

English Summary

Introduction:

Sportive training is the means of increasing the level of sportive performance and reaching the high level of competition, as well as achieving the best results internationally. The process of sportive training includes its own goals, duties, approaches of training and loads management according to a scientific basis. Abu El-Ela Abdul Fattah (1997) states that sportive training is the main part in the process of athletes' preparation, and this is because it is the educating and physical process which is based on the use of physical exercises in order to improve all qualities necessary for an athlete (2: 13).

Physical preparation is considered one of the most important duties of sportive training because it aims at improving and developing the physical and motor states of a person in order to be able to perform the requirements of sportive activities and competition. And this should be done with the least physical effort and with the ability to return back to the normal state (38: 12).

Mohammed Alawy (1990) emphasizes the importance of supporting the physical features necessary for the type of sportive activity in which a person specializes, but it should be in accordance with the process of supporting motor skills. A person is not able to master basic motor skills without having the physical features related to the sportive activity practiced by him (50: 80, 81).

Karate is among the sportive activities which have certain requirements distinct from other sportive activities. The availability of such requirements helps in understanding and

mastering the motor skills which are necessary for reaching the highest levels (24: 3).

Ahmed Ibrahim (1995) notifies the important relationship between physical abilities and skilful performance in the athletes' specialized sportive activity. The distinct type of basic motor skills suitable for the type of sportive activity is the thing which determines the type of necessary physical abilities that should be developed and improved (12: 216).

The researcher believes that standardized training could help athletes gain more advantages for performing several attacking and defensive motor skills, and thus performing the kata. Such standardized training should be directed to the improvement of the physical components of athletes. Adequate preparation is the corner stone for competition and reaching the international level in sports, a thing which is considered the base of heavy training and distinct approach. Frank Crosswell and Peter Whistle (1998) agree that improving the physical qualities necessary for specialized sportive activities helps in reaching the best level in performing motor skills (82: 91).

Research Problem:

Karate is a competitive sport in which athletes should possess a number of physical components and a number of attacking and defensive skills which require a high degree of special ability, speed, flexibility, synchronization and endurance in order to effectively perform the motor tasks during training and competing.

Special physical components play a vital and basic role which functions as a base for gaining and mastering skilful performance. When lacking these special components, the athlete is unable to execute the motor tasks related to his/her specific

specialization (the kata). Standardized and directed training for improving the athletes' physical components could help them increase their level and reach the maximum level according to their abilities.

Because katas include many motor tactics that depend on a number of motor skills, it is a must that athletes possess a high degree of muscular-nervous synchronization, and they should also have the ability to join the motor skills together in a way that makes the final position of the first move a beginning for the next one. This way is suitable for the nature and characteristics of performing the kata which is characterized by continuity, sequence and speed of doing motor skills without stopping.

Due to the importance of sportive preparation with its several aspects and its importance in performing false fighting (kata) with a high level in national and international competitions, and due to the researcher's work as a karate trainer for senior players who are older than 18 years old, the researcher noticed that the performance level of the kata players was low in the latest national and international competitions because of the lack and decrease of the physical components, especially for the kata players who are older than 18 years old. This thing negatively affected the level of skilful performance when compared to the level of other players from more advanced countries in karate such as Japan, France, Italy, Spain, Mexico and Canada. And this thing was clear during the 2004 World Championship in Mexico, for the Egyptian team failed in achieving any good result in the kata competition.

Moreover, the researcher believes that most trainers give more interest in learning the performance without giving an equal

concern with increasing the level of the special physical components necessary for the skilful performance of karate, and this could be one reason for the low level of the kata skilful performance.

The researcher also noticed that many trainers tend to direct their players in actual fighting competitions (the kumetae) during different age stages, and at the same time they don't like participating in the kata competitions which are characterized by difficulty, strength and the integration between physical components and motor skills, a thing which requires a long time to reach high levels compared to the kumetae competitions.

