 Conclusion

In the initial diagnosis made in the Volleyball and Baseball athletes, the high level of anxiety and difficulties prevailed in other psychological indicators (self-confidence, motivation, and attention), they directly intervene in sports performance, to decrease the high levels of Anxiety detected a training program was designed, with the combined use of Jacobson's Progressive Muscle Relaxation and Cognitive Restructuring.

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