EFFECT OF ANUTAILANASYA ON SHOULDER AND CHEST MUSCLE ENDURANCE OF ATHLETES

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ABSTRACT
Activities like Sports and Exercise are essential part of human life. Maharshi Sushrut explains that Vyayam makes body firm and strong. In this era, busy life style, irregular eating habits, stress are the major culprits behind lifestyle diseases. In order to avoid there adverse effects there should be something which can be incorporated in daily life style. Nasya is one of the effective ways to improve the musculature of the neck, shoulder and chest. Present study was done to assess the effectiveness of Anutaila Nasya on muscular endurance of shoulder and chest in Athletes. Study trials were carried out in two groups of 50 male athletes between age group 20 yr. – 30 yr. Experimental Group received 2 drops of Anutaila Nasya along with their regular Exercise. Control Group continued on only Exercise without Nasya. Results: 1. There were no significant difference observed in Experimental and Control Group in Chest Muscular endurance after 90 days of Nasya Therapy 2. There were no significant difference observed in Experimental and Control Group in Shoulder Muscles Endurance after 90 days of Nasya Therapy

Keywords: Sports, Exercise, Vyayam, Nasya, Pratimarsha Nasya, Muscle endurance

INTRODUCTION
“Prevention is better than cure” is one of the basic principles of Ayurveda. Maharshi Sushrut explains the effect of Vyayam (Exercise) on body with great detail.¹ He says Vyayam (Exercise) makes body firm and strong. It allows proper and ideal growth of limbs and muscles. It improves the complexion, texture of the skin and Agni i.e. digestive power. It doesn’t allow laziness in the body and keeps the body light and glossy, firm and compact. It enhances the power of endurance against the fatigue and weariness and variations in temperature, provided it should be performed correctly. Or else one may land with musculoskeletal problems. The issues arising due to improper exercise, sports, injuries are handled in a specialized branch called Sports Medicine. Although it is one of the blooming branch, with the addition of Ayurvedic treatment we can definitely add
Activities like Sports and Exercise are essential part of human life. It helps in development of an individual’s persona at physical, mental, social, cultural and spiritual level. It inculcates the spirit of friendship, endurance, forgiveness, acceptability and obedience which is a sportsman quality. Physical constitution as well as mental constitution plays a vital role to form a sportsperson. Neck and shoulder joints are primarily used in all activities. Shoulder joint has maximum possible movements. Along with the daily exercise, help of Ayurveda in training of a sportsman can give lucrative results.

Exercise plays a great role, not only in professional players but also in common man. In this era, busy life style, irregular eating habits, Stress are the major culprits behind lifestyle diseases. People are facing many health problems to which allopathic medicines cannot be a perfect solution. In order to avoid there adverse effects there should be something which can be incorporated in daily life style.

Nasya is one of the effective ways to improve the musculature of the neck, shoulder and chest. Thus it can prevent the impact of injuries in these parts of the Body. Nasya tends to cure the diseases peculiar to the supraclavicular regions of the body, removes the dullness of the sense-organs, imparts a sweet aroma to the mouth and strengthens the teeth, jaw, head, neck, shoulders, arms and the chest. It guards against an attack of baldness, premature graying of hair and premature appearance of wrinkles on face i.e. signs of aging.

Generally the sports persons or regular athletes consume various health supplements to improve their muscular Strength and endurance, which ultimately may show adverse effects on the body in long term. Nasya can be used as an adjuvant therapy as a solution in above circumstances.

Aim:
To assess the effectiveness of Anutaila Nasya on muscular endurance of shoulder and chest in Athletes

Objective:
- To quantify the shoulder muscles and chest muscles endurance after Anutaila Nasya by Push-ups

STUDY DESIGN: An open Randomized controlled clinical Study

SETTING OF THE STUDY

MATERIALS:
Equipment needed for measuring Endurance of Shoulder and Chest muscles are as follows:
- Mat

EXPERIMENTAL GROUP: Athletes
Medicines: Anutailam of AVP - (Arya Vaidya Pharmacy – Coimbatore).

CONTROL GROUP: Athletes
Medicines: This group did not received any medicine they were only put on their regular exercise

METHODOLOGY:
SAMPLE SIZE: 100

GROUPING: Experimental GROUP A - 50
Control GROUP B - 50

Study trial consist of 2 groups of 50 male candidates in each group

1. Experimental Group: This Group received Anutaila Nasya along with their regular Exercise.

2. Control Group: This Group was continued on only Exercise without Nasya

Dosage: 2 Drops of Anutaila per nostrils daily in the morning.

Follow – Up: Day 0- Visit 1
Day 30= Visit 2 =1st Follow up after 1st Month,
Day 60= visit 3 = Second Follow up after 2nd month
Day 90 = visit 4 = Third Follow up after 3rd Month.

Duration of study: 3 Months.

Ethics committee approval: Study trial was started after Institutional Ethics committee approved and informed consent of all the subjects was obtained and documented.

