



Effectiveness of Underwater Breathing Control on Breath Holding Time Among Kabadi Players

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ABSTRACT

INTRODUCTION: Kabbadi is a contact team sport. Played between two teams of seven players without any equipment, the objective of the game is for a single player on offence, referred to as a “Raider”, to run into the opposing team’s half of court, touch out as many of their defenders as possible, and return to their own half of the court, all without being tackled by the defenders. Underwater Breathing Exercise is intended to promote effective and healthy breathing and breathcontrol. It can be done anywhere, and it only takes a few minutes. **OBJECTIVE:** To find out the effect of underwater breathing exercises on breath holding time by using Nose Clip method among kabaddi players. **METHODOLOGY:**The total number of players in this study were 12 age between 19-23 years.the nose clip method is used to assess breath holding time **RESULT:** After the analysis, at the beginning, Breath Holding Time was 38 Seconds. At the end, Breath Holding Time was 53 Seconds.**CONCLUSION:** There was significant improvement on the Breath Holding Time due to the effect of underwater Breathing Exercises among Kabbadi Players.

KEYWORDS:kabbadi, underwater breathing control,breath holding,Nose clip method.

INTRODUCTION

Kabbadi is a contact team sport. Played between two teams of seven players without any equipment, the objective of the game is for a single player on offence, referred to as a “Raider”, to run into the opposing team’s half of court, touch out as many of their defenders as possible, and return to their own half of the court, all without being tackled by the defenders. The basic idea of the game is to score points by raiding into the opponents’ court and touching as many defense players as possible without getting caught on a single breath. Points are scored for each player tagged by the raider, while the opposing team earns a point for stopping the raider. Players are taken out the game if they are touched or tackled, but are brought back in for each point scored by their team from a tag or tackle.

Kabaddi is a complete collective sporting modality, characterized by the great amount and variety in its movements, ball manipulations and interaction with other athletes. Looking for a better dynamic and objectivity, Kabaddi passed through several evolutionary processes that, consequently, started to demand from the athlete’s larger physiological adaptations and other characteristics.

During underwater breathing control breathe slowly and deeply. Breathing this way is better for air consumption because gas exchange is more efficient when the air is pulled down into the lungs and released slowly. Our bodies and brains need a steady supply of oxygen to function. Proper breathing technique helps us to stay healthy and fit-to-dive. Oxygen keeps us alert, focused and thinking clearly. Balanced inhales and exhales help our position in the water due to better buoyancy control. Slow, deep breaths are also calming; we tend to breathe like this when relaxed or resting.

Underwater also helps to fight the body's natural reactions. Like dolphins and whales, our bodies instinctively conserve oxygen when we go underwater. This reaction — called the diving reflex — helps to conserve the oxygen in our bodies and enables us to hold our breath even longer.

Breath holding time is the time taken by the subject to hold his breath as long as he can. During voluntary breath holding, tissues continue to utilize oxygen and liberate carbon dioxide. The average person can hold their breath for 30-90 seconds. This time can increase or decrease due to various factors, such as smoking, underlying medical conditions, or breath training. The length of time a person can hold their breath voluntarily typically ranges from 30 to 90 seconds.

PURPOSE OF THE STUDY:

In Kabbadi, the aim is to touch any or all the opponent players while loudly chanting ‘kabaddi’ and returning to his side of the court all in a single breath. The purpose of the study is to improve the breath holding time of the kabaddi players using underwater breathing control.

AIM AND OBJECTIVES**AIM**

- To find out the effect of underwater breathing control on breath holding time among kabaddi players.

OBJECTIVES

- To evaluate the breath holding by using Nose Clip method.

MATERIALS AND METHODOLOGY**MATERIALS REQUIRED:**

- Nose Clip
- Stopwatch
- Paper
- Pen
- Chair
- Swimming Pool

SOURCE OF DATA:

The study was conducted at Thanthai Roever College of Physiotherapy, Perambalur

STUDY DESIGN:

Experimental study design

SAMPLE TECHNIQUE:

Convenience sampling

DURATION OF STUDY:

6 weeks

STATISTICAL TOOL:

Breath Holding Time

SAMPLE SIZE:

Sample size is 12

INCLUSION CRITERIA:

- Only Male Players are included
- Age - 19 to 23 years

EXCLUSION CRITERIA:

- Any reason of upper or lower limb injuries.
- Any Neurological Disorder.
- History of any reason of trauma.

OUTCOME MEASURE:

Nose Clip Method (Breath Holding Time)

PROCEDURE:

Subjectives were selected from Thanthai Roever College of Physiotherapy Students. The Age between 19 to 23 Males were selected. Subjects were informed with details of the study. Interested subjects were included as per the inclusion Criteria. Then for further experiment were to continue we tested the subjects for any signs of upper or lower limb injuries; any neurological disorder; any signs of trauma present. After performing the test, we asked their consent for further investigation and written informed consent was taken.

