

## Effect of four weeks pawanmuktasana yogic training on abdominal strength, back strength and flexibility of physical education students

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### Abstract

The purpose of the study was to know the effect of Pawanmuktasana Yogic Training on abdomen strength, back strength and flexibility of physical education students. For the purpose of the present study total 30 physical education students were selected from department of physical education students G.G.V. Bilaspur (C.G.). The age of the subjects was ranging between 21-26 years. Keeping the feasibility criterion on mind researcher has selected Pawanmuktasana yogic training as independent variable and abdomen strength, back strength, flexibility as dependent variables. Pawanmuktasana training administered under the supervision of researcher and training was divided in three parts. To find out the effect of Independent Variable (Pawanmuktasana Yogic Training) on Dependent Variable (Abdomen strength, back strength and Flexibility), descriptive statistics and paired t-test was used. All statistics were calculated with SPSS 16.0. Level of significance was set at 0.05. The mean of pre & post test of Abdomen strength are 65.333 & 76.133 and t-value is 4.577. The mean of pre & post test of Back strength are 127.29 & 133.82 and t-value for Back strength is 8.299. The mean of pre & post test of Flexibility of the students are 33.997 & 36.833 and t-value for flexibility 9.404 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to abdomen strength, back strength and flexibility of physical education students. On the basis of result and findings the present study it may be conclude that Significant effect of Pawanmuktasana yogic Training was found on Abdomen strength ( $r = 4.577, p < .05$ ), Back strength ( $r = 8.299, p < .05$ ) and Flexibility ( $r = 9.404, p < .05$ ).

**Key words:** Pawanmuktasana Yogic training, Back Strength, Abdomen strength, Flexibility

### 1. Introduction

India has a rich convention of yogic practices and this is very important for every Indian in physical and spiritual context. Presently a-days yoga, the old custom of stances, breathing and contemplation is picking up a significant measure of consideration from medicinal services experts. It is making the human life as socially adequate, rationally unwind, physically fit, sincerely adjust, and profoundly arousing. The great sage and codifier of yoga, Patanjali, more likely than not known about the force of asana when he composed sutra 2:46, Sthira sukham asanam: Postures ought to exemplify unfaltering quality and simplicity. Yoga is old technique for philosophical and practices of consolidates body growth. Those guidelines with psyche stance and breathing systems and it likewise advisers for the consciousness of individual to ace the ability to think and lead viability in games identity. Today yoga is picking up and quality our determination most just to accomplishing the execution yet expanding popularities because of its conceivable applications in different angles i.e. of games wounds of physical and mental capacity and also advances the constructive self-perception of games individual, Because yoga is perceive frameworks which build inspiration and inner recuperating of soul, brain and body which can facilitate of psycho neuro-physic sensible growth variable.

The word- Pawanmuktasana signifies three aspects which are pawan namely air, wind or the vital breath, mukta is free and asana means the sitting posture; thus this is a yoga posture through which the inactive air of the

body joints is expelled. These stagnant airs are the cause behind arthritis. The best part is that one can carry out this regardless of any age consideration. Wherefore, these days this is being applied as naturopathy and has become a famous part of modern medicine. Yoga raises the level of consciousness and establishes a better understanding between the mind and the body. This removes every dilemma and physical afflictions. The initial part of Pawanmuktasana is fairly doing well in the amelioration of joints associated problems.

Pawanmuktasana yogic exercises are divided in three parts and each part consists of various series of exercises. Mainly if we talk about the Pawanmuktasana yogic asana, the main Pawanmuktasana is bending the both leg and grip with both hands then try to touch with the head. Pawanmuktasana is mainly concerned with the digestive system. The digestivesystem plays an significant role in the health of particular person. One is indeed fortunate if he /she have no problem with digestive system. However these days almost everyone complains of constipation, acidity, excess wind or gas, the loss of appetite. In this respect this group of asana will prove a real blessing.

The concept of asanas in yoga system commences with Pawanmuktasana series. The main thought behind these asanas is to provide suppleness in the areas of body joints. We cannot practice these asanas properly without allowing suitable suppleness in the joints. Pawanmuktasana offers correct practice for building the joints supple. This asana is quite important for those people who aspire to do something great in the field of higher stages yoga. We cannot go for higher stages asanas without proper practice of this asana. The proper practice of this asana provides flexibility in the joints and removes the hardness of the muscles. You cannot this asana as the subtle effect of this easy and natural practice affects the entire body and mind.

