

5.0 METHODS

5.1 PARTICIPANTS

5.1.1 SAMPLE SIZE

G-power was used to calculate the sample size based on the results of a previous study (S. Roslan, N. Ahmad, N. Nabilla & Z. Ghiami, 2017; Jyotika, S., & Geetika, T. 2014). Mean and SD of the related study (Mean=3.97, SD=0.75; Mean=4.23, SD=0.88) was used to calculate the effect size (S.Roslan, et al, 2017). A prior computation of the required sample size with a probability error $\alpha=0.05$, for a power of 0.8 yielded a result of 128 as the total sample size with 64 in each group. Researcher recruited an additional so that our sample constituted a total of 180 participants.

180 students (100 girls and 80 boys) were taken randomly by computer generated system from 300 students of campus. Remaining sample size was 100 students (both male and female) in *Yoga* group and 80 students (both male and female) in control group for the assessment.

5.1.2 SELECTION AND SOURCE OF PARTICIPANTS

Participants included from TSR & TBK Degree College in Gajuwaka town of Visakhapatnam city, Andhra Pradesh, India recruited from August 2018 to mid-November 2018 to participate in 60 days study program. Figure 1 showed the profile of the trial of samples on the CONSORT flow diagram. 300 participants were assessed after addressing the purpose of the study. A total 180 participants were qualified and randomized in two groups. Data of 180 participants were analyzed at pre and post intervention (end of 60 days) with psychological questionnaires. The selection was beyond demographics (gender, education level, parents income and marital status), geographic (birth place and region, or radius around an area) and psychographics (hobbies and interest) including all the streams of education like science,

commerce, computer and art of 1st year degree course between age group of 18 to 25. Participants were recruited to participate in study including all the streams of education like science, commerce, computer and art.

This study was not funded by any agency, so researcher has approached personally to different college of Visakhapatnam to get the participant instead of advertising.

5.1.3 INCLUSION CRITERIA

- Subjects aged between 18 years and 25 years
- Both genders
- Willing to sign Informed consent form

5.1.4 EXCLUSION CRITERIA

- Subjects who practiced *yogic* techniques in past 1 year.
- Subjects using sedative drugs.
- Subjects those who were with mentally disability or physically challenged.
- Pregnant or lactating women.
- Subjects with the history of chronic substance abuse, smoking or alcoholism.

5.1.5 ETHICAL CONSIDERATION

All the participants were informed in detail about research activity. Involvement in research was voluntary in nature. No monetary stimulant or other type of help was given to the subject. Subjects have done signature in the appropriate form during registration after reading all the steps. All the method involved in the research was scrutinized by ethical committee of S-VYASA. Participant's privacy was maintained by not forcing them to reveal the information which they were not willing to reveal. Safeguarding the confidentiality of the data was a key part of the relationship of trust and respect that exists between me (researcher) and the participant. Personal identifiers such as names, gender and birthdates were a part of informed

consent. Confidentiality of the data was maintained by using codes to label data instead of using names and keeping a separate list of code-to- names matchups. Only research scholar was having access to list of codes and survey forms.

