

## CHARACTERISTICS OF COMPETITIVE ACTIVITY OF QUALIFIED BASKETBALL WITH HEARING IMPAIRMENT COMPARE TO QUALIFIED HEALTHY BASKETBALL PLAYER

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**Annotation.** Purpose - the comparison of competitive activity skilled basketball players with normal hearing and impaired hearing aid. The study involved female athletes Ukrainian National Team with hearing ( $n = 12$ ) and healthy female athletes ( $n = 12$ ). Technical protocols processed 20 games World Cup, Europe, Ukraine among deaf athletes. Processed records 20 games of the Ukrainian Championship. Found that healthy athletes for the game significantly longer perform and get into the basket fine and three point shots, fewer mistakes, but they are inferior in rebounds. Installed insignificant differences between the number of throws, entering the basket from the middle distance, interceptions in athletes with hearing impairment and healthy athletes. Recommended to increase the coherence of group and team interactions basketball with hearing during the game to use the special visual aids.

**Keywords:** basketball, sportsman, hearing loss, game performance, competitive activity.

### Introduction

Nowadays para Olympic and deaflympic sports are intensively progressing; one of the most wide-spread kinds is basketball. Basketball helps to reveal communicative abilities, realize leader's features, acquire self assurance that is especially important for physically challenged people, among which there are a lot of girls with hearing abnormalities [1, 2, 9-12].

In modern society sports of highest achievement of disabled is relatively new, social, cultural and pedagogical phenomenon; the main purpose of it is commercial income of disabled sportsmen, received owing to high level of their sport preparedness. Training of sportsmen in disabled sports is becoming more and more urgent in connection with development of this branch of sports. However, training process in deaflympic sports, in particular in basketball, cannot be the same as the training of healthy sportsmen. The problem is aggravated by the fact, that deaf sportswomen are trained by coaches, who have experience of training of healthy sportswomen and communication with deaf sportswomen is difficult for them.

The authors, in their works, study chronological succession of historical events, which characterize development of Ukrainian women basketball in the first half of 20<sup>th</sup> century. They study the peculiarities of cardiovascular system' adapting to physical load and rehabilitation period after training of basketball players of highest league. They provide main evaluations and the structure of tactic-technical actions' correction, reveal the regularities of individual competition efficiency of qualified female basketball players; they discover the content of physical preparation and the structure of qualified female basketball players' complex preparedness in the process of training. Training programs for increasing of quick breaching efficiency as a type of quick attack, which is used in basketball, have been offered [3, 4, 6].

Analysis of existing literature witnesses about insufficient attention of specialists paid to problems of training process's organization, formation of preparedness level, games' efficiency of female basketball players with hearing abnormalities. Comparison of resulting indicators of healthy and deaf female basketball players' competition activity is of significant interest because it permits to find out poor sides of sportswomen' preparedness. In this connection revelation of peculiarities of deaf female basketball players' competition activity in comparison with the same of healthy sportswomen is especially urgent.

The work has been fulfilled within the frames of plan of scientific & research works of Kharkov national economical university.

### Purpose, tasks of the work, material and methods

*The purpose of the work* is to compare indicators of competition activity of qualified sportswomen with normal hearing with the same of sportswomen, who have distortions of hearing.

12 sportswomen with hearing abnormalities of women combined basketball team of Ukraine and 12 healthy female basketball players of Kharkov 1<sup>st</sup> league team BC HAI «XXI– CENTURY» took part in the research. Technical records of 20 games with equal adversary at 3<sup>rd</sup> World Championship (Italy, September 2011) and at European Championship (Turkey, July 2012), Championship of Ukraine (Kharkov, September 2012) of deaf sportswomen were processed as well as 20 records of Championship of Ukraine of women 1<sup>st</sup> league teams for seasons 2010-2011 and 2011-2012.

### Results of the research

The present research was initiated by the situation in women with hearing abnormalities combined basketball team. From July 22<sup>nd</sup> to August 5<sup>th</sup> 22<sup>nd</sup> summer Deaflympic games, in which Ukrainian women combined will participate, will be conducted in Sofia (Bulgaria). That is why it is necessary to determine the level of players' readiness to these Competitions. Relatively objective information about efficiency of competition activity in basketball is given by the results of game activity, which helps to find out strong and weak sides of players and the team.

For analysis of game activity in basketball we applied technical recording of games, which was executed by independent expert as per standard methodic with application of special computer programs [5]. The quantity and percentage of hits of 1 score, 2 score and 3 score throws, captures, pick ups at own and adversary's backboards, the quantity of errors were registered (see table 1).

In basketball the main aim of defense is to minimize the adversary's hit to basket. That is why organization of defense influences on character of further attacks; active actions in defense give opportunity for team to hold ball and pass to counter attack as well as force adversary to fulfill distant throws from distant positions [9].

