34 - PSYCHIC STRESS IN VOLEYBALL´S YOUNG ATHLETES: ANALYSIS OF SITUACIONS OF COMPETITION

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INTRODUCTION

In the competitive sports of high performance athletes are exposed to various stressful situations (Noce and Samulski, 2002). The performance requirements, positive results, maintenance of sponsorship and others, may be responsible for humor changes and even mental disorders which compromise the performance. De Rose Jr. et al. (2004) ensure that from the multiple opportunities for interaction of the individual, the sporting atmosphere is where they meet many challenging and / or threatening situations. In it, athletes are constantly interacting with the physical media itself (location of game, equipment and materials) and with others, directly or indirectly related to the competitive process (of team mates, opponents, technicians, referees, fans and press). Barbosa and Cruz (1997) attest that in sports, the stress occurs regardless age, sex, specific position or competitive level of the athletes. It may be positive for a need to get or keep a favorable activation before and during the event, leading the athlete to focus energies to achieve his goals. But in most of the times it is negative, derived from external pressures or of the individual, making the situation a threat to their welfare to self-esteem impairing the performance.

In competitive volleyball like in other sports, athletes often suffer adverse situations such as pressure from fans, the technician charging, by colleagues and for results (Noce, 1999). Noce, Greco and Samulski (1997) explain that volleyball is an extremely dynamic sports mode, which requires motor skill, precision and great regularity in the performance of its foundations. The domain of different combinations of moves and quick thinking may trigger a set of requirements that would generate very stressful situations. These conditions possibly compromise the player to express a negative reaction to stress and impair its performance. De Rose Jr., and Korsakas Deschamps (1999) emphasize that the well prepared athletes, the competition tends to be challenging and positive to their performance. But for those who cannot demonstrate the minimum requirements, it will represent a threat to their physical, psychological and social well-being, causing high levels of stress and turning into a negative factor and reducing performance.

As De Rose Jr. (1998) exposes stress is a factor that has increasingly been studied to examine certain behaviors expressed by athletes. Recent studies in the area of sports psychology show that the good performances of the teams are not always fundamental for the maintenance of the necessary balance so that the players know how to cope with the losses (Gouveia et al., 2006). Voser and Campani (2003) afirm that the psychological stress operates mainly in situations where there are uncertainties, lack of information, overload of information, lack of conduct to cope and manage it. Bompa (2002) examining the timeline and training methodology, emphasizes how important and necessary a psychological training is to ensure a high physical performance. Bueno and Bonifácio (2007) evaluated the present vitality state in volleyball athletes during a competition. 24 athletes were registered for completing the list of present vitality state (Engelmann, 1986) during the games. It was concluded that changes in the vitality state are related to the activation of specific psychological processes, linked to the context of the games. Studies show that to collect certain information the use of questionnaires for self-evaluation is an important option. The POMS (Profile of Mood States), has been a widely used tool for research. Leuna and Burger (1998) mentioned by Coelho (2008), identified 258 studies published in journals in the period from 1971 to 1998.

Despite the greater effort devoted to adult athletes, minor has been dedicated to athletes in training. Being an important area of research, the research is helping to determine situations in which young athletes are more vulnerable or which conditions produce the negative psychological stress. The lack of concern with psychological training and the involvement of mental elements of negative variables during a race make the yield susceptible to a fall.

The study has the aim to evaluate, through the Psychic Stress Test (TEP) developed by Samulski and Chagas (1992), which competition situation causes greater psychological changes in young volleyball athletes.

METHODS

The study included 169 young volleyball athletes (women n = 82 and n = 87) 16.08 ± 0.67 years old and 3.48 ± 1.48 years of experience in the sports modality from several teams of the cities Arantina, Barão do Monte Alto, Barbacena, Carangola, Juiz de Fora, Leopoldina, Muriaé, Ponte Nova, São João Del Rey and São João Nepomuceno which are located in regions of the Zone da Mata and Campo das Vertentes of Minas Gerais. With the concern that the teams involved belong to SR3 - Regional Bureau 3 of the Mineira Federation of Volleyball (FMV), we initially contacted the entity exposing all objectives and procedures adopted in the study, asking for permission and the necessary help to the implementation of it. Later we contacted the technical committee of each team involved, pointing the purpose of carrying out the research. The questionnaires of this study were applied in the Competition Phase of the teams, always before the beginning of the games. There was a brief previous explanation of its filling, explaining any doubts.

