



## EFFECT OF SELECTED PRANAYAMA ON PHYSIOLOGICAL VARIABLES ON SCHOOL GOING CHILDREN

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### Abstract:

#### Introduction:

Yoga means union, "plus". The 'Yoga', this word has been derived from Sanskrit word "YUJ" which means to join, to unite. This word has many meaning to join the body to the mind and together join the self Soul. Yoga is an art of bringing together the jivatma (individual self) with the paramatma (The soul or the Universal self). Hence, yoga is the re-discovery of experiencing the eternal purusa of the self. Yoga is not tied to any religion. It is appropriate for all people in all locations. As yoga is conceived with the betterment of the life of each human being, it can be viewed as a universal religion and culture.

Yoga is the technique of joining or uniting the individual soul with absolute spirit. It is means of liberations and it is therefore fiery boat and sure to take all of us for beyond ourselves. Yoga has been called a living fossil. It belongs to the earlier heritage of India's humanity.

#### Means of Yoga

Patangali has given us the eight yogic means in the form of yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, and Samadhi to purify the consciousness and then lead that purifies consciousness towards the light of the self.

>Yama :

Which means control or restrain. Yama consists five subdivisions-

1. Ahimsa
2. Satya
3. Asteya
4. Brahmacharya
5. Aparigraha

Niyama – Niyama is compared of five principles.

1. Sauca
  2. Santosa
  3. Tapas
  4. Svadhyay
  5. Isvarapranidhana
- > Asana >Pranayama >Pratyahana  
>Dharna >Dhyana >Samadhi.

#### Pranayama

By controlling breath and life energy, or prana, yogis call this pranayama. Harnessing three phases of breath inhalation, retention and exhalation.

*अथसने हठयोगी वशीहितमिताशतः,*

*गुरुपदिष्ट मार्गेण प्राणायमान्स मभ्यसेत ।*

"Being established in Asana and having control of the body, taking balanced diet, pranayama should be practiced according to the instructions of Guru."

Pranayama means the regulation or the control of prana in three stages – inhalation, retention and the exhalation of breath.

#### The significance of pranayama in Yoga.

There are common notion that pranayamic breathing improves oxygen consumption. Many yoga experts are of this view. Manipulation of breathing is advocated in many activities like weight lifting, swimming, jumping, sprints, boxing, shooting etc. Here the main aim of manipulating the breathing is to develop proper leverage for body actions, steadiness, alertness improving perceptions ensuring protection to body parts etc.

#### Statement of the problem

Statement of the Problem is:

"The effect of selected pranayama on some physiological variables termed as rate of respiration and pulse rate on school going children".

#### PURPOSE OF STUDY

1. To know and to understand the changes in the various physiological variables by pranayama.
2. To know that by what manner pranayama affects physiologically to school going children.

### Hypothesis

In this study it is hypothesized by the researcher that there will be positive effect on physiological variables by pranayama on school going children.

### Delimitations

In this study there was some delimitation as under –

- 1) Subjects were selected from Adarsh Vidya Mandir, Gandhibag, Nagpur.
- 2) This study was delimited to the age group of 13 to 15 years.
- 3) For this study only 40 male subjects were selected.
- 4) This study was also delimited to see the effect of Anulome-vilome (Nadisodhan) pranayama.
- 5) In this study duration of study was 30 min. in a day.
- 6) This study was delimited to know the effect of two physiological variables i.e. rate of respiration and pulse rate.

### Limitations :

- 1) All the subjects belonged to different economic background, therefore, their interest, attitude and dietary habits were different and this limitation was recognized by the researcher.
- 2) No special devices or techniques were used to motivate the subjects for performing better during the experimental period, therefore, this limitation was recognized by the researcher.

### Chapter III

#### Methodology

##### Sources of data

Sources of data were from Adarsh Vidya Mandir, Gandhibag, Nagpur. Data was collected from male students only. The average age of subjects was 14years. 40 male students were selected for this study. Students were from 8th and 9th class.

##### Sampling Method

Forty male students were selected randomly for this experiment. They were divided into two equal groups. Each consisting of 20

students. Group 'A' was Experimental group and group 'B' was control group.

### PROCEDURE OF EXPERIMENTAL TREATMENT

In this study experimental method was used. Treatment (Anulome-Vilome pranayama) was given to experimental group. Control group was not given any kind of treatment.

### PROCEDURE OF ADMINISTERING THE TEST

For this study two physiological variables were considered i.e. rate of respiration and pulse rate. Before starting treatment pretest was taken and after completion of treatment programme post test was taken.

