

"Effect of S.A.Q exercises on some special compatibility capabilities and the level of composite skill performance of judo beginners "

¹ Dr. Ahmed Mohamed Nour El Din

Introduction and research problem

The most important characteristic of sport is its close association with the developments and foundations of other natural sciences.

Each sport activity is characterized by special abilities and qualities that qualify the individual to practice this type of activity and enable player to reach high levels.

Judo requires its practitioners to perform specific mobility skills that are characterized by the skill they have to master and perform in competitive conditions.

As the sport progresses, it is difficult to beat the opponent with one skill or even a few skills. It is up to them to install the skills in a way that suits the abilities of the players (11: 2)

Pat Harrington (2001) and Murad Tarfa (2001) note that all judo skills, whether individual skills or complex skills, are characterized by rigorous technical techniques based on principles and scientific foundations,

Which require adaptive motor responses, gradually acquired until they appear in the form of sophisticated motor behavior It is characterized by consistency and flow with the economy in the effort and time required for performance (18:14) (10: 375)

Judo skills therefore require coordination capabilities, which is one of the factors affecting the skill level of players in this sport.

This is evident when it is necessary to connect the parts of one skill or two complex skills. For example, Harmon city (3: 50)

Raczek (2000) points out that compatibility capabilities require their development in particular in complex and compound skills, as these skills which require advanced level of control and performance control.

This is provided by the compatibility capabilities in their development, which is reflected in the availability of a high rate of sole control and control during Motor Performance (42: 59)

Khalid Farid (2007) emphasizes that compatibility capabilities are one of the most important factors necessary to improve the skill level of the players.

They are derived from the qualitative analysis of the sport activity.

¹ Instructor, Sports Training Department, Faculty of Physical Education, Sohag University.

Therefore, their development serves the technical side. And thus the availability of these abilities enables players to reach the best performance scores required for any motor performance (3: 12)

Mario Jovanovic et al. (2011) suggest that the term S.A.Q is derived from the initial characters of Speed, Agility and Quickness. (1285: 14)

Velmurugan & Palanisamy (2012) adds that S.A.Q is a modern training system that results in integrated effects of many physical abilities within a single training program. (432: 19)

Remko Polman et al. (2009) that the training (S.A.Q) integrated training system aimed at improving acceleration, eye-hand compatibility, explosive capability, response speed. (494: 1)

And the nature of the correlative relationship between the three training elements (transition velocity, agility and motor response velocity),

Bachele et al. (2000) explains that the speed of transition is the ability of the player to perform consecutive movements and similar in the shortest possible time,

While agility is the ability of the player to change its positions in the air, and motor speed is the maximum constriction or motor response to the muscle in the shortest possible time. (13: 14)

Vikram Singh (2008) explains the difference between the speed and the motor speed that the transition speed needs time to reach maximum speed, Which must be increased, and this is evident in the enemy races in which the player needs sufficient time to reach from zero speed to the maximum speed,

While Motor speed does not need this time, but maximum muscle contractions in the shortest possible time and appear in the explosive movements of some sports. (12:20)

Young & Sheppard (2006) points out that the concept of agility is one of the most frequently asked concepts by researchers and thinkers in the field of sport.

So far, there is no consensus in sports about what fitness is, and this may be due to its association with some physical and motor abilities. (17: 919)

Issam Abdel Khalek (2003) points out that the compatibility abilities are closely related to the development of motor skills and that specialized sports activity determines the quality of these abilities to be developed,

Since the individual cannot master the technical skills in the specialized activity in the absence of the compatibility capabilities of this Activity (188: 7)

Agnieszka (2005) emphasizes that the ability to harmonize properly in individuals helps to develop motor skills. Consensual abilities are necessary and necessary for all sports activities.

They help improve performance and achieve better results (94:15)
The importance of compatibility abilities is evident in the fact that they share motor skills to form the necessary foundations for the development of the level of the individual. Harmonic abilities play an important role in the acquisition of motor skills.

The time which required to learn any motor skill at the level of these capabilities is determined at the beginning of learning. (6: 3) the availability of an appropriate level of adaptive abilities when learning motor skills.
The researcher believes that SAQ training is developing the physical qualities associated with judo skills as he noted the low level of performance of judo skills for the judo players at Sohag Sports Club in the physical aspects and their compatibility abilities,

Which negatively affect the skill level and since beginners of judo beginners are not they have a high quality in Judo and do not have a large level of compatibility abilities due to the difficult performance requirements of judo skills.

