

PROPOSED OFFENCE STRUCTURE MODEL OF ELITE MEN'S BASKETBALL TEAMS

Stanislovas Stonkus

Lithuanian Academy of Physical Education

Abstract:

It is the offence structure, i.e. the sum total of attacks of different duration, character and efficiency, that primarily proves to be decisive in judging the substance, character and result / outcome of the game.

It was important to ascertain the number of attacks, the ratio of fast and positional attacks, as well as the interdependence between the duration and efficiency of the attacks.

The research done in the offence structure of the best men's basketball teams in the world for a number of years (1986 – 1994) has shown that there exists an undoubted interdependence between the duration and efficiency of attacks.

On the basis of this interdependence the following 5 groups of attacks have been singled out:

- attacks with a duration from 2 to 5 sec (efficiency – 69 % or more),
- attacks with a duration from 6 to 9 sec (efficiency – 42 %),
- attacks with a duration from 10 to 15 sec (efficiency – 55 %),
- attacks with a duration from 16 to 20 sec (efficiency – 59 %),
- attacks with a duration from 21 to 30 sec (efficiency – 53 %).

With an increase in the number of very fast attacks the necessity arises to make a distinction between fast (2-5 sec) and hasty (6-9 sec) attacks.

Key words: *offence structure, duration of attacks, efficiency of attacks, model of offence structure.*

INTRODUCTION

Although the game of basketball consists of two phases, i.e. offence and defence, it is the offensive actions and the structure of offence attacks that decides the character and the content of the game (Tocigal L., 1973, Deltow B., Hercher W., Konzag G., 1981, Dobry L., Welensky E., 1980, 1988, Smith D., 1981, Vuden D., 1987, Neumann H., 1970, 1998, Semiginovsky B., 1988, Summit P., Jennings D., 1996, Stonkus S., 1985, 1988, 1999, Kurtinaitis R. 1999 etc.).

The structure of offence is the sum total of attacks of different duration, character and efficiency throughout the match or contest.

Two main offence systems, i.e. the fast and the positional offence prevailing, two types of attack, i.e. the fast and the slower attacks may be distinguished.

The topicality of the research is conditioned by the fact that it is important to find out what the number and duration of attacks is that are undertaken by teams of different levels of prepa-

redness, what the percentage of fast and positional attacks is, what the efficiency of these attacks is and the changes taking place in the offence structure over a period of time.

The theoretical significance of the answers provided to these questions lies in the fact that objective indices of the offence structure and attacks of different duration, established as a result of the research carried out, have enabled us to work out the models of offence structure

The practical significance of the study lies in objective indices established by the method of pedagogical observation that allow one to objectively evaluate the offence quality of various teams, to expediently control their tactical training and to choose the offence tactics in a certain contest.

The fact that we have not come across the research data of this kind in any literature on the subject also adds to the topicality of the present study.

The aim of the study was to establish the interrelation between the duration of attacks of elite men's basketball teams and the results achieved.

The tasks of the study were as follows :

1. To establish the duration of attacks of elite men's basketball teams.
2. To establish the percentage of attacks of different duration in relation to the sum of the total number of attacks undertaken.
3. To estimate the efficiency of attacks of different duration.
4. The basic intentions are to achieve the highest number of successful attacks of different duration.

THE SUBJECTS AND METHODS USED

As is evident, the data of pedagogic observation adduced in the paper go back to the year 1986. Prior to collecting the data at international championships, the same procedure and methods were applied when observing basketball matches played at national contests of different levels. Thus, the idea of doing research into the structure of attacks goes back to the early 90ies.

The very idea and the concept of the study, as well as the methods of research the systematisation of the data, etc., belong to the author of the paper. The results of this research into the structure of attacks in playing basketball have been presented in different aspects at national and international conferences and published in Lithuanian scientific journals and textbooks.

During the discussions on my reports made at various conferences I have not heard of any analogous research having been done anywhere. I have not come across an investigation of this kind reported in sports literature either. Several years ago at the conference held at the Ukrainian Sports Academy in 1996 a similar research was mentioned as made, but no publications on the subject have been found.

The method of pedagogical observation carried out by registering the number, duration and efficiency of attacks was the main method used in the study.

The data were taken from the world men's basketball championships held in the years 1986 and 1994, the 1992 European Zone elimination contest for the Olympic Games and the European Junior Basketball Championship held in 1994. Records of the most important matches played during the championships mentioned have been made.

Altogether 99 matches have been observed: the World Championship of 1986 - 19, elimination contest for the Olympic Games of 1992 - 35, the World Championship of 1994-23, the European uniors championship of 1994 - 22. The performance of equal rivals was observed. Therefore the duration of every single attack was registered using a code. In addition, effective attacks, i.e. the ones ending in scoring a foul made on the part of the opponents, were noted. On the basis of protocols, the number of attacks of different duration and the percentage of their efficiency was calculated.

When analysing the indices of efficiency of attacks a certain regularity between the duration and efficiency of attacks has been observed. The distribution of attacks into certain groups was carried out in accordance with the degree of their efficiency as well as on the basis of the character of attacks universally recognised in the theory and practice of playing basketball, i.e. fast-break and positional offense.

In working out an ideal model of offence structure, i.e. the one that is non-existent in practice but still should be aimed at, the best interval index between the duration and efficiency in each group of attacks, namely, with the duration of 2-5 sec, 10-23 sec and 24-30 sec was taken as the basis.

For instance, in establishing the quantitative model indices of attacks of different duration it was important to objectively ascertain the number of less efficient attacks, those with the duration of 6-9 sec. We assumed that in matches of equal rivals both teams possessed equal time limits for attacks,

i.e. 20 min or 1,200 sec each. The best teams demonstrated attacks with a duration of 2-5 sec and 10-30 sec, which amounted to 1,085 sec altogether. Thus, the time allotted to attacks with the duration of 6-9 sec totalled 115 sec. If we assume the average duration of attacks of less efficiency to be 8 sec, the quantitative model number of attacks with the duration of 6-9 sec will amount to 14 attacks.

RESULTS OF THE STUDY AND DISCUSSION

The offence indices of the best 12 teams at the World Championship held in 1986 showed extreme dynamics of the game: there were 92 attacks during the match on average, out of which 49 attacks (53.4 %) were effective. The attacks that ended in points scored or foul on the part of the rivals were considered as effective. The greatest percentage, i.e. 11.2 % were made up by attacks

with a duration of 3 sec, those of 4 sec – 9.7 % and 5 sec - 9 % of the total number of attacks respectively (Table 1, Fig.1)

The analysis of efficiency of attacks of different duration has enabled us to perceive rather marked differences in the efficiency of attacks of different durations.

On the basis of the interrelation between the efficiency and duration of attacks of the best 12 basketball teams at the World Championship 1986 the following 5 groups of attacks have been singled out:

- attacks with a duration from 2 to 5 sec They constituted 31.6 % of the total number of attacks and their efficiency amounted to 58 %;
- attacks with a duration from 6 to 10 sec They made up 29 % of all attacks and their efficiency came to 47 %;
- attacks with a duration from 11 to 15 sec Such attacks constituted 22.1 % of the total number of attacks and their efficiency amounted to 57 %;
- attacks with a duration from 16 to 22 sec They

Duration of attack (sec)	Average number of attacks per match	Average number of effective attacks	Efficiency of attacks (%)	Percentage from the total number of attacks
2	1.1	0.7	63.6	1.2
3	10.9	6.1	55.9	11.2
4	8.9	5.2	58.4	9.7
5	8.3	4.8	57.8	9.0
6	5.2	2.5	48.0	5.6
7	5.3	2.1	39.6	5.7
8	4.4	2.0	45.4	4.8
9	6.2	3.5	55.7	6.7
10	4.7	2.7	57.4	5.1
11	5.5	3.1	55.5	6.0
12	3.9	2.3	58.9	4.2
13	5.1	2.9	56.8	5.5
14	3.0	1.5	50.0	3.3
15	3.6	1.9	52.7	3.9
16	3.2	1.7	53.1	3.5
17	2.9	1.5	51.7	3.1
18	2.3	1.2	52.1	2.5
19	1.4	0.7	50.0	1.5
20	1.5	0.8	53.3	1.6
21	1.4	0.6	42.8	1.5
22	0.5	0.3	60.0	0.5
23	1.0	0.5	50.0	1.1
24	0.3	0.1	33.3	0.3
25	0.6	0.1	16.6	0.7
26	0.5	0.3	66.6	0.5
27	0.3	0.1	33.3	0.3
28	0.1	0.04	40.0	0.1
29	0.1	0.1	100.0	0.1
30	0	0	0	0
Total	92.2	49.34	53.4	100

Table 1: Offence structure of the best teams at the World Men's Basketball Championship 1986 according to the duration of attacks.

