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ANATOMICAL STUDY OF SELECTED INDIGENOUS EXERCISES

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Abstract

This paper presents a descriptive survey analysis aimed at exploring the movement analysis of Indian indigenous exercises. The study focuses on identifying the muscles engaged during these exercises by actively performing them. The target population of "Maharashtriya Mandal" who engage in regular exercise. Using a purposive sampling technique, individuals with a basic understanding of human anatomy were selected as participants. The study employed descriptive survey methods along with data collection tools such as feedback on muscle (i.e. Checklist), observation to identify the muscles involved in these exercises. By integrating anatomical perspectives, this research aims to provide valuable insights into the biomechanics and physiological effects of traditional Indian exercises.

Keywords: *Indian indigenous exercises, Maharashtriya Mandal, Dand exercise (Hindu push-up)*

Introduction:

The Hindu push-up, also known as dand or downward facing dog, is a complex move made up of multiple parts. It engages your entire body and is a rather intense version of a push-up.

Hindu pushups (dand) are a deviation from regular pushup which acquired its name for its vast popularity among old-fashioned Indian wrestlers and bodybuilders with a more complete workout. Hindu Push-Ups is a marvelous fat-loss exercise from Ancient India.

Hindu Push-ups are a great form of exercise without any instruments or gadgets. They add strength to the workouts and they necessitate the usage of a few additional muscle groups consequential in more calories burned with a limited set of exercise.

Sadharan Dand: This is a basic form of Dand exercise. It involves maintaining a down facing dog position with the arms straight, supporting the body's weight. It's a great core and upper body strengthener, helping to build endurance and stability.

Hanuman Dand: Hanuman Dand is an advanced variation of the regular Dand exercise, inspired by the Hindu monkey deity Hanuman. It's a dynamic movement where the practitioner jumps explosively from a squatting position, extending the legs forward and landing in a plank position. This exercise requires significant strength, power, and agility. It's often included in calisthenics and bodyweight training routines for its full-body engagement and cardiovascular benefits.

Vrushchik Dand: Vrushchik Dand, also known as Scorpion Push-Up, is an advanced yoga pose that combines elements of a push-up with a backbend. In this exercise, the practitioner starts in a push-up position and then arches the back while simultaneously lifting one leg toward the head, resembling the tail of a scorpion. This pose requires

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strength, flexibility, and balance, primarily targeting the chest, shoulders, core, and back muscles.

Vyaghra Dand: Vyaghra Dand, also known as Tiger Bend, is a dynamic yoga exercise that combines elements of a lunge with a forward bend. In this movement, the practitioner begins in a lunge position with one leg forward and the other leg extended back. They then bend the front knee while simultaneously leaning forward and bringing the torso toward the front thigh, resembling the prowling motion of a tiger. This exercise strengthens the legs, hips, core, and shoulders, while also improving flexibility and balance.

Researcher was select only these four types of Dands for study.

Methodology:

Descriptive Survey Method:

A descriptive Survey method is a research technique used to collect information about a population or a phenomenon by systematically gathering of data from a Sample of that population. This method aims to describe Summarize the characteristics behaviors or Opinions of the Subject under investigation it typically involves the Use of structured questionnaires, interviews, observations about the studied group or topic. Descriptive Survey do not involve experimental manipulation and are primarily focused on providing Overview of the Subject being studied.

Population of the study:

General people who do exercises regularly are capable of doing indigenious exercises.

Sample of the study:

In this study, the athletes or subjects from Maharashtrian mandal's athletes will be selected as sample, who knows the basic human anatomy

Tools of Data collection:

1) Observation
2) Checklist (by response)

Data Analysis and Interpretation:

1) Sadharan dand

Table No.1.

muscle	sternoclidomastoide	trapezius	clavicular pectoralis major	sternum pectoralis major	anterior deltoid	lateral deltoid	rear deltoid	rotator cuff	tricep	bicep	forearm extensor	forearm flexer
total	0	2	13	7	21	7	9	5	21	6	1	3

Muscle	latissimus dorsi	lower back	erectus spine	gluteus maximus	oblique s	rectus abdominal	quadriceps	hamstring	calf	anterior tibialis
total	4	5	3	2	0	10	3	4	8	1