Abdomen strength, Back Strength and Flexibility is the most imperative element that can influence the execution of games individual in numerous diversions and games. Mentors, coaches and players satisfactory accentuation on abdomen strength, back strength, Flexibility and quality to upgrade the playing capacity of the players. There are numerous exercises given by different specialists that incorporates extending, holding and unwinding practices that is the fundamental elements that expands the adaptability and back quality of the person. Physical wellness variables assume a key part for the best execution of the players, mentors and coaches attempt to enhance the pace, adaptability and quality of the players. Numerous specialists had study that yoga is the most ideal approach to enhance the adaptability of the people. Pawanmuktasana yogic training likewise gives help to enhance the rate of the person. Pawanmuktasana helps improve abdomen strength, back strength, flexibility and also play a important role to relief stomach related disease.

### 1.1 Objectives of the study

- The objective of the study was to know the effect of PawanmuktasanaYogic Training on abdomen strength of physical education students.
- The objective of the study was to know the effect of Pawanmuktasana Yogic Training on back strength of physical education students.
- The objective of the study was to know the effect of Pawanmuktasana Yogic Training on flexibility of physical education students.

### 1.2 Hypothesis of the study

- It was hypothesized that there will be no significant effect of Pawanmuktasana Yogic Training on abdomen strength of physical education students.
- It was hypothesized that there will be no significant effect of Pawanmuktasana Yogic Training on back strength of physical education students.
- It was hypothesized that there will be no significant effect of Pawanmuktasana Yogic Training on flexibility of physical education students.

## 2. Methodology

### 2.1 Selection of Subjects

For the purpose of the present study total 30 physical education students were selected from department of physical education students G.G.V. Bilaspur (C.G.). The age of the subjects was ranging between 21-26 years.

## 2.2 Selection of Variables

- Independent variables:-
  - Pawanmuktasana Yogic Training
- Dependent variables:
  - Abdomen strength
  - Back strength
  - Flexibility

## 2.3 Criterion Measures

- Abdomen strength was measured on the basis of sit-ups.
- Back Strength was measured by back strength dynamometer recorded in kg.
- Flexibility was measured by sit and reach test and recorded in centimeter

## 2.4 Administration of Pawanmuktasana yogic training programme

Pawanmuktasana training administrated under the supervision of researcher and training was divided in three parts. Each part was performed by the subjects in sequential order one by one in following order.

### 2.4.1 Pawanmuktasana part-I

Pawanmuktasana part- I consisted of various exercises included stretching and rotation of various body parts of upper and lower limb. Pawanmuktasana part-I yogic training was performed by the students under the supervision of researcher in following sequence

- |                        |                              |
|------------------------|------------------------------|
| 1. Toe Stretching      | 9. Full Butterfly pose       |
| 2. Ankle twisting      | 10. Hip Rotation             |
| 3. Ankle Rotation      | 11. Wrist Bending            |
| 4. Ankle eccentric     | 12. Wrist Joint Rotation     |
| 5. Knee Contraction    | 13. Elbow Bending            |
| 6. Knee twisting       | 14. Shoulder Socket Rotation |
| 7. Knee Crank          | 15. Neck Movement            |
| 8. Half Butterfly pose |                              |

### 2.4.2 Pawanmuktasana part-II

Under Pawanmuktasana part- II following exercise(yogic asana) were performed by the subjects in laying position-

- |                     |                        |
|---------------------|------------------------|
| 1. Uttanpadasana    | 4. Supt Udarakhrshan   |
| 2. Chakra pad asana | 5. Supt Pawanmuktasana |
| 3. Padsanchalana    | 6. Rolling             |

### 2.4.3 Pawanmuktasana Part-III

Under the Pawanmuktasana – part-III series are listed below

- |                                  |                            |
|----------------------------------|----------------------------|
| 1. Rajjukarshan                  | 7. Cycling Pose            |
| 2. Gatithyatmak (make vakrasana) | 8. Leg Lock                |
| 3. Chakki chalan                 | 9. Rocking and Rolling     |
| 4. Udrakrashan                   | 10. Sleeping Abdominal     |
| 5. Raised Legs                   | 11. Universal Spinal Twist |
| 6. Leg Rotation                  | 12. Boat pose              |

## 2.5 Experimental Design

For the purpose of the present study single group design was used in which the pre test was taken before the training and post test was taken after six weeks of training. Pawanmuktasana yogic training is divided in three different parts and each part consists of various exercises. Yogic training was given to subjects on six days i.e. (Monday to Saturday). Each training session consisted of 60 minutes Pawanmuktasana yogic training and one session (Evening) in the day. Pawanmuktasana yogic training included various exercises in three parts in the various positions. Students start the training from loosening exercises then they were performing various exercises under the Pawanmuktasana yogic training in the supervision of the researcher.

