
BURNOUT SYNDROME IN YOUNG FEMALE VOLLEYBALL ATHLETES PARTICIPANTS OF THE BRAZILIAN CHAMPIONSHIP TEAMS

SÍNDROME DE *BURNOUT* EM ATLETAS INFANTO-JUVENÍS E JUVENÍS DE VOLEIBOL FEMININO PARTICIPANTES DO CAMPEONATO BRASILEIRO DE SELEÇÕES

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RESUMO

O Voleibol é um dos principais esportes do Brasil e para atingir bons níveis competitivos são necessários treinamentos com altos volume e intensidade, que conseqüentemente geram desgastes físicos e psicológicos. O resultado deste processo pode ocasionar um estresse crônico nos praticantes, conhecido como Síndrome de *Burnout*. O presente estudo objetivou investigar a ocorrência desta síndrome em atletas de Voleibol do sexo feminino participantes dos Campeonatos Brasileiros de Seleções no ano de 2013. Foi aplicado o Questionário de *Burnout* para Atletas, respondido por 576 jogadoras ($M=16.4\pm 1.12$ anos). Utilizou-se de estatística descritiva para caracterização da síndrome e o Teste de Correlação Não Paramétrico de Kendall's tau-b para verificação da correlação entre as dimensões do *burnout* e o Tempo de Prática (TP). As atletas apresentaram escores médios de 2.01 ± 0.53 para *burnout* total e correlações significativas com TP de sete anos ou mais, além do TP Geral.

Palavras-chave: *Burnout*. Psicologia. Competição. Estresse.

ABSTRACT

Volleyball is one of the leading sports in Brazil and, in order to achieve good competitive levels, many training sessions are required which consequently generates physical and psychological wear. The result of this process can lead to chronic stress in practitioners, known as the Burnout Syndrome. This study aimed to investigate the occurrence of this syndrome in volleyball female athletes participating on the Brazilian Regional Teams Championship 2013. The Athlete burnout Questionnaire was answered by 576 players ($M = 16.4$ years, $SD = 1.12$). We used descriptive statistics of mean and standard deviation to characterize the syndrome and the non-parametric correlation test of Kendall's tau-b to verify the correlation between the dimensions of burnout and the Practice Time (PT). The athletes presented mean scores (2.01 ± 0.53) for complete burnout and significant correlations with TP of seven years or more in addition to the General.

Keywords: Burnout. Psychology. Competition. Stress.

Introduction

The Burnout Syndrome-related investigation is an incipient study field in Psychology¹; Freudenberger^{2,4} conducted the first investigations in this field back in the 1970s. However, according to Pires et al.¹, Maslach and Jackson⁵ played the leading role in the study about such syndrome, since they developed a theoretical model and an inventory to measure it⁴. They also expanded the investigation to other knowledge fields such as Sports Psychology².

According to Maslach and Jackson⁵, burnout is a construct in three dimensions or subscales called emotional exhaustion, depersonalization and personal accomplishment. These dimensions were adapted to sport by Raedeke⁶ and received the following names: Physical and Emotional Exhaustion (PEE), which replaced emotional exhaustion; Sport Devaluation (SD), which replaced depersonalization; and Reduced Sense of Sport Accomplishment (RSSA), which replaced reduced personal accomplishment.

Volleyball is currently one of the most successful sports in Brazil. It becomes evident due to the high number of practitioners - estimated 15.3 million⁷ - and to the results achieved in professional sports, for instance, the two male and female Olympic titles⁸. With respect to competitive sports, the focus on the achievements leads to a massive training routine combined with short recovery periods. Such overload leads athletes to high stress and exhaustion levels^{9,10}. Studies about stress in Volleyball have shown such reality, in which, as a last resort, young athletes make the option to change to other modalities or even to abandon the sport^{11, 12,13}.

Several factors, such as high expectations, pressure from parents and coaches, the obligation to win at all costs, repetitive and excessive training, as well as injuries are associated with stress and burnout in young athletes⁹. This syndrome has become increasingly common among athletes and it is featured as individual, complex and multifaceted¹⁴⁻¹⁶. Studies about burnout in sports are recent; the first ones were conducted in the last decade and were mainly focused on athletes, coaches and referees^{1,2,11,14,15,17,18}. According to Pires et al.¹⁹, burnout may be caused by the mismatch between the athletes' expectations and goals towards the sport and the psychological, physical and social demands of the sport in question.