Through a pilot study for two kata national championships and the Egyptian Universities Championship in kata in the year 2004/2005 for players older than 18 years old, the researcher found that the players of Sharkia Region failed in achieving advanced positions.

The researcher believes that the reason is the incompetence of the physical preparation of the Sharkia Region players compared to the other players who achieved high positions. This was despite the fact that the skilful performance was close in the kata competitions.

Consequently, the problem of this research is crystallized in the bad need of the kata players for a higher level of special preparation that could help them increase and improve the components of their motor performance. In addition, the kata competitions oblige the players to perform multiple playing roles in which players do several optional and compulsory katas during the day. Such katas require a high level of special endurance, strength and speed of performing defensive and attacking moves which constitute the kata, as well as the sequence of motor

performance and the time of performance which ranges from 40:120 seconds successively without a pause or a break. Such things reflect the necessity of possessing high-level physical components, functional abilities and motor skills that enable the player to compete and achieve the best level in his specific specialization.

Despite the increasing interest of karate applied researches and studies in the physical side of the kumetae players, the kata competition has not received an appropriate interest matching with its importance as a basic pillar for the structure of karate, especially in the physical side and its connection with the skilful performance of the kata.

Thus, the researcher found it necessary to draw the attention of trainers and specialists in karate towards the basics of experimentally directed planning in order to improve the special physical components that lead to the development of the skilful performance of the kata players in karate.

Research Objectives:

- 1 Designing a training program to improve some of the special (or specific) physical components of the kata players in karate.
 - 2 Discovering the effect of improving some special physical components on the performance of the kata in karate.
 - 3 Recognizing the correlation between improving some special physical components and the performance of the kata in karate.
 - 4 Knowing the percentages of improvement in the studied physical and skilful variables.
-

Research Hypotheses:

- 1 There are statistically significant differences among the measurements (pre, sequential and post) and between the two groups (experimental and control) in favour of the post-measurement in some special physical components and in performing the kata.
- 2 There are statistically significant differences among the experimental group and the control group in the post-measurement of some special physical components in favour of the experimental group.
- 3 There are statistically significant differences among the experimental group and the control group in the post-measurement of the kata performance in favour of the experimental group.
- 4 There is a statistically significant correlation between the kata performance and some special physical components related to the karate players.
- 5 There are differences within the percentages of improvement between the experimental group and the control group in the physical and skilful variables of the study.

Research Procedures:

1. Research method:

The researcher depended on the experimental method because it was suitable for the nature of the present study and its procedures. And this happened through designing two groups (experimental and control) using the measurements (pre, sequential and post).

2. Research Sample:

The sample of the present research was intentionally selected from Sharkia Region karate players with black belts (first class), and their ages were between 18: 21 years old. The size of

the sample was 21 players accredited from Sharkia Region and the Egyptian Federation. Five of them were randomly selected for the pilot study, and thus the sample became 16 players who were divided randomly into two equal groups (8 players in the experimental group and 8 players for the control group). Cohesion measures were applied over the whole 21 players in the variables of age, length, weight, belt class and other physical variables. And also equivalence measures between the two groups had been applied in some physical and skilful variables.

Data Collection:

The researcher referred back to several modern references, either Arabic or English, which have a direct relation with the research variables, as well as the literature and checking the opinions of experts in karate and kata analysts in order to know the most widely used and most effective type of kata. Moreover, there had been a skilful analysis for the katas selected for the study as a result of analyzing competitions. The researcher also conducted a number of interviews with some trainers and university staff, as well as with some researchers with similar interests.

1- Tools and Equipment

- 1- A video camera for recording the kata competitions.
- 2- A video and a television for viewing the competitions and for the visual analysis.
- 3- Stopwatches for measuring the time for each 0.01 second.
- 4- A machine for measuring height in centimeters and weight in kilograms.
- 5- Analysis forms prepared by the researcher.
- 6- Forms for recording the results of the physical and skilful tests.
- 7- Rubber strings.

- 8- Light weights of 3%, 4% and 5% of the player's weight.
- 9- Swedish seats and wall bars.
- 10- A measuring tape in centimeters.
- 11- A training hall.