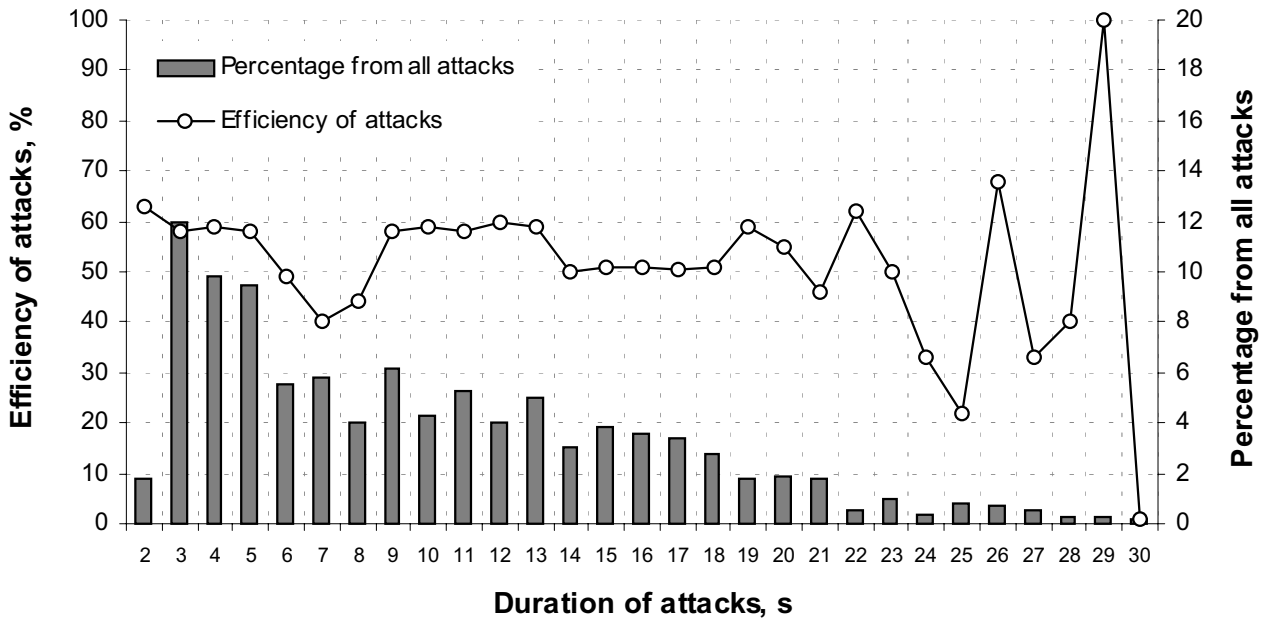


Figure 1. The offensive structure and efficiency of the top 12 teams at the World Basketball Championship for Men in 1986

made up 14.3 % of all attacks and their efficiency came to 55 %;

- attacks with a duration from 23 to 30 sec The attacks of this kind constituted but 2.4 % of the total number of attacks and their efficiency averaged 50 % (Fig. 2)

At the 1992 European zone elimination contest for the Olympic Games the offence structure of the best 7 European men’s basketball national

teams virtually corresponds to the regularities observed at the World Championship in basketball held 1986. Yet, new peculiarities have been registered, too.

Thus, there were fewer attacks of the fast type, i.e. attacks with a duration from 2 to 5 sec They constituted 24 % of the total number of attacks, whereas their number amounted to 31.6 % at the championship of 1986. The efficiency of these

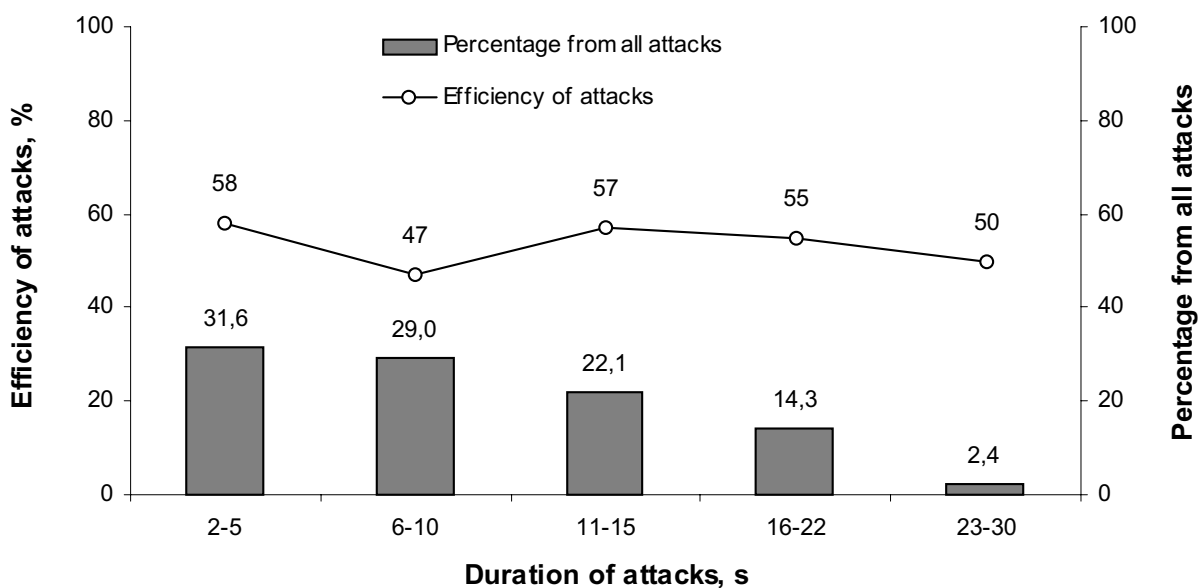


Figure 2. The percentage number of different duration attacks and their efficiency at the World Basketball Championship for Men in 1986

attacks, however, was considerably better, i.e. 69 % in 1986. The efficiency of attacks of the national team of Croatia came to 78 %, that of Slovenia – 69 % and Lithuania – 67 %, accordingly.

Basketball national teams of Europe were faster and more efficient in accomplishing attacks of positional offence by performing the combinations mastered or making use of the abilities of their best individual players.

High indices of efficiency of attacks with a duration of 10 sec, e.g. the national team of Slovenia – 75 %, Croatia – 73.9 %, Lithuania – 73.7 % and Germany – 66.7 %, support the latter statement made.

On the basis of the interrelation between the efficiency and duration of the attacks of the best 7 basketball teams at the Championship of the Year 1992 the attacks ranged as follows :

- attacks with a duration from 2 to 5 sec constituted 24 % of the total number of attacks and their efficiency amounted to 69 %;

- attacks with a duration from 6 to 9 sec made up 21 % of all attacks their efficiency being 43 %;
- attacks with a duration from 10 to 15 sec constituted 29 % of the total number of attacks and their efficiency amounted to 54 %;
- attacks with a duration from 16 to 20 sec made up 18 % of all attacks their efficiency being 56 %;
- attacks with a duration from 21 to 30 sec constituted only 8 % of the total number of attacks and their efficiency averaged 44 %.

