

# The percentage of the contribution of some physical characteristics to the achievement of the Javelin Throwing event for the disabled, short stature F40

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## **Abstract**

*As for the methods of scientific research, the Mathematical Movements E Lee A. Proficiency in modern methods of qualitative and quantitative analysis in order to reach E Lee to solve the dilemmas and problems of sporting events. Therefore, the trainer is required to have knowledge of a great deal of knowledge related to the training process, provided that it is an aid and not a level of effectiveness in throwing the javelin for the category of short stature (F40), including In it the study of the special physical properties that are considered a basic rule in all general activities and in the effectiveness of throwing the javelin for the category of short stature (F40) in particular, so the researcher decided to determine the percentage of the contribution of each element with special physical characteristics in achieving the effectiveness of throwing the javelin for the disabled in the category Short stature (F40) To reach the most accurate final results that serve the task of coaches in people who are satisfied with the association with the best levels, the research aims to:*

- 1. Determine the most important special physical characteristics and implement a Javelin Throwing event for people of short stature (Class F40).*
- 2. Determine the percentage of the contribution of some physical characteristics in achieving the effectiveness of the javelin throw for people of short stature (category F40).*

*A- The researcher used the descriptive approach on (8) short stature players (class F40) throwing the javelin, and (4) special physical characteristics were identified (non-explosive strength, distinctive strength, speed, agility, flexibility) and their representation. Representation (9) of the physical test data, and after data processing and discussion, the following conclusions were reached: The results showed that there are nine models of significant contribution rates of special physical characteristics as requirements for achieving Javelin Throwing for the disabled with short stature (category). And 40) and it was as follows:*

- The first (vertical jump from movement) relates to measuring the explosive force of the two men, the second (the long jump from stability) relates to measuring the explosive force of the two legs, and the*

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*third (throwing a medical ball weighing (3) kg from movement with one hand as possible) related to measuring the explosive force of the arm.*

- *The fourth (sitting from lying down with the legs straight for (20) seconds) and the fifth (bending and extending the arms (chin) from the tilted prone position in 10 seconds) related to measuring the characteristic force of velocity.*

- *The sixth (holding the stick with the arms outstretched (raising the shoulders high) and flexibility.*

- *The seventh (jogging with a change of direction (9-3-6-3-9) m) related to agility, the eighth (shuttle jogging (4 × 10 m) related to agility, and the ninth (slalom between jogging)) half a distance of (10 AD to measure agility.*

*As for the recommendations, they were:*

1. *The necessity to use the physical tests reached when selecting players to practice javelin throwing activity for people of short stature (F40 class).*

2. *The necessity to conduct studies similar to the functional variables and other physical characteristics that were not covered in the current study.*

3. *The necessity of conducting a similar study for the disabled players of short stature (category F40) and for other activities not included in the current study.*

4. *The necessity of conducting similar studies in other aspects not covered by the current study, in terms of psychological and physical aspects.*

5. *The necessity for coaches to pay attention to the final results of the study and to develop them when training spear players for the handicapped of short stature (F40 class) beginners.*

**Keywords:** *Javelin, physical characteristics, F40*

## **I. Introduction and the research problem**

The world has witnessed a rapid development in the general scientific fields, especially the mathematical field, after the developed countries allocated technology through an untalented evaluation, criteria and analytical accuracy that enabled researchers to deeply understand all branches of science and to know inhumanity as reliance on the results of the goal that contributed to the development of theoretical and laboratory researchers, including: This is the absence of researchers in the field of sports, and the study of factors affecting athletic performance is one of the important matters that researchers address in the field of sport and physical training, and as research and studies have shown the impact of these factors, therefore many studies have identified the most important physical specifications characteristic of athletes and the changes that occur on the formation of these Specifications during training, especially in previous periods. Competitions because they are considered laying the foundation stone in a selected group of athletes according to his favorite sport. As for the methods of scientific research, the Mathematical Movements E Lee A. Mastering modern methods in qualitative and quantitative analysis with the aim of reaching E Lee to solve the dilemmas and problems facing sporting events. Therefore, the trainer is required to have knowledge of a large amount of knowledge related to the training process, provided that it is an aid and not elevates the level of effectiveness of the spear for the category of short stature (F40) , Including the study of specific physical characteristics, which are a main basis in all public occasions and

in the effectiveness of throwing the javelin for the category of short stature (F40) B is a special image, so the researcher Arta Z determined the percentage of the contribution of each element of the special physical characteristics to the completion of the effectiveness of the javelin for the disabled in the class of long feet (F40) to reach the most accurate final results that serve the task of coaches in purity, no one satisfies them, a link to the best levels.

