Effect of SitilikaranaVyayama and Suryanamaskar Practices on Wrist Hip and Knee Movement among District Level Hockey Players

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Abstract

The sitilikarana vyayama is one of the most important group of practices that has a very profound effect on the human body and mind and is thus a most useful tool for the yogic management of various disorders and maintenance of health. The initially results in stiffness, muscular tension, lack of proper blood flow and minor functional defects. Suryanamaskara Practices is combines yogasanas and Pranayama as such, it comes in between sitilikarana vyayama and yogasanas and brings about the general flexibility of the body preparing it for further asanas and pranayama. The purpose of the study was to investigate the effect of vivekanada school of yoga sitilikarana vyayama and suryanamaskar practices on wrist, hip & knee movement (flexibility variables) among higher secondary school level district hockey players. The subjects were equally assigned to random sampling procedure into two equal groups, i.e., The experimental group and control group. The experimental group under gone the practices in vivekanada school of yoga sitilikarana vyayama and suryanamaskar practices. The control group not under gone the any kind of yogic practices for the duration of the training programme of six weeks. Quantitative measurements of flexibility with goniometer (in degrees) for wrist, hip and knee joints were taken in the beginning and at the end of experimental period of six weeks. Alternate days in a week the training was given. Each session scheduled for 60 minutes. The significane of mean difference between the pre test and post test means of wrist, hip and knee joint were analyzed using 't' ratio. The level of significance chosen was 0.05. The experimental group showed significant improvement in wrist, hip and knee joint as a result of systematic training of vivekanada school of yoga sitilikarana vyayama and suryanamaskar practices than the control group.

Key words: Flexibility, Sitilikarana vyayama, Suryanamaskar.

Introduction

Now a days the modern diseases are psychosomatic in nature. Sometimes due to bad posture disturbed bodily functions, psychological or emotional problems or an unbalanced lifestyle, the energy become blocked. The initially results in stiffness, muscular tension, lack of proper blood flow and minor functional defects. However, if these blockages become chronic, a limb joint or physical organ may malfunction, fail or become diseased. Regular practice of sitilikarana vyayama removes energy blockages from the body and prevents new ones from forming In this way, it promotes total health, regulating and stabilizing the flow of energy throughout the body.

Suryanamaskara is a complete sadhana, spiritual practice in itself for it includes asana, pranayama, mantra and meditation techniques. It is an excellent group of asanas with which to start moring practice. Suryanamaskar has a direct vitalizing effect on the solar energy of the body which flows through pingala nadi. Regular practices of suryanamaskar regulates pingala nadi, whether under active or overactive. Regulation of pingala leads to a balanced energy system at both mental physical levels. Each stage of suryanamaskar accompanied by regulation of breath. The 12 steps of the suryanamaskar is follows

Count.	Posture name	Breathing (Pranayama)	Mantra
1	Hastauttanasana		Hum Hram Mitrava Namah
2	Padahastasana	Fully Exhale	Aum Hrim Ravaye Namah
3	Ashwa	Fully Inhale	Aum Hrum Suryaya Namah
	Sanchalanasana	5	5.5
4	Dandasana	Fully Exhale	Aum Hraim Bhanave Namah
5	Sasankasana	Fully Inhale	Aum Hroum Khagaya Namah
6	Astanga	Breathout	Aum Hrah Pusne Namah
	Namaskara	(Bahyakumbaka)	
7	Bhujangasana	Fully Inhale	Aum Hram Hiranyagarbhaya
	5 5	5	Namah
8	Parvatasana	Fully Exhale	Aum Hrim Maricaye Namah
9	Same as 5	Inhale & Exhale	Aum Hrum Adityaya Namah
10	Same as 3	Fully Inhale	Aum Hraim Savitre Namah
11	Same as 2	Fully Exhale	Aum Hraim Arkaya Namah
12	Pranamasana	Fully Inhale	Aum Hram Bhaskaraya
			Namah

The practice of sitilikarana vyayama and suryanamaskar practices as a whole gives a great number of benefits. It strengthens the back and helps the metabolism. Synchronizing the breath with the physical movements of suryanamaskara ensures that the practioner.

The study was delimited to the higher secondary school boys in the age group of 14-16 years. Further the study was delimited to the students of Chennai only. Certain factors like rest sleep etc. were consider as a limitation of the study. Vivenkanada school of yoga sitilikarana vyayama and suryanamaskar it consist a dynamic stances or postures and effortful movements. It can however, be compared with slow motion exercises for stamina.

Aim and Objective

The aim and objective of the study was to investigate the effect of vivekanada school of yoga sitilikarana vyayama and suryanamaskar on flexibility variables among higher secondary school boys.

Material and Methods

Subjects

Totally 15 subjects were randomly chosen from 30 higher secondary school boys, who were between the ages of 14 – 16 years.