This study led the researcher to study the effect of SAQ exercises on some special compatibility abilities E skill at the Judo junior players

Research goal

The aim of the research is to identify the effect of S.A.Q exercises on some of the special compatibility abilities and the skill level of compounding among judo beginners

Research hypotheses

- There are statistically significant differences between the averages of the pre and post measurements in the level of some compatibility abilities and the skill level of the compound among the judo group.
- There are statistically significant differences between the averages of the pre and post measurements at the level of some compatibility abilities and the skill level of the compound among the judo group of the control group.
- There are statistically significant differences between the mean of the two dimensional measurements in the experimental and control groups at the level of some compatibility abilities and the skill level of composite among the judo group.

Research plan and procedures

Research Methodology:

The researcher used the experimental method using experimental design for two groups, one experimental and the other by following the pre and post

measurement of the two groups as it is the appropriate method for the nature of this research.

Community and Sample Search:

The sample of the research was randomly selected. The basic research sample consisted of (30) young people from the age of (13-16) years.

They were divided into two groups, one of them experimental and 15 (15) For the conduct of the exploratory study.

Homogeneity of the research sample

Table (1)

Homogeneity of sample research in growth rates, physical variables and harmonic abilities And technical variables

N = 38

| Variables | Serial | Variables | Measurement units | SMA | standard deviation | Mediator | Torsion coefficient |
|-----------------------|--------|---|-------------------|--------|--------------------|----------|---------------------|
| Growth rates | 1 | Height | Cm | 129.52 | 1.63 | 129.00 | 0.214 |
| | 2 | Weight | Kg | 39.32 | 1.11 | 39.00 | 0.324 |
| | 3 | Job age | Year | 14.69 | 0.10 | 14.50 | 0.632 |
| Harmonic capabilities | 1 | Ability to accurately determine the situation | Cm | 8.80 | 0.21 | 8.50 | 0.247 |
| | 2 | Ability to adjust the motor rhythm | Degree | 8.47 | 0.28 | 8.40 | 0.321 |
| | 3 | Ability to balance motor | Degree | 12.65 | 0.32 | 12.60 | 0.587 |
| | 4 | The ability to regulate the motor | Degree | 4.35 | 0.18 | 4.30 | 0.321 |
| | 5 | Ability to fast reaction | Cm | 188.32 | 3.11 | 188.00 | 0.258 |
| Technical variables | 1 | Hari Joshi x Usoto Gari | Degree | 6.62 | 0.52 | 6.60 | 0.521 |
| | 2 | Or Ouch Gari, Ibon Sionagi | Degree | 6.74 | 0.63 | 6.70 | 0.362 |

Table (1) shows that the values of the spindle coefficients for growth rates, physical abilities, compatibility and skill variables in judo research are limited to (± 3) indicating the distribution modality in these variables.

Data collection tools

First: Measurement tools

- Ristameter for measuring both height and weight. - Tape measure.

- Stop hours. - Medical ball weighing 3 kg

Godō Training Center.

Second: Forms:

The researcher designed a questionnaire to achieve the objectives of the research are as follows: -

1- A form to determine the most suitable tests for measuring the skill performance of the compound in question.

2 – A form to determine the time periods for the standardization of the group of exercises and the number of training units weekly and unit time and intensity of pregnancy during the units.

III. Tests Consonance capabilities and skill performance in question:

A) Harmonic capacity testing facility (2)

- KITCO Battery for Harmonic Capacities.

B - Technical testing facility (3)

- Hari Joshi × Osoto Gari.

- Auchu Gari Yepun Sionage.

Steps to build the program:

Proposed Program:

Steps to prepare training program (S.A.Q)

- Conduct a survey of research and studies related to research variables.
- Meet experts and draw on their diverse experiences in designing training programs for this age group.

Training Objectives (S.A.Q)

The development of some special physical variables and the compatibility abilities of the judo beginners using physical exercises and compatibility,

And different parts of the body and the nature of physical and technical performance in judo sport with the importance of the development of:

- Physical capacity level (under consideration)
- Harmonic capacity level.
- The level of judo performance in judo.

Determines the training program (S.A.Q)

Program duration:

* Duration of the program (8) weeks.

Number of training modules:

* The number of units weekly (3) units weekly by 3×8 weeks = 24 units of the proposed program.