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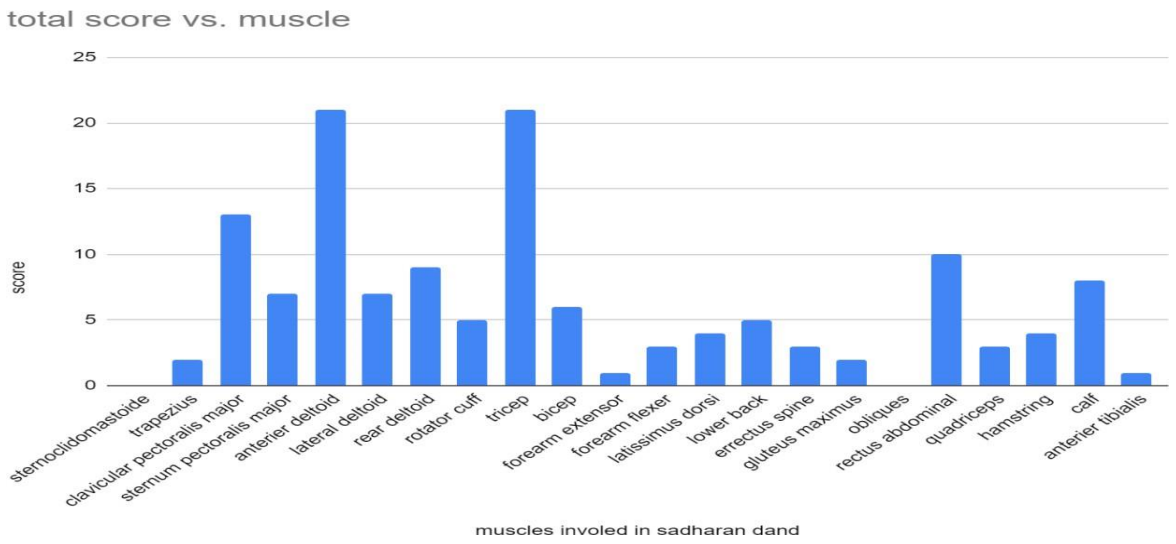

Interpretation:

From the above analysis the researcher conclude that while during sadharan dand maximum expertise responded for anterior deltoid and triceps muscle were involve, also there are some another muscle involves like clavicular pectoralis major, rectus abdomen etc.and minimum expertise responded of muscle involvement Anterier tibialis and Forearm Extensor.

2) Hanuman Dand

Table No. 2.

muscle	sternoclidomastoid e	trapezius	clavicular pectoralis major	sternum pectoralis major	anterier deltoid	lateral deltoid	rear deltoid	rotator cuff	tricep	bicep	forearm extensor
total	6	1	7	6	19	10	4	5	20	4	0

Muscletotal	forearm flexer	latissimus dorsi	lower back	errectus spine	gluteus maximus	obliques	rectus abdominal	quadriceps	hamstring	calf	anterier tibialis
	4	7	14	9	5	19	4	18	16	7	0

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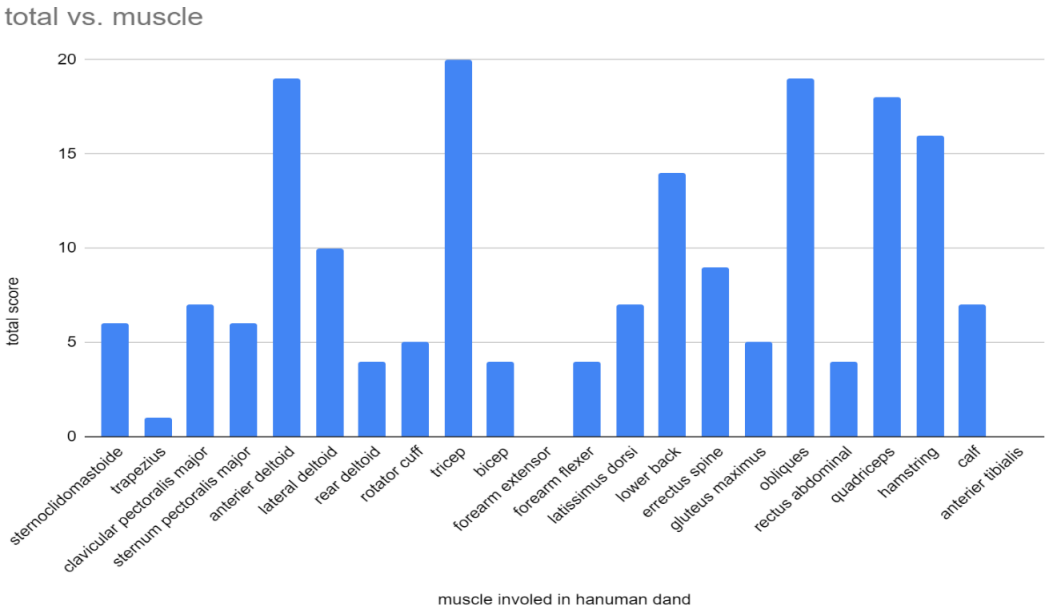