### **The importance of research**

This is due to the fact that special physical traits have an important and important role in the field of sport in general and various activities on the practice environments that differ for each of them individually and effectively to throw the javelin for the disabled category of short stature (F40) in particular, as Naha provides us with the foundations of scientific concepts Used in comparing performance, fitness elements and their characteristics and their impact at a distance from archery. Trainers serve the effectiveness of the javelin as it helps them learn, diagnose errors and avoid them in order to reach the advantage of achieving the fact that special fitness elements have a great role in developing the performance of javelin players of stature Short (category). F40), then the importance of the research lies in the final results that will be reached and the knowledge related to the proportion of the contribution of each characteristic of the special physical characteristics to complete the effectiveness of the javelin for handicapped feet long class (F40) which will have the most important impact on the trainer who invests the material aspects correctly In the service of the event.

### **Research Objectives**

1. Determine the most important special physical characteristics and implement a Javelin Throwing event for people of short stature (Class F40).
2. Determining the percentage of the contribution of some physical characteristics to achieving the effectiveness of the javelin for short stature (category F40).

### **Research fields**

- The human field: players of Al-Shumookh and Al-Thawra clubs in Baghdad Governorate.
- Temporary Square: for the period from 9/8/2019 to 9/25/2019.
- Spatial domain: the outdoor playground of the College of Physical Education and Sports Sciences / University of Baghdad.

## **II. Research methodology**

A researcher used the descriptive method in the survey method as it is the most appropriate scientific method for this study .

### **Research Sample**

The research sample was deliberately chosen from the players of Al-Shumoukh and Al-Zahir clubs from the short stature category (category F40) javelin throwing participants in the 2018-2019 sports season with a total of (8) men.

### **Methods of gathering information**

The researcher used the following devices and tools (Arab scientific sources and not weapons, the international information network (Internet), no tests and measurements, observation, a questionnaire to determine the most important special physical characteristics, a questionnaire to determine the most important physical tests, determine an individual

record of the results of physical tests, to identify the individual record of the results Completion of the effective javelin throw distance, Hessian laws, computer type (Pentium 4) metric tape measure, digital electronic meter, number (3), medical ball weighing (2) kg, legal column for short stature number (3)).

**Steps to implement the search field and procedures**

**First / identify the most important of the physical characteristics of the special**

In order to determine the most important special physical characteristics that a spear player with a handicapped short stature (F40) possesses, the researcher does not examine the sources and opinions of experts in the fields of testing, measurement, athletics, sports training, and the disabled. Explosiveness, remarkable velocity strength, agility, flexibility).

**II / identification of not physical Tests**

The researcher selects physical tests from Arab sources, not firearms, which represent each physical condition that has been identified and stabilized to work on (9) physical test data as follows (vertical movement jump (HasaninHamad J 1997: 197) long jump stability (Stanek 1992 :: 55), Throwing a medicine ball weighing (3) kg, however, it was not possible yet to move a distance (Ali: 2004: 94), sit and lie on your legs outstretched for (20) seconds (Manford: 1982: 83), bend and extend the arms ( Hanaw) for the slanted, prone line in (10) seconds (measured and Al-Bastawisi: 1987: 347), while keeping the stick with the two arms outstretched (high - raising the shoulders of A) (Allawi) and Nasreddin: 1982: 350), running with a change of direction (9--9) 3--6--3--9) (Hassanein and Hamdi: 1997: 104), Shuttle jogging (4x10) (Hassanein and Hamdy: 1997: 351--352), Slalom running between stations (10 (M) BAF) Senior 1999: 27).