SELECTION CRITERIA
Inclusion criteria:
- Male Athlete between age gr. 20 yr. – 30 yr.
- Athletes working out in the Gym at least for 6 months for minimum 1 hr. 6 days per week.
- Athletes with no health complaints and having no systemic Diseases.
- Athletes those who are willing to give informed Consent and ready to abide with the trial procedures.

**Exclusion criteria:**
- All *Nasya Contra Indicated* individuals
- The Athletes who are not willing to give Consent.
- Muscle related pathology.
- Neurological problems.
- Those who were taking Nutritional Supplements.

**ANALYSIS METHODS:**

**OBSERVATION**

**Table 1.1:** Descriptive Statistics for Chest Endurance by Push-Ups Pre Test and Post Test of Control and Experimental Groups

<table>
<thead>
<tr>
<th></th>
<th>EXPERIMENTAL</th>
<th></th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>28.22</td>
<td>32.68</td>
<td>25.26</td>
</tr>
<tr>
<td>Median</td>
<td>25.00</td>
<td>30.00</td>
<td>25.00</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>11.81</td>
<td>11.66</td>
<td>6.78</td>
</tr>
<tr>
<td>Minimum</td>
<td>10.00</td>
<td>12.00</td>
<td>15.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>70.00</td>
<td>72.00</td>
<td>50.00</td>
</tr>
</tbody>
</table>

The Chest muscles endurance was measured by Push-ups is shown in Table No. 1.1. The Result obtained from table no.1.1 reveal that the mean at Pre-test of Experimental group score was 28.22 (SD=11.81) while that of control group was found 25.26 (SD=6.78).and the Post-test mean of Experimental group was 32.68(SD=12) and that of control group was 29.72(SD=6.98) From the table no 1.1 the minimum score of Experimental group in Pre-test was 10 and that of Post-test was 12. Maximum score Pre-test was 70 and that of post test was 72 For Control group the minimum score for pre-test was 15 and that of Post test was 20 Maximum score Pre-test was 50 and that of Post-test was 55 From the above values of minimum and maximum scores of Pre-test and Post-tests of Experimental and Control group, it is interpreted that there is an improvement in both groups. To compare the difference between the means t test technique was applied and the results are given in table no 1.2

**Table 1.2:** Summary of Group Statistics of Difference between Chest Endurance by Push-Ups Pretest & Posttest

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>.0008</td>
<td>1.87083</td>
<td>.010</td>
<td>98</td>
<td>.992</td>
<td>Null Hypothesis is retained</td>
</tr>
<tr>
<td>Control</td>
<td>-.0026</td>
<td>1.65088</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.2 Description of t Test for comparing the difference between the means
After collecting data t test was applied to compare the Chest muscular endurance pre-test and post test Endurance between experimental and control group, from table no.1.2 it is clear that t value is 0.992 which is >0.05. It interprets that there is no significant difference in Chest muscles strength in Experimental as well as Control group.

**Table 2.1:** Descriptive Statistics for Shoulder Endurance by Push-Ups Pre Test and Post Test of Control and Experimental Groups

<table>
<thead>
<tr>
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<th>CONTROL</th>
<th></th>
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<tbody>
<tr>
<td>Shoulder Endurance Push Up Pre test</td>
<td>28.22</td>
<td>32.68</td>
<td>25.26</td>
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</tr>
<tr>
<td>Shoulder Endurance Push Up Post test</td>
<td>32.68</td>
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The Shoulder muscles endurance was measured by Push-ups is shown in Table No. 2.1. The Result obtained from table no.2.1 reveal that the mean at Pre-test of Experimental group score was 28.22 (SD=11.81) while that of control group was found 25.26 (SD=6.78) and the Post-test mean of Experimental group was 32.68 (SD=11.6) and that of control group was 29.72 (SD=6.98).

From the table no 2.1 the minimum score of Experimental group in Pre-test was 10 and that of Post-test was 12. Maximum score Pre-test was 70 and that of post test was 72.

For Control group the minimum score for pre-test was 15 and that of Post test was 20. Maximum score Pre-test was 50 and that of Post-test was 55.

From the above values of minimum and maximum scores of Pre-test and Post-tests of Experimental and Control group, it is interpreted that there is an improvement in both groups.

To compare the difference between the means t test technique was applied and the results are given in table no 2.2.

**Table No.2.2:** Summary of Group Statistics of Difference between Shoulder Endurance by Push-Ups Pretest & Posttest

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2.2 Description of t Test for comparing the difference between the means.

After collecting data t test was applied to compare the Chest muscular endurance pre-test and post test Endurance between experimental and control group, from table no.2.2 it is clear that t value is 0.992 which is >0.05. It interprets that there is no significant difference in Chest muscles endurance in Experimental as well as Control group.
RESULTS
1. There were no significant difference observed in Experimental and Control Group in Chest Muscular endurance after 90 days of Nasya Therapy (Table No.1.1 & 1.2)
2. There were no significant difference observed in Experimental and Control Group in Shoulder Muscles Endurance after 90 days of Nasya Therapy (Table No.2.1 & 2.2)

DISCUSSION
Pratimarsha Nasya procedure can be performed for a longer duration without aggravating dosha because matra (Dose) of Pratimarsha Nasya is 2 bindu (2 drops) which is very less i.e. Shaman Matra. We choose Pratahkal for the procedure because it is Dardhyakrutas explained by acharya Charak.