The indices of the offence structure of the national team of Croatia that managed to be better than the other teams on the level of tactical preparedness deserve a special mention (Table 2, Fig.3). Thus, the basketballers of Croatia undertook 83 attacks during one match on average and the efficiency of the attacks amounted to 61 %. The corresponding figures of the Lithuanian national team were 91 attacks with an efficiency of 57 %, those of Germany – 85 attacks and 56 % efficiency, Slovenia – 82 attacks and 53 %

Duration of attack (sec)	Average number of attacks per match	Average number of effective attacks	Efficiency of attacks (%)	Percentage from the total number of attacks
2	1.0	1.0	100.0	1.2
3	5.0	4.6	92.0	6.1
4	6.0	3.7	61.7	7.3
5	6.3	5.0	79.4	7.6
6	3.0	0.7	23.3	3.6
7	3.0	1.7	56.7	3.6
8	3.0	2.0	66.7	3.6
9	5.0	2.3	46.0	6.1
10	2.3	1.7	73.9	2.8
11	3.7	2.7	73.0	4.5
12	4.3	3.3	76.7	5.2
13	5.0	3.0	60.0	6.1
14	4.0	1.3	32.5	4.8
15	5.0	3.0	60.0	6.1
16	4.0	2.7	67.5	4.8
17	4.0	2.0	50.0	4.8
18	3.7	3.0	81.1	4.5
19	2.3	1.0	43.5	2.8
20	3.0	1.7	56.7	3.6
21	2.0	1.5	75.0	2.4
22	1.3	1.0	76.9	1.6
23	1.3	0.7	53.8	1.6
24	0.7	0.3	42.9	0.8
25	2.0	1.0	50.0	2.4
26	1.0	0.7	70.0	1.2
27	0.3	0.3	100.0	0.4
28	0	0	0	0
29	0	0	0	0
30	0.3	0	0	0.4
Total	82.5	51.9	62.9	100

Table 2: Offence structure of the Croatian Men's Basketball National team according to the duration of attacks at the Saragossa elimination contest for the Olympic Games held in 1992 (average figures during one match).

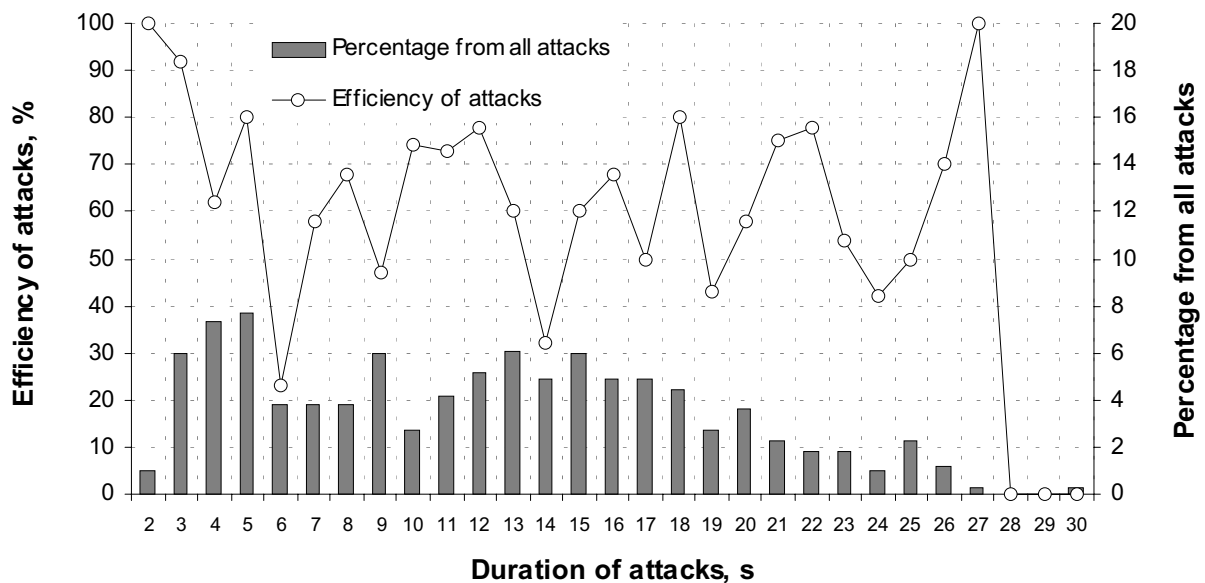


Figure 3. The offensive structure and efficiency of the national team of Croatia in the final round of the European Olympic Qualifying Tournament in 1992 (on the average per match)

efficiency, and Italy – 93 attacks carried out with 49 % efficiency accordingly.

Fast attacks (2-5 sec) undertaken by the Croatian national team were particularly successful. Attacks of this kind constituted 22 % of the total number of attacks, i.e. 18 attacks per match on average, and their efficiency amounted to 78 %

Attacks with a duration from 6 to 9 sec, frequently too hasty and insufficiently prepared, made up 17 % of all attacks (14 attacks per match) and their efficiency was 48 %. The term “hasty attacks” according to our understanding is a separate term enjoying full rights and it does not stand for either “secondary counter-attack” or “prolonged fast-break”. According to our understanding and others also prolonged fast-break is also termed “the second wave of fast-break”. It is a well-ordered purpose-oriented attack.

The term “hasty attack” carries a pejorative connotation indeed, in the sense that it denotes an attack usually terminated as the result of the initiative on the part of an individual player without adequate cooperation with other members of the team, without a proper readiness to fight for rebounds, etc.

With the game getting faster, well-trained teams use combined attacks faster, more often and more effectively. Therefore, the number of positional attacks lasting 10-15 sec increases. “Hasty attacks” lasting 6-9 sec, however, are different. Perhaps they could also be termed “unprepared attacks”.

The number of positional attacks and their efficiency were indicative of the excellent organisational structure possessed by the Croatian national team.

The analysis of the data concerning the offence structure of the different teams demonstrated at the 1994 World Basketball Championship has enabled us to make objective generalisations as well as to perceive and predict certain tendencies in the development of offence. We consider our conclusions valid in the first place, since the best basketball teams in the world, including the USA national team represented by the best professionals, participated in this championship.

When comparing the indices of offence structure demonstrated by the best men’s basketball teams in the world in the championships of 1986 and 1994 it could be said that they are adequate, except for the indices of the USA – ‘94 national team. Still, new tendencies in USA-94 offence structure could be traced.

One cannot fail to notice the acceleration of the attacks. Thus, at the 1994 World Championship the percentage of attacks according to their duration was as follows: 3 sec – 5.7 %, 4 sec – 6.9 % and 5 sec – 10.4 % of the sum total of attacks.

The indices of attacks with a duration of 5 sec are especially worth noting – thus, they constituted 10.4 % of all attacks and their efficiency was 67 %. The emphasizes circumstance once again the utmost importance of the classical fast attack (most frequently after recapturing the ball from the opponent as a result of an inaccurate shot) and

the perfect mastery of this kind of attack by the national team of Croatia.

The number of attacks with a duration from 6 to 9 sec was fairly big, i.e. it constituted 20 % of all attacks. On the one hand, it testifies to the acceleration of the game. On the other hand, it is indicative of gaps in the tactical preparedness of the team, since the efficiency of such most frequently hasty and insufficiently prepared attacks is the lowest (42 %).

The ability of separate teams to effectively accomplish their attacks with the help of perfectly mastered combinations and making use of the exceptionally high skills of individual players becomes apparent. This can be seen from the extremely high efficiency (73.3 %) of attacks with a duration of 10 sec. And an increase in the number of attacks lasting from 10 to 15 sec. Attacks of this type constituted 26 % of all attacks and their efficiency was 55 % (Table 3, Fig. 4 and 5).

The indices of the USA national team made up of the best professionals stood out distinctly (Table 4, Fig. 6 and 7).

The USA basketball players undertook 95.5 attacks per match on average and this was the best index among the teams, that participated at the championship.

Fast accomplishment of the attacks was an outstanding feature of the playing technique of the USA basketball players. Thus the attacks with a duration from 2 to 5 sec constituted 45 % of the total number of attacks and their efficiency was 62 %. Attacks with a duration of 5 sec proved most effective (67.6 %) and they made up 9.4 % of all attacks.