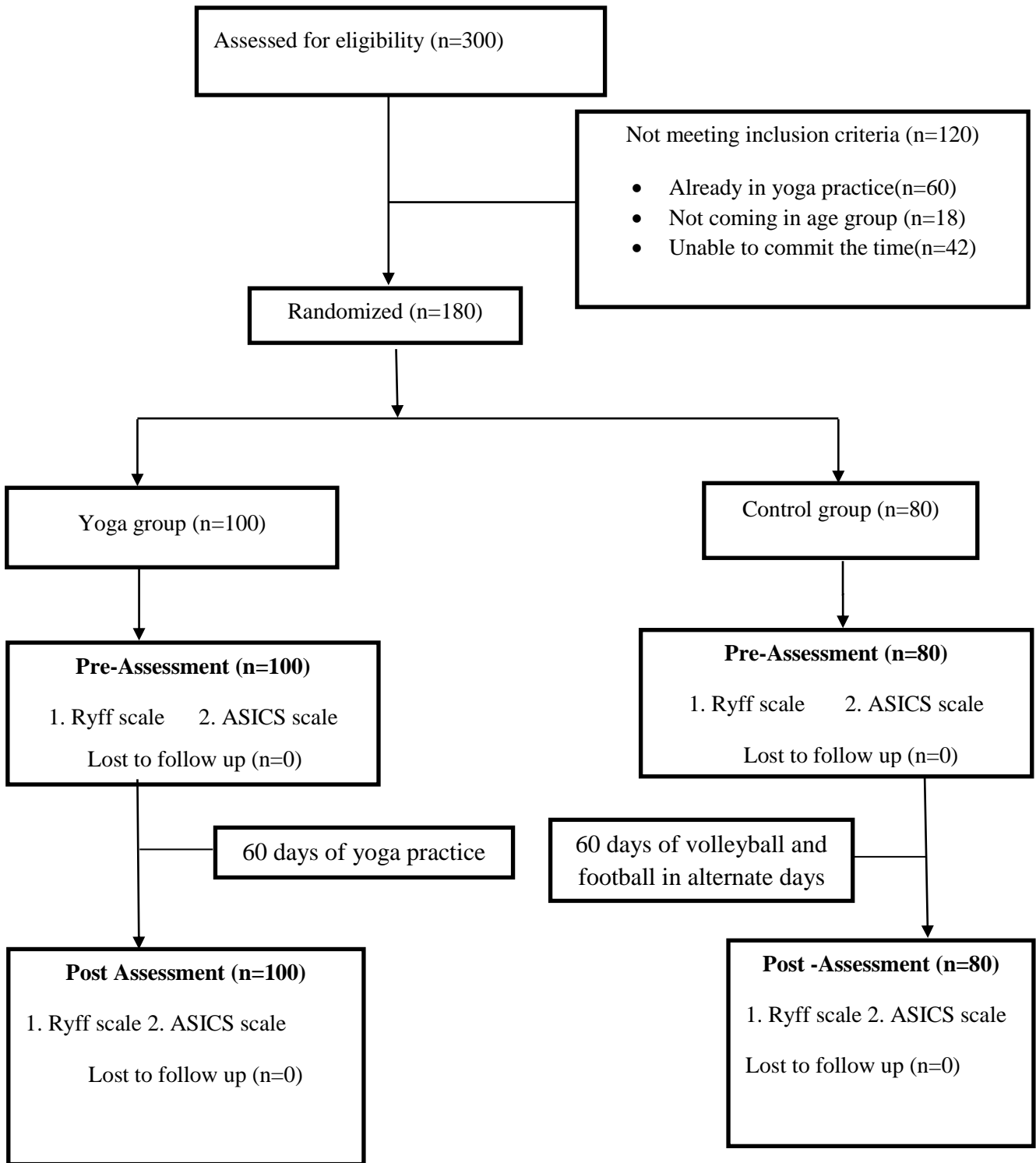
5.2 DESIGN OF THE STUDY

This study is randomized control trial with pre-post assessment. Before randomization, each participant was assessed at the baseline. The subjects were divided into two categories; first was in experimental category while other in waitlist control category. The 1st group was given practice of integrated yoga module while 2nd group was given 5 days' spiritual discourse and sports of volleyball and football in alternate days.

Randomization

Total 180 participants (100 girls; 80 boys) were randomized in two groups using a computer-based random number generator (www.randomizer.com). Totally, 180 envelopes were prepared, and each participant was asked to pick an envelope. Depending on the number in the envelope, participants were considered either in yoga or control group {known as sequentially numbered opaque sealed envelopes (SNOSE) randomization technique}. The statistician (who did the randomization and analyzed the data) was blinded to the source of the data.

Figure 1– Trial profile for the RCT



5.3 VARIABLES STUDIED

The college student's sufferings are increasing day by day because of current lifestyle and food habits and lack of physical activities. College students have lack of flexibility, clinical variables like pain and cadences and increase the blood pressure and resting pulse rate, as well as psychological problem like more stress and lack of Self-confidence. Thus, the investigator has chosen these variables for the present study. Psychological wellbeing and academic performance were selected as dependent variables where *Yoga* practices were selected as independent variables.