For an attempt of maximizing the reliability of the answers, a collection of information was accomplished using the questionnaire POMS (Profile of States of Humor) of Mcnair, Lorr and Droppleman (1971) mentioned by Coelho (2008) in the previous moment in that they were submitted to the evaluation by the Psychic Stress Test (TEP) of Samulski and Chagas (1992). With this procedure we analyzed the state of humor of the subjects submitted to the research. The questionnaire POMS is composed by 65 items that verify the humor state through 6 factors: Tension, Depression, Anger, Energy, Fatigues and Confusion. Through the "Psychic Stress Test" (TEP) the athlete was evaluated in 29 diverse situations of competition where each situation was analyzed in a scale of category of 7 values: (+3) very positive influence, (+2) positive Influence, (+1) a little positive influence, (0) No Influence, (-1) a little negative influence, (-2) negative Influence and (-3) very negative influence.

The results of the POMS were used as a criterion for identification of individuals who do not fit into an ideal pattern previously established by the study of Peluso (2003) called Iceberg Profile or Profile of Mental Health. Athletes who fall into this pattern were in the state of humor able to perform a self-assessment of Psychic Stress Test (TEP) and were used as a sample of this study. The study began with 169 individuals. However, 124 (women, n = 58 and men, n = 66) met the inclusion criteria required for participation in the study, with the average standards in the POMS test suggested by Peluso (2003). This group presented age of 16.06 ± 0.74 years and 3.31 ± 1.60 years of experience in the sport.

To establish an intern validity with the POMS questionnaire, techniques of descriptive statistics were accomplished

(average and deviation-pattern). The options of answer of the TEP test were grouped in 3 groups: negative, neutral and positive. We just classified the situations where the results reached at least 51.0% of negative answers, what turns it larger than the sum of the other two possibilities of replicas. In case of same prevalence for varied negative answers, it was used as criterion of decision the largest incidence in the scale (-3), (-2) and (-1) successively. Through the software SPSS 16.0 the analysis of independent ANOVA was accomplished searching for evaluating the difference among the 3 groups of answers, always assuming $p < 0.05$.

The study obeyed the ethics criteria in researches with humans, resolution no. 196, of October 10, 1996 (CNS). All the participants were informed on the experimental procedures, they accepted voluntarily to participate in the research and agreed through written consent, and for the younger than 18 the consent term was signed by the responsible people.

RESULTS

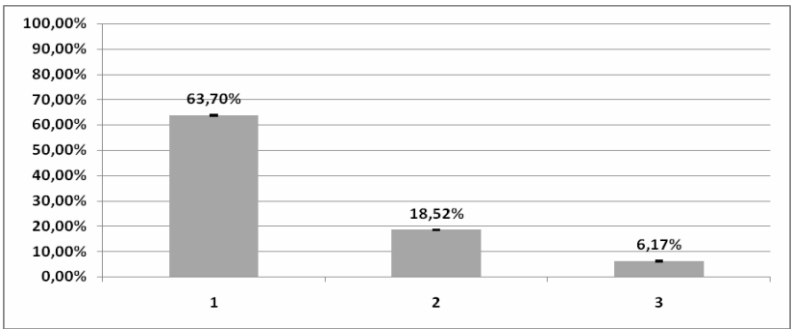
In the table 1 the general results of POMS are presented for all the teams of the collection. With the athletes' medium result, it is possible to create a representation which allows us a general interpretation of the humor state before the accomplishment of the questionnaire TEP.

Table 1 Factors used for the assessment of the mood of the athletes on the basis of the POMS questionnaire and the average obtained in each of the criterions.

FACTOR	MEAN	STANDARD DEVIATION
Tension	9.01	4.04
Depression	3.51	4.27
Anger	5.28	4.33
Vigor	21.82	5.31
Fatigue	5.23	4.22
Confusion	3.94	2.91

Graphic 1 expresses in general percentage the 29 situations in 3 groups of answers to TEP: negative, neutral and positive.

Graphic 1 General TEP with average and standard deviation of all the negative (1), neutral (2) and positive (3) answers



Significant difference among the answers negative, neutral and positive presented by the athletes ($p < 0.001$) was found. Significant difference between the negative and neutral answers ($p < 0.001$) and between the negative and the positive ones ($p < 0.001$). We didn't find significant difference between the neutral and positive answers ($p = 0.85$).

In the table 2 it is exposed the classification of the competition situations and its percentage of negative influence in the self-evaluation of the athletes involved in this study.

Table 2 Classification of situations, number of responses from negative influence (Nr) and percentage (%r) from each of them in relation to 3 groups of answers (negative, neutral and positive)