Thus, the current study is justified by the need to analyze the impact of excessive stress and Burnout Syndrome on young people subjected to different demand levels, since these factors may lead athletes to change to other modalities or even to abandon the sport. The study is also relevant due to the need of better understanding the syndrome, as well as its causes, consequences and ways of prevention, especially in female volleyball athletes playing in Brazilian formative-category teams, since studies on the topic are scarce in the Brazilian sport¹. Thus, the aim of the current study is to investigate the occurrence or the non-occurrence of total burnout and the perception of its dimensions. It also aims at correlating the Practice Time (PT) to the incidence of Burnout Syndrome in female Volleyball athletes participating in the 2013 Brazilian Teams' Championship (CBS - Campeonato Brasileiro de Seleções) in the Children and Adolescent (under-16) and Juvenile (under-18) categories of the 1st and 2nd Divisions.

Method

Sample

The sample comprised 576 female athletes from 48 state volleyball teams who participated in the four CBSs, in the 1st and 2nd divisions, in 2013, in the under-16 and under-18 categories. Their mean age was 16.4 ± 1.12 years and the mean PT was 7.18 ± 1.19 years.

Instruments

The "Athlete Burnout Questionnaire" (ABQ)²⁰ was herein used in its Portuguese version, "Questionário de *Burnout* para Atletas" (QBA), which was translated and adapted to the Brazilian reality by Pires et al.¹⁹. The questionnaire comprises 15 items that assess the frequency of burnout-related feelings. The respondent is ranked in a Likert-type scale and the scoring from 1 to 5 indicates how often the athlete experienced such feeling during the season: 1 means "almost never"; 2, "rarely"; 3, "sometimes"; 4, "often"; and 5, "almost always". The intermediate results, which refer to the intervals between the scores, presented the following classification, according to the value obtained in the QBA: from 1.01 to 1.99,

"almost never" to "rarely"; from 2.01 to 2.99, "rarely" to "sometimes"; from 3.01 to 3.99 "sometimes" to "often"; and from 4.01 to 4.99 "often" to "almost always"^{19,21}.

The results assigned to each scale were calculated based on the arithmetic mean of the responses to the 5 elements that corresponded to each burnout dimension, as well as on the total burnout value obtained through the arithmetic mean of all 15 instrument items. The scores were interpreted through the variation in the frequency of feelings, according to which, if an athlete gets 2.5 in one dimension, it can be said that he/she presents feelings associated with such subscale, which ranges from "rarely" to "sometimes". The authors of the instrument, Raedeke and Smith²⁰, suggested the result-obtainment method based on the mean, as well as on its interpretation.

Procedures

The study was conducted in Brazilian cities that hosted the female CBSs of the 1st and 2nd divisions (under-16 and under-18 categories), in 2013. The questionnaires were applied during the competitions. The researchers, as well as the team coaches, personally approached the athletes who individually filled out the questionnaire in a private room and without time pressure. Athletes took approximately 15 minutes to fill out the questionnaire. The involved athletes had no expenditure in the research.

The data collection was authorized by the CBSs delegates, by the coaches of the participating teams, and by the athletes who voluntarily participated in the study.

Ethical considerations

The study was approved by the Ethics Committee on Human Research of the Federal University of Lavras/Minas Gerais State, under CAAE number 08172912.5.0000.5148. During the data collection procedure, the athletes and/or their legal guardians (for those under 18) were required to sign the Free and Informed Consent Form (IC), according to CNS resolution n. 466/12, in order to authorize the investigation. It allowed disclosing the gathered information without inconveniences. The participants were assured about the confidentiality of the data in the questionnaires. The athletes were never at risk during the conduction of the current study.

Statistical analysis

The data were initially treated through descriptive statistics such as means, standard deviation and percentages in order to feature the Burnout Syndrome. The nonparametric Kendall's tau-b correlation test and its magnitude, which was classified according to Dancy and Reidy²², were used to check the correlation between the syndrome dimensions and the PT. The result obtained through the Cronbach's Alpha (α) was used to check the questionnaire reliability. Overall, the instrument presented $\alpha = 0.862$ for the following dimensions: PEE $\alpha = 0.736$, SD $\alpha = 0.682$, and RSSA $\alpha = 0.629$. The SPSS statistical package, version 20, was used in the analyses at significance level $p < 0.05$.