Interpretation:

From the above analysis the researcher conclude that while during Hanuman dand maximum expertise responded for Tricep ,oblique ,anterier deltoid ,quadricep and Hamstring muscle are involve, Minimum Expertise responded for involvement of trapezius Muscle

3) Vrushchik dand

Table No. 3.

muscle	sternoclidomastoide	trapezius	clavicular pectoralis major	sternum pectoralis major	anterier deltoid	lateral deltoid	rear deltoid	rotator cuff	tricep	bicep	forearm extensor
Total	**0**	**10**	**11**	10	16	9	6	4	19	7	3

Muscle	forearm flexer	latissimus dorsi	lower back	errectus spine	gluteus maximus	obliques	rectus abdominal	quadriceps	hamstring	calf	anterier tibialis
total	5	8	8	11	6	2	19	7	10	7	0

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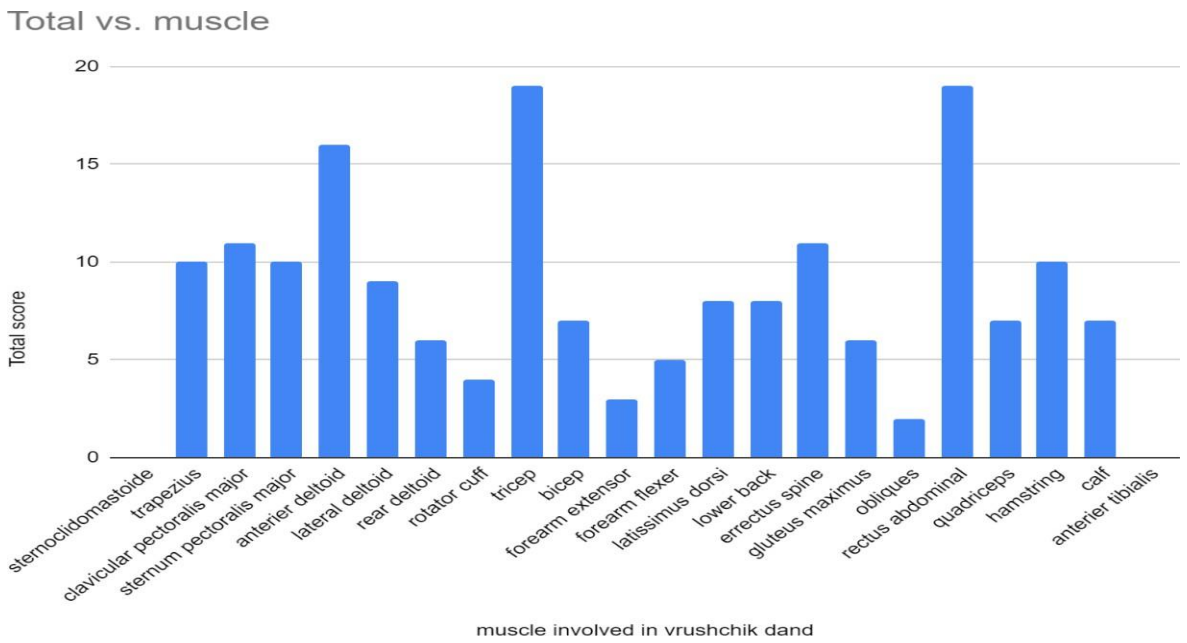

Interpretation:

From the above analysis the researcher conclude that while during Vrushik dand maximum expertise responded for Rectus abdomen, triceps and Anterier deltoid are involve, minimum expertise responded for involvement of muscle Obliques and forearm extensor.