**Exploratory experience**

The researcher conducted an exploratory experiment with the aim of calculating the (truthfulness, consistency, objectivity) tests by applying them to a sample similar to the research sample number (3) players of short stature (category) F40) throwing the javelin on 1/10/2019. Self-validity was extracted from tests the honesty coefficient is all that is shown in Table No. (1) which indicates that everyone has a high degree and for the purpose of stability, no physical tests usually have no tests after four days of the result of an experiment that you will not read and it did not go on 01/15/2019 AD 9 coefficient was used There is no slight correlation for Pearson between the results of the two tests, as shown in Table (1), and it is also clear that all No Tests are of material significance and a statistical view of the fact that all values of the significance level (Sig) were smaller than the value of the level of significance adopted for the amount of ( 0.05) indicating that they have a high degree of stability, while the aim of the absence of physical tests, the researcher hired a score of two judgments from the results of no physical tests in the second measure of an experiment that he did not read, and the use factor E is not a simple correlation between Pearson judgments have been reached The scores show that everyone is not materialistic with an objective view of the public tests Mechanism from the fact that all the values of the significance level (Sig) were smaller than the value of the approved level of significance of the sum of (0.05) as shown in Table No. (1) As well.

**Table (1)Statements do not STATISTICAL the validity and reliability and objectivity of physical tests**

<b>indication</b>	<b>Objectivity</b>	<b>indication</b>	<b>Sincerity</b>	<b>indication</b>	<b>stability</b>	<b>Physical tests</b>	<b>T</b>
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D.	0.93	D.	0.91	D.	0.83	The vertical jump from the movement	1
D.	0.95	D.	0.93	D.	0.88	The long jump from stability	2
D.	0.95	D.	0.92	D.	0.87	Throwing a 3 kg medicine ball with one hand from the movement as far as possible	3
D.	0.90	D.	0.89	D.	0.80	Sitting from lying down with legs stretched out for a period of ( 20 ) seconds	4
D.	0.92	D.	0.89	D.	0.80	Bending and extending the arms (chinow) from the prone position in ( 10 ) seconds	5
D.	0.91	D.	0.91	D.	0.84	Holding the stick with arms outstretched (shoulder high(	6
D.	0.88	D.	0.87	D.	0.76	He ran with the change of direction - 3 - 9 ) ( 9 - 3 - 6m	7
D.	0.88	D.	0.86	D.	0.75	Shuttle running 4)x 10 ( m	8
D.	0.89	D.	0.88	D.	0.78	Slalom running between the	9

						has for a distance of ( 10 ) m	
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**The course of the main experiment**

The researcher conducted any physical tests and a javelin throw test after completing the handicapped foot test class (F40) for the sample on 8/21/2019 AD. All the results of the tests were recorded in the individual forms for standardization and discharging in order to address them. Them statistically.

**Processors of not Statistical**

The data were processed statistically by ready-made software (IBM SPSS Statistics Vr24) without extraction (arithmetic means, standard deviations, simple Pearson correlation coefficient, subjective validity ratio, multidirectional linear regression (step by step).

**III. Presentation and discussion of results**

**Specifications of Physical Examinations and Achievement of Javelin Throwing for People with Short Stature (Category (F40 )**

The researcher extracted the arithmetic averages and standard deviations for all physical examinations and javelin throwing for the handicapped in the short stature category (F40) as shown in Table (2).

**Table (2) Arithmetic means and standard deviations for physical testing and for achievement of activity Javelin Throwing Javelin Throwing Handicapped Short Stature (F40)**

<b>P</b>	<b>s</b>	<b>Variables</b>	<b>T</b>
3.66	57.22	The vertical jump from the movement	1
0.13	1.95	The long jump from stability	2
1.90	14.22	Throwing a 3 kg medicine ball with one hand from the movement as far as possible	3
2.09	13.72	Sitting from lying down with legs stretched out for a period of ( 20 )seconds	4
2.31	12.86	Bend and extend the arms (chinow) from the prone position in 10 seconds	5
3.88	53.31	Holding the stick with arms outstretched (shoulder high(	6

1.33	10.18	He ran with the change of direction (9 - 3 - 6 - 3 - 9) m	7
1.43	14.04	Shuttle running 4) x 10 (m	8
1.10	8.77	Slalom running between the haves for a distance of (10) m	9
1.846	11.35	Javelin throwing event achieved	10

**To measure the relationship between the physical tests to complete Qaalah javelin for the disabled category of short stature (F40 )**

A matrix of correlation coefficients was obtained for physical examinations and javelin collection activity for people with disabilities from the short stature category (F40) candidate for analyzing the amount of (13) variable A as shown in Table (3).