### 2.6 Statistical Techniques

To find out the effect of Independent Variable (Pawanmuktasana Yogic Training) on Dependent Variable (Abdomen strength, back strength and Flexibility), descriptive statistics and paired t-test was used. All statistics were calculated with SPSS 16.0. Level of significance was set at 0.05.

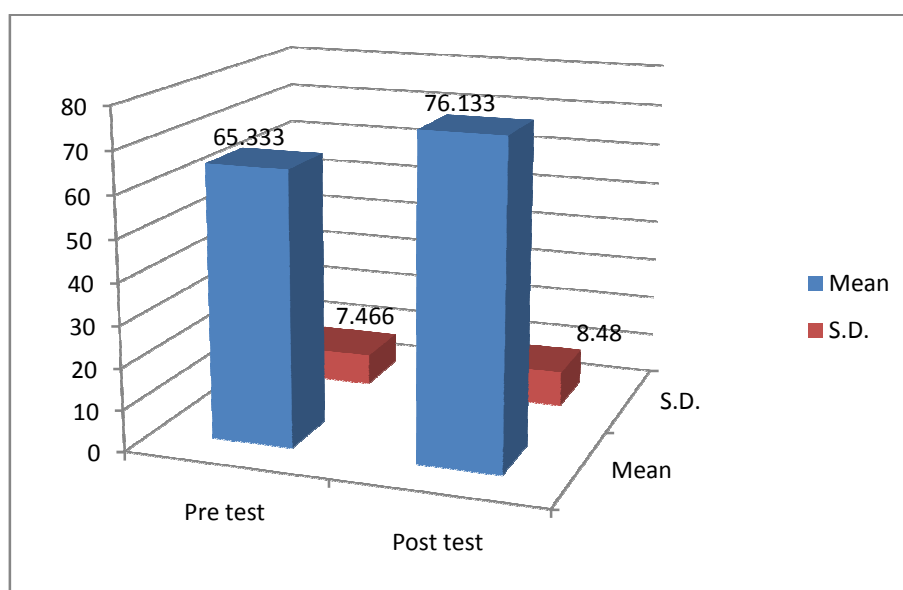
### 3. Result and Findings of the study

**Table 1**  
**Descriptive and comparative statistics of pre and post test of Abdomen strength**

Variables	Test	N	Mean	Std. Deviation	Std. Error of Mean	t-value	Sig.
Abdomen strength	Pre	30	65.333	7.466	1.363	4.577	.000
	Post	30	76.133	8.480	1.548		

Table 1 reveals that the mean of pre & post test of Abdomen strength are 65.333 & 76.133. The obtained t-value for Abdomen strength 4.577 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to Abdomen strength.

**Figure 1**  
**Graphical presentation of mean values of pre and post test in relation to Abdomen strength**

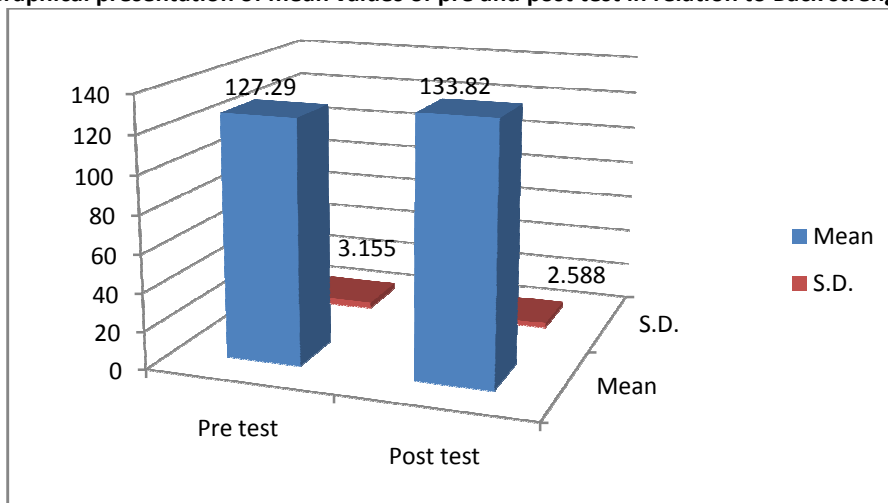


**Table -2**  
**Descriptive and comparative statistics of pre and post test of Back strength**

Variables	Test	N	Mean	Std. Deviation	Std. Error of Mean	t-value	Sig.
Flexibility	Pre	30	127.29	3.155	.576	8.299	.000
	Post	30	133.82	2.588	.468		

Table-2 reveals that the mean of pre & post test of Back strength are 127.29 & 133.82. The obtained t-value for Back strength 8.299 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to back strength.