Results of observation showed that dominating form of defensive actions against both healthy and deaf sportswomen was personal defense. During 20 games the percentage of zone defense, which was applied by adversary, was the same in both cases.

Analysis of data, which were obtained in our research, leads to conclusion that during a game healthy sportswomen confidently fulfill more penalty and 3 scores throws and hits, they make less mistakes, though they are worse in pick ups at own and adversary's backboards (see table 1, figs. 1, 2). At this stage there were not found any confident difference in number of throws and hits from middle distance and captures between deaf sportswomen and healthy ones (table 1, figs.1, 2). But in contrast to healthy sportswomen girls with hearing abnormalities fulfill confidently less passages under ring and, naturally, do not provoke defender for violation of rules – foul; they fulfill confidently less distant throws, make much more mistakes and losses of ball. On the base of these data we can say that game intensity of deaf basketball players is lower. Owing to their physical and psychological peculiarities they prefer “no to risk” and avoid close contacts, collisions with defenders. Numerous losses of ball and mistakes in attacks and defense of deaf female basketball players can be explained by poorly accorded, mutually not coordinated tactic-technical actions of sportswomen in the space and time of game. The absence of hearing impedes mutual understanding of sportswomen during long term playing of ball with application of multi-variant combinations. For increasing of accordance of group and teams interactions of basketball players with hearing abnormalities it is necessary to develop special visual aids, dynamical and tactical visual diagrams.

In contrast, healthy sportswomen fulfill more passages under ring, because, when throwing from under the ring they will either hit the basket or somebody of adversaries will receive foul, i.e. healthy sportswomen provoke hard game. Besides, healthy female basketball players fulfill more 3-scores throws, because the have better skills of distant throws. Also, basketball players of team BC HAI «XXI– CENTURY» have much better tactic level, they timely and clearly carry out the rehearsed tactical combinations, quickly and with minimum losses response to change of game situation both in attack and in defense (see fig. 1).

Table 1

*Indicators of competition activity of healthy female basketball players (n=20) and female basketball players with abnormalities of hearing (n=20)*

Registered indicators	Group	Statistical indicators				
		$\bar{x}$	S	m	t	p
Penalty throws. Quantity per game	With hearing abnormalities	14.30	6.76	1.51	-2.03	<0,05
	Healthy	18.00	4.83	1.08		
Penalty throws. Quantity of hits per game	With hearing abnormalities	7.80	3.83	0.86	-3.11	<0,001
	Healthy	11.70	4.11	0.92		
Penalty % hits	With hearing abnormalities	54.23	11.25	2.52	-3.02	<0,001
	Healthy	63.88	8.83	1.98		
2 scores throws Quantity per game	With hearing abnormalities	55.40	17.96	4.02	1.66	>0,05
	Healthy	48.00	8.68	1.94		
2 scores hits Quantity per game	With hearing abnormalities	22.70	9.46	2.12	1.36	>0,05
	Healthy	19.50	4.52	1.01		
2 scores % hits	With hearing abnormalities	41.08	10.92	2.44	-0.04	>0,05
	Healthy	41.22	10.22	2.28		
3scores throws Quantity per game	With hearing abnormalities	14.60	6.19	1.38	-2.03	<0,05
	Healthy	18.10	4.91	1.10		
3 scores hits Quantity per game	With hearing abnormalities	2.50	2.06	0.46	-4.70	<0,001
	Healthy	5.90	2.49	0.56		
3 scores % hits	With hearing abnormalities	15.71	13.05	2.92	-4.66	<0,001
	Healthy	32.82	9.96	2.23		
Pick up at own backboard	With hearing abnormalities	29.00	5.51	1.23	4.38	<0,001

Quantity per game	Healthy	22.30	4.05	0.91		
Pick up at adversary's backboard Quantity per game	With hearing abnormalities	17.60	6.90	1.54	1.23	>0,05
	Healthy	15.00	6.47	1.45		
Capture, Quantity per game	With hearing abnormalities	18.00	7.08	1.58	-0.28	>0,05
	Healthy	18.70	8.85	1.98		
Mistakes, Quantity per game	With hearing abnormalities	25.80	6.66	1.49	-2.03	<0,05
	Healthy	22.00	6.36	1.42		