Training Method Used:

The researcher used the method of high-intensity, high repetitive load, repetitive training, and circular training, as well as content of exercises of a performance similar to judo performance.

The Scientific Basis of the Training Program

- Determine maximum repetition of 30 w for each exercise chosen.
- Determine the load of each exercise by beating $\times 3/4$.
- Exercises for the development of the transition speed is determined by 75% intensity, taking into account the gradation of those intensities, and that the repetition of 8-12 days.
- Rest between each exercise 60th, including stretching exercise as one of the training exercises, taking into account the use of pulse in comfort and after the effort in determining the rest periods used in the search.
- The chosen training course will be conducted three times, with breaks between each of them, given that the training course is set up.
- Convenience between 2-4 groups.
- The maximum frequency is measured at 30 w per exercise every 3 weeks to determine the load of each stage of the program.
- Determine the weight and weight of the weights or resistors used in kilograms according to the weight of the student and the target of the training.

Selecting and defining the content of the training course:

30 exercises have been identified to be placed within the training circles in the form of stations. Each circle contains the number of exercises arranged according to the goal to be achieved, with the performance of the training courses as mentioned in the training programs.

The researcher observed in choosing the quality of the exercises to be similar to the nature of performance in the skills of the fencing and muscles functioning in the performance within the search, in addition to the balance of muscle work between the working muscles and counter.

Module parts:

Preparatory part:

This section includes stretching exercises for the purpose of heating the muscles by increasing the movement of blood within the muscles and raise the body temperature and the development of the central nervous system and this part takes between (12-20) of the time of the training module

.B. Main part:

The researcher applied the program units to the experimental and control groups, with the help of the Sohag Sports Club coaches.

He applied the introductory part and the physical preparation for both groups. The main part of the experimental group was divided by 30 (SAQ), 30 single- , with the control group performing (60) individual and marital skills training.

C. Closing part:

The main part is followed by a period of relaxation and relaxation, and has included a set of exercises intended to return physiological responses to normal levels, and this part takes between (5-10 minutes)

Accordingly, the researcher set up the carriage training courses during the period of load , consisting of (8) weeks of training according to the basis of the formation of the training load, divided the total period to weeks and then divided each week (3) daily training modules using the method of twisting. (1: 1), (2: 1), and the program is described in detail.

Table (2)

The significance of the differences between the pre - and post - test of the experimental group Harmonic capabilities and skillful performance under consideration

(N = 15)

| Variables | S | Variables | Measurement union | Pre measurement | | Post measurement | | Differences between the two averages | Improvement rate | T value | Statistical significance |
|-----------------------|---|---|-------------------|-----------------|------|------------------|------|--------------------------------------|------------------|---------|--------------------------|
| | | | | M1 | E1 | M2 | E2 | | | | |
| Harmonic capabilities | 1 | Ability to accurately determine the situation | Cm | 8.65 | 0.56 | 12.65 | 0.18 | 4.00 | 46.24% | 4.85 | Significant |
| | 2 | Ability to adjust the motor rhythm | Degree | 7.44 | 0.32 | 11.32 | 0.21 | 3.88 | 52.15% | 4.32 | Significant |
| | 3 | Ability to balance motor | Degree | 12.64 | 0.17 | 16.32 | 0.11 | 3.68 | 29.11% | 4.25 | Significant |
| | 4 | The ability to regulate the motor | Degree | 4.33 | 0.56 | 7.12 | 0.28 | 2.79 | 64.43% | 4.98 | Significant |
| | 5 | Ability to fast reaction | Cm | 188.30 | 1.11 | 211.02 | 1.18 | 22.72 | 12.06% | 4.22 | Significant |
| Technical variables | 1 | Hari Joshi x Usoto Gari | Degree | 6.57 | 0.54 | 8.85 | 0.52 | 2.28 | 25.67% | 4.18 | Significant |
| | 2 | Or Ouch Gari, Ibon Sionagi | Degree | 6.51 | 0.39 | 8.65 | 0.14 | 2.14 | 24.73% | 4.63 | Significant |

* Value (T) at the level of significance (0.05) = 1.753

As shown in Table (2), there are statistically significant differences between the pre-and post-Judo measurements of the judo coefficients in the computational abilities and the skill performance in question.

