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IMPACT OF SPECIFIC YOGIC EXERCISE ON FLEXIBILITY IN NON-ATHLETIC ADULT FEMALE

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Abstract:

This study aimed to investigate the impact of specific yogic exercises on the flexibility of non-athletic adult females. The research included 100 female subjects, aged 18 to 28 years, from MGV'S S.P.H. College of Management and Technology, Nashik, Maharashtra, India. Subjects were purposively divided into two groups: Group A (Experimental Group, N=50) and Group B (Control Group, N=50). All participants were informed about the study's objectives and protocol. Group A underwent an 8-week yoga regimen comprising various asanas, including Parsvottanasana, Adho Mukha Svanasana, Dhanurasana, Bhujangasana, Paschimottanasana, Sarvangasana, Halasana, Janu Sirsasana, Utkatasana, and Virbhadrasana. Flexibility was measured using the Sit and Reach (SR) test. Descriptive analysis and an independent t-test were employed, with significance set at the 0.05 level. Results demonstrated a significant improvement in flexibility for Group A compared to Group B, with a t-value of 8.06. The findings suggest that regular practice of these specific yogic exercises can significantly enhance flexibility in non-athletic adult females.

Keywords: Yoga, flexibility, balance, non-athletic, adult , asanas.

1.INTRODUCTION

Today yoga is most popular in the world. It is recognized a one of the most important heritage of India. Traditionally it was said that lord shiva is beloved to be the inventor of yoga.Our ancestors spend a lot of time in practicing yoga for their good health and happiness. Yoga as a 5000 years old system of technologies and methodologies that provides a complete philosophy of living defines by Taylor M.J., (2000). It incorporates learning about the nature of life, reality, and the self. Yoga is an open-ended practice that assists in quieting the body, mind,and emotions. First developed in India, yoga is an ancient discipline that increases mental andphysical control of the body to achieve a state of well-being (Singh V. et. al., 1990; Telles S. et.al., 1993; & Anand B.K., 1991).

The word yoga is derived from the Sanskrit root "yug" thatmeans, "to join together" (Murie C. A., 1998).Yoga is all over world practiced for its benefits to body and mind. Yoga rectifiers is andecreasingly appreciated discipline, particularly in India where it"s overseen by the Ministry of Health and Family Welfare"s Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (Raphaelhager, 2009). Not figures studies have assessed the influence of

integral yoga practices on cerebral and health variables, establishing multitudinous possible benefits. Regular practice of yoga has multitudinous health benefits (Wolff et. al., 2013; Pal et. al., 2011; McDermott

et. al., 2014; Parikh et. al., 2014). Yoga also brings positive changes in physical performance and well-being if rehearsed regularly (Akhtar et al., 2013; Ross and

Thomas, 2010) by improving to flexibility and balance (Boehde et al., 2005) as well as functions of cardiovascular also (Bera T.K. et. al., 1993). Yoga may have direct link to ameliorate the common rudiments of athletic performance (Harrelson G.L. & Swann E., 2003). Regular yoga practice rapidly enhanced flexibility as this process involves gentle muscle stretching, tissues

connectivity around bones and joints (Woodyard C., 2011). Yoga also has profound effect on balance, muscular strength, abidance and collaboration because of its largely structural exertion and involvement (Carrico M., 1997).Yoga is different from other typical forms of exercise training as it requires multi structural involvement that gives a difficult task to the body in various different ways (Gulati R.& Sharma A., 2011; Kamin off L. et. al., 2007). Proper positioning trough yoga enhances movement abilities and reduces movement limitation, thus improves body performing among

college athletes. It also helps to maintain continuous and stable breathing throughout a series of asanas involving groups of muscle required under tension. Interacting the strained musculoskeletal system brings comprehensive changes to the whole body while performing those asanas (Coulter H., 2010).Traditional exercise emphasizes on perfecting specific fitness for a given sports