The attacks of the USA basketball players lasted from 2 to 15 sec, and such attacks constituted 95 % of all attacks.

Duration of attack (sec.)	Average number of attacks per match	Average number of effective attacks	Efficiency of attacks (%)	Percentage from the total number of attacks
2	4.5	2.4	53.3	5.3
3	4.9	3.0	61.2	5.7
4	5.9	3.3	55.9	6.9
5	8.9	6.0	67.4	10.4
6	3.7	1.3	35.1	4.3
7	4.5	2.2	48.9	5.3
8	4.8	1.9	39.6	5.6
9	4.1	1.8	43.9	4.8
10	4.5	3.3	73.3	5.3
11	3.9	1.9	48.7	4.6
12	4.3	2.0	46.5	5.0
13	3.4	1.7	50.0	4.0
14	2.9	1.6	55.2	3.4
15	3.3	1.8	54.5	3.9
16	3.4	1.7	50.0	4.0
17	2.2	1.0	45.5	2.6
18	2.3	1.3	56.5	2.7
19	2.0	1.0	50.0	2.3
20	2.4	1.1	45.8	2.8
21	2.1	1.1	52.4	2.5
22	1.5	0.7	46.7	1.8
23	1.3	0.5	38.5	1.5
24	1.0	0.6	60.0	1.2
25	1.2	0.6	50.0	1.4
26	0.8	0.4	50.0	0.9
27	0.5	0.3	60.0	0.6
28	0.4	0.1	25.0	0.5
29	0.3	0.2	66.7	0.4
30	0.3	0	0	0.4
Total	85.3	44.8	52.5	100

Table 3: Offence structure of the best teams at the 1994 World Men's Basketball Championship according to the duration of attacks.

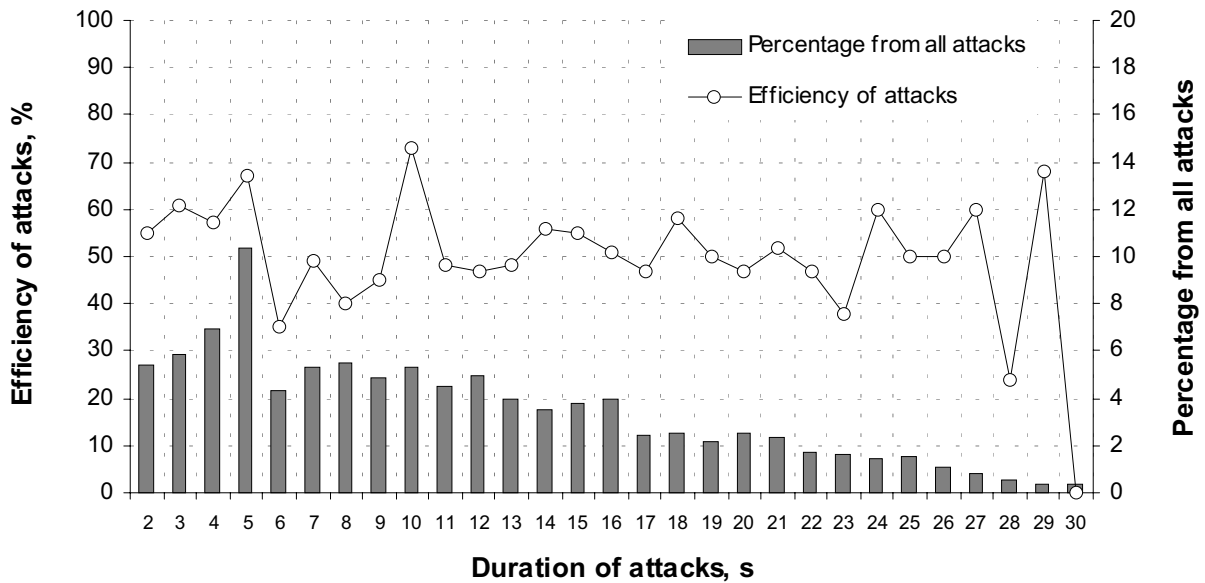


Figure 4. The offensive structure and efficiency of the best teams at the World Basketball Championship for Men in 1994

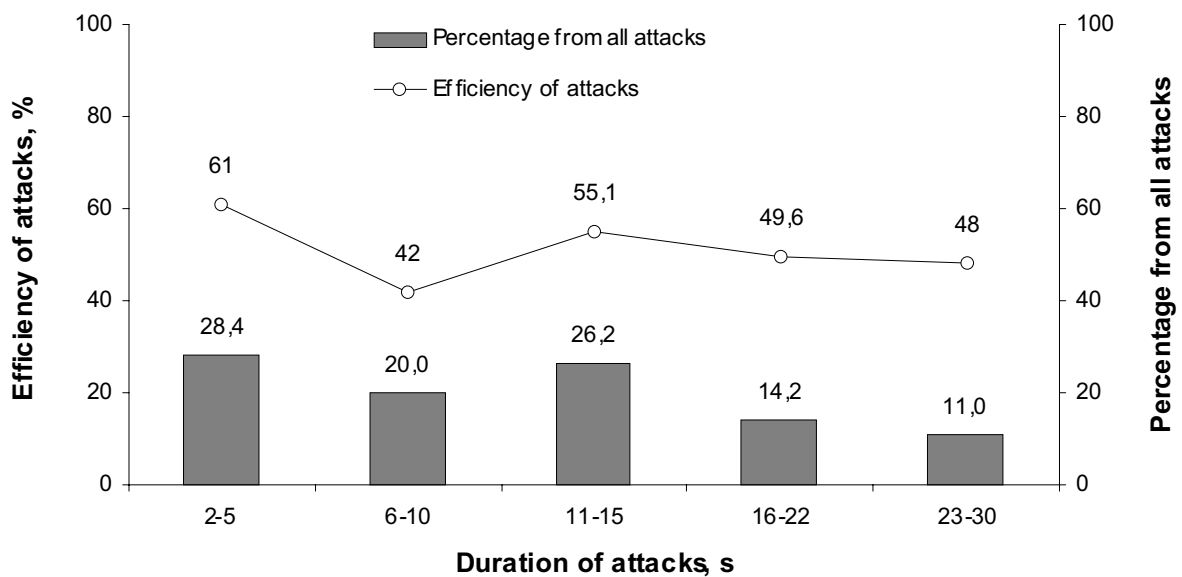


Figure 5. The percentage number of different duration attacks and their efficiency of the best teams at the World Basketball Championship for Men in 1994

The following 2 factors influence their results:

- shorter time limit (24 sec) allotted in professional basketball;
- marked superiority of the USA basketball players in mastering skills.

The offence structure of the Russian national team, silver medal winner at the 1994 World Championship, is shown in Fig. 8 and 9.

The Croatian national team, bronze medal winner at the 1994 World Championship, displays

extremely interesting indices of its offence structure (Table 5, Fig.10 and 11). The team distinguishes itself by the number of fast attacks with a duration from 2 to 5 sec (such attacks constituted 26.9 % of all attacks) and their high efficiency (69%).