**Table( 3 ) Matrix of inter-correlations coefficients for physical examinations and javelin event achievement for the short stature disabled (category(F40))**

10	9	8	7	6	5	4	3	2	1	
0.195	256. 0	0.233-	0.049	0.031-	0.262-	0.207-	0.037	0.400	1.00	1
0.331	0.094	0.058-	0.121-	0.454	0.299-	0.259-	0.211	1.00		2
0.020	0.049-	0.233-	0.149-	0.375	0.093	0.159-	1.00			3
0.381-	0.416	0.358	0.612	0.255	0.752	1.00				4
0.344-	0.172	0.108	0.403	0.268	1.00					5
0.111	0.281	0.473	0.256	1.00						6
0.368-	0.710	0.531	1.00							7
0.225-	0.343	1.00								8
0.217-	1.00									9
1.00										10

**Logical Analysis of Multiple Linear Regressions**

Using the short stature person's javelin achievement variable (class (F40)) as the dependent variable, the researcher used (Stepwise) multiple linear regression to extract the percentage of the contribution of physical examinations in achieving the people's javelin's effectiveness. Short stature (F40) as shown in Table 4).

**Table (4) It represents the contribution rates of physical tests wa achievement javelin for the disabled category of short stature (F40)**

Contribution rate	indication	Value ) v (	Value ) P( The significance	Constant amount	Regression coefficient )Selection (	Multiple correlation coefficient	Requirements	form
%3.6	0.000	4.865	23.665 0.000	7.800	0.038	0.195	X1	the first
%11.08	0.037	1.772	38.589 0.000	7.532	0.114	0.338	X1	The second
	0.000	7.177					X2	
%11.09	0.029	1.705	26.272 0.000	7.661	0.117	0.342	X1	the third
	0.000	7.282					X2	
	0.002	1.251					X3	
%20.5	0.003	0.751	39.894 0.000	8.746	0.211	0.460	X1	the fourth
	0.000	6.152					X2	
	0.021	2.309					X3	
	0.000	8.453					X4	
%20.6	0.001	0.705	31.910 0.000	9.361	0.212	0.460	X1	Fifth
	0.000	5.954					X2	
	0.047	1.991					X3	
	0.000	5.138					X4	
	0.003	0.436					X5	



%22.9	0.006	1.666	30.722 0.000	9.196	0.237	0.487	X1	VI
	0.019	2.354					X2	
	0.001	3.469					X3	
	0.000	6.230					X4	
	0.006	0.904					X5	
	0.000	4.444					X6	
%29	0.000	3.586	36.020 0.000	15.822	0.299	0.547	X1	Seventh
	0.000	1.177					X2	
	0.000	4.474					X3	
	0.008	2.675					X4	
	0.004	1.581					X5	
	0.000	6.234					X6	
	0.000	7.209					X7	
%33.9	0.002	1.743	39.472 0.000	71.979	0.348	0.590	X1	VIII
	0.007	1.001					X2	
	0.000	7.027					X3	
	0.020	2.328					X4	
	0.000	4.053					X5	
	0.000	9.254					X6	
	0.000	3.651					X7	
	0.000	6.703					X8	
	0.029	2.190					X1	
	0.006	1.004					X2	

%34.3	0.000	6.984	35.810	73.157	0.353	0.594	X3	Ninth
	0.002	1.872					X4	
	0.000	4.443					X5	
	0.000	9.485					X6	
	0.009	1.760					X7	
	0.000	6.893					X8	
	0.033	2.142					X9	

The results of the steps of the logical analysis of multiple linear regressions shown in Table (5) resulted in the contribution ratios of the significant physical tests were as follows:

- The first test/ (vertical jump from movement) for the explosive force requirement of the two men and the multiple correlation coefficient was (0.195) while the determination factor was (0.038) while the calculated value (P) (23.665) was at the significance level (0.000) which is a significant contribution because it is less than The level of significance adopted at (error 0.05) and this test achieved a contribution ratio of (3.6%)

- The second test / (long jump from stability) to the requirements of the explosive power of the two men, which achieved in the first test the contribution rate (11.08%) i.e. (7.48%) and the multiple correlation coefficient was (0.338) while the determination was the parameter (0.114) while the value of (P) calculated (38.589) is at the level of significance (0.000), which is a significant contribution because it is less than the level of significance adopted at the ratio of (error)) 0.05)

