

**SURVEY CONCERNING STRENGTH PARAMETERS
IDENTIFIED ON JUNIOR HANDBALL PLAYERS AND THE
IMPORTANCE IN THE PRACTICE OF THE HANDBALL GAME
AT THE PERFORMANCE LEVEL**

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Keywords: handball players, junior, strength, survey.

Abstract

In the theory and methodology of handball the concept of strength capacity is highlighted as part of physical training, and references are made and adapted to the game of handball. Determining the level of strength capacity in junior handball and analysis of responses to the questionnaire of handball coaches (who actively sought Strength development in handball at the junior level) will be practical and methodological foundation for organizing and conducting experimental research based on teaching. The research purpose is to achieve a preliminary study (questionnaire) regarding the development of the ability to strength the junior handball. Instructional strategy aimed at developing specific strength capacity in handball and it should have a well-defined and specified influence in the physical training of junior handball endpoints, intermediate lesson that must be met in order to increase the performance level of the players.

Introduction

Strength development is a broad and complex process that must take into account the particularities of age, the growth and development prior to the training, the correct regimen of life (leisure, food) to create the prerequisites for organizing and conducting the optimum activity. Different manifestations of strength and development methodologies are based on principles which contribute to the development of optimal parameters of these indices.

In the theory and methodology of handball the concept of strength capacity is highlighted as part of physical training, and references are made and adapted to the game of handball.

Cercel, P., 1975, p. 71 considers that strength is "the quality by which inertia overcomes its own body or an object at rest or moving".

Ghermănescu, I.K., Gogâltan, V., Jianu, E., Negulescu I., 1983, p. 195 consider that to achieve higher index of strength it is necessary that in the handball to be used training exercise method with charge and circuit.

Martinet, J.P., Pages, J.L., 2007, p. 417, assessed that in high performance handball physical training should be provided to support muscle strength (maximum strength speed mode) and aerobic energy system to achieve top performance in sports competitions.

To develop strength there must be applied a stimulus to produce muscle contraction (Hantău, C., 2000, p. 140).

Trosse, H.D., 2011, p. 35 believes that in handball preparation there should be developed specific forms of manifestation of strength against the objectives settled for training and competition.

From the point of view of physics, the strength is the ability to produce mechanical work in a unit of time. Analyzing this definition in terms of specific handball movements it is evident that the strength is one of the success factors in this activity (Bon, M., 2007, p. 3).

The need to use resources to develop strength capacity the practice is indispensable handball (Espar X., 2001, pp. 87-89): to form players, obtaining and maintaining the sport fit, injury prevention, recovery after injury.

The role of strength in the sport preparation of the handball players is considered essential and should therefore be reconsidered instead of preparing to facilitate achievement of effective training to underpin performance in competitions.

In the game of handball experts indicate the need to identify specific forms of manifestation of the strength that are needed to practice this branch of sport at a high level.

The strength capacity at children and youth in handball should consider to the development of forms through which specific game and to achieve training objectives and performance targets.

It's should be borne in mind that for the junior age (12-19 years old) physiological particularities, somatic and motor prevail in establishing methods, means and dosages must be used in development work for strength capacity.

Determining the level of strength capacity in junior handball and analysis of responses to the questionnaire of handball coaches (who actively sought Strength development in handball at the junior level) will be practical and methodological foundation for organizing and conducting experimental research based teaching.

The research purpose is to achieve a preliminary study (questionnaire) regarding the development of the ability to strength the junior handball.

Material-method

In carrying out preliminary research we used a number of methods that have helped to draw conclusions for the accomplishment of basic experimental research (Gage A., 1999, pp. 222-225): method of studying literature, survey method (questionnaire), graphical and tabular method, statistical and mathematical methods.

The cumulative use of these research methods achieved critical and objective analysis of the current situation regarding the issues under investigation and identified directions for the next steps of our scientific approach. This is the way that the researcher organizes, conducts and completes the scientific approach that contributes to enriching the domain with useful information in theoretical and practical work.