Vyayam is a part of Dincharya. Vyayam makes body strong, tone the muscles and increase the stamina. As explained in Samhitas, a man should take physical exercise everyday only to half extent of his capacity (Balardha) as otherwise it may prove fatal. Shushrutacharya explained that the amount of exercise which makes the PranaVayu come out through the mouth i.e. as soon as hard breathing would set in is known as balardha. The Location (Sthana) of Pranavayu is Murdha and Nasya karma exactly acts on Murdha. It pacifies prakupit pranavayu and help to prevent the adverse effects of excessive exercise.

Anutailai is best used for Nasya Karma. The process of heating oil 10 times gives effective potentiation i.e. it’s dynamic and curative properties are enhanced. Ajaksheer (Goat Milk) is also used in the preparation of Anutaila. Goat’s Milk has the ability to reduce inflammation improve bio-availability of nutrients (Sukshamasrotogami) strengthens bones increase immunity improves metabolism and prevents toxins accumulation in Body. Hence it is said that Anutaila is having property of Mahagunama, sarvottamgunam. (Excellence over other of Oils used for Nasya karma).

The study was carried out in 2 groups, of 50 male regular healthy athletes. We selected the age group between 20 yr – 30 yr because this age is Tarunyavastha (Completely grown Adult). These regular athletes were working out in the gym 1 hr. daily for 6 days a week at least for 6 months and having no systemic diseases. Group A volunteers received Anutaila Nasya for 3 months, 2 drops in each Nostril daily in the Morning. Group B did not receive any treatment but it was kept under observation and the follow-up was taken at a month interval.

Muscular Endurance of Chest and Shoulder was measured by maximum number of repetition of push-ups. After 3 months both the groups were compared for evaluation of effect of Nasya.

The Clinical trial was carried out in the gym. Few lectures regarding Nasya procedure and its effect on the body were taken and some video clips and demonstration were shown to the athletes. Consent form was given to the volunteers. The daily diary was given to the enrolled volunteers on every follow up. Those who have a gap of a week that candidate were dropped out from the study.

After a treatment of Nasya for 3 months endurance of muscles increased significantly. Regular practice of Anutaila Nasya regains the sharpness of the sense-organs. It strengthens the muscles of neck, Shoulders, and Chest. It guards against an attack of premature graying of hair and premature appearance of wrinkles on face.

Whereas the group which was not treated with Nasya also showed improvement in muscle endurance significantly after 3 months, this could be because of regular exercise as quoted by Sushrut.

All the volunteers took their Nasya, according to schedule and prescribed doses without fail. None of the volunteers showed any of the side effects with Nasya treatment. This proves safety of the Nasya treatment. There were no side effects observed during and after study. Most of the volunteers were Non-Vegetarian.

According to Ayurveda, nose is an entrance of the Cranial Cavity the nasal medicine enters in
Shringatak marma and spreads in the cranial cavity, eyes, ears, throat and the minute capillaries of face and the doshas are removed from the site. After removal of doshas the poshan (rejuvenation) of the neck chest and shoulder muscles take place. Now-a-days in gym nobody follows the rule of Vyayam aharhashaktya. So ultimately it hampers the prakrut vata gati, vitiation of doshas takes place and Snayu loses its drudhata (tone) and due to this some injuries or pain may occur. But by taking nasya we are pacifying vikrut vata and once doshas come in saamyavastha, the pain and injuries can be prevented. Although we didn’t get satisfactory result in the form of strength, endurance and girth but the ill effects of excessive exercise, injuries can be prevented by Nasya.

The possible reasons behind the results may be as follows

1. Some of the Athletes from experimental group did not perform Nasya regularly or as was guided. The Nasya was given to athletes only for first time by the researcher and then from next session the Athletes were asked to do Nasya by their own.
2. The technique of Nasya perform by their own may not be accurate or there may be a error occur while performing Nasya by their own so type II error may have occur
3. The amount of Nasya i.e. 2 drops of Nasya medicine was not sufficient to improve the strength and endurance of the Athletes.
4. This kind of Research would be repeated avoiding above errors to confirm the result

Limitation and Scope of Study:

For this study we used Pratimarsha Nasya matra ie 2 drops of Anutaila, the large matra (Dose) may lead to desired result in the form of strength endurance and girth. Anutail is told to be used in pratimarsha matra as a practice of Dincharya. So, this study can be evaluated with Mash taila, Balataila, Mansarasa in larger doses with a group of non Athletes.

If we had chosen older age group (vatadhikya), then we might have got positive result in this age group as in vrudhavastha, vatadhikya is more in the body and Nasya pacifies vata. Athletes have their own strength, they recover the injuries very quickly, so instead of Athletes if we have selected non – exercising persons we might have got some positive result in this study.

CONCLUSION

Muscular Endurance was increased in the group not treated with Nasya hence the effect obtained by Nasya treatment was similar to the effect obtained by regular untreated exercising group.

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