### TREATMENT PROGRAMME :-

Duration of treatment was four weeks from 6th Jan'05 to 6th Feb'05. Duration of treatment in a day was 30min.

Table-1. Showing the experimental programme.

I week	II week	III week	IV week
Puraka-Rechaka	Puraka-Rechaka	Puraka-Kumbhaka-Rechaka	Puraka-Kumbhaka - Rechaka
1:1	1:2	1:2:2	1:4:2

### Chapter IV

#### Analysis of Data

The statistical analysis of the data collected on 20 students of group 'A' (Experimental group) and group 'B' (control group) is presented in this chapter.

#### Scoring of data

The subjects score on pulse rate and rate of respiration given before and after the completion of experimental period constituted the score for the purpose of the study.

#### Level of Significance

For testing the difference between and among the means gain of two groups the level of significance was set at 0.05.

#### FINDINGS-

Table-2. Showing the mean of pulse rate after four weeks treatment

Group	M <sub>1</sub>	M <sub>2</sub>	D.M.	S.E	't' ratio	't' value
A	85.9	83.1	2.8	2.76	1.01	2.02
B	84.2	84.1	0.1	2.42	.041	2.02

The initial mean in case of pulse rate of Experimental and control group were 85.9 and 84.2 respectively. The final mean value

of pulse rate of Experimental group and control group were 83.1 and 84.1 respectively at the conclusion of four weeks of Experimental period. Thus the Difference between the means of Experimental group and control group was 2.8 and 0.1 respectively. The 't' ratio obtained in respect of Experimental group was 1.01 which was not found statistically significant. For the mean difference to be significant at 0.05 level of confidence, the 't' value to be obtained should be greater than 2.02.

Table-3. Showing the mean of rate of respiration after four weeks treatment

Group	M <sub>1</sub>	M <sub>2</sub>	D.M	S.E	't' ratio	't' value
A	22.1	16.4	5.7	.60	9.5*	2.02
B	21.05	21.8	0.75	.87	.86	2.02

\*Significant at 0.05 level

The initial mean in case of rate of respiration of experimental and control group were 22.1 and 21.05 respectively. The final mean of rate of respiration of this group were 16.4, 21.8 respectively after the conclusion of four weeks experimental period. Thus the Difference between the means of experimental group and control group was 5.7 and 0.75 respectively. The 't' ratio obtained in respect of Experimental group was 9.5 which was found statistically significant. For the mean difference to be significant at 0.05 level of confidence, the 't' value to be obtained should be greater than 2.02.

#### Chapter V

#### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

##### SUMMARY

The purpose of this study was to know the effect of pranayama on some physiological variables.

Forty male subjects were randomly selected of eight and ninth class of Adarsh Vidya Mandir, Gandhibagh, Nagpur. The Data were collected before and after four weeks of experimental periods.

Pre-test and post-test of pulse rate and rate of respiration of subjects were taken. Subjects were divided into two group randomly. Each group consisted of 20 subjects. Group 'A' was experimental group and second group 'B' was control group.

Experimental group was given administered programme of selected pranayama and no

treatment was given to control group. Experimental group followed their respective programme of pranayama for a period of four weeks. Treatment was carried out six days in week. Mean difference of rate of respiration group were tested for significance. Experimental group was found statistically significant at 0.05 level of confidence.

In the light of this study following results were drawn:

- 1) Rate of respiration can be reduced by Anulome-Vilome pranayama.
- 2) Pulse rate also can be also reduced by Anulome-Vilome pranayama.
- 3) In this study it was observed that after giving Anulome-Vilome pranayama there is rapid decrease in rate of respiration than in pulse rate.

#### Conclusion:

It shows that four weeks of training of Pranayama decreases rate of respiration significantly and pulse rate also decreases but not significantly, more time period is required for pulse rate for significant difference.

#### References:

- 1) **B.K.S. Iyenger**, Astadala yogamla, vol-1, p.93
- 2) Ibid -76
- 3) **R.S. Bajpai**, the Splendours and dimensions of yoga, Vol-I, P. 148.
- 4) **B.K.S. Iyenger**, Astadala yogamla, vol-1, p.95-98
- 5) **R.S. Bajpai**, "The Splendours and dimesions of Yoga." Vol – I, P. 281-287
- 6) **David H. Clarke, H. Harrison Clarke**, Research Process In Physical Education, (2nd Edition, Prentice-Hall, Inc., Eglewood Cliffs, New Jersey 07632), p203.
- 7) Ibid

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