After asking for their consent the subjects were performed with breath holding test and measured as a baseline reading for their breath holding time. Then underwater breathing control was given to each individual for a period of 6 weeks (3 times per day). We again measured the breath holding time of each individual after 6 weeks by using Nose Clip method. Data was collected in for each individual in a similar manner.

DATA ANALYSIS

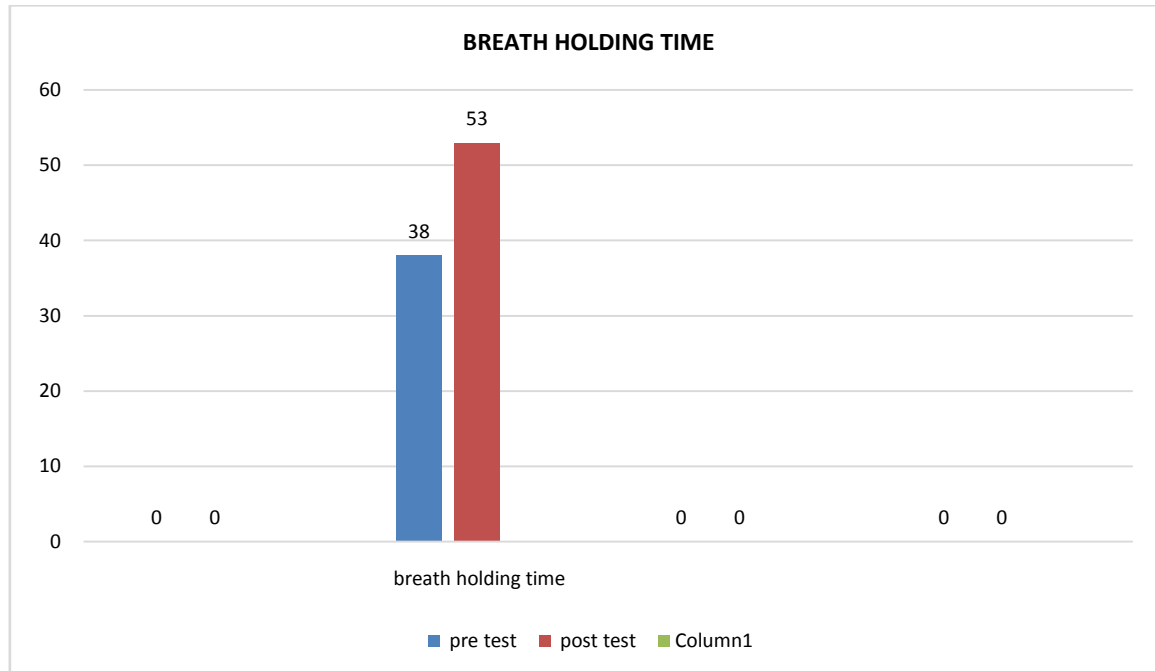
The table represents the mean value between pre vs. post-test values of Breath Holding Time of Kabbadi Players.

A sample of 12 subjects were included for the study. Mean and Mean Difference were calculated. The test was applied to the group Pre- and Post-

treatment values.

Table-1 mean value of breath holding time

BREATH HOLDING TIME	MEAN VALUE(in seconds)
PRE- TEST	38
POST- TEST	53



The above graph shows the Mean Pre and Post breath holding time values at beginning 38 and post 53.

RESULT

- Results show that underwater breathing control was effective to improve Breath Holding Time among Kabbadi Players.
- Underwater breathing control shows significant difference in Pre- and Post- test values, before and after application.
- Comparison of the mean value of Pre and Post Test of Breath Holding Time,
 - ❖ At the beginning, Breath Holding Time was 38 Seconds.
 - ❖ At the end, Breath Holding Time was 53 Seconds.

DISCUSSION

Breathing has a close relationship with autonomic nervous system function. The phrenic nerve that controls the movement of the diaphragm is connected to the vagus (parasympathetic) nerve. Decreasing the Respiratory Rate by Diaphragmatic Breathing activates the parasympathetic nervous activity while suppressing the sympathetic nervous activity. Furthermore, Diaphragmatic Breathing appears to have a favorable effect on the cardiovascular system and brain through the improvement of the autonomic balance.

Breath holding is an important process in Kabbadi Players. The more time they hold their breath, the more freely they can play their game without hastiness. The underwater breathing control contribute a lot in increasing the player's breath holding time.

Our study also showed that Breath holding time after hyperventilation is significantly greater than other variables in players compared to non-players. This shows that breath holding time is determined by the initial pCO₂, and decreased sensitivity of the respiratory center to pCO₂.

CONCLUSION

The present study was exposed that significant different was found in the mean value of selected Breath Holding Time.

There was significant improvement on the Breath Holding Time due to the effect of underwater breathing control among Kabbadi Players.

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