



**Physical Education faculty
theories and applications of fighting
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**The Molecular Biological and relationship of the muscular
strength for choosing the beginners in wrestling to sheltering
institution children**

**Within the research to obtain the degree of Doctor of
Philosophy in Physical Education**

By

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1430 H – 2009 G

Introduction Research

Scientific research has become one of the most important key factors for the development of treatment and progress of contemporary human societies to reach the highest levels in the area of physical education in particular, in this era in which we characterized various aspects of life, scientific and practical development of rapid and continuing progress and knowledge of renewable, based in the regeneration of all his rights of scientific facts and theories in succession.

As the sport in general and individual sports, especially wrestling are sports that have succeeded by Egypt to reach the world and Olympic level increased in the areas of research in the sciences associated with the new and trying to use to select the best talent appropriate to the nature of each sport to achieve the best global results.

He affirmed **Ahmed Abdul Aziz (1989)** that in order to explore the possibility of evolving the appropriate individual for a particular type of physical activity necessary to know the exact factors that determine access to high levels in this activity as well as the requirements and specifications of the model must be available in a player to be able to achieve These levels are the duties of selection to determine the feasibility of the emerging level of predictability that can be achieved and the possibility of continuing to play the game an excellent level of efficiency and sincerity of this is linked to predict success in the discovery of the preparations and the emerging capabilities in the first stage of selection.

Therefore, the newly turned the eyes of the world in search of the gene so that we can predict the capabilities of young people prior to the commencement of the training process where the both the Hussein Ahmed Heshmat and Nader Shalabi (2003) that genes play an important role in the field of physical education and sports, where she is responsible for half of changes in physical performance.

Research problem

The search for improved physical performance of the human being does not end the search, particularly in athletes who are seeking to improve their performance in any way possible in the hope of access to advanced centers, through their ability to withstand the intensity of training.

As the sport of wrestling sports which require the exercise of individual excellence and access to an advanced level in terms of muscle strength is one of the most important physical elements of what they have a significant influence on life in general and in sport, in particular, performance in all sports activities depends on how the movement of the body and muscles that control the motion of the object Balanaqbad to attract and expand the parties subject to another, where the powerful muscles whenever such Retractions more effectively.

As the sport, including a specific inherited from the parents can not be making any of the sports hero's body, no matter what the great coaches and they can not champion the preparation of the enemy in the example of a person is fat person would not be in the one day a hero in the race to run or jump and it is of interest to search prospecting for raw materials and sporting promising on the basis of the physical specifications for the type of sports activity and with the physical training based on scientific grounds and nutrition, health care and psychological elements of becoming a full-fledged industry, the sports hero.

Indicates where each of the **Ali-Baik and Abu-Elala Abdel-Fattah, Lotfi Kulainy (2002)** states that although the training and preparation lead to the upgrading of the specifications and capabilities of the athletes but that genetics plays a major role in achieving athletes to international levels, where it became clear that many of the capabilities of endurance year, which was thought in the past that the training is the key to development has proven it can not raise by only 25% of the level located at the sports of inheritance, and there are other specifications (morphology) do not change much under the influence of the training process.

The both of **Hussein Ahmed Heshmat and Nader Shalabi (2003)** that genes play an important role in the field of physical education and sports, where she is responsible for half of the variables in the physical performance.

Since the phenomenon of street children has become one of the phenomena that the Arab world in general, particularly in Egypt, prompting the government to consider establishing a set of residential institutions for the care of children who are homeless, and is keen to educate and care for them was the more researchers in various fields to discuss the problems of these category of the community to try to resolve all the problems they face in life, especially physical education, which

seeks to legalize recreational and training programs to assist the various residential institutions to modify the behavior of this category.

Given the progress in modern science Almaz was the first area athlete to take advantage of the boom sport of the athlete to reach higher performance levels through the provision of sporting talent, which have the capacity and appropriate preparations for the type of sporting activity, which is using the newly genes to identify genetic traits as the individual and the direction of the activity Sports appropriate capabilities to save time and effort in preparation for the players as incompetent.

Therefore, the researcher attempted to use molecular biology in the selection of young people in the sport of wrestling through the identification of the relationship ACTN3 gene, responsible for the formation of protein Alaktin within the muscle and its relationship to muscle force.

Objectives of the research

- 1 - identify the level of maximum force and power characteristics as soon as the international player and the sample under discussion.
- 2 - identify the signs of genetic differences between the gene ACTN3 for beginners and the implications of genetic international player.
- 3 - to identify the relationship between the genetic implications for gene ACTN3 and the maximum level of force and power characteristics as soon as the basis for the beginner in the selection of wrestling.