The questionnaire was developed during August-October 2012, applied in October, November and December 2012 and the analysis of the responses to the questionnaire was carried out in December 2012.

Sample questionnaire was addressed to coaches at junior handball level (men) from Romania. All questions were answered by 48 coaches.

4 of them are category I coaches, 8 are category II coaches and 36 are category III coaches. As experience in the field, four coaches have less than 5 years, between 6 and 10 years are 11 coaches from 10 to 20 years - 16 coaches and more than 20 years - 17 coaches. It is noted that the experience of coaches, revealed by category and length of the field is very broad, with coaches who have recently started and others who have a great experience in preparing sport of handball, and this is very visible in responses to the questionnaire.

Results and Discussion

To question 6 (on preparing junior handball), respondents see it as: very good - 2 (4.17%), good - 13 (27.08%), medium - 26 (54.17%), weak - 7 (14.58%).

Regarding the share of the training factors in the junior handball training (question 7) we obtained the following answers: physical - 38.6% technical - 38.6%, tactical - 10.6%, psychological - 7%, theory - 5.2%. Responses indicate that junior handball training should be given great importance in terms of physical and technical preparation.

The weights given to the development of motor skills in the volume of work referred to physical training are: strength - 23.74% speed - 35.59%, resistance - 22.03%, skill - 18.64%. It is noted that the share given strength development occupies about a quarter of the workload and ranks 2 on the share after speed (Figure 1).

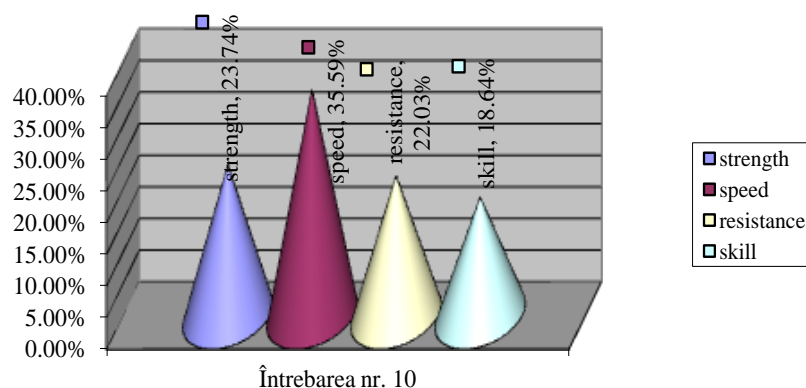


Figure 1 Results of the questionnaire (question 10)

The importance of strength training in the context of physical training of the junior handball players is considered high by 11 coaches (22.94%) large by the 30 coaches (62.50%), average by 7 coaches (14.58%) and lower by 1 coach (2.08%), it can be said that in the opinion of the coaches questioned the importance of strength in the context of physical training is one large (Figure 2).

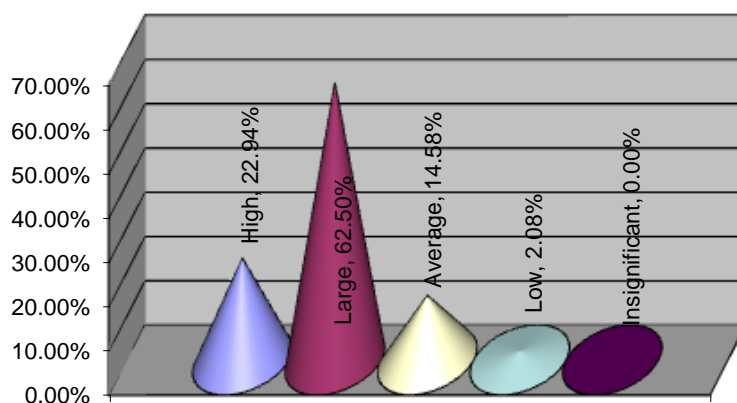


Figure 2 Results of the questionnaire (question 11)

The strength indices of junior handball players (question 12) is considered to be good - 13 coaches (27.08%), medium - 28 coaches (58.34%), weak - 7 (14.58%). Although the importance of the physical strength within handball was considered to be high in the previous question, its level of junior athletes that compete in the national level is medium.