achievement (Bryant C.X. & Green D.J., 2006). On the other hand, regular yoga practice improves many specific fitness components (e.g. increase alignment, range of motion, and enhance muscle fibers recruitment) by increasing flexibility and reducing tension of muscle thus allows new movements to take place and help to move freely joints (Clark B. & Powers S., 2012).Therefore sport skill improves. Flexibility is the one of factors of health related physical fitness. Flexibility can be defined as a property of the musculoskeletal system, which determines the range of stir thats attainable without joints injury. Flexibility implies „freedom to move" and it is the ability to engage a part of the body in a wide range of purposeful movements at the speed required (Alter M.J., 2004). The term flexibility in this context means the elasticity of soft tissues that cross or surround

joints (muscles, tendons, fascia, particular capsule, ligaments, nerves, blood vessels, skin) and is absolutely necessary for painless movement of the body (Kinser C. et. al., 2007). Flexibility exercises should be performed by every age groups like children, adolescents, adults and the elderly also. World Health Organization recommends taking part in muscle-strengthening

activities that involve the major muscle groups on two or more days a week (WHO, 2010).Therefore,the main intention of this paper was to investigate the impact of specific yogic exercises on flexibility of Non-Athletic Adult Females. Thus, through an improvement of flexibility performance should increase by yogic practices.

2.Review Of Literature:

Literature related to the present study has been presented as follows-

Jay Polsgrove M. et. al., (2016) conducted a study on impact of 10 weeks of yoga practice on flexibility and balance of college athletes. Theyre reported that the findings for independent variables like flexibility and balance measures as well as whole body measures illustrate the significant positive changes due to the participation in daily yoga practices in the yoga group as
well as the significant differences between yoga and non-yoga groups.

Shah Noman Md. Iftekher et. al., (2017) studied on effects of yoga on flexibility and balance of athletes. Total 20 athletes participated in present study. In each group 10 participants (10 in yoga group and 10 in non-yoga group). They are also reported that significant improvement was observed in the yoga group for flexibility and balance then the non-yoga group. They were concluded that the daily yoga practices may improve the flexibility and balance of athletics also.

Dr. Suresh C. & Pravin Raj R., (2021) conducted study on impact of yogic practices on flexibility in college students. Total 60 students participated in the present study. They were significantly found that the yogic practices enhanced physical fitness variables such as flexibility in college students also.Similar result also found .

Mr. Selvakumar K. et.al., (2019) on influence of yogic practice on flexibility among college students. Another study done by Dr. Amandeep Singh, (2019) on the effect of selected yogic practices on flexibility and agility of soccer players of Punjabi University, Patiala. The researcher has taken 50 soccer players

belonging to Punjabi University Patiyala and divided in two equal groups. Findings of this study suggested that the practice of eight week yoga programmed showed significant
improvement in flexibility level.

Dr. Rajkumar P. Malipatil, (2018) studied the effect of asana on physical fitness variables among government residential school students. He was concluded that regular yogasana practices have improvement to flexibility.

Petric M. et. al., (2014) conducted a study on the impact of hatha yoga practice on flexibility. They were concluded that the enhancement of flexibility is one of the most egregious and snappily achieved impacts of regular hatha yoga practice. The results of this study indicated that the daily yoga practice has a significantly effect on flexibility in young women.Similar result also found by Gurpreet Makker, (2013) on effect of selected asanas on the flexibility of Ranji level wicket keepers in cricket.

3.Defination:

3.1.Asanas: An asana (Sanskrit: आसन is a body posture, originally and still a general term for a sitting meditation pose, and later extended in hatha yoga and modern yoga as exercise, to any type of position, adding reclining, standing, inverted, twisting, and balancing poses.

3.2.Parsvottanasana :

- Type: Standing Forward Bend
- Benefits: Stretches the hamstrings, shoulders, and spine. Improves posture and balance.
- Procedure: Step one foot back, align the hips square, and fold forward over the front leg.