Research assignments

- 1 - There are significant differences between the moral implications of the genetic implications of genetic and junior player of the international gene ACTN3.
- 2 - There is a relationship between the relational implications of genetic ACTN3 gene and the level of maximum force and power characteristics of the sample speed under discussion.

Search procedures

Search method

Followed by the descriptive approach and the appropriateness of the nature of this research.

Sample search

Research sample was chosen the way of intentional Foundation hope children between the ages of 12: 14 years in addition to the wrestling player at the international level and has represented Egypt in international tournaments and the number of individuals in the sample of 16 players including 8 men and 8 core sample for exploratory studies of the players are divided into two groups: 4 Mrtfie level players, and 4 children from the same research community and outside of the core sample in the low-level tests in question in order to obtain the transactions of scientific tests.

Means and tools of data collection

Means of data collection

Survey reference

The researcher conducted a survey of reference for the most important tests used in wrestling for the measurement of maximum force using the weight and force as well as the distinctive use of the ball as soon as the medical.

Expert opinion

The researcher's work to explore the opinion of experts on the gentlemen to identify the most important tests to measure the maximum force, speed and power characteristics.

Physical tests

The researcher implemented a series of physical tests to measure the maximum force the use of weights and measure the force as soon as the distinctive use of the ball of medical weighing 3 kg and with reference to the survey and opinion of experts.

Molecular biological measurements

Analysis of DNA by a DNA Thermal Cycler technology through a series of polymerization reaction PCR Polymerase chain reaction.

Tools and devices used to collect data Registration

Forms

And where the registration of all measurements and tests of physical and personal information of each and every member of the study sample.

Physical testing tools

- Training hall good ventilation and lighting
- Iron bars.
- Loads of different weights.
- Medical balls weighing 3 kg.
- M length of 20 meters for the measurement of distance.
- Alrstamitr to measure the height and weight.

Tools and molecular biology tests

Srnectat plastic

It is a medical Srnectat 5 cm to be used by the age of the children and used only once for the same person and used to withdraw blood samples from the sample in question has been withdrawn samples at a laboratory in the sunrise by the doctor concerned.

Test tubes

A series of glass tubes that are used in laboratories to preserve blood samples drawn by the article and placed Aladdeta EDITA anti-coagulant.

Coleman

It is made of plastic 2-liter capacity, which maintains the temperature for a long time and are governed by ice, fill a good lock to keep the temperature of the sample when transferring from the withdrawal of the sample to the laboratory analysis of plant molecular biology.

restriction Enzymes

Enzyme used by 12 of the enzymes of minors to cut the gene for its nitrogen in order to differentiate between the sample in question along the ACTN3 they

AatI-BamHII-BsaI-HaeII-ApaI-AviII-BbeI-HindIII-MseII-SacI-ScaI-SmaI

primer

And Paddy series called polymerization reaction has been used by Beigning primer Special ACTN3 Itrkp of which

Centrifuge machine cascade

It is a system developed by the blood samples, then 5000 is very fast lap / min is used to separate plasma from blood cells.

Thermal cycler system

Is a system analysis of the brand of Perkin Elmer and used for DNA analysis of DNA.

Surveys

The researcher conducted several surveys in the period from 10/6/2008 until 20/7/2008 m m and will quote in more detail below:

The first survey

The researcher conducted the survey in the initial period from 10/6/2008 until 20/6/2008 m m 8 children on a sample of the same research community and outside of the core sample.

Second survey

The researcher conducted the survey in the second period from 22/6/2008 until 4/7/2008 m m 8 children on a sample of the same research community and outside of the core sample of children who are the same sample used in the survey was the first such study in order to identify the transactions of scientific tests under research.

Baseline study

The researcher in the application of the study period from 5/7/2008 until 25/7/2008 m m on a sample of 8 children, members of the residential institutions in addition to the player at the international level in sport wrestling was divided by the period of application of the test into two phases each of which is clarified as follows:

Molecular biology tests

The research by taking blood samples from individuals in the research sample from 5/7/2008 until 11/7/2008 m m in the laboratory analysis of the sunrise by the medical doctor and then transfer the appropriate blood sample drawn within Coleman is full of ice to the Laboratory of Molecular Biology, Faculty of Science Benha University to conduct separation of DNA and analysis of the gene is required.

