

## Effect of two training units on wet dust to develop the special force and some of functional abilities of volleyball players

Suhad Qasim Saeid Al-Mosawi and Huda Badawi Shibeib

College of Physical Education for Women, Baghdad University, Iraq.

[dr\\_suhad@yahoo.com](mailto:dr_suhad@yahoo.com)

**Abstract: The research aimed at:** 1. Preparing two training units with the wet and dry dust. 2- Identifying the effect of two training units with wet and dry sand to develop the special force and some of the functional abilities for volleyball players for the pre-post-tests of the two research communities. 3-Identifying the effect of two training units with wet and dry sand to develop the special force and some of the functional abilities for volleyball players for the pre-post-tests of the two research communities. 4-The two researchers used the experimental method considered suitable for the research requirements being the suitable manner to prove its hypothesis. The research sample is represented by Al-Sinaa club players whose number (12) and the sample is divided into two experimental groups randomly included (6) players trained on the wet sand and (6) players trained on dry sands the two training units lasted for (8weeks) of three training units weekly equivalent 24 training units with observance the individual differences and the research individuals levels.

The two researchers concluded the following:-

- 1- The training on the wet sands has positive effect to develop the special force and the functional abilities currently under study.
- 2- The two training units prepared by the two researchers has clear effect on development of the two groups.
- 3- Performing similar researches to identify effect of wet and dry sands training to develop the basic skill of various games and their effect on the practical performance.

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**Keywords:** Effect; training; unit; develop; functional ability; volleyball players

### 1- Identification of the Research

#### 1-1 Introduction and importance of the research

The development level and advancement that most of the world countries have witnessed in the field of sport education in general which is by chance result but it has come via perseverance and the sound planning also the accurate programming of the training units according to scientific and sound bases and principles by the experts and the specialists in this field to make the players reach high levels, besides finding the most suitable training methods to develop the achievements and realizing numbers in different sport activities thus the researchers in the field of sport education tend to innovate developed training methods, most important of these means and methods which Newton third law does not applied on them stated "For every action, there is an equal and opposite reaction" and this training method considers different mean from the training mean in which the players trained via difference lies by inserting the foot inside the sand land during falling on it which characterized by increasing the relative movement among dry in coherent sand granules and this gives the athlete more force to push the body mass and performing the training perfectly, and because the physical abilities

are one of the basic variables that the trainers seek to develop using various means, thus the two researchers opine using training on sands being one of resistances and to know its effect reflected in away or another on physiological variables and the performance for the athletes, accordingly the importance of the importance research lies via using training method on sands of its two types the wet and dry and identifying their functional effect for volleyball players.

#### 1-2 The research problem

According to field experiment of the two researchers for training volleyball and preparing of the players requires preparing them physically, skillfully and physiologically and our trying, we the researchers, to find modern various training means to overcome boredom and monotony to which the players subjected because of continuation in training, accordingly the two researchers resorted to training on sands of its two types the wet and the dry one and rationalizing with training loads considered one and best of resistance trainings used, lastly and to identify their effect on the physical and function of the players.

#### 1-3 The research objectives

**The research aimed at the following:-**

- 1- Preparing two wet and dry sand training units.

2- Identify the effect of the two training units with wet and dry sands to develop the special force and some of the functional abilities for the volleyball players of the pre and post tests for the research two groups.

3- Identify the effect of the two training units with wet and dry sands to develop the special force and some of the functional abilities for the volleyball players of the post- tests for the research two groups.

#### 1-4 The research hypotheses

1- There are no differences of statistical indication between the pre and post tests for the two research groups of wet and dry sands training units to develop the special force and some of the functional abilities for the volleyball players.

2- There are no differences of statistical indication between the post tests for the two research groups of the wet and dry sands training units to develop the special force and some of the functional abilities for the volleyball players.

#### 1-5 The research domains

1-5-1 time domain – for the period from 19/1/2016 till 16/3/2016.

1-5-2 The human domain:- sample of Al-Sinaa club players for the session 2016/2017 whose number (12) players

1-5-3 Special domain:- Al-sinaa club hall of volleyball.

## 2. The research approach and its field procedures

### 2-1 The research approach

Choosing the correct approach depended on the nature of the problem to be studied, where the problem requires seeking for effective methods and circumstances via performing experiments, thus the two researchers used the training approach considered suitable for the research requirements and the suitable manner to prove its hypothesis.

### 2-2 The research community and its sample

Choosing the research sample represented the original community considered an essential step to be cared with observation of the bases should be available in the sample to represent the community truly and the two researchers chose the research sample from the juvenile players of Al-Sinaa sport club whose numbers (15) players and (3) players were eliminated for their refusing to perform the trainings and the sample is divided in to two experimental groups randomly, the first group included (6) players trained on wet sands and (6) players trained on dry sands.

To know equality and homogeneity of the sample, the two researchers calculated the research variables as illustrated in table (1) and (2).