4) Vyaghra dand

Table No.4.

muscle	sternoclidomastoide	trapezius	clavicular pectoralis major	sternum pectoralis major	anterier deltoid	lateral deltoid	rear deltoid	rotator cuff	tricep	bicep	forearm extensor
Total	0	14	14	13	18	5	6	7	17	7	0

Muscle	forearm flexer	latissimus dorsi	lower back	errectus spine	gluteus maximus	obliques	rectus abdominal	quadriceps	hamstring	calf	anterier tibialis
Total	2	4	10	7	5	0	8	24	10	5	1

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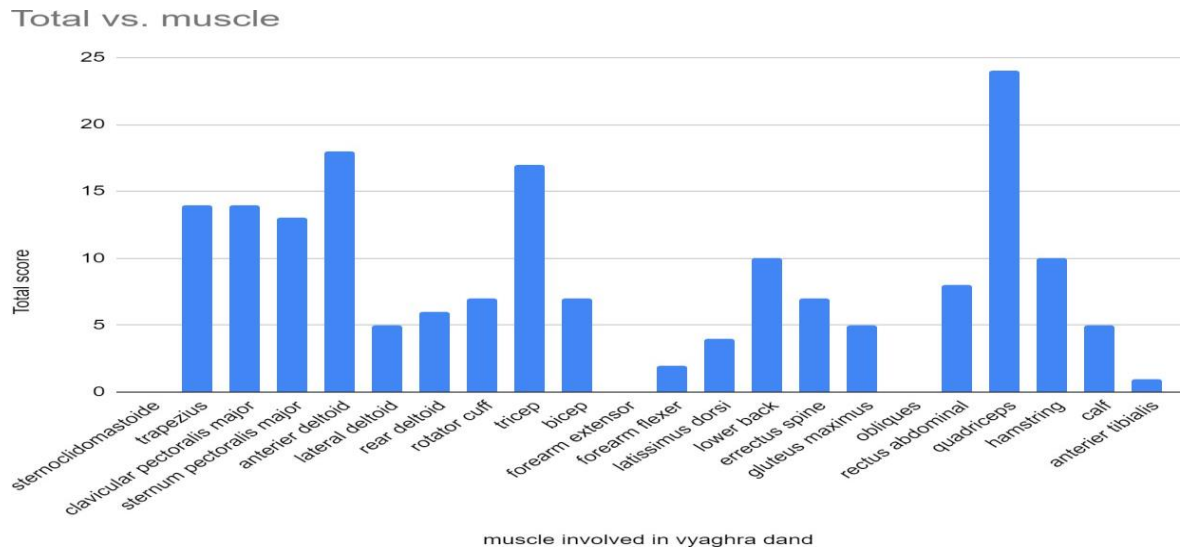

Interpretation:

From the above analysis the researcher conclude that while during Vyaghra dand maximum expertise responded for Quadricep, Anterier deltoid and Tricep are involve, also there are some another muscle involves like clavicular pectoralis major, rectus abdomen and minimum expertise responded involvement anterior tibialis Muscle.

The study aimed to investigate the anatomical dimensions of selected Indian indigenous exercises, focusing on four variations of the Dand exercise. Through observation and feedback from participants, the muscles engaged during each exercise were analyzed. The findings provide insights into the muscle groups activated during these traditional exercises.

Conclusion:

The analysis revealed that each variation of the Dand exercise targets a range of muscles, including those in the upper body, core, lower back, and lower body. For instance, Sadharan Dand primarily engages muscles like the anterior deltoid and triceps, while Hanuman Dand involves muscles such as the triceps, obliques, quadriceps, and hamstrings. Vrushchik Dand activates muscles like the rectus abdominis, triceps, and anterior deltoid, whereas Vyaghra Dand targets muscles such as the quadriceps, anterior deltoid, and triceps.

Overall, these findings underscore the holistic nature of Indian indigenous exercises, which not only build strength but also enhance flexibility, balance, and coordination across various muscle groups.

Recommendations:

Based on the data analysis, it is recommended to further explore the physiological effects of these indigenous exercises, such as their impact on muscle endurance, flexibility, and joint health. Additionally, future studies could investigate the biomechanics of these exercises to understand the optimal techniques for performance and injury prevention.

Furthermore, educational initiatives could be developed to promote the inclusion of Indian indigenous exercises in fitness routines, highlighting their effectiveness and cultural significance. This

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could involve training programs for fitness professionals and the integration of these exercises into school physical education curricula.

Overall, by recognizing and promoting the value of Indian indigenous exercises, individuals can diversify their fitness routines and reap the benefits of these traditional practices

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