The team demonstrated an optimal number, corresponding to the requirements of the model, of less effective attacks with a duration from 6 to 9 sec. Such attacks constituted 15.2% of the total number of attacks the model figure being 13%. The

Duration of attack (sec.)	Average number of attacks per match	Average number of effective attacks	Efficiency of attacks (%)	Percentage from the total number of attacks
2	5.8	3.3	56.9	6.1
3	9.0	5.0	55.6	9.4
4	9.8	5.8	59.2	10.3
5	18.5	12.5	67.6	19.4
6	4.8	1.5	31.3	5.0
7	7.2	4.2	58.3	7.5
8	5.2	2.3	44.2	5.4
9	6.8	3.0	44.1	7.1
10	7.0	5.7	81.4	7.3
11	5.7	2.7	47.4	6.0
12	4.5	2.3	51.1	4.7
13	3.2	1.7	53.1	3.4
14	1.7	1.5	88.2	1.8
15	1.7	1.2	70.6	1.8
16	1.0	0.7	70.0	1.0
17	0.5	0.2	40.0	0.5
18	0.8	0.5	62.5	0.8
19	0.2	0.2	100	0.2
20	0.5	0.3	60.0	0.5
21	0.8	0.7	87.5	0.8
22	0	0	0	0
23	0.2	0.2	100	0.2
24	0.2	0.2	100	0.2
25	0.2	0.2	100	0.2
26	0	0	0	0
27	0.2	0.2	100	0.2
28	0	0	0	0
29	0	0	0	0
30	0	0	0	0
Total	95.5	56.1	58.7	100

Table 4: Offence structure of the USA men’s basketball national team at the 1994 World Championship according to the duration of attacks (average figures per match)

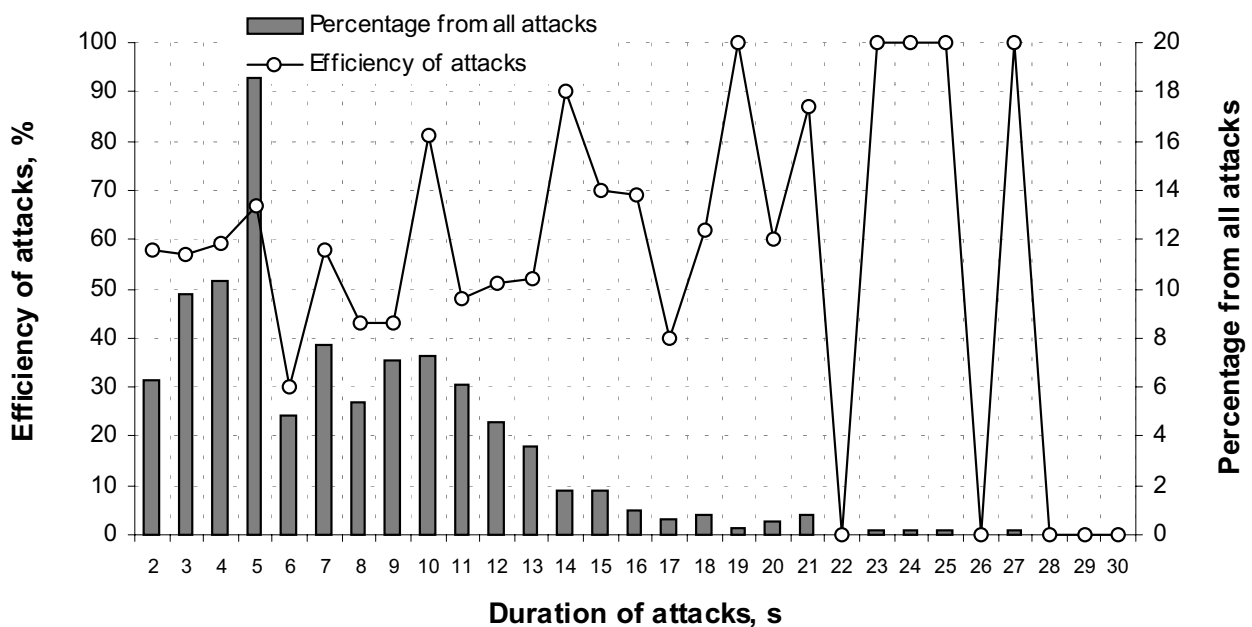


Figure 6. The offensive structure and efficiency of the USA national team at the World Basketball Championship for Men in 1994 (on the average per match)

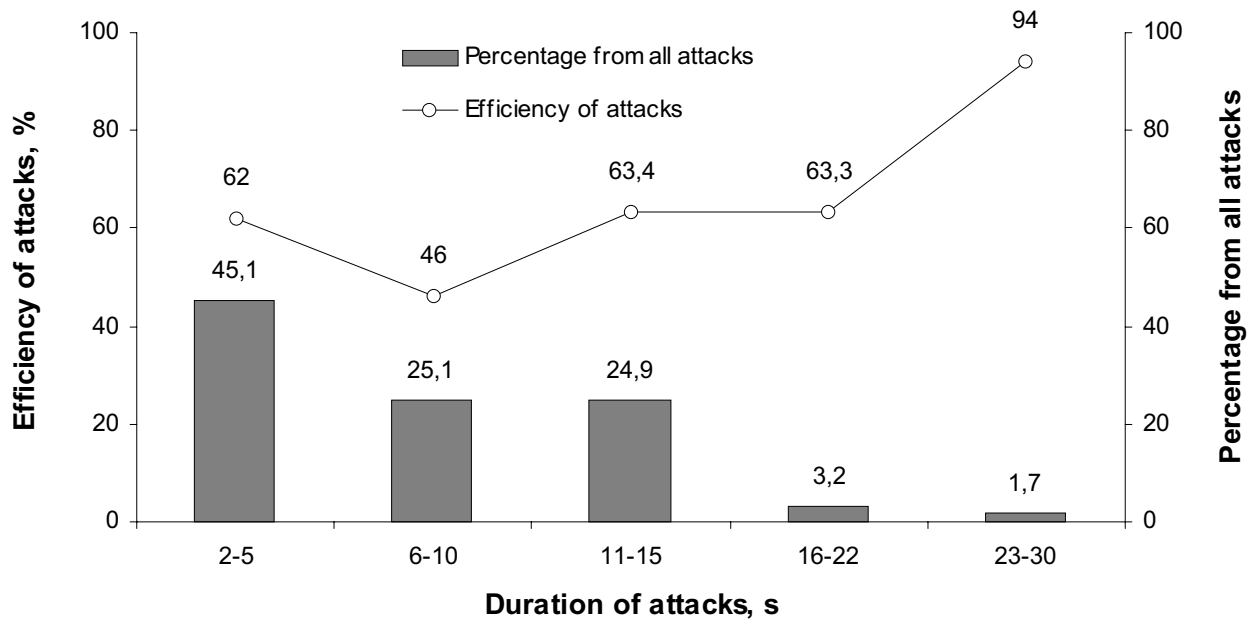


Figure 7. The percentage number of different duration attacks and their efficiency of the USA national team at the World Basketball Championship for Men in 1994

circumstance testifies to the mature tactics of the Croatian national team.

A great number of positional attacks with a duration from 10 to 15 sec (their number comprised 26.4 % of all attacks) and their high efficiency (58 %) as well as a large number of positional attacks with a duration from 16 to 20 sec (19.4 % of all attacks) and efficiency equalling 59 % shows the perfect capabilities of the team when purposefully making use of the individual abilities of its best players.

A high level of achievement of the Croatian school of basketball was confirmed by the performance of the Croatian Juniors' national team at the European championship of 1994 held in Israel.

The offence structure of the team (fig. 12) also distinguished itself by a great number of fast (2 – 5 sec) attacks carried out with high efficiency (77 %) and a small number of ineffective attacks (12 % of all attacks) with a duration from 6 to 9 sec That testifies to the mature standard of the positional offence of the team.