3.3.Adho Mukha Svanasana :

- Type: Inverted Pose
- Benefits: Stretches the hamstrings, calves, and spine. Strengthens arms and legs. Calms the brain and relieves stress.
- Procedure: From hands and knees, lift.

3.4.Dhanurasana:

- Type: Backbend
- Benefits: Stretches the entire front of the body, strengthens the back muscles, and improves posture.
- Procedure: Lie on your stomach, bend knees, grasp ankles, and lift your chest and legs off the ground, balancing on the abdomen.

3.5.Bhujangasana:

- Type: Backbend
- Benefits: Stretches the entire front of the body, strengthens the back muscles, and improves posture.
- Procedure: Lie on your stomach, bend knees, grasp ankles, and lift your chest and legs off the ground, balancing on the abdomen.

3.6.Paschimottanasana:

- Type: Forward Bend
- Benefits: Stretches the spine, shoulders, and hamstrings. Calms the mind and relieves stress.
- Procedure: Sit with legs extended, reach forward, and hold feet or ankles while keeping the spine long.

3.7.Sarvangasana:

- Type: Inverted Pose
- Benefits: Calms the brain, stretches the shoulders and neck, and strengthens the legs and spine.
- Procedure: Lie on your back, lift legs and hips towards the ceiling, and support your lower back with your hands.

3.8.Halasana:

- Type: Inverted Pose
- Benefits: Calms the mind, stimulates the thyroid gland, and stretches the shoulders and spine.
- Procedure: From Sarvangasana, lower your legs over your head until your toes touch the floor behind you.

3.9.Janu Sirsasana:
- Type: Forward Bend
- Benefits: Stretches the spine, shoulders, hamstrings, and groin. Calms the mind and relieves anxiety.
- Procedure: Sit with one leg extended, bend the other knee with the foot against the inner thigh, and fold forward over the extended leg.

3.10.Utkatasana:
- Type: Standing Pose
- Benefits: Strengthens the thighs, calves, and spine. Stretches the shoulders and chest.
- Procedure: Stand with feet together, bend knees, and lower hips as if sitting in an imaginary chair, with arms raised overhead.

3.11Virbhadrasana:
- Type: Standing Pose
- Benefits: Strengthens the legs, opens the hips and chest, and improves focus, balance, and stability.
- Procedure: Step one foot back, bend the front knee, and raise arms overhead (Warrior I) or out to the sides

4.Materials And Methods:

4.1.Subject -
Sample of the study consisted of hundred (100) female subjects between the age group of 18 to 28 years were selected as subject from the MGV'S S.P.H. College of management and technology, nashik, maharashtra , India. The subjects were purposively assigned into two groups: Group-A : Experimental Group (N=50) and Group-B :Control Group (N=50). All the subjects were informed about the objective and protocol of the present study. The subject from Group-A were subjected to 8 weeks yogic practices.

4.2.Procedure -
The Group-A (experimental group) and Group-B (control group) were comprised of non-athletic adult female. During the period of yoga sessions for 8 weeks, only members of experimental group have participated the regularly yoga practices. The yoga practice sessions was scheduled at 6:30 a.m. to 7:30 a.m. on Monday to Saturday weekly working days. The experimental group was assigned to asanas such as Pyramid Pose (Parsvottanasana), Adho-Mukh-Svanasana(Downward Dog Pose), Dhanurasana(Bow pose),bhujangasana(cobra pose), paschimottanasana (west stretching pose),(Shoulder stand) Sarvangasana, Halasana(Plough pose), Janu Sirsasana(Head-to-Knee Pose) , Utkatasana(chair pose), Virbhadrasana(warrior pose). Measures of flexibility were taken immediately before and shortly after the eight week yoga sessions .

4.3.Measuring Tools -
Assessments for each group were completed separately. One day before the initiation of first yoga session, the measurements were taken with the same testing protocol from both experimental and control groups. Similarly, at the end of 8 weeks yoga practices one day after,the testing protocol was repeated with the experimental and control group of Non-Athletic Adult Females. The measurements of flexibility were determined by Sit and Reach (SR) Test developed by Baechle T., (2008).