2- Tests and Measures:

- 1- Maximum right performance of skills in 10 seconds for measuring speed-distinct strength.
- 2- Speed of performing three skills in the least possible time for measuring the speed of the motor performance.
- 3- Maximum right performance for skills in 20 and 25 seconds for measuring speed endurance.
- 4- Maximum right performance for skills in 40 and 45 seconds for measuring strength endurance.
- 5- Trunk rotation to both sides for measuring trunk flexibility.
- 6- Angle of the pelvis joint for measuring pelvis flexibility.
- 7- Performing the reversed knock in four different directions in 10 seconds for measuring slimness.
- 8- Performing three kicks in three different directions and standing on a single foot for 10 seconds for measuring equilibrium.
- 9- Numerated circles (and performing a forward single-foot kick after landing in the circle) for measuring synchronization.
- 10- Measuring the level of the kata skilful performance according to the rules of the karate sport.

Pilot Study:

The researcher conducted a three-stage pilot study within the period 15/10/2005 to 5/11/2005 on a sample of five players from the original society of the study, and away from the study sample. It was held in one of the halls of Zagazig University Stadium in order to measure the validity and reliability of the tests used, as well as the validity of the tools and measures. It also aimed at

recognizing the possible obstacles and difficulties that could face the researcher during the application of the program and how to face them, in addition to training the assistants to conduct the tests and measurements, deciding the training loads of the program according to the levels of the players, and determining the suitable time for each training in light of each of the special physical components.

Main Study:

The researcher conducted the main study during the period 29/1/2006 to 10/5/2006 as he applied the pre-measurement to the experimental and control group during the period 29/1/2006 to 2/2/2006, and then he applied the training program during the period 4/2/2006 to 4/5/2006 throughout 12 weeks (5 training units per week). Then, the researcher made a sequential measurement for both groups during the period 18/3/2006 to 22/3/2006. And the post-measurement was conducted in the period 6/5/2006 to 10/5/2006 following the same conditions and circumstances of the previous measurements (pre and sequential) in all the physical and skilful variables studied.

Statistical Treatment:

The researcher made use of the following statistical operations:

- 1 Arithmetic mean.
 - 2 Standard deviation.
 - 3 T-test.
 - 4 Analysis of Variance.
 - 5 L.S.D test.
 - 6 Equation of improvement percentages (%).
 - 7 Simple correlation matrix.
-

Conclusions and Recommendations:

I. Conclusions:

According to the research objectives, hypotheses, sample, data and results, and statistical styles, the researcher found the following:

- 1-The suggested training program led to the improvement of the special physical components with a high degree in favor of the experimental group compared to the control one .
 - 2-The Development of the special physical Components led to the improvement of the kata skilful performance with a high degree and favour of the experimental group compared to control group. and these differences were respectively as follows: 5.16% for Kata Empi, 6.04% for Kata Kankushu, 8.85% for Kata Ansu, and 5.61% for the arithmetic mean of the three katas.
 - 3-There is a correlation between improving some of the special physical components and the skilful performance of the katas as the highest correlation was 0.966 and the lowest correlation was 0.428 between speed-distinct strength of the side left kick and the skilful performance of the katas.
 - 4-The experimental group achieved an improvement in the level of the skilful performance of the kata as the post-measurements were 16.74% for Kata Empi, 16.34% for Kata Kankushu, 17.94% for Kata Ansu and 16.41% for the mean of the three katas.
 - 5-The results reveal the importance of recognizing the physical components related to the katas studied because they had a great effect on developing and improving the level of skilful performance.
 - 6-The results reveal the importance of using some helping aids in training such as weights, rubber strings, Swedish seats and wall bars in improving special physical components speed-distinct strength, strength endurance, slimness, equilibrium and flexibility.
-

- 7- The results reveal the importance of using with 3%, 4% and 5% of the player's weight during training in order to support speed-distinct strength and strength endurance.
- 8- The results reveal the importance of using special trainings parallel to the same track of skills and similar to the functional system of producing the energy necessary for performing the skills in karate.
- 9- The results reveal the importance of conducting a specific analysis to the katas and classifying its skills and positions in order to know the requirements of their performance from the physical and technical points of view.