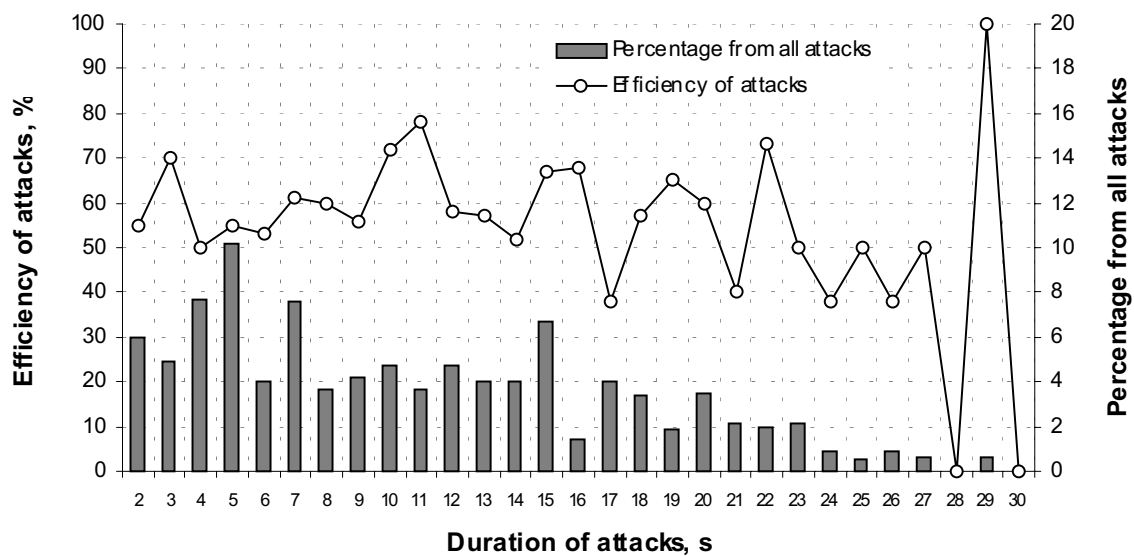


Figure 8. The offensive structure and efficiency of the Russian national team at the World Basketball Championship for Men in 1994 (on average per match)

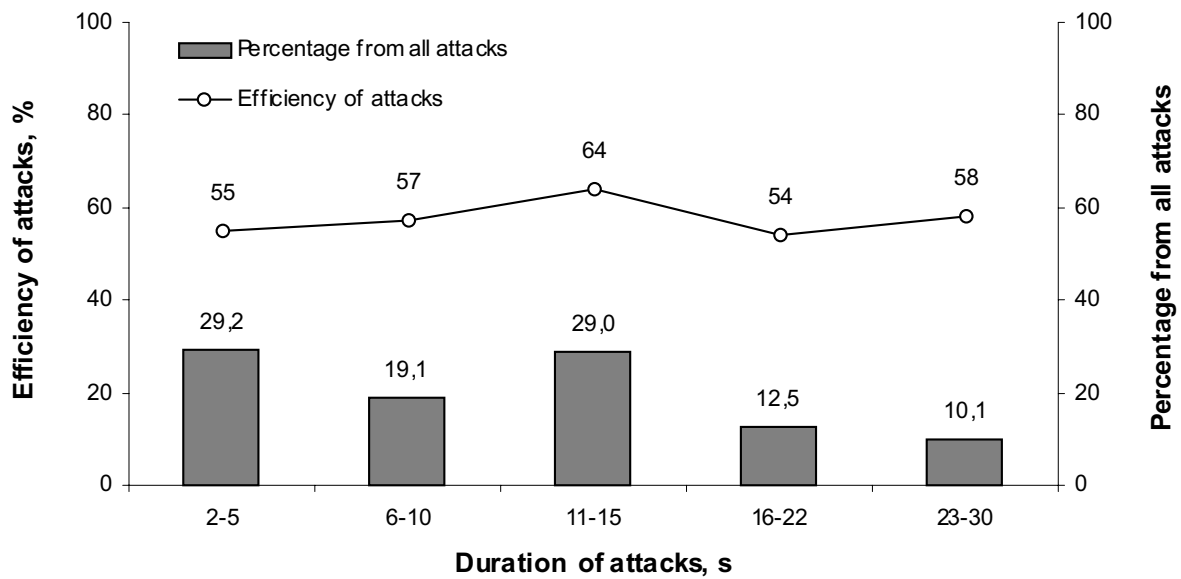


Figure 9. The percentage number of different duration attacks and their efficiency of the Russian national team at the World Basketball Championship for Men in 1994

Duration of attack (sec)	Average number of attacks per match	Average number of effective attacks	Efficiency of attacks (%)	Percentage from total number of attacks
2	3.3	2.0	60.6	4.1
3	5.4	3.9	72.2	6.8
4	6.1	3.7	60.7	7.7
5	6.7	5.3	79.1	8.4
6	3.4	1.0	29.4	4.3
7	2.0	0.7	35.0	2.5
8	4.1	1.9	46.3	5.1
9	2.7	1.6	59.3	3.4
10	4.6	3.7	80.4	5.8
11	2.6	1.0	38.5	3.3
12	3.9	2.4	61.5	4.9
13	4.0	1.7	42.5	5.0
14	3.6	2.3	63.9	4.5
15	2.4	1.2	50.0	3.0
16	5.0	3.3	66.0	6.3
17	2.6	1.4	53.8	3.3
18	2.9	1.6	55.2	3.6
19	2.3	1.2	52.2	2.9
20	2.7	1.7	63.0	3.4
21	2.4	1.3	54.2	3.0
22	1.6	0.4	25.0	2.0
23	1.6	0.9	56.3	2.0
24	0.3	0.1	33.3	0.4
25	0.9	0.9	100	1.1
26	1.0	0.6	60.0	1.3
27	1.3	0.7	53.8	1.6
28	0.1	0	0	0.1
29	0.1	0.1	100	0.1
30	0.1	0	0	0.1
Total	79.7	46.6	58.5	100

Table 5: Offence structure of the Croatian men's basketball national team according to the duration of attacks at the World Championship of 1994 (average figures per match)

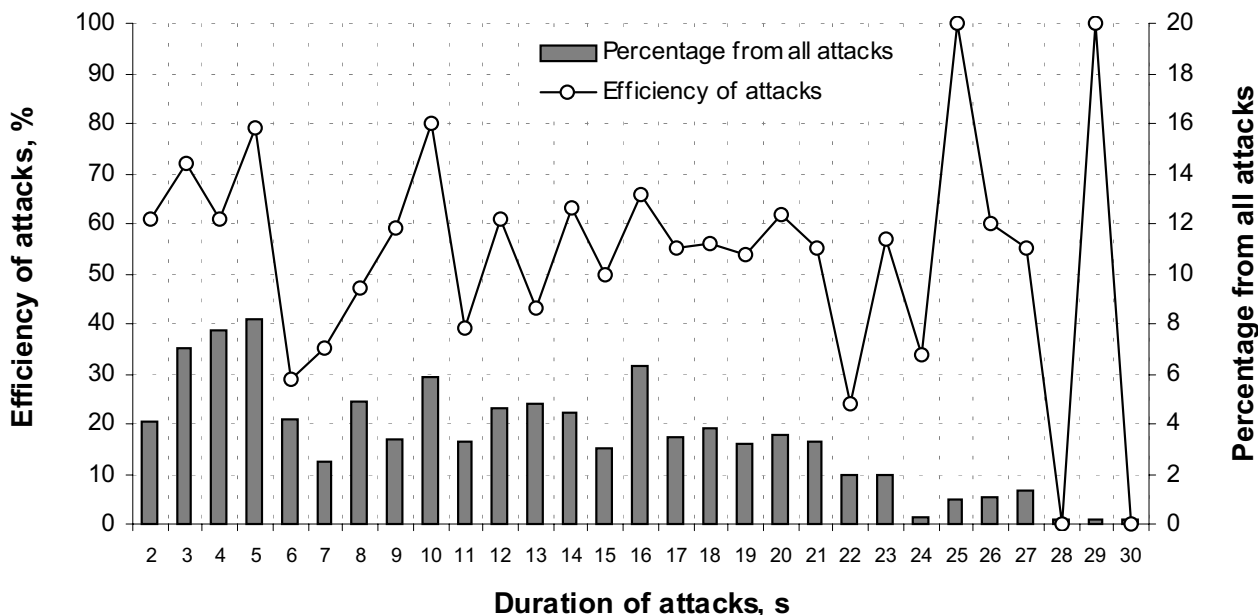


Figure 10. The offensive structure and efficiency of the Croatian national team at the World Basketball Championship for men in 1994 (on average per match)