4.4.Data Analysis -
The collected data in present study were analyzed by statistic program version 25.0 of the Statistical Package for Social Science (SPSS) software. Descriptive Statistic (Mean and Standard Deviation) and Independent t- test was applied to comparison between experimental and control groups. The significance level of was set as 0.05 levels ($p<0.05$).

5.Results:
The findings with regards to the present study have been presented in Table No. 1. Further in Fig. No. 1 the graphical representation is presented.

Table No. 1. Analytic statistics between control and experimental group on Flexibility.

			Mean		Standard Deviation		D.F.	't' – value
Variable	Group	N	Pre-test	Post-test	Pre-test	Post-test		
Flexibility	control	50	16.43	17.50	1.04	1.23	49	2.67
	Experimental	50	16.20	18.66	1.27	1.02		8.06

*Significant on 0.05 level of confidence

Table No. 1.indicates the results of control group and experimental group with regards the variable flexibility. The descriptive statistics shows the Mean and SD value of flexibility of pre-test and post-test of control group was 16.43±1.04 and 17.50±1.23 respectively, whereas the Mean and SD value of flexibility of pre-test and post-test of experimental group was 16.20±1.27
and 18.66±1.02. The „t" value of control group was 2.67 and for experimental group it was 8.06. The 't' value is 8.06 which is more than tabulated value. It means there was significant difference between control and experimental group with regards to their flexibility.

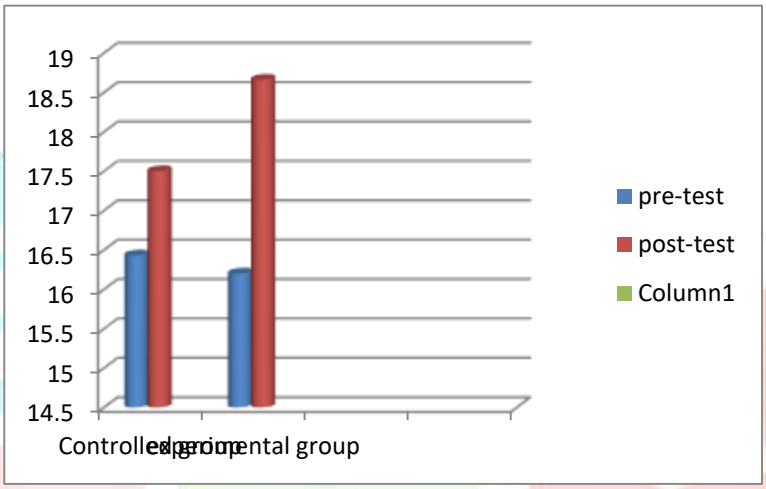

Fig. No.1 – Graphical representation in flexibility between control and experimental group for flexibility.

6.Conclusion :

Based on the findings, we can conclude that participating in yoga sessions has significantly contributed to improved flexibility among non-athletic adult females. This enhancement in flexibility is a crucial factor that can lead to numerous other physical and psychological benefits. Improved flexibility not only helps in performing daily activities with greater ease and reduced risk of injury but also plays a vital role in overall physical health.

Moreover, increased flexibility through yoga can support and enhance the performance of non-athletic adult females in various aspects. It can lead to better posture, reduced muscle stiffness, and an overall sense of physical well-being. The practice of yoga also promotes relaxation and mental clarity, which can indirectly boost physical performance by reducing stress and improving focus.
In conclusion, the regular practice of yoga is a valuable and effective method for non-athletic adult females to enhance their physical flexibility, which in turn can contribute to better physical performance, greater comfort in daily movements, and improved quality of life. Therefore, incorporating yoga into the regular fitness regimen of non-athletic adult females is highly recommended for its multifaceted benefits.

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