The t value of the table is greater than its value at the significance level (0.05)

Table (3)

Indication of the differences between the pre and post measurement of the control group Harmonic capabilities and skillful performance under consideration

(N = 15)

| Variables | S | Variables | Measurement unit | Pre measurement | | Post measurement | | Differences between the two averages | Improvement rate | T value | Statistical significance |
|-----------------------|---|---|------------------|-----------------|------|------------------|------|--------------------------------------|------------------|---------|--------------------------|
| | | | | M1 | E1 | M2 | E2 | | | | |
| Harmonic capabilities | 1 | Ability to accurately determine the situation | Cm | 8.61 | 0.51 | 9.98 | 0.25 | 1.37 | 15.91% | 2.98 | Significant |
| | 2 | Ability to adjust the motor rhythm | Degree | 7.41 | 0.62 | 8.25 | 0.11 | 0.84 | 11.33% | 2.14 | Significant |
| | 3 | Ability to balance motor | Degree | 12.59 | 0.58 | 13.94 | 0.32 | 1.35 | 10.72% | 2.63 | Significant |
| | 4 | The ability to regulate the motor | Degree | 4.31 | 0.14 | 5.50 | 0.74 | 1.19 | 27.61% | 2.87 | Significant |
| | 5 | Ability to fast reaction | Cm | 188.15 | 1.01 | 198.20 | 1.39 | 10.05 | 5.58% | 2.65 | Significant |
| Technical variables | 1 | Hari Joshi x Usoto Gari | Degree | 6.59 | 0.62 | 7.52 | 0.32 | 0.93 | 12.36% | 2.28 | Significant |
| | 2 | Or Ouch Gari, Ibon Sionagi | Degree | 6.50 | 0.11 | 7.32 | 0.14 | 0.82 | 11.20% | 2.32 | Significant |

* Value (T) at the level of significance (0.05) = 1.753

As shown in Table (3), there is a statistically significant difference between the tribal and the remote measurement in the judo and the skill performance. The table value (T) is greater than its value at the significance level (0.05)

Table (4)
The significance of the differences between the two dimensional measurements in the experimental and control groups Harmonic capabilities and skillful performance under consideration

(N = 15)

| Variables | S | Variables | Measurement unit | The experimental group | | Control group | | T valve | Statistical significance |
|-----------------------|---|---|------------------|------------------------|------|---------------|------|---------|--------------------------|
| | | | | M1 | E1 | M2 | E2 | | |
| Harmonic capabilities | 1 | Ability to accurately determine the situation | Cm | 12.65 | 0.18 | 9.98 | 0.25 | 4.36 | Significant |
| | 2 | Ability to adjust the motor rhythm | Degree | 11.32 | 0.21 | 8.25 | 0.11 | 4.98 | Significant |
| | 3 | Ability to balance motor | Degree | 16.32 | 0.11 | 13.94 | 0.32 | 4.12 | Significant |
| | 4 | The ability to regulate the motor | Degree | 7.12 | 0.28 | 5.50 | 0.74 | 4.32 | Significant |
| | 5 | Ability to fast reaction | Cm | 211.02 | 1.18 | 198.20 | 1.39 | 4.87 | Significant |
| Technical variables | 1 | Hari Joshi x Usoto Gari | Degree | 8.85 | 0.52 | 7.52 | 0.32 | 4.64 | Significant |
| | 2 | Or Ouch Gari, Ibon Sionagi | Degree | 8.65 | 0.14 | 7.32 | 0.14 | 4.18 | Significant |

* Value (T) at the level of significance (0.05) = 2.145

As shown in Table (4), there are statistically significant differences between the two dimensions of the judo and the skill performance. The table value (T) is greater than its value at the significance level (0.05)

Second: interpretation of the results

As shown in Table (2), there is a statistically significant difference between the pre-and post-test of the judo group in the compatibility abilities and the skill performance in which the calculated value (t) is greater than the tabular value at the significance level (0.05) (SAQ) in the experimental group as well as improvement in these variables.

The researcher attributed this improvement to the application of the proposed training program using the SAQ exercises in question which led to the improvement of the skill level by developing the ability to link the technical skills used in skills especially for the sport of judo experimental group.

And the high rates of improvement of the compatibility abilities due to the positive impact of the group of exercises, which included exercises individual and marital,

Which has led to the interest of young people and push them to more effort and thus increase the efficiency of the nervous system and increase the correlation between sensory nerves affected by the stimuli found within the program and its link with the motor nerves

Which led to the development and improvement of physical abilities under consideration and this is consistent with what Zwan Zoran (2005) (21), Ayman Abdel Aziz (2016) (1) indicates that the rise in physical level is achieved by the sense of youth in all parts of the body and its different situations.

