IS PASSIVE BREAK A PERFORMANCE FACTOR IN FEMALE TEAM HANDBALL?

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Abstract *The objective of our research is to obtain an informed opinion from the coaches in Romania, starting from the assumption that a passive break is effective only after the end of the effort. As a research tool, we used the opinion questionnaire. The data were analyzed for normality and then expressed by the mean, minimum, and maximum values. The degree of correlation (rho) between the studied parameters was appreciated by calculating the Spearman correlation coefficient. A value of the coefficient of statistical significance p <0,05 was considered significant. At the same time, we determined the internal consistency of the research tools by using the Alfa Cronbach coefficient for the Likert scale applied to our questionnaire. Our study concludes that Romanian coaches somehow agree with the effects of passive breaks, but they are not entirely convinced that these effects would exist.*

Key Words: passive break; sports competition; handball; injuries.

INTRODUCTION

Passive break is a natural means of restoring the body and can occur after or during physical exertion. In the literature, few are the studies that approach the break as a means of maintaining the optimal physical and mental state of handball players, after warming up before the competition. Unlimited changes allowed during matches, small land sizes, and high-intensity actions in a restricted setting are factors that can hinder and even negatively influence the conduct of studies involving the use of various methods and means of research in handball, and, compared to other sports such as Australian football, rugby or football (Karcher & Buchheit, 2014; Michalsik et al., 2013; Póvoas et al., 2012).

Passive break is very useful in restoring the biological potential sometimes endangered by exhaustion (Demeter, 1976) and yet, sitting or sitting, it can lead to a decrease in muscle tone (Șerban, 1983).

In team games, passive break can negatively affect the performance of athletes during competitions (Galazoulas, 2012) (Galazoulas, 2012) and increase the risk of injury (Wedderkopp et al., 1999; Mónaco et al., 2019).

In addition, body temperature, heart rate and muscle temperature values have been shown to decrease significantly after only 6 minutes after the match warm-up (Crowther et al., 2017).

The objective of our research is to obtain an informed opinion from the coaches in Romania, starting from the assumption that passive break is effective only after the physical effort is completed.

METHODOLOGY

24 Coaches were questioned, with 10-30 years of experience in the field. For us, this questionnaire aimed to centralize information related to the opinion of specialists on the performance of players/handball players, backup, after their entry on the field, after the passive break, from the bench. The form complied with the requirements specified in the specialized, pedagogical and psychological literature.

Table 1. Questionnaire applied to specialists in the field, related to the effects of passive break on handball players

Variable		Question	Likert scale				
Passive break (PB)	PB1	To what extent do you consider the preparation of the body for the effort, obtained after the warm-up of the match, can be diminished and even lost, during the passive break, in the position of sitting on the bench?	1	2	3	4	5
	PB2	To what extent do you consider the introduction on the field of players who spend more than 15 minutes on the bench, in sitting position, influences the collective evolution in the game up to that point?	1	2	3	4	5
	PB3	To what extent do you think that entering the match, against the background of insufficient preparation for the specific effort of the handball game, can lead to serious injuries?	1	2	3	4	5

Likert Scale: 1= not at all; 2=to a small extent; 3= somehow; 4=to a large extent; 5=to a very large extent.

Statistical analysis

For statistical interpretation of the questionnaire, we used version 26 of IBM SPSS (Statistical Product and Service Solutions). The data were analyzed for normality and then expressed by mean, minimum, and maximum values. The degree of correlation (rho) between the studied parameters was appreciated by calculating the Spearman correlation coefficient. A value of the coefficient of statistical significance $p < 0,05$ was considered significant. At the same time, we determined the internal consistency of the research tools by using the Alfa Cronbach coefficient for the Likert scale applied to our questionnaire. At the same time, we created and analyzed the following construct:

- Construct 1 (C1): „The effects of the passive break, on the edge of the field, during the matches, according to the Romanian coaches" collecting items PP1, PP2, PP3 and dividing by 3;

RESULTS

PB 1. Based on Tables 1 and 2, coaches' opinions vary on the extent to which a player's training efforts, gained from match play, may diminish or be lost during passive breaks, such as sitting on the bench. Specifically, 33.3% of coaches believe this to be true to a very large extent, 25% to a small extent, and 20.8% to a large extent, or "somehow".

PB 2. Interestingly, a significant 41.7% of coaches hold a neutral opinion on the impact of inactivity on substitute players. Another 25% believe in minimal influence, while 33.3% see a substantial or very substantial influence.

PP 3. There is some unanimity of opinion that entering the match with insufficient preparation for the specific effort of the handball game can lead to serious injuries. All coaches consider that the above things can happen to a large and very large extent.

Table 1. Descriptive statistics

Variables	PB1	PB2	PB3
Mean	3,63	3,13	4,42
Minimum	2	1	4
Maximum	5	5	5

Table 2. Frequency of responses on the Likert Scale

Likert Scale	PB1		PB2		PB3	
	Fa	fr%	Fa	fr%	Fa	fr%
1	-	-	1	4,2	-	-
2	6	25	5	20,8	-	-
3	5	20,8	10	41,7	-	-
4	5	20,8	6	25,0	14	58,3
5	8	33,3	2	8,3	10	41,7
TOTAL	24	100	24	100	24	100

Likert Scale: 1= not at all; 2=to a small extent; 3= somehow; 4=to a large extent; 5=to a very large extent. Fa=frequency; fr%=relative percentages.

DISCUSSION AND CONCLUSION

Construct 1 (C1 The effects of the passive break on the sidelines during the matches, according to the Romanian coaches.

Based on feedback from Romanian coaches, we assessed the impact of taking a brief rest on the sidelines during matches. To gauge this effect, we averaged their responses to questions PB1, PB2, and PB3 in the survey. To assess the reliability of this measure, we calculated the Cronbach's Alpha coefficient, which yielded a value of 0.703. This indicates that the three items comprising the measure are consistently measuring the same thing, demonstrating good reliability.

Table 4. Internal consistency C1

Cronbach's Alpha	Number of items
0,703	3

Our research started from the assumption that the use of passive breaks could negatively influence the further development of reserve athletes.

Following the statistical interpretation of the questionnaire, we were able to obtain an informed opinion from the Romanian coaches on this aspect. Thus, they somewhat agree that passive breaks can negatively influence the evolution of reserve athletes, but they are not entirely convinced that these effects would exist.

In conclusion, most specialists in the field are aware of the possibility of the negative effects of using the passive break on the evolution of reserve players.

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