II. Recommendations:

In light of the research results, the following could be recommended:

- 1- The importance of conducting a specific analysis to the katas in order to know the special physical and technical requirements of each kata.
 - 2- The importance of forming and standardizing the training load according to scientific rules when setting the training programs of the kata players, and also both physical and skilful sides must be joined together.
 - 3- The importance of using some helping aids in training such as weights, rubber strings, Swedish seats and wall bars during training due to their effectiveness in raising the physical and skilful levels of the kata players in karate.
 - 4- The importance of using periodical tests (physical and technical) to assess and evaluate the levels of the players before, during and after preparation.
 - 5- The importance of recognizing the physical components for each age group and working to improve and develop them according to the requirements of the skilful performance.
-

- 6-Using the suggested training program for improving some special physical components as well as the level of skilful performance of the katas studied.
 - 7-The importance of using trainings similar to the time and motor tracks of the kata in the process of training, especially in the special preparation period.
 - 8-The importance of exploiting the available facilities in sportive clubs, training places and faculties of sportive education during training in order to raise the physical and skilful levels.
 - 9-The importance of designing tools and equipment that work in the same time and motor tracks and that are similar to the different motor skills.
 - 10- The importance of directing the attention of trainers to individual differences, and how to put them into account when planning the training load that matches with the abilities of the players.
 - 11- The importance of conducting more studies that deal with improving the skilful performance of the kata through determining the most important katas by analyzing national and international competitions.
 - 12- The importance of conducting more studies that deal with improving the special physical components due to their importance in raising the level of the kata skilful performance.
 - 13-Conducting similar studies on different samples and different age stages.
 - 14-Increasing the interest in training junior players to perform the kata in different clubs in order to choose the best players among them for the national team.
-

Abstract

Effect of training program for developing some specific physical components on the Karate performance for Karate players.

Submitted

**Ass.L. Mohammed Said Mohammed Salem*

This research aims to know the effect of the training program to developing some specific physical components on the Karate performance for Karate players and the researcher used the experimental method, the sample was chosen purposely from between Kata players intentional in Sharkia Karat region and it was (21) players, chosen (5) players to preparatory study to remain (16) players to dividing randomly to two equivalently groups every group contents from (8) players. The suggested training program had been applicated on experimental group by using specific exercises similar to motor performance Kata skills and the same program had been applicated on control group except the specific physical training, the main results was identifying the correlation ship between specific physical components and the Kata performance level; the recommendation was its importance to using the specific exercises similar to motor and timely with performance to the Kata skills.

**Assit. Lecturer in the Dept. of Competitives & Individual Sports Studies, Faculty of Sportive Education Zagazig University.*

*Zagazig University
Faculty of Sportive Education
Dept. of Competitives & Individual
Sports Studies*

The Effect of a Training Program for Developing some Specific Physical Components on the Kata Performance for Karate Players

Ph.D Thesis in Sportive Education

Submitted By

Mohammed Saied Mohammed Salem

*Assist. Lecturer in the Dept. of Competitives & Individual
Sports Studies, Faculty of Sportive Education
Zagazig University*

Supervised By

Prof.Dr.

Yehia El-Sayed Ismail

*Prof. & Head of the Dept. of Competitives
& Individual Sports Studies, Faculty
of Sportive Education,
Zagazig University*

Prof.Dr.

Magdy Hussein Amer

*Prof. in the Dept. of Curricula
& nstruction, Faculty of
Sportive Education,
Zagazig University*

Dr.

Sharif Mohammed Abdel-Kader

*Assist. Prof. & Head of the Dept. of
Movement Sciences, Faculty of Sportive Education
Minya University*

1428 H.D. - 2007 A.D.