V. Duraisamy Procedure

Range of movement for wrist (Downward flexion), hip, knee and ankle (planar flexion) joints were measured with the help of Goniometer in degrees. Pre- test and Post – test randomized group design was employed in the study. The subjects were divided into experimental group and control group. The experimental group was imparted 60 minutes of practices of vivekanada school of yoga sitilikarana vyayama and suryanamaskar for 6 weeks under the supervision and guidance of the scholars. The practice session was conducted for a period of 60 minutes in the morning 6.00 a.m. to 7 a.m. on alternated days for duration of six weeks while no practices was imparted to the control group. At the end of six weeks post – test was conducted for both the groups. To find out the significance of difference between different paired means, the 't' ratio was used. The level of significance was set at 0.05 level of confidence.

Result

The statistical analysis of data (Flexibility at wrist joint, hip joint, knee joint and ankle joint) collected on 15 male subjects belonging to a experimental and a control group each have been presented in tables 1 to 4. The random group design was design was employed in this study and subjects of the experimental group and the control group were selected at random and were not equated with reference to the factors examined. The 't' ratio was applied to examine the data with regard to the experimental group and control group. The 't' ratio was calculated to find out the significance of difference between pre-experimental mean and pre-control mean, pre – experimental mean and post experimental mean.

Mean experimental group		Control group		DM	DM	't' -
Pre -	Post -	Pre -	Post -			ratio
test	test	test	test			
72.67	73.33			0.66	0.96	0.69
72.67	78.20			5.53	0.85	6.50*
		73.33	73.47	0.14	1.10	0.13
	78.20		73.47	4.73	1.00	4.73*

Table-I								
Wrist	Joint	(In	Degrees)					

*Significant, t 0.05 (14) = 2.14

Table I shows that there is significance difference between the pre- means of experimental group and control group was 0.69, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows both the group having similar flexibility at wrist joint.

The significance difference between the pre and post means of experimental group was 6.50, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It shows significant improvement regarding flexibility at wrist joint in the experimental group.

The significance difference between the pre- and post means of control group was 0.13, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows that there was no change in flexibility at wrist joint in the control group. The significance difference between the post means of experimental group and control group was 4.73, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It indicates significant improvement regarding at wrist joint in the experimental group.

Mean experimental group		Control group		DM	DM	't' - ratio
Pre - test	Post - test	Pre – test	Post - test			
50.00		49.33		0.67	0.82	0.82
50.00	56.27			6.27	0.93	6.74*
		49.33	49.96	0.27	0.65	0.41
Significant, t 0.055(⁄d .4) 7 ≥ 2.14			49.96	6.67	0.76	8.78

Table-II Hip Joint (In Degrees)

Table – II shows that there is significant difference between the pre- means of experimental group and control group was 0.82, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows both the groups had similar flexibility at hip joint. The significant difference between the pre- and post means of experimental group was 6.50, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It shows significant the required value at 0.05 level of the pre- and post means of experimental group was 6.50, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It shows significant improvement regarding flexibility at wrist joint in the experimental group.

The significant difference between the pre- and post means of control group was 0.41, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows that there was no change in flexibility at hip joint in the control group.

The significant difference between the post means of experimental group and control group was 8.78, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It indicates significant improvement regarding at hip joint in the experimental group.

Mean experimental group		Control group		DM	DM	't' - ratio
Pre - test	Post -	Pre -	Post -			
	test	test	test			
100.00		101.33		0.66	0.99	0.67
100.67	104.87			4.20	1.09	3.85*
		101.33	101.27	0.06	0.90	0.07
	104.87		101.27	3.60	1.00	3.60*

Table-III Knee Joint (In Degrees)

*Significant, t 0.05 (14) = 2.14

Table – III shows that there is significant difference between the pre- means of experimental group and control group was 0.67, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows both the groups having similar flexibility at knee joint. The significant difference between the pre- and post means of experimental group was 3.85, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It shows significant improvement regarding flexibility at knee joint in the experimental group.

The significant difference between the pre- and post means of control group was 0.07, which is much below than the required value at 0.05 level of confidence (t = 2.14). It shows that there was no change in flexibility at knee joint in the control group. The significant difference between the post means of experimental group and control group was 3.60, which is much higher than the required value at 0.05 level of confidence (t = 2.14). It indicates significant improvement regarding at wrist joint in the experimental group.

Discussion

The flexibility is one of the very important quality of hockey game and physical fitness also. Flexibility is a joints ability to move freely through a full and normal range of motion. Factors that affect flexibility include: genetic inheritance, the joint structure itself, connective tissue elasticity with muscles, tendons or skin surrounding a joint, strength of opposing muscle groups, body type, age, activity level and gender.

Flexibility is not a something just for dancers and gymnasts, It is an important part of fitness for hockey players also.

The significant improvement in Wrist, Hip and Knee (Flexibility) Joints was observed as a result of vivekanada school of yoga sitilikarana vyayama and suryanamaskar practices in higher secondary school dist hockey players. The vivekanada school of yoga sitilikarana vyayama and suryanamaskar practices was adequate to promote significant flexibility of all the three joints mentioned above and hence can be responsible for gaining better fitness and also prevent injuries.

Conclusion

It was conculded that due to Sitilikarana Vyayama and Suryanamaskar Practices of the flexibility of wrist, hip and knee joints were improved significantly.

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