**Table (1):** Presentation of the research sample consistency.

Variables	mean	Standard deviation	mediator	Torsion coefficient
Height (cm)	173.64	6.31	1.72	0.798
Weight (kg)	59.06	2.72	59	0.531
(Age) year	17.33	0.44	17.00	3.02

**Table (2):** Presentation of sample research equivalent.

Variables	The first experimental group		The second experimental group		Value of calculated T	Statistical significant
	mean	S.D	mean	S.D		
Test of vertical jump	16	2.17	15.14	2.1	0.49	Not significant
Test of throwing medical ball	4.43	0.72	4.72	0.96	1.08	Not significant
Hopping test for maxpossible distance	14.83	1.116	15.6	1.04	1.13	Not significant
Test of bending and stretching arms	9.33	1.08	8.62	1.7	0.68	Not significant
Pulse rate	80.25	1.07	80.12	1.50	1.18	Not significant
Test the step for the Harvard	82.313	5.682	83.23	4.32	0.541	Not significant
Vital capacity	4361.32	133.409	4218.61	61.321	0.581	Not significant
Physicalfitness	2.481	0.341	2.61	0.391	0.360	Not significant

Value of tabular T (2.23) under free degree (10) and error level (0.05)

### 2-3 Devices and tools used in the research

The two researchers the necessary tools and devices to collect data of the study

- Arabic and foreign resources
- Tests and measurements
- Beach Soccer Stadium
- Device for measuring weight

### 2-4 Tests used in the research

1. Test of vertical jump from movement.<sup>1</sup>
2. Tests throwing medical ball weight (2kg).<sup>2</sup>
3. Load test for max possible distance.<sup>3</sup>
4. Test of bending and stretching arms.<sup>4</sup>
5. Pulse rate.
6. Test the step for the Harvard.<sup>5</sup>
7. Vital capacity of lungs.
8. Test of physical fitness.<sup>6</sup>

## 2-5 The experimental questionnaire

The two researchers performed the experimental questionnaire on 16/1/2016 on sample included three players whose objectives as follow:-

- 1- Identifying the necessary time to perform the tests.
- 2- Identify the validity of devices and tools used in the research.
- 3- Identify the eligibility of the aid team.
- 4- Identifying to the extent of the tests suitability for the research sample.
- 5- Identifying the obstacles and difficulties faced the two researchers to perform the main experiment.

### 2-5-1 The pre-tests

The two researchers performed the pre-tests on 18/1/2016, the time, special circumstances and the tools used were fixed and manner of their performing also the aid team to integrate them with the post-tests.

### 2-5-2 The two training units

The two researchers prepared and designed two training units for the two groups of the research in two manners, one of them on the wet sand and the other on dry sand, and items of training unit were applied on 19/1/2016 till 16/3/2016 of 8 weeks equals (3) units weekly and total of units (42) training units, each week between (3-4) units and number of units not less than (6) weeks till occurrence of development and undulation of training load 3:1 and the two training units were applied on the two groups at the same time, and the training unit was designed depended on the following:-

- Consideration the individual differences.
- Suitability of the two training units with the abilities and levels of the research sample.
- Consideration the goal for which they are set.
- The exercises were carried out at the special preparing stage, and the stage was organized in the form of four small training circles.
- The two researchers used low and high intensity interval training to perform these exercises according to required physical abilities, where the intensity ranged between 65-90%.

### 2-5-3 The post-test

The post-test for the two research groups were performed on 17/3/2016 and the same tests were applied which applied on the pre-tests 2-5-3 the post-test.

The post-test for the two research groups were performed on 17/3/2016 and the same tests were applied on the pre-tests.

### 2-6 Statistical means

spss was used, and used the following laws:-

- Percentage
- Mean
- Mediator
- Torsion deviation
- T test of the connected samples
- T test of the disconnected samples

### 3- Displaying, analyzing and discussing results

3-1- displaying, analyzing and discussing results of pre and post tests for the first experimental group for the variables currently under study.

**Table (3): Presentation of means and standard deviations and value of calculated T for the first experimental group.**

Variables	Pre-test		Post-test		Value of calculated T	Error level	Statistical significant
	mean	S.D	Mean	S.D			
Test of vertical jump	16	2.3	18.51	2.11	3.451	0.000	significant
Test of throwing medical ball	4.43	0.73	7.28	1.32	2.971	0.001	significant
Hopping test for max possible distance	14.83	1.116	16.18	1.02	4.195	0.000	significant
Test of bending and stretching arms	9.33	1.08	14.53	7.70	3.022	0.000	significant
Pulse rate	80.25	1.7	78.12	1.56	3.48	0.000	significant
Test the step for the Harvard	443.051	13.409	736.431	93.21	4.10	0.000	significant
Vital capacity	2.481	0.341	3.98	0.145	2.56	0.000	significant
Physical fitness	43.6	60.578	46789.19	62.341	4.613	0.000	significant

Significant under indication level  $\leq 0.05$  and freedom degree 5

Imbalance among the various muscular groups also work to improve the process of transference the of the foot join movement<sup>7</sup>.