In terms of forms of strength that must be developed in handball (question 13), the coaches responses revealed as important the general strength arm muscles, the scapular-humeral belt, the torso and the legs; strength speed combination for the throwing arm, leg and trunk; strength speed combination with skill for arms and legs under the specific resistance strength.

To question 19 "Do you work strength development especially employing juniors feel that this is resolved as a result of using other means of training?", 5 coaches (10.42%) said they do not work specifically in this area, while 41 (89, 58%) work specifically for strength development of junior handball.

Regarding the number of workouts including strength development (question 21) during the weekly program organized in periods, their number varies as follows: preparatory period - 2-6 workouts, pre-competitive period - 2-4 workouts, during competition - 0-3 workouts.

To question 22 "Which are the main means used in strength development training junior handball? Specify, please, at least five. Listed means of coaches are sets of exercises with different volume and intensity by using loads or your own body weight and / or different devices (sand bags, elastic cords, trellises, benches, string or elastic bands, dumbbells, MFDs (multifunctional device), etc.) jumping squats, jumping, pushups with beating hands, passing the medicine ball, pushed the chest, squat jumps detachment of squat jumps on a successive leg skipped step 2 medicine ball kept under arms, passing the ball on the spot using various medicinal methods, simple and combined plyometric exercises, passing the medicine ball at different distances, working appliances in the gym for strength development of different muscle groups.

Preparation of strength (question. 23) is done the same for all players 24% of cases, adapted to the specific playing post 29%, and adapted to the characteristics of players at 47% of the coaches.

Regarding the tests by which to evaluate the parameters of strength capacity (question 26) there should be mentioned in: long jump from place pentasalt, decasalt, high jump, handball throwing the ball enthusiastically 3 steps, strength, pushups, lifting the trunk in 30 seconds.

To question. 27 "What do you think it should be improved in athletic training / sports training to junior handball?" They have made the following recommendations: focus on the achievement of the physical, technical, psychological, tactical factors and implement a training unit at the junior level.

About how to improve physical training for junior level (question 28) handball they mentioned: more physical training, employment of physical coach to work with athletes, adjust volume of training to the athletes possibilities and application of single program of physical training.

The development of capacity indices for junior handball (question 29) is due specifically to the gym work and employment of physical preparators to monitor and implement the training program in this direction.

The last question of the questionnaire, „What else do you think should be improved to increase the quality of junior handball?“ Responses were varied and represent a real situation in radiography at romanian handball juniors:

- creation and implementation of training methods line at national level (developed by Romanian Handball Federation);

- workload adaptation;
- use individualized training;
- changing competitive system;
- selection;
- material conditions;
- arbitration;
- domain specific emphasis on scientific research to provide timely information for the planning and preparation of sports;
- creation of regional centers of excellence at the expense of existing national (Sighisoara – male, R. Valcea - female);
- elimination of the high requirements;
- Romanian Handball Federation should organize teacher training at regional level by addressing to the juvenile handball;
- increasing financial support granted clubs;
- development and support of private clubs;
- thinking and implementation of national strategies that would lead to the elimination of system deficiencies and provide definite insights performance junior level nationally and especially internationally.

Following the questionnaire handball coaches at junior level, processing and analyzing of the responses, we obtained the following information:

- the physical training influences a great extent as a result of sports training effectiveness, but the level is medium;
- strength with speed is considered one of the key driving skills in practicing handball performance level, but this level of development is mediocre;
- manifestations of strength that must be developed in handball are general strength arm muscles, scapular-humeral belt, torso and legs; strength speed combination for the throwing arm, leg and trunk; strength speed combination with skill for arms and legs under the specific resistance strength;
- preparation is necessary for the development of specific forms of manifestation of strength in the game of handball to be adapted to specific playing post game and individual characteristics of the players;
- scheduling special training for strength development, especially during the preparatory and pre-competitive period or with other specific topics during the competitive training;

- need to develop general and specific tests batteries for assessing the training level handball;
- periodically assesment of the strength capacity throughout the season;
- employment of the physical preparators or specialized staff to deal with the implemetation of physical training in handball;
- development and implementation of a unique line in training methods for junior handball players at the national level;
- developing a national strategy to provide significant scope for obtaining performance at the junior level nationally and especially internationally.