- The third test / (throwing a medical ball weighing (3) kg with one hand from the movement as much as possible) to the requirements of the explosive power of the arm, which achieved in the first and second tests a contribution rate (11.09%) i.e. (0.01%) and the multiple correlation coefficient was (0.342) while the coefficient was Determination (0.117), while the calculated value of (q) reached (26.272) at the level of significance (0.000), which is a significant contribution. Because it is less than the level of significance adopted at (error) ratio. 0.05)

- The fourth test / (sitting from lying down with legs straight for (20) seconds) for the characteristic strength of the abdominal velocity requirement, which in the first, second and third tests achieved a contribution rate of (20.5)% or (9.41%) and the multiple correlation coefficient reached (0.460) while it reached The coefficient of determination (0.211) while the calculated value of (q) was (39.894) at the level of significance (0.000), which is significant. Contribution because it is less than the approved level of significance at (error 0.05)

- The fifth test/ (bending and extending the arms (Shnau) from a tilted-prone position in 10 seconds) for the distinctive strength requirements with the speed of the arms, which was achieved by the first, second, third and fourth tests, the contribution rate was (20.6%) i.e. a rate of (0.1%) and the multiple correlation

coefficient ( 0.460) while the coefficient of determination was (0.212), while the calculated value of (q) (31.910) was at the level of significance (0.000), which is an important contribution because it is less than the level of significance adopted at the (error) ratio.  $\square$  0.05

- The sixth test / (fixing the stick with the two elongated arms (raising the shoulders high) for the flexibility requirements that are achieved with the first, second, third, fourth and fifth tests with a contribution rate (22.9%) or (2.3%) and the percentage reached the multiple correlation coefficient (0.487), while the determination coefficient ( 0.237) while the value of (P) is calculated (30.722) at the level of (0.000), a significant contribution is less than the level of validation of the rate significance, from (error 0.05)

- The seventh test / (Running with a change of direction (9-3-6-3-9) m) for the requirements of agility, which achieved in the first, second, third, fourth, fifth and sixth tests a contribution rate of (29%) i.e. a rate of (6.1%) and a coefficient of The multiple correlation is (0.547) while the coefficient of determination (0.299) while the value of (P) is calculated (36.020) at the level of (0.000), which is significant. Be less than the level of importance at the approved percentage (error 0.05)

- The eighth test / (shuttle operation (4 x 10) m) for the agility requirement, which was achieved by the first, second, third, fourth, fifth, sixth and seventh tests, with a contribution rate of (33.9%), i.e. a rate of (4.9%) and the multiple correlation coefficient reached (0.590), while the determination factor was (0.348) while the computed value (P) reached (39.472) at the level of significance (0.000), which is significant. Contribution because it is less than the approved level of significance by (error  $\square$  0.05)

- The ninth test / (zigzag running between marks for a distance of (10) meters), which was achieved in the first, second, third, fourth, fifth, sixth, seventh and eighth tests, with a contribution of (34.3%), i.e. (0.4%), and the multiple correlation coefficient reached (0.594). (0.353) while the calculated value of (q) (35.810) was at the level of significance (0.000), which is a big contribution because it is less than the level of significance adopted at (error  $\square$  0.05).

#### **IV. Discuss the results**

When looking at the first variable contributors data (vertical movement jump), measuring the burst strength of the two legs, the second (stability of the long jump), measuring the bursting force of the two legs and the third (throwing a 3 kg medical ball, however, one of the movements is as far away as possible) and measuring the explosive force of the arm , N the strong force that the explosive prescription considers "a higher dynamic force that can be produced by the first muscle or muscle group" (Bastwissi: 1999: 116). It is also "the ability to overcome their opponents with muscle speed and high effort" (A Bu Al-Ela and Hassanein: 1997: 185). It also means "the ability of the nervous system to produce rapid force, which requires the integration of the state of strength and velocity into one component" (Abu Al-Ela and Hasanin: 1997: 97). And (Ali Salloum 2002) pointed out that "the link between strength and speed of movement in muscular work is a requirement for athletic performance" (Jawad: 2002: 38). How does the result agree with the study (Ali Al-Qossi 1979) where he concluded that "muscle strength increases significantly during the age period (10-12 years)" (Al-Qusi: 1979: 145), and also what? I mentioned (Farida Ibrahim Othman 1987). "The explosive power of the two men develops with age with progression annually" (Othman: 1987: 167), as Lq's step to the explosion (Bastwissi: 2003: 12) as "the maximum rapid instant force", while (200: 1974: Johnson & Nelson) has I defined it as the ability to deliver maximum energy as quickly as possible, as shown (Ali Salloum 2: 002: 38) "The correlation between strength and