This is evident from Table (3), which indicates that there are statistically significant differences between the pre and post-experimental measurements of the experimental group in the technical tests and the level of compatibility abilities.

This is attributed to the good planning of the SAQ training program and the standardization of training loads in a suitable scientific manner for beginners as judo beginners

The training of the research sample and the use of consensual exercises as a key part in the development of harmonic capabilities.

The researcher suggested that the proposed program using SAQ exercises included adaptive training in the development of the transitional speed component,

Which would generate an involuntary muscle contraction that stimulates other sensory organs and thus increase the number of motor units in the muscles working on these joints, which are necessary to increase strength

As well as to match the training (SAQ) with the nature of the performance of the skills of the fencing and muscle functioning.

This is consistent with what Zoran Milanović et al. (2012), 21 Sameh Magdy (2012) (4) that training (S.A.Q) is one of the training forms that contribute to the improvement of some special physical abilities.

The results of this study agree with Sameh Magdi (2012) (4), Aisha Mohammed Al-Fateh (2016) (5), on the importance of linking the compatibility capabilities with the skillful performance.

Thus, the first hypothesis, which states that there are statistically significant differences between the averages of the pre and post measurements at the level of some of the computational abilities and the level of skill performance of the experimental judo group, has been achieved.

Table (7) shows statistically significant differences between the pre-test and the post-control group in some computational abilities and the skilled performance in the study. The calculated value (t) is greater than the tabular value at the significance level (0.05) to the training schedule on a regular basis,

which led to an improvement in some of the compatibility capabilities and the skill level of judo operators.

These results are based on the positive impact of the judo program on the level of judo performance, which is based on the explanation method and the model.

It includes repeating the performance of the skills in question and clarifying the learning points of the skill with correcting the errors. associated skills.

The researcher also attributed this progress to all members of the control group as regularity and continuation of practice, in addition to the continuous competition between the youth to provide the best physical performance and skill has had a significant impact in raising the level of physical capacity, which reflected the impact on the development of skills.

As a result of the above, it is clear that the results achieved the second research, which states that there are statistically significant differences between the averages of the tribal and remote measurements in the level of some of the compatibility capabilities and the level of skill performance compounded by judo beginners.

Table (4) shows statistically significant differences between the two dimensions of the judo and the skill performance in question.

The value of the calculated value (t) is greater than the tabular value at the significance level (0.05). (SAQ) under study that improved skill performance by developing the ability to connect the technical skills used and moving from preparation to precision in Judo skills.

The researcher also attributed this to the good planning of the training program (S.A.Q) and the regulation of training loads in a suitable scientific manner, resulting in physical improvement reflected in the level of skill performance in the fencing of the students of the first group (the research sample).

This is confirmed by Bastoise Ahmed (2000) (2) Mohieddin Desouki (2005) (9) that success in the performance of any skill needs to develop physical components contribute to the performance of the ideal.

This is in line with the findings of Mohamed Maarouf's study (2008) (7) that skill training alone is not sufficient to improve this skill and achieve fruitful results. In addition to skill development, it is necessary to develop the motor abilities of the skill itself.

The researcher believes that the sport of Judo requires high physical and professional abilities, muscular compatibility, motor creativity, feeling of the relationship between time, space and emptiness, and a sense of dynamic performance that is characterized by diversity and comprehensiveness and makes the youth with high muscular control and this is only available through physical and skill capabilities according to modern standards and methods.

Thus, the third hypothesis, which states that there are statistically significant differences between the averages of the two dimensional measures in

the experimental and control groups at the level of some compatibility abilities and the skill level of the composite of the experimental judo group, was achieved

Conclusions

- S.A.Q exercises have resulted in an improvement in the compatibility capabilities of judo beginners.
- S.A.Q exercises have resulted in an improvement in the level of skill-based technical variables among judo beginners.
- S.A.Q exercises have improved the level of harmonic abilities and composite skill performance than traditional judo training.

Recommendations

In the light of the research findings of the researcher recommends the following:

- The application of S.A.Q exercises on the complex skills of judo.
- Diversity in S.A.Q exercises between upper and lower extremities, taking into account the gradient of intensity and taking into account the individual and individual differences of each individual.
- Conduct more similar studies to determine the role of S.A.Q exercises in improving the physical and skill variables and the compatibility abilities of the teeth or players in different sports.