CLASSIF.	ITEM	SITUATION	Nr	%r
1ÿ	27	Play the game hurt	111	89.52
2ÿ	14	Conflicts with his companions	107	86.29
3ÿ	10	Fitness inappropriate	107	86.29
4ÿ	28	Hurt during the game	107	86.29
5ÿ	11	Inadequate technical-tactics preparation	103	83.06
6ÿ	29	Excessive nervousness	101	81.45
7ÿ	22	Inappropriate conditions to play	100	80.65
8ÿ	21	Be harmed by judges	99	79.84
9ÿ	12	Lack of psychological preparation	99	79.84
10ÿ	17	Bad returns in training	98	79.03
11ÿ	04	Sleeping poorly the night before	94	75.81
12ÿ	02	To miss throws at the end of the game	93	75.00
13ÿ	13	Conflicts with the coach	90	72.58
14ÿ	01	To miss shots early in the game	86	69.35
15ÿ	15	Conflicts with family	85	68.55
16ÿ	16	Good performance of adversary	71	57.26
17ÿ	23	To have lost to the same opponent more than 1 time	70	56.45
18ÿ	06	The opposing team is the favorite one	70	56.45
19ÿ	07	Pressure from other people to win	64	51.61

DISCUSSION

This study analyzed through the questionnaire TEP which negative factors are considered of larger prevalence for the alteration of the psychic stress in young volleyball players. The collection was accomplished in individuals with the age group of 16.06 ± 0.74 years old and experience of 3.31 ± 1.60 years of practice in the modality. This classification turns the same ones able to accomplish in a calm way the self-evaluation proposed by this study (De Rose et al., 2004).

The numbers in Table 1 show that the athletes who were appropriate to the inclusion criterion obtained an average

very similar to the ideal average proposed by Peluso (2003) for the State of Humor: Tension = 9.07, Depression = 3.70, Anger = 5.65, Energy = 20.05, Fatigue = 4.01 and Confusion = 4.87. This profile is usually found in athletes, where the scores of the negative scales are inferior of the average of the population and the score of the scale "Energy" is above, constituting thus the illustration of the "iceberg" pattern. Our sample is also well considered if compared with the group of Race practicing studied by Szabo (2003) that found the following before-exercise values: Tension = 9.91, Depression = 8.25, Anger = 7.78, Energy = 14.47, Fatigue = 9.44 and Confusion = 7.22.

In the result of TEP exposed in the graph 1, it was found that in face of the 29 situations, there was a larger number of answers of negative influence than the sum of the neutral and positive influence answers. The general average of the answers was of negative 60.37 ± 0.24%, neutral 18.50 ± 0.13% and positive ones 21.13 ± 0.20%. In relation to the main objective, we found 19 situations where the negative answers prevail of the neutral and positive ones what take them with percentile of at least 51.0%. However, after the decreasing classification of these exposed situations in table 2, we found a number of 7 situations with prevalence of negative answers from 80.0% of the athletes. What satisfied us to predict that these are in fact the situations that cause larger negative psychic stress in this group of participants.

The situation of larger negative percentile we found was to "To enter the game hurt" with 89.52%. In the group used by De Rose et al. (2004), this situation was only the 13th in the classification. We observed as hypothesis that this difference between the two studies happens because the athletes used in this research participate only in municipal and regional competitions. The other group has participation of 45.74% in state competitions, 38.29% in national and 13.82% in international ones demonstrating thus a larger experience, what makes possible to them to know how to cope with the game even if they started hurt. The situation "Conflicts with the companions", 2nd in our classification with 86.29%, was considered in prominence in the study of De Rose et al. (2004), that classified it in the 4th. This discovery leads us to the thought that independently of the competitive level, an appropriate integration among the members of the same team is important for the collective yield.

The situation that harms the most in the psychic stress classified by De Rose et al. (2004) is to "To make mistakes in a decisive moment", however our sample classifies it in the 12th with 75.00%. We have as presupposition that this difference happens because any team that makes mistakes in decisive moments in competitions at national and international level has consequences. However in lower levels of competitions, like regional and municipal ones, it is not always that the opponent is able to stand out with such opportunity. We also detached that the situation "Lack of psychological preparation" classified only in 9th in this study, demonstrates how the involved teams don't possess certain concern with the psychological preparation of their young athletes, because the same ones evaluated that this situation doesn't cause so much effect on them.

In order to have a larger scientific contribution in this area, we suggest more longitudinal studies for accompaniment of the teams during a whole season, focusing larger samples and a larger inclusion area in the state. Studies that should have as precaution, the moment of the collection, so that there is not a high index of loss of it in relation to criteria of delimitations. We hope finally, that this study is of great contribution so that the volleyball teams of Zona da Mata and Campos das Vertentes can rethink in a clearer way about the psychological preparation of their young athletes. So that the same ones can enjoy a better acting with more efficiency and minimizing a future concern with these athletes still in their formations.

CONCLUSION

For this group studied, we concluded that the main situations that can trigger negative consequences for the performance are to enter in the game hurt, to present conflict with the companions, to be with inadequate physical conditioning and to hurt during the game. These situations presented can be solved during the training stage through a good physical, technique and psychological preparation. The psychological preparation is still more important it is the athlete's interpretation for the situation in which he is inserted and his consequent action in answer during the game.