Physical testing of a sample search

The researcher tests the application of physical research in the sample period from 12/7/2008 until 25/7/2008 m m so that the maximum force was measured for a sample search of children in residential institutions, followed by 4 days of rest day and then measuring the force characteristic speed in the 4 days at Tests were conducted on the international player in the period from 20/7/2008 until 25/7/2008 m.

Statistical treatments

The researcher using the Spss statistical processors and Excel program in order to find the transactions to the appropriate statistical data for research and after unloading the data used by processors for the following statistical interpretation of results:

- Mean
- Median
- Standard deviation
- Skewness factor
- Percentage
- Pearson correlation coefficient
- Spearman correlation coefficient
- T differences test

Conclusions and recommendations

I: Conclusions

In light of the above presentation of the data and results, interpretation and discussion and based on the objectives of the research and Frodah researcher was able to conclude the following points :-

- 1 - There is some indication of correlation between genetic enzymes minors ACTN3 gene and testing for the maximum force for beginners.
- 2 - There is some indication of correlation between the genetic enzyme gene ACTN3 minors and tests as soon as the distinctive force of the beginners.
- 3 - minors are different enzymes in the differentiation between the lengths of genes, according to the method of work of each enzyme as the enzymes of minors (AatI-BamHI-BsaI-HaeII) failed to difference between the lengths Jin ACTN3 separation rules at the nitrogen is why he will not be used when working with this gene sample similar to the sample under discussion.
- 4 - preferably at a gene ACTN3 by another or when the samples of this study the use of similar enzymes from the palace because it has succeeded in differentiating between members of the sample in the separation of nitrogen bases for the Beijing ACTN3 namely ApaI-AviII-BbeI-HindIII-MseII-SacI-ScaI-SmaI
- 5 - There is a set of gene mutations in the installation of the sample under ACTN3 search these mutations led to an imbalance in the proportions of the constituent amino acids of the protein Alaktin which led to the difference in the form of the protein product of the gene.
- 6 - Despite the presence of genetic mutations in the gene ACTN3 installed in all members of the sample as compared to the ideal of the gene, although there are some mutations that have occurred but did not affect the installation of the protein product, such as what happened in numbers of individuals in the sample (2,7), therefore, the most appropriate members of the sample as the perfect similarity of the gene.
- 7 - Members of the sample numbers (2,7) Maybe if I had been trained orderly manner will arrive to a global level of their genetic haracteristics and that qualifies them to gain muscle strength in sports activities in general and sport wrestling families, especially compared to the same stage of the Sunni Arabs.

II: Recommendations

Based on the results of research and the conclusions reached by the researcher and within the sample under discussion, the researcher was able to reach a set of recommendations :-

- 1 - Research the use of similar physical qualities of different samples varied.
- 2 - Conducting such research through the research group to identify all the genes that affect the character and how they studied during the development of genetic technology.
- 3 - Use of molecular biology in the technology selection process for new players, without losing sight of the impact of heredity in the individual may be able to accomplish through what is allowed to be installed from the gene if there is appropriate training environment.
- 4 - Establishment and control units in the sports associations to monitor the methods of selection of sports and sporting activities as well as various plans and training programs.
- 5 - Establishment of specialized laboratory tests and measurements in the morphological and biological and physiological and physical reparation of the appropriate personnel to work in this laboratory for use in the preparation of athletes with higher levels.
- 6 - Establishment of a laboratory, at least for each province or territory is provided with latest equipment and techniques and the work of clubs requiring tests at the beginning and during and after the season to ensure the safety of players and an appropriate training program subject to them.
- 7 - Achieving the global figures and Olympic medals in the big technical revolution in the world in the current era, it was impossible to be by chance so must be the tendency toward molecular biology in the election and program planning.
- 8 - to benefit from the faculties of physical education and scientific research in this area in order to identify the best players of various sports activities to reach the best results and save time, effort and money.
- 9 - the study of other types of genes that are believed to have an impact on sports activities to be a genetic profile of the players, the world puts us in good stead for the selection of sports activities in the junior scientific manner.
- 10 - Study the impact of gene ACTN3 physical qualities of the other amples, a variety of knowledge and its role in the treatment of some injuries such as muscle rupture muscle types and to identify the environmental causes that led to the emergence of mutations in the installation of the gene.

11 - need to support these studies, such as physical devices on the sport and the provision of laboratories for a par with what is happening indeveloped countries and to try to work and the genetic tree of the families so that we can anticipate the emergence of certain qualities that may be required for certain types of activity, such as length.