Results

The burnout and total burnout dimensions in the athletes

The analysis of the results in the current study, which addresses the total burnout in athletes from different age groups and divisions, showed that the results of the under-16 category in the 1st division indicated scale-range from "rarely" to "sometimes" ($M = 2.13 \pm 0.52$), whereas the scores of the same category in the 2nd division ($M = 1.96 \pm 0.47$) indicated scale-range from "almost never" to "rarely". The scores of the under-18 category in the 1st division also indicated scale-range from "almost never" to "rarely" ($M = 1.97 \pm 0.43$), whereas the scores of the same category in the 2nd division fit the "rarely" scale ($M = 2.00 \pm 0.66$). The age group-based analysis showed that the under-16 category had mean score 2.11 ± 0.51 , and scale-range from "rarely" to "sometimes", whereas the under-18 category had mean score 2.00 ± 0.88 and fit the "rarely" scale. The total burnout results ($M = 2.19 \pm 0.53$) rated the athletes in the scale from "rarely" to "sometimes" (Table 1).

Overall, the RSSA showed the highest mean among the three burnout dimensions. All dimensions indicated scale-range from "rarely" to "sometimes". The same order is found in the separate analysis between the age group and the divisions (under-16 category, 1st division; under-16 category, 1st and 2nd divisions together; and under-18 category, 1st and 2nd divisions together). With respect to the under-18 category (1st division), although the RSSA showed the highest mean, the sequence was reversed in the PEE and SD dimensions. As for the under-16 category (2nd division) and the under-18 category (2nd division), the SD dimension showed the highest mean, and it was followed by RSSA and PEE, thus presenting indicative of scale-range from "sometimes" to "often" (Table 1).

Table 1. Featuring the burnout and total burnout dimensions of the 2013 CBS athletes, according to Mean and Standard Deviation.

Category	Total Burnout	PEE	RSSA	SD
Under-16 1 st Division	2.13±0.52	1.78±0.55	2.61±0.47	1.99±1.02
Under-16 2 nd Division	1.96±0.47	2.56±1.18	3.15±1.41	3.36±1.29
Under-16 1 st e 2 nd Divisions	2.11±0.51	2.16±0.99	2.87±1.07	2.65±1.34
Under -18 1 st Division	1.97±0.43	1.72±0.53	2.60±0.43	1.60±0.81
Under -18 2 nd Division	2.00±0.66	2.30±1.09	3.01±1.26	3.21±1.35
Under-18 1 st e 2 nd Divisions	2.00±0.88	2.01±0.90	2.80±0.96	2.39±1.37
Overall	2.01±0.53	2.08±0.95	2.84±1.01	2.52±1.36

Physical and Emotional Exhaustion (PEE); Reduced Sense of Sport Accomplishment (RSSA); Sport Devaluation (SD)
Source: The Authors.

Correlation between Practice Time and Burnout Syndrome

There was weak correlation between PT and burnout in the “7-years-or-more” group ($p = 0.018$), whereas “Overall PT” showed moderate correlation ($p = 0.016$). There was no significant correlation between PT and burnout in athletes who play Volleyball with PT between 0 and 4 years ($p = 0.112$). There was also no significant correlation between PT and burnout in athletes who play Volleyball with PT between 4 and 7 years ($p = 0.089$) (Table 2).

Table 2. Correlation between the Practice Time and the Burnout Syndrome in female athletes playing in the 2013 CBSs. .

Practice Time	n	p	r
0 to 4 years	178	0.112	-0.477
4 to 7 years	271	0.089	0.265
7 years or more	127	0.018*	-0.346
Overall	576	0.016*	-0.472

* Significant correlation at $p < 0.05$

Source: The Authors.

Discussion

The aim of the current study was to analyze the burnout syndrome in female volleyball athletes. Thus, the total burnout scores among the athletes were considered low in the overall result. In addition, numerically different results were found between the age groups and the divisions, and it ranked the athletes in different syndrome classification scales, according to the herein used QBA instrument. Recent studies conducted with dancers, tennis players, rugby sevens and young swimmers in Brazil also found low total burnout values^{14,18,21,23}, thus corroborating the present study. Despite the shortage of studies about indoor Volleyball in the country, Vieira et al.²⁴ found similar results in Beach Volleyball.

The experience and maturity in sports practice may be determining factors to the syndrome. Perreault et al.²⁵ pointed out that greater maturity favors lower burnout levels. The current study corroborates such results, since it found that under-18 athletes showed means lower than the under-16 ones in the overall assessment, although with low scores and at the same scale.