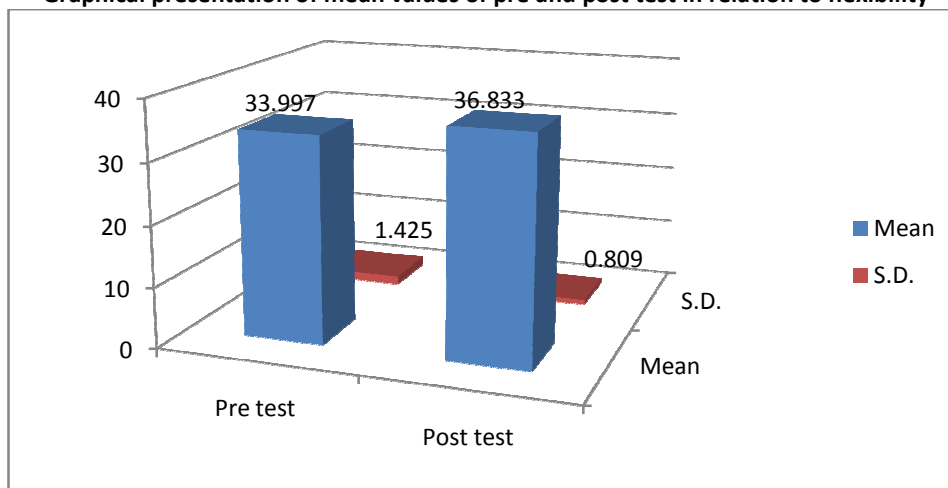
**Figure 2**  
 Graphical presentation of mean values of pre and post test in relation to Back strength



**Table -3**  
 Descriptive and comparative statistics of pre and post test of Flexibility

Variables	Test	N	Mean	Std. Deviation	Std. Error of Mean	t-value	Sig.
Back Strength	Pre	30	33.997	1.425	.260	9.404	.000
	Post	30	36.833	.809	.147		

**Figure 3**  
 Graphical presentation of mean values of pre and post test in relation to flexibility



#### 4. Discussion of the findings

The mean of pre & post test of Abdomen strength are 65.333 & 76.133 and S.D. 7.466 & 8.480 respectively. The obtained t-value for Abdomen strength 4.577 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to Abdomen strength. The mean of pre & post test of Back strength are 127.29 & 133.82 and S.D. 3.155 & 2.588 respectively. The obtained t-value for Back strength 8.299 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to back strength. The mean of pre & post test of Flexibility of the students are 33.997 & 36.833 and S.D. 1.425 & .809 respectively. The obtained t-value for flexibility 9.404 is significant at 0.05 level that shows significant difference exists between the means of pre and post test in relation to flexibility. The Pawanmuktasana yogic training given by the researcher to check the improvement in Abdomen strength, back strength and flexibility

of the students is the series various exercises that is included stretching and rotation of various body parts and also included various yogic asana. The findings of the study revealed that there was a significant improvement found in Abdomen strength, back strength and flexibility to practice of Pawanmuktasana yogic training. The probable reason is the Pawanmuktasana yogic training is the combination of many asana (Exercises) that is included stretching, holding and relaxation exercises asana increases the abdomen strength, back strength and flexibility. Many researchers had already proved that Yogic exercises are good physical fitness training that is used by coaches and trainers to improve fitness level of the players. Singh, R. and Singh, K. (2016) have studied "Effect of eight weeks training of Suryanamaskar on flexibility of cricket players" and Kerketta, I., Singh, K. & Bisht, S. (2014) "Effect of six weeks training of suryanamaskar on flexibility and agility" also supported the results of the present study.

## 5. Conclusion

On the basis of result and findings the present study following conclusions may be drawn:

- Significant effect of Pawanmuktasana yogic Training was found on Abdomen strength of physical education students ( $r = 4.577$ ,  $p < .05$ ).
- Significant effect of Pawanmuktasana Yogic Training was found on Back strength of physical education students ( $r = 8.299$ ,  $p < .05$ ).
- Significant effect of Pawanmuktasana Yogic Training was found on Flexibility of physical education students ( $r = 9.404$ ,  $p < .05$ ).

Initially it was hypothesized that there will be no significance effect of Pawanmuktasana yogic Training on Abdomen Strength, Back Strength and Flexibility of physical education students is not accepted at 0.05 level of significance.

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