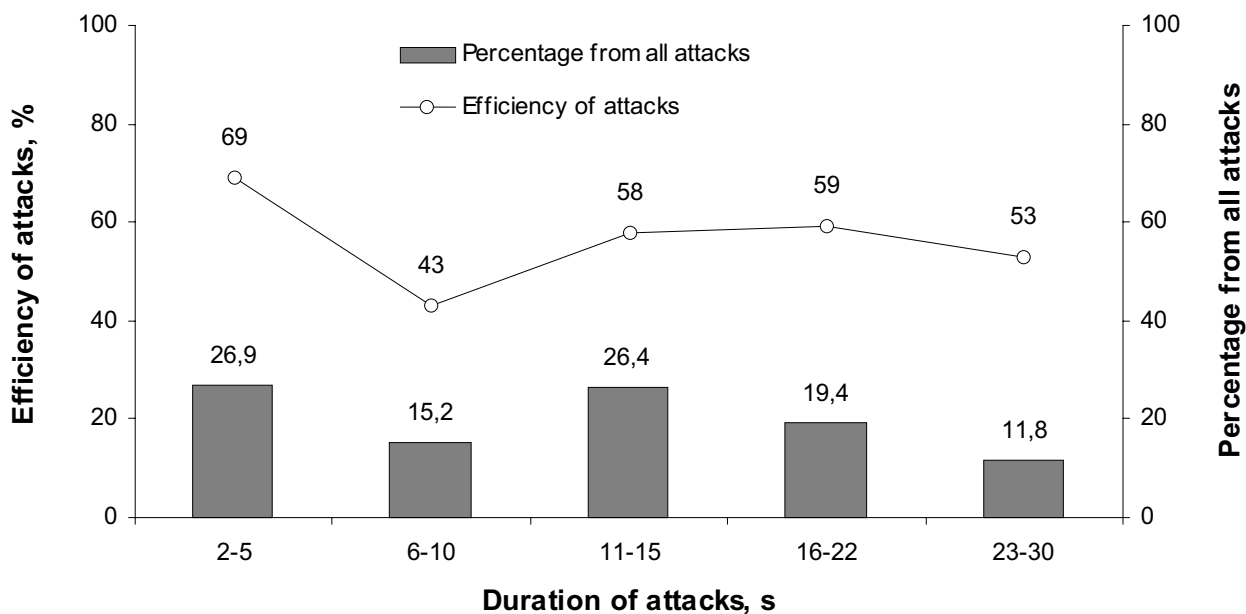


Figure 11. The percentage number of different duration attacks and their efficiency of the Croatian national team at the World Basketball Championship for Men in 1994

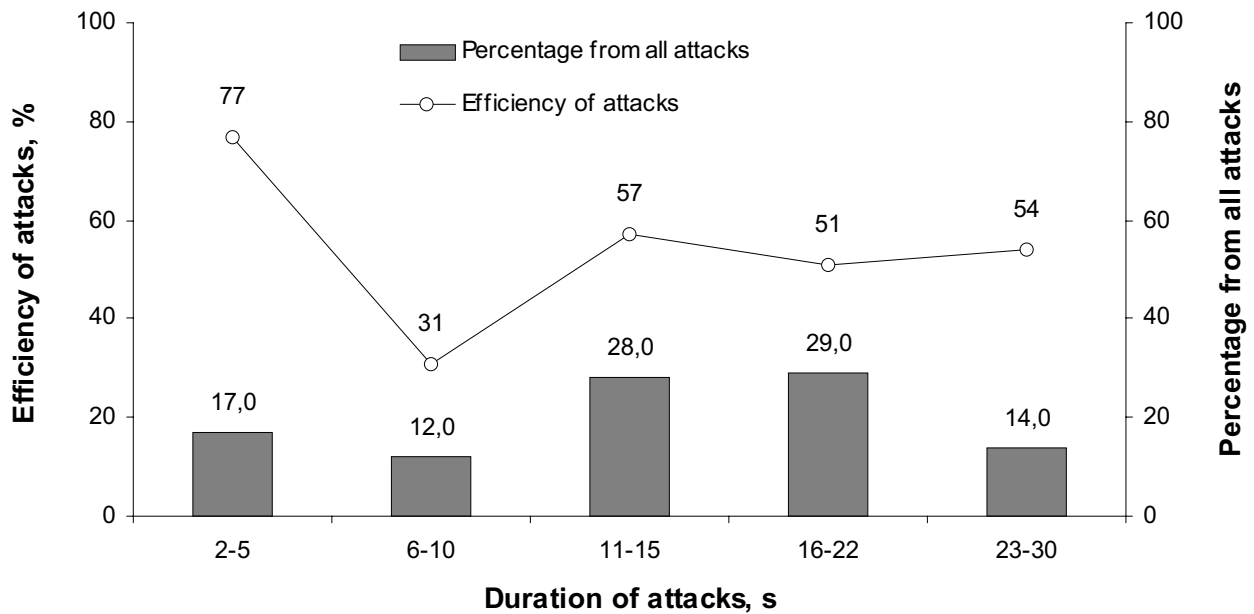


Figure 12. The percentage number of different duration attacks and their efficiency of the national team of Croatia at the European Basketball Championship for Junior Men (17-18 years old) in 1994

CONCLUSIONS

1. Awareness of the offence structure enables one to efficiently control the process of sports training of a team and to select the most effective playing tactics vs. a certain rival.
2. Research undertaken in the course of a number of years in the duration of attacks and their efficiency allows us to conclude that there exists a direct connection between them.
3. The offence structure and alternations introduced during the most important matches between the rivals of equal competence and expertise correspond to the model of offence structure worked out by this research :
 - duration from 2 to 5 sec: 34 % of all attacks, efficiency – 74 %;
 - duration from 6 to 9 sec: 13 % of all attacks, efficiency – 58 %;
 - duration from 10 to 22 sec: 42 % of all attacks, efficiency – 61 %;
 - duration from 23 to 30 sec: 11 % of all attacks, efficiency – 63 %.
4. With an increase in the number of fast attacks there arises the necessity to make a clear-cut distinction between fast (2 – 5) and hasty (6 – 9 sec) attacks.
5. During the matches between the rivals of equal competence expertise the importance of applying combinations well - mastered in advance becomes ever more apparent.
6. After introducing the changes in the duration of attacks and some other rules of playing basketball the data regarding the structure of the attacks collected as a result of observing the matches played by elite men's teams over a number of years characterise a very important period in the development of the offensive tactics of basketball, i.e. the period covering the last few decades of the 20th century. The data collected are of great importance for the theory of basketball and they will serve as an excellent starting point for carrying out further research in the offensive structure of basketball played in accordance with the new rules introduced.

REFERENCES

1. Deltow, B., Hercher, W., G. Konzag (1981). *Basketball*. Berlin: Sportverlag.
2. Dobry, L., E. Velensky (1980). *Košikova. Teorie a didaktika*. Praha: SPN.
3. Dobry, L., B. Semiginovsky (1988). *Sportovy hry. Vykon a trening*. Praha: Olympia.
4. Kurtinaitis, R., S. Stonkus (1999). *Fast and Positional Offence*. Vilnius: Lithuanian Centre of Sports Information.
5. Neuman, H. (1970, 1998). *Basketball – Grundschohle*. Schorndorf: Verlag Karl Hofman.
6. Smith, D. (1981). *Basketball. Multiple Offense and Defense*. New Jersey: Prentice Hall.
7. Stonkus, S. (1995). The Offence Structure of Elite Teams of Juniors 17-18 Years Old / Science in Sports Team Games: Academy of Physical Education in Warsaw, pp. 457 – 464.
8. Stonkus, S. (1998). *Games. Theory and Didactics*. Kaunas: Lithuanian Academy of Physical Education.
9. Summit, P., D. Jennings. *Basketball: Fundamentals and Team Play*. Chicago: Brown Benchmark.
10. Tocigl I., (1973). *Taktika igre u napadu. [Tactics on offence. In Croatian.]*. Petrinja: Štamparija Petrinja.