References

- 1-Agnieszka,(2005):" connection between coordinational motorabilities and game efficiency of young femalhand ball players" WWW.awf.Krakow.pl/jedn/gryzesps
- 2-Aisha Mohamed El-Fateh (2016) **The Effect of Using S.A.Q Exercises on the Level of Psychological Flow and Some Harmonic Capabilities and Skill Performance in Fencing Sport**, published Scientific Research, Journal of Mathematical Sciences and Arts, Faculty of Physical Education for Girls, Island of Helwan.
- 3- Ayman Abdel-Aziz Abdel-Hamid (2016): Effectiveness of the training of the Sakio on some physical variables and the level of performance of offensive skills in basketball, published scientific research, the third international conference at the Faculty of Physical Education in Arish.
- 4- Baechle, T., Earle, R., & Wathen, D. (2000): *Essentials of Strength Training and Conditioning*, second edition. China: Human Kinetics.
- 5-Bastoise Ahmed Bastoise: (2000) *foundations and theories of sports training*, Dar Al-Fikr Al-Arabi, Cairo.
- 6-Essam El-Din Abdel-Khalek Mustafa (2003) *Mathematical training theories - applications*. 11th edition, Al-Ma'aref Establishment, Alexandria.

- 7- Hani Adel Morsi The impact of training program for some of the offensive skills built on the performance of judo players. PhD thesis, Faculty of Physical Education, Tanta University, 2004.
- 8-Khalid Farid Ezzat (2007): The impact of a program of qualitative exercises for the development of compatibility abilities on some aspects of attention and the level of technical performance of judo players, Ph.D., Faculty of Physical Education, Mansoura University.
- 9- Mario Jovanovic, Goran Sporis, Darija Omrcen, Fredi Fiorentini (2011): Effects of speed, agility, quickness training method on power performance in elite soccer players, Journal of Strength and Conditioning Research, 25(5)/1285–1292
- 10- Mohamed El Sayed El Maarouf (2008). The effect of a proposed training program for developing motor performance based on the effectiveness of the judo performance of judo players. Master degree, Faculty of Physical Education, Mansoura University.
- 11- Mohamed Hassan Allawi, Mohamed Nasr El-Din Radwan (1995), tests of motor performance, third edition, Dar Al-Fikr Al-Arabi, Cairo.
- 12- Mohie El-Din Mohamed Desouki (2005) Fencing Educational opinions, Aziza Computer Office, Zagazig.
- 13 - Murad Ibrahim Tarfa (2001) Judo between theory and practice. 1, Dar Al-Fikr Al-Arabi, Cairo.
- 14- Raczek. J. : (2000) Learning and coordination skills. Rivista culture sportive, Roma.
- 15- Remco Polman, Jonathan Bloomfield, and Andrew Edwards (2009): Effects of SAQ Training and Small-Sided Games on Neuromuscular Functioning in Untrained Subjects, International Journal of Sports Physiology and Performance, 4, 494-505
- 16-Sameh Mohammed Magdy (2012), the effectiveness of the training of the Sakio on the level of motor compatibility and skill performance of the members of the sword, published scientific research, Journal of Physical Education and Sports Research, Faculty of Physical Education for Boys, Banha University.
- 17- Sheppard, J. M. & Young, W. B. (2006): Agility literature review: Classifications, training and testing, Journal of Sports Sciences, September; 24(9): 919 – 932
- 18- Pat Harrington : (2001) Judo a pictorial manual. 3ed, Tuttle company, Inc , Singapore.

- 19- Velmurugan G. & Palanisamy A. (2012): Effects of Saq Training and Plyometric Training on Speed Among College Men Kabaddi Players, Indian journal of applied research, Volume : 3 ,Issue : 11, 43
- 20- Vikram Singh (2008): Effect of S.A.Q. drills on skills of volleyball players, A THESIS, Submitted to the Lakshmibai National Institute of Physical Education, Gwalior
- 21- Zoran Milanović ,Goran Sporiš , Nebojša Trajković, Nic James, Krešimir Šamija (2011): Effects of a 12 Week SAQ Training Programme on Agility with and without the Ball among Young Soccer Players, Journal of Sports Science and Medicine , 12, 97-103.