These significant differences confirm the effectiveness and success of prepared training method by the two researchers which had clear effect to develop the physical abilities for the explosive power,

power characterized by speed, their reflection clearly on psychological abilities.

2-3 Displaying, analyzing and discussing results of pre and post -tests for the second experimental group in the currently under study variables.

3-3 Displaying, analyzing and discussing results of post tests for the two experimental groups in the currently under study variables.

**Table (4):** Presentation of means and standard deviations and value of calculated T for the second experimental group.

Variables	Pre-test		Post-test		Value of calculated T	Error level	Statistical significant
	mean	S.D	Mean	S.D			
Test of vertical jump	15.14	0.96	17.23	1.43	4.821	0.000	significant
Test of throwing medical ball	4.72	1.4	6.051	1.061	3.173	0.000	significant
Hopping test for max possible distance	15.6	1.7	15.97	1.928	2.916	0.000	significant
Test of bending and stretching arms	8.62	1.5	13.44	1.38	3.940	0.000	significant
Pulse rate	83.23	16.40	79.28	1.46	2.732	0.001	significant
Test the step for the Harvard	413.61	0.291	603.291	62.291	4.112	0.000	significant
Vital capacity	2.61	7.321	3.51	0.336	4.821	0.000	significant
Physical fitness	4218.16	0.96	4331.6	62.731	3.173	0.001	significant

Significant under indication level  $\leq 0.05$  and freedom degree 5

**Table (5):** Presentation of differences of the two experimental groups in the post-tests for currently under study variables.

Variables	Pre-test		Post-test		Value of calculated T	Error level	Statistical significant
	mean	S.D	Mean	S.D			
Test of vertical jump	18.51	2.11	17.23	1.43	2.985	0.000	significant
Test of throwing medical ball	7.28	1.32	6.051	1.061	1.245	0.015	significant
Hopping test for max possible distance	16.18	1.02	15.97	1.928	1.651	0.001	significant
Test of bending and stretching arms	14.53	7.70	13.44	1.38	1.872	0.001	significant
Pulse rate	78.12	1.56	79.28	1.46	1.023	0.001	significant
Test the step for the Harvard	736.431	93.21	603.291	62.291	1.123	0.001	significant
Vital capacity	3.98	0.145	3.51	0.336	0.432	0.000	significant
Physical fitness	46789.19	62.341	4331.6	62.0731	22.563	0.000	significant

Significant under indication level  $\leq 0.05$  and freedom degree 5

The two researchers ascribed the significant differences between the two experimental groups in the post test in favor of the second experimental group to the training unit nature used, which is sand training units considered resistance trainings and this is compatible with what has mentioned by (Khieriya Al-Askari et. .... al).

It has become clear via table (4) that there are significant differences between the pre and post- tests for the second experimental group, and the two researchers ascribed the significant differences to the nature and the extent of success concerned training on wet sands which had great effect on development the physical abilities currently under study" the explosive strength for the arms and the strength characterized by speed besides improving psychological variables currently under study.

Exercises similar to weights of the body were used also training on sands, which is one of easy ways which prepare and restore the ability for the body to control also the direct help to improve the muscles ability for full stretching also improve the efficiency of the athlete psychologically, and this achieving the research objectives via adding special resistance to the athlete body for the sand medium is different from the medium in which the player is training, besides the medium sand color required from the players more

effort and this is reflected clearly on their performance.

This is compatible with what Abu Aluaa Ahmed Fattah has mentioned" that increasing the sand resistance work to improve level of the player, physically, skillfully and functionally, here its importance appear of imbalance among various the muscular groups.<sup>8</sup>

Training on sand characteristics has made body mass resistance heavier than because the leg immerses in sand that gives more resistance for the body, where the movement on sand heavier than the movement on other surfaces such as the land, tartans and the grass, when moving the legs and increasing the motion range for the joint, the more increasing speed of its movement, the more increasing the resistance and the training is characterized by difficulty and acquire more strength.<sup>9</sup>

Zeki Mohammed Hasan (2004) confirms quoted from " Ori Alexander" that training on sand achieves a number of physiological effects inside the body represented by improving the functional efficiency for the various body organs, improve the vital capacity for the lungs, improve aerobic capacity, reduction pulse rate and improving the nervous and muscular organs efficiency".<sup>10</sup>

#### 4- Conclusions and recommendations

##### 4-1 Conclusions

The two researchers concluded through the results reached by them, the following:-

1- There is clear improvement in the physical abilities currently under study for both groups.

2- The prepared training units by the two researchers have clear effect to improve the physiological abilities considered one of resistance training methods whose effects effected physically and functionally on the players.

##### 4-2 Recommendations

The two researchers recommended the following:-

1- Diversity in training methods used to avoid boredom and monotony in training.

2- Using method of training on sands instead of making the players carry physical loads and weights could be increased on the players burden.

3- Performing similar studies on team and individual games on the various samples.

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