Correspondence to:
Stanislav Stonkus
Lithuanian Academy of Physical Education
Sporto 6, LT – 3000
Kaknas, Lithuania
e-mail: Elena@lkka.lt

PRIJEDLOG MODELA STRUKTURE NAPADA VRHUNSKIH KOŠARKAŠKIH MUŠKIH EKIPA

SAŽETAK

UVOD

Premda se košarka igra odvija u dvije faze (napad i obrana), ipak se ukupan zbroj svih napada različita trajanja, njihov karakter i učinkovitost pokazuju ključnima za procjenu sadržaja, obilježja i konačnog rezultata utakmice. Stoga je problem istraživanja određen važnošću spoznaje o broju i trajanju napada ekipa različitih kvaliteta i razina pripremljenosti, o postotku brzih (protunapada) i postavljenih napada te o njihovoj učinkovitosti, kao i o promjenama koje se u strukturi napada događaju tijekom godina. Na teorijskom planu te spoznaje omogućuju izgradnju modela strukture napada, a na praktičnom planu objektivni pokazatelji, prikupljeni metodom pedagoške opservacije, omogućuju objektivnu procjenu kvalitete različitih ekipa, procjenu njihove taktičke osposobljenosti, zrelosti te izbor konkretne taktike napada za potrebe određene utakmice (konkretan kontekst). Cilj je rada ustanoviti relacije između trajanja napada i postignutih sportskih rezultata ispunjenjem slijedećih zadataka: ustanoviti trajanje napada kvalitetnih muških ekipa, odrediti postotni udio pojedinih vrsta napada utvrđenih prema kriteriju trajanja te ustanoviti učinkovitost pojedinih vrsta napada

ISPITANICI I METODE

Korištena je metoda pedagoške opservacije tako da su se bilježili broj, trajanje i učinkovitost napada na ukupno 99 međunarodnih košarkaških utakmica suparnika visoke i podjednake kvalitete. Autoru nisu poznati podaci o tome da su igdje provedena slična istraživanja. Podaci su prikupljeni na utakmicama svjetskih košarkaških prvenstava za muškarce, koja su održana 1986. (tablica 1, slike 1 i 2) i 1994. (tablica 3, slike 4 i 5; tablica 4, slike 6, 7, 8 i 9; tablica 5, slike 10 i 11), potom na utakmicama europske zone kvalifikacija za Olimpijske igre 1992. (tablica 2, slika 3) te na utakmica Europskog juniorskog prvenstva za košarkaše 1994. (slika 12). Uspješnim napadima smatrali su se oni napadi koji su zaključeni košem ili protivničkim prekršajem pravila igre.

REZULTATI I RASPRAVA

Istraživanje je pokazalo kako postoji nedvojbeno povezanost između trajanja i

učinkovitosti napada. Napadi su razdijeljeni u pojedine skupine/vrste napada prema slijedećim kriterijima: stupanj učinkovitosti i prema uobičajenoj podjeli na tranzicijski (protunapad) i postavljeni napad. U izradi idealnog teorijskog modela strukture napada za osnovu je uzimao najbolji intervalni indeks između trajanja napada i njegove učinkovitosti. Pri tome se autor rukovodio pretpostavkom da je svakoj ekipi na raspolaganju podjednako ograničeno vrijeme posjeda lopte – 20 min ili 1.200 sekundi.

Prosječan broj po utakmici i postotna zastupljenost napada različita trajanja i njihova učinkovitost prikazani su u tablicama i na slikama za svako međunarodno natjecanje posebno. Na Svjetskom prvenstvu 1986. uočava se iznimna dinamičnost igre - 92 napada u prosjeku, od kojih je 49 (53,4%) bilo uspješnih. Za to natjecanje izrađena je struktura od pet vrsta napada (slika 2). Sličnosti su uočene na kvalifikacijskom turniru za Olimpijske igre 1992. Ipak, uočavaju se i neke specifičnosti – europske momčadi bile su brže i učinkovitije u zaključivanju postavljenih napada uigranim kombinacijama ili individualnim akcijama vrhunskih košarkaša. U nastavku autor analizira taktiku napada hrvatske reprezentacije, za koju smatra da je bila najbolje taktički pripravljena (tablica 2, slika 3). Hrvatska reprezentacija izvela je prosječno 83 napada po utakmici s uspješnošću od 61%, a osobito je bila uspješna u brzim napadima (2-5 sekundi): udio od 22% u svim napadima (18 po utakmici) i 78% učinkovitost. Autor ovdje uvodi pojam «hasty attack» (brzopleti napad ili nepripravljeno završetak napada), koji ne drži osobito korisnim jer je rezultat obično individualne akcije, ali bez suradnje s ostatkom ekipe (bez postavljanja bloka, bez izborne pozicije za skok u napadu i drugoga), pa mu ni učinkovitost nije visoka. Od 1986 do Svjetskog prvenstva 1994. godine (sa sudjelovanjem i reprezentacije SAD-a) mogu se uočiti neke tendencije: ubrzanje napada, naročito veća zastupljenost brzih protunapada (2-5s, obično nakon ukradene lopte ili skoka u obrani), u čemu su osobito bili uspješni hrvatski košarkaši. Na potonjem svjetskom prvenstvu pokazala se slabija taktička pripravljenost ekipa: broj brzopleto završenih napada jako se povećao (20% od svih napada), a učinkovitost je od svih vrsta napada u njima bila najniža (42%). no, s druge strane, taj podatak može svjedočiti o ubrzanju igre. osobito je uočljivo poboljšanje učinkovitosti u završecima

napada dobro uigranim kombinacijama ili individualnim akcijama velikih igrača (tablica 3, slike 4 i 5). Rezultati američke reprezentacije prikazani su u tablici 4 i slikama 6 i 7. Izrazito obilježje igre američkih košarkaša u napadu je brzo zaključivanje napada (prosjeak od 95,5 po utakmici; 95% svih njihovih napada završavalo se unutar intervala od 2 do 15 sekundi). Mogući razlozi: vrijeme napada u NBA-u 24 sekunde i superiornost u tehničko-taktičkim vještinama i znanju. Rezultati osvajača srebrne medalje, ruske reprezentacije, prikazani su na slikama 8 i 9, a hrvatske reprezentacije (brončana medalja) u tablici 5 i na slikama 10 i 11. Hrvatski stil igre u napadu opet je obilježio velik broj brzih napada (2-5s) – 26,9% od svih napada i uspješnost 69%, i taktička disciplina (zanemariv broj brzopletih završetaka napada). Visoka kvaliteta hrvatske škole košarke pokazala se i na Europskom juniorskom prvenstvu 1994. u Izraelu (slika 12).

ZAKLJUČAK

Spoznaje o strukturi i trajanju napada unapređuju programiranje i kontrolu trenažnog procesa te pomažu izboru najučinkovitijih napadačkih taktika protiv konkretnih protivnika. Rezultati dobiveni na utakmicama vrhunskih košarkaških ekipa podjednake kvalitete odgovaraju modelu strukture napada koji je predložio autor (1995., 1998. i 1999.):

- Trajanje napada od 2 do 5 sekundi: 34% svih napada, učinkovitost 74%
- Trajanje napada od 6 do 9 sekundi: 13% svih napada, učinkovitost 58%
- Trajanje napada od 10 do 22 sekundi: 42% svih napada, učinkovitost 61%
- Trajanje napada od 23 do 30 sekundi: 11% svih napada, učinkovitost 63%

S povećanjem broja brzih napada raste i potreba da se jasno razluče brzi protunapadi (2-5 sekundi) od brzopleto završenih (6-9 sekundi) napada.

U dužim (postavljenim) napadima pokazalo se iznimno važnim da ekipe primijene dobro uigrane kombinacije žele li nadigrati obranu, osobito u utakmicama jednako kvalitetnih ekipa.

Usprkos tomu što su se košarkaška pravila često mijenjala, a mijenjaju se i danas, pa se tako i pravilo o trajanju napada promijenilo, ovo je istraživanje vrijedan doprinos proučavanju razvoja košarkaške igre, osobito taktika napada, koje su se također mijenjale u posljednja dva desetljeća 20. stoljeća. Prikupljeni podaci doprinose i teorijskim raspravama o košarci, a mogu poslužiti kao polazna točka za slijedeća istraživanja o strukturi i trajanju napada prema novim pravilima.

Ključne riječi: košarka, struktura napada, trajanje napada, uspješnost napada, model strukture napada