motor speed in muscular work is one of the performance requirements of sport at high levels and that this work is one of the most important characteristics of athletes. The superior, as they possess a great deal of strength and speed and possess the ability to link their movement in an integrated manner to rapid events and in order to achieve superior performance, "as he defined explosive power (Allawi and Nasreddin: 1982: 80)" is the ultimate force. An individual can take it on a one-time performance as quickly as possible and it can be recorded by the distance the individual travels in the performance or the distance covered by the projectile device. "When looking at the fourth variable data contributor (sitting from lying down, legs outstretched for 20 seconds) and V (bending and extending the arms (Hnao) from the oblique line in 10 seconds) and measuring the characteristic force of velocity, we find the characteristic force of velocity is a complex of muscle strength and speed, and the nature of an individual who has high capacity is characterized by large muscle strength and great speed and also a high degree of integration of strength and speed Together (EA: 1994: 107).), As it is a characteristic of strength as soon as the capabilities of the disabled javelin are available to cut a tall saw (F40) as clearly seen in the case of a short-range javelin. In the sixth variant (holding the stick with the two outstretched arms (lifting Shoulders are high) and flexibility, we find that (Osama: 1999: 307) refers to "the flexibility of the motor means the child's ability to move the joints of the body to the widest possible range. The range of motion without this results in tearing or pain in the muscles or ligaments." Referred to by (Essam and Muh MD: 1997: 107) "Flexibility is required in most motion models. The lack of it is a barrier to progress in some sports and there is no specific level. And fixed on the amount of flexibility, "and the result reached is consistent with what he mentioned (Pastuis: 1999: 225). Strength, speed, endurance and agility are the basic rule for performance. Good," and the researcher confirms that javelin throw players for the disabled category of short stature (F40 They must be characterized by a wide range in the joints, especially in the arms, legs and trunk, which is evident at the distinguished level. Performance and this is confirmed by (Qasim: 1998: 225) "Flexibility is of great importance in determining the athletic level in most events and sports in addition to being a component of fitness Physical requirements vary from activity to activity. "(225:10) When looking at the contributing variables, the seventh (jogging with a change of direction (9-3-6-3-9) m relates to agility, and the eighth (shuttle operation (4 × 4). 10) M), which relates to agility, and the ninth (slalom race between the two halves for a distance of (10) m) to measure agility, we find that (Essam: 1999: 168) states that "the trait of agility should be trained in the early stages of life In order to acquire the joints and muscle ligaments for a wide range of movement, to ensure that this trait can be developed by continuous training on it at Mara Advanced solution. (Muhammad: 1987: 135) also indicates that "the child's movements are saturated with agility, speed and strength."

## V. Conclusions and recommendations

### Conclusions

1. The results showed that there are nine models for significant contribution rates of special physical characteristics as requirements for achieving javelin throwing for the handicapped of short stature (category). F40) and it was as follows:
2. The first (vertical jump from movement) related to measuring the explosive force of the two legs, the second (long jump from stability) related to measuring the explosive force of the two legs, and the third (throwing a medical ball weighing 3 kg of movement with one hand as much as possible) related to measuring the explosive force of the arm.

3. The fourth (sitting from lying down with the legs straight for (20) seconds) and the fifth (bending and extending the arms (chin) from the tilted prone position in 10 seconds) related to measuring the characteristic force of velocity.

4. The sixth (holding the stick with the arms outstretched (raising the shoulders high) and flexibility.

5. The seventh (jogging with a change of direction (9-3-6-3-9) m) related to agility, the eighth (shuttle jogging (4 × 10 m) related to agility, and the ninth (slalom between jogging)) half a distance of (10 AD to measure agility.

### **Recommendations**

1. The necessity to use the physical tests reached when selecting players to practice javelin throwing activity for people of short stature (F40 class).

2. The necessity of conducting similar studies. There are no other functional changes and physical properties that were not addressed in the current study.

3. The necessity of conducting a similar study for players with short stature (category) F40) and for other activities not included in the current study.

4. The necessity of conducting similar studies in other aspects not covered by the current study in terms of psychological and physical aspects.

5. The need for coaches to pay attention to the final results of the study and to develop them when training spear players for the disabled of short stature (F40 class) beginners.

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