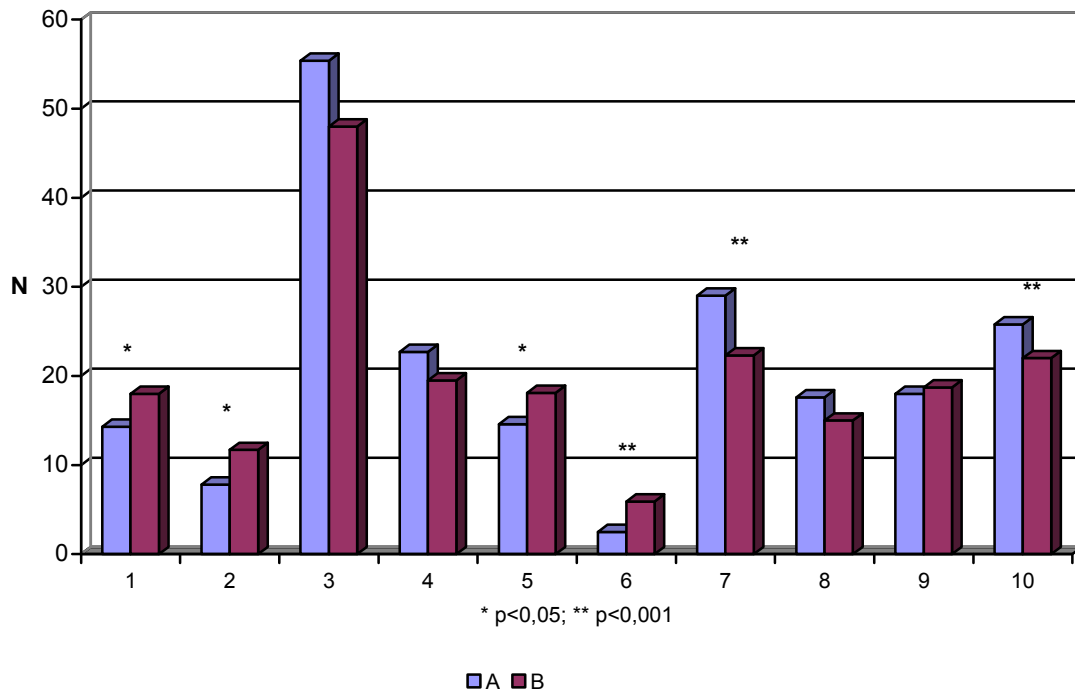


Fig. 1/ Indicators of competition activity of qualified sportswomen with hearing abnormalities (A, n=20) and qualified healthy sportswomen (B, n=20)

1 - Penalty throws; 2 – Penalty hits; 3. - 2 scores throws; 4 - 2 scores hits; 5 - 3scores throws; 6 - 3 scores hits; 7 - Pick up at own backboard; 8 - Pick up at own backboard; 9 – Capture; 10 –Mistakes; N – Quantity per game.

For determination of game actions' efficiency we calculated the percentage of hits from different distances during a game. Female basketball players, having hearing abnormalities, have less penalty hits by 9.65%, middle distance hits – less by 0.14% and distant hits – less by 17.11 % than healthy female basketball players (see table 1, fig. 1, 2).

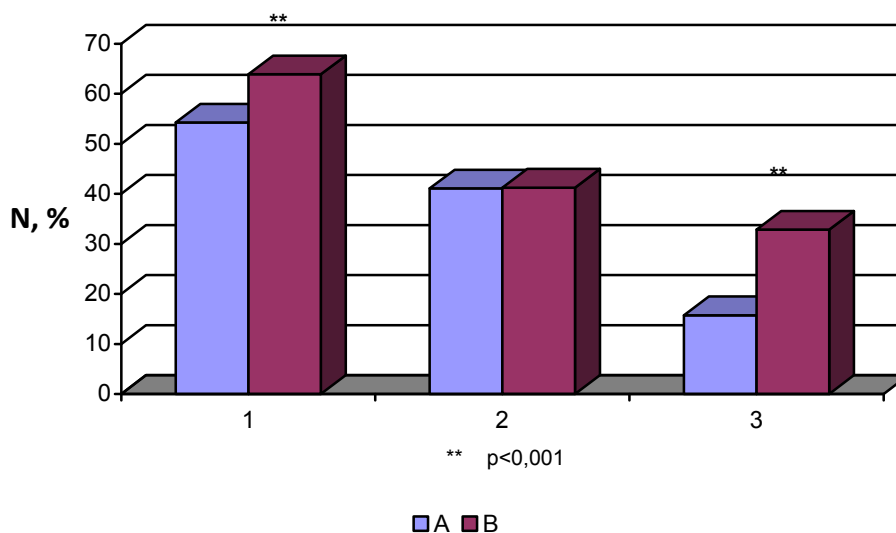


Fig.2. Comparative performance of realization of team throws of qualified healthy sportswomen (A) and sportswomen with hearing abnormalities (B).

1 –penalty; 2 – 2 scores; 3 –3 scores; N,% - percentage of hits.