It is worth highlighting that the mean scores for both the total burnout and the three syndrome dimensions were low and mostly ranged from "almost never" to "rarely", and from "rarely" to "sometimes". Such results showed that the athletes in the current study were not at the syndrome risk state and that they cannot be classified as having indicative of severe burnout, since Raedeke⁶ pointed the means between 2.97 and 3.40 as high syndrome values. However, the analysis also showed that the under-16 and under-18 athletes who played in the 2nd division had high scores in the SD and RSSA dimensions. Nevertheless, once these athletes did not present such high values in the PEE dimension, they cannot be classified as having indicative of severe burnout, because it requires high scores in the three dimensions, since the syndrome is multidimensional⁶. The competitions in the 1st division require better technical level and they probably lead to more competitive stress, more pressure and accountability for results. However, according to Perreault et al.²⁵, the experience may help athletes better coping with such situation, thus enabling the obtainment of lower syndrome indicatives. This fact may explain the results specifically obtained in the current study.

By emphasizing the burnout dimension analysis, the current study found that the RSSA, which is related to the athletes' performance skills, has shown to be the most important dimension. It was followed by the SD dimension, which is related to the athletes' negative attitudes towards training and competitions, and by the PEE, which is related to excessive competitions and training. These results corroborate the study by Cresswell and Eklund²⁶, who found that feelings such as reduced sense of sport accomplishment have increased in the precompetitive and competitive phases, whereas the PEE dimension in the current study showed higher overall values. In addition, Casagrande et al.¹⁸ conducted studies with Brazilian tennis players in the formative categories, Costa et al.²³ conducted studies with male and female dancers, Verardi et al.²⁷ conducted studies with soccer players, and Costa et al.²¹ conducted studies with male and female swimmers. All these authors found that the RSSA was the most prevalent feeling. On the other hand, differently from the current study, Sobral et al.¹⁴ conducted a study with rugby sevens' amateur athletes in Brazil and found syndrome symptoms in which the RSSA was not the most important dimension.

It is worth emphasizing that, according to Raedeke⁶, the depersonalization dimension (SD in sports) is the least applicable among athletes because it may represent negative attitudes in their participation in the sport, and that, according to the current study, it was the second most important dimension found in the answers to the questionnaire. In addition, the PEE dimension showed the lowest scores in the current study and was considered the main burnout dimension²³.

By correlating the PT and the burnout syndrome, the current study found significant inverse correlation between practice time and the syndrome in the overall result. It was observed that the higher the practice time in Volleyball, the lower the incidence of burnout symptoms in the analyzed athletes. Other studies have found similar results and indicated positive PT effect on the reduction of stressful situations, since less experienced athletes are prone to higher stress situations^{24,28,29}. Contrary to these results, Casagrande et al.¹⁸ found that tennis players with longer PT showed increased perceived PEE in comparison to those with shorter PT, although such perception was not related to total burnout. It may be explained by the fact that the demands to less experienced athletes are low, as well as their commitment to the sport¹⁸.

Burnout may also be a relevant factor in competitions, especially with respect to the results. Vieira et al.²⁴ conducted a study with Beach Volleyball athletes and found that the teams that got the worst ratings also showed the highest frequency of burnout syndrome-associated behaviors. Since the current study was conducted during the competitive season, it is worth assessing such aspects in order to check whether there will be changes during the training cycle because, as it was seen in literature, the stress and, consequently, the burnout levels increase due to several factors during the competition seasons^{30,31}.

A previous study conducted by Verardi et al.²⁷ showed that the highest burnout rates were found during the competitive season. Thus, since the current study was conducted during a competitive season, it is not possible understanding and extending the herein found results to all sports macrocycle phases, and it can be considered a limitation of the current investigation. Another limitation of the present study lies on the fact that it was carried out in the formative categories, and only with female players. Therefore, further research should be conducted to cover up these aspects. Furthermore, socio-cultural differences were not taken into consideration, since the herein used instrument does not allow making inferences about such aspect.

Finally, the evidences have shown that the burnout syndrome affects the sports-career continuity. Therefore, burnout-related studies are essential to provide subsidies to help coaches better understanding the syndrome, as well as its consequences and ways of prevention, as well as maintaining the health and quality of life of the athletes.

Conclusion

The sample investigated for Burnout Syndrome in the current study showed low burnout and total burnout rates. It indicates low probability of total burnout in volleyball athletes playing in the Children and Adolescents as well as in the Juvenile categories of the 1st and 2nd divisions.

As for the correlation between PT and Burnout Syndrome, the results of the current study suggest that athletes with longer Practice Time tend to have lower syndrome-related symptom levels than those with shorter PT. Thus, it is possible stating that the maturity in sports is not always defined by age and that this aspect should be analyzed in a specific way, perhaps in future studies.

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