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PSYCHIC STRESS IN VOLEYBALL´S YOUTHFUL ATHLETES: ANALYSIS OF SITUACIONS OF COMPETITION
ABSTRACT

The psychic stress is a theme that is being quite discussed in sporting psychology.
The objective of this study was to verify which competition situations cause larger psychic alteration in young volleyball athletes. 124 young athletes of 16,06 ± 0,74 years, of SR3 of the Federação Mineira de Voleibol participated in this research. We used as inclusion criterion a "profile iceberg" pattern presented through the POMS questionnaire. The results indicate that the situations that generate more negative psychic stress are: To enter the game hurt (89,52%), Conflicts with the companions (86,29%), inadequate physical Conditioning (86,29%), to hurt during the game (86,29%), inadequate technique-tactics preparation (83,06%), Excessive Nervousness (81,45%) and inadequate game Conditions (80,65%). The psychological preparation concerns the athlete's interpretation for the situation in which he is inserted and his consequent action answer in the game.
Keywords: psychic stress, volleyball, young athletes.

STRESS PSYCHOLOGIQUE CHEZ LES JEUNES ATHLÈTES DE VOLLEY-BALL: ANALYZE DE LA SITUATION DE CONCURRENCE
RÉSUMÉ

Le stress psychologique est une question qui a été largement discuté parmi les psychologie du sport. Cette étude constate que la concurrence entraîne une augmentation des situations de changement psychologique chez les jeunes athlètes de volley-ball. Ont participé à cette recherche 124 jeunes athlètes de 16,06 ± 0,74 ans, la SR3 de la Fédération de volley-ball des mineurs. Il a été utilisé comme critère d'inclusion dans un "profil de l'iceberg", présenté par la poms questionnaire. Les résultats indiquent que les situations qui génèrent plus négatifs de stress psychologique sont les suivants: Joignez-jeu mal (89,52%), les conflits avec leurs pairs (86,29%), l'insuffisance de conditionnement physique (86,29%), a été blessé au cours de le jeu (86,29%), technique-tactique de préparation insuffisant (83,06%), de la nervosité excessive (81,45%) et l'insuffisance des conditions de jeu (80,65%). La préparation psychologique porte sur l'interprétation de l'athlète de la situation dans laquelle il est inséré et sa réponse en conséquence de l'action dans le jeu.
Mots clés: stress psychologique, le volley-ball, les jeunes athlètes.

ESTRÉS PSICOLÓGICO EN ATLETAS JÓVENES DE VOLEYBALL: ANALIZA SITUACIONAL DE LA COMPETICIÓN
RESUMEN

El estrés psicológico es una cuestión que ha sido ampliamente debatido entre la psicología del deporte. El objetivo este estudio fue verificar que situación de alteraciones psíquicas más grandes de la causa de la competición en atletas jóvenes del voleibol. Habían participado de esta investigación 124 atletas del 16,06 ± 0,74 años, de la SR3 da Federación Mineira de Voleibol. Se utilizó como criterio para su inclusión en una norma “perfil iceberg” presentadas a través del cuestionario POMS. Uno se encontró que habían sido las situaciones que más generan la negativa estrés psicológico: Para entrar en el juego del daño (89,52%), conflictos con los compañeros (86,29%), la falta de acondicionamiento físico (86,29%), lastimarse durante el juego (86.29%), falta de preparación técnica - táctico (83,06%), Gran nerviosismo (81,45%) y la insuficiencia de las condiciones de juego (80,65%). La preparación psicológica se refiere a la interpretación de la atleta de la situación en la que se inserta y su consiguiente respuesta de acción en el juego.
Palabras llaves: Estrés psicológico, voleibol, atletas jóvenes.

ESTRESSE PSÍQUICO EM JOVENS ATLETAS DE VOLEIBOL: ANÁLISE SITUACIONAL DE COMPETIÇÃO
RESUMO

O estresse psíquico é um tema que vem sendo bastante discutido junto à psicologia esportiva.
O objetivo deste estudo foi verificar quais situações de competição causam maior alteração psíquica em jovens atletas de voleibol. Participaram desta pesquisa 124 jovens atletas de 16,06 ± 0,74 anos, da SR3 da Federação Mineira de Voleibol. Utilizou-se como critério de inclusão um padrão “perfil iceberg” apresentado através do questionário POMS. Os resultados indicam que as situações que mais geram estresse psíquico negativo são: Entrar no jogo machucado (89,52%), Conflitos com os companheiros (86,29%), Condicionamento físico inadequado (86,29%), Machucar-se durante o jogo (86,29%), Preparação técnica-tática inadequada (83,06%), Nervosismo Excessivo (81,45%) e Condições de jogo inadequadas (80,65%). A preparação psicológica diz respeito à interpretação do atleta para a situação na qual está inserido e sua conseqüente resposta de ação no jogo.
Palavras-chave: Estresse psíquico, voleibol, atletas juvenis.