The revealed peculiarities of basketball players, having hearing abnormalities, game activity are connected with the fact that in comparison with healthy sportswomen they prefer to play “for sure”, applying, mainly, position attacks, though there is certain weak interconnection and non-coordination of players’ actions within the frame of game concept. That is why the biggest quantity of their throws are from middle distance, they have less passages under ring and 3 score throws, i.e., they try to avoid hard contacts and are not sure in distant throws. Of course, for female basketball players it is more difficult to orient in changing game situation and act rationally within the frames of team tactic. The necessity to constantly control current game situation, to quickly analyze it and immediately take optimal decisions is rather difficult for girls, having poor hearing, owing to specificity of their health. In our opinion the differences were caused by the fact that in comparison with healthy sportswomen, female basketball players started basketball training much later and the system of training of girls with hearing abnormalities has not been sufficiently developed yet.

Thus, in spite of the fact that accuracy of ball throws into ring is closely connected with the character of basketball players’ game activity, with their functional capabilities, the percentage of sportswomen’s with hearing abnormalities hits is much lower than the same of healthy sportswomen. Exception is only throws from middle distance.

For increasing of accuracy of penalty and distant throws it is necessary to bring their fulfillment at trainings closer to game conditions, using different exercises after intensive load, with active counter action of defender and in state of emotional tension.

Most of training exercises shall be fulfilled on the base of simulation of conditions and situations of competition activity, it is necessary to shorten rest pauses, execute throws in ring in tired state.

Reduction of mistaken actions, improvising and variety of individual tactic actions in attack, self assurance and control of game situation during attack will increase the efficiency of attacks and throws.

#### Summary

1. It has been found that during game healthy sportswomen fulfill confidently more penalty and 3 scores throws and hits, make less mistakes, though they are worse in pick ups at own and adversary’s backboard.

2. It has been established that the differences between the quantity of throws and hits from middle distance as well as captures are insignificant between healthy sportswomen and the sportswomen with hearing problems.

3. It has been shown that sportswomen with hearing problem fulfill confidently less passages under ring, do not provoke defender for violation of rules, execute confidently less distant throws, make much more mistakes and ball losses, i.e., basketball players with hearing problems are more cautious in game in comparison with healthy sportswomen.

4. It has been established that hit percentage from different distances of healthy basketball players is higher than the percentage of sportswomen with hearing problems and it requires creating of special effective training program for increasing of throws accuracy.

The further research will be oriented on development of methodic of throws accuracy increasing methodic and rising of game activity’s efficiency of female basketball players with hearing problems.

#### References:

- 1 Bajkina N.G., Kret Ia.V., Silant’iev D.O. *Metodika vkladannia fizichnoyi kul'turi ta sportu invalidiv* [Methods of teaching physical education and sports for the disabled], Zaporizhzhia, ZSU Publ., 2002, 86 p.
- 2 Val'tin A.I. *Problemy sovremennogo basketbola* [Problems of modern basketball], Kiev, In Jure, 2003, 150 p.

- 3 Verkhoshanskij V.Iu. *Teoriia i praktika fizicheskoi kul'tury* [Theory and practice of physical culture], 1991, vol.2, pp. 24-31.
- 4 Zashchuk S.G., Kozina Zh.L., Bez'iazychnyj B.I. *Fiziceskoe vospitanie studentov* [Physical Education of Students], 2009, vol.2, pp. 19-22.
- 5 Doroshenko E.Iu. *Teoriia i metodika fizichnogo vikhovannia i sportu* [Theory and methods of physical education and sport], 2008, vol.2, pp. 3- 6.
- 6 Kozina Zh.L. *Individualizaciia podgotovki sportsmenov v igrovikh vidakh sporta* [Individualization of training of athletes in team sports], Kharkov, Point, 2009, pp. 145-160.
- 7 Korneev R.A. *Teoriia i praktika fizicheskoi kul'tury* [Theory and practice of physical culture], 2004, vol.3, pp. 24-28.
- 8 Kulinich I.V. *Teoriia ta metodika fizichnogo vikhovannia* [Theory and methods of physical education], 2006, vol.1, pp. 32-35.
- 9 Platonov V.N. *Sistema podgotovki sportsmenov v olimpijskom sporte* [The system of preparation of sportsmen in Olympic sport], Kiev, Olympic Literature, 2004, 808 p.
- 10 Poplavskij L.Iu. *Basketbol* [Basketball], Kiev, Olympic Literature, 2004, 448 p.
- 11 Cushko R.O. *Teoriia i metodika fizichnogo vikhovannia i sportu* [Theory and methods of physical education and sport], 2008, vol. 3, pp. 4-7.
- 12 Mondoni M. *From Minibasket to Basketball*. Munchen: International Basketball Federation, 1991, 102 p.

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