Conclusions

Taking also into account the research literature and sociological inquiry, we conclude by stating the following:

- Lack of a strategy to ensure a uniform handball training could be one of the causes of the mediocre training and performance.
- To obtain sport performance nationally and internationally it is essential for specific physical preparation a high quality of sports training which should be the basis of the handball players preparation.
- Adaptation and individualization of training in accordance with playing post requirements.
- Using the best training methods and means aimed at developing the capacity of strength suited to the objectives and requirements of each training period.
- Setting objective tests and control samples for the determination of development of the specific strength capacity in handball.
- Regular assessment of specific strength capacity level of the players to achieve feed-back of sports training activities.
- Strategy of handball training for the contemporary period must be designed to optimize the training process by reviewing the share of the factors training and setting their values for each phase and period of preparation by the team's competition schedule.
- Instructional strategy aiming at developing specific strength capacity in handball should have well-defined and specified influence in the physical training of junior handball endpoints, intermediate lesson that must be met in order to increase the performance level of the players.

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Titlu: Anchetă chestionar privind identificarea parametrilor capacității de forță la handbaliștii juniori și importanța acestora în practicarea jocului la nivel de performanță.

Cuvinte cheie: handbaliști, juniori, forță, chestionar.

Rezumat: În teoria și metodică handbalului conceptul de capacitate de forță este evidențiat ca și componentă a pregătirii fizice, iar referințele sunt făcute și adaptate la cerințele jocului de handbal. Determinarea nivelului capacității de forță la handbaliștii juniori și analiza răspunsurilor la chestionarul adresat antrenorilor de handbal (care a vizat obținerea de informații privind dezvoltarea forței în handbal la nivel de juniori) vor constitui fundamentul practic și metodologic pentru organizarea și desfășurarea cercetării pedagogice experimentale de bază. Scopul cercetării îl constituie realizarea unui studiu preliminar (chestionar) privind nivelul de dezvoltare al capacității de forță la handbaliștii juniori. Strategia didactică care vizează dezvoltarea capacității de forță specifică jocului de handbal trebuie să aibă un loc bine definit și precizat în cadrul pregătirii fizice a handbaliștilor juniori cu obiective finale, intermediare și de lecție care trebuie îndeplinite pentru a crește nivelul performanțial al jucătorilor în competiție.

Titre: Enquête sur l'identification des paramètres de la capacité de force pour les juniors handballeurs et leur importance pour pratiquer le jeu de handball au niveau de grande performance.

Mots-clés: joueurs de handball, junior, la force, l'enquête.

Résumé: Dans la théorie et la méthodologie de handball le concept de capacité de résistance est mise en évidence dans le cadre de l'éducation physique et des références sont faites et adaptées à la pratique du handball. Déterminer le niveau de capacité de force pour les handballeurs basées et l'analyse des réponses aux entraîneurs de handball questionnaire (qui a cherché activement le développement de la force dans le handball au niveau junior) sera fondement pratique et méthodologique pour organiser et mener des recherches expérimentales à l'enseignement. Le but de la recherche est de réaliser une étude préliminaire (questionnaire) concernant le développement de la capacité de résistance du handball junior. Stratégie pédagogique visant à développer la capacité de force spécifique au handball devrait avoir une bonne définie influence et spécifié dans l'entraînement physique des juniors, leçon intermédiaire qui doivent être respectées afin d'augmenter le niveau de performance des joueurs.