5.3.1 RYFF SCALE OF PSYCHOLOGICAL WELLBEING (RPWB)

Six variables were taken together to compute the psychological well-being in campus learners. Variables are termed as self-acceptance, purpose in life, positive relations, personal growth, autonomy and environmental mastery. Self-acceptance is self-recognition of oneself. Personal growth is sustained progress in all aspect of life as human being. Purpose in life is self-confidence about usefulness of life. Positive relation is having sound connections with others. Environmental mastery is the talent to balance ourselves with the present situation. Autonomy is self-disciplined life. All variables were studied using Ryff's scales of psychological well-being (RPWB) which is 42 item scale. Ryff scale of psychological wellbeing is unique combination of well-articulated multifaceted domain of positive psychological functioning with six distinct dimensions. Reliability is the internal consistency and validity is the external consistency in a scale. Scale is good if consistency is good. In this scale, the cronbach alpha reliability means internal consistency is from 0.86 to 0.93 which is excellent. The reliability (stability evaluation) for each domain is as follows:

- Autonomy -0.86
- environmental mastery -0.90
- personal growth -0.87
- positive relationships -0.91

- purpose in life -0.90
- self-acceptance -0.93

This scale is having very good retest reliability also which is between 0.81 and 0.88. This instrument is having 6 different domains and finding out the interscale correlation is necessary for better result. The correlation among sub domain is between 0.32 and 0.76.

Each participant is having different school of thought. This is the reason this scale is using likert scale for opinion of all participants. We don't expect answer in simple yes or no. Strength of the opinion in likert scale is always linear. We have used six-point scales in this instrument. Scoring is given as 1 for strongly disagree to 6 for strongly agree. Total 20 items starting from 3, 5, 10, 13,14,15,16,17,18,19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41 are reverse scored.

5.3.2 ACADEMIC SUCCESS INVENTORY FOR COLLEGE STUDENTS (ASICS)

The ASICS is a tool developed by Prevatt et al. (2011) for enrichment of academic achievement. This tool is also constructed for remedial teaching as well. This tool involves initially with 50 interrogation consisting 10 dimensions as follows:

- General Academic Skills
- Career Decidedness
- Confidence
- External Motivation/Future
- Lack of Anxiety
- Concentration
- Socializing
- Personal Adjustment
- Perceived Instructor Efficacy
- External Motivation/Current

General academic skill is entire encircling learning dexterity. Students can use the planner of calendar for the study. Reading the correct study book is more important as strategy of the learning. This skill includes the hard work done to get the better grade. The effort must be made to achieve the goal. Integration of strategy towards goal including the homework objective is the basis of the general academic skills.

Internal motivation/confidence is being convinced by the potential to accomplish the challenge of college education. Learning must be like fashion with easeness not with the tension. Individual potentiality gives the contentment for the learning. Ability to accomplish facilitates to understand the hard topic also.

Instructor efficacy is the caliber of the faculty to uphold the concentration of the learner. The quality of the teaching must be effective. College students can do better definitely if the instructor is having best teaching skill. Motivation of the teacher matters a lot for the future of the students.

Concentration is the capability of the direct mental attention so that wandering of the mind can be avoided. Capacity of the concentration makes the learning easy and stops the easy distraction.

External motivation/future can be explained as college life gives more emphasis on job related issue and all students must have the importance of the ongoing classes for their future life. Doing well in the class gives assurance for the job later on.

Socializing- entertainment and mingling with people around us should not hinder our academic performance. Student must stop going the party if study is more important during that time. College tenure is not for the active social life. Too much partying with friends is not good for student life.

Carrier decidedness is determination towards the walk of the life. Every student must have a ruling about what after graduation with proper consultation of guardian.

Lack of anxiety is nervousness during test or examination even after well preparation. No one must be anxious even if subject is hard. Everything becomes easy with well-planned study.

Personal adjustment is the trick to deal with individual problem. Self-matter should not affect the academic performance. One should not think that without personal problem I would have done much better. Everyone has done the progress with the better adjustment of the individual issues.

External motivation/ current are the burning impulse which affects present ongoing latest aspect such as good grades and approval of parents. This can help to get a scholarship also. This inspiration required to maintain the university regulation also and to keep up the good GPA also.

While analyzing these measures about scoring the academic proficiency following domains were found most appropriate:

- Personal Adjustment
- General Academic Skills
- Confidence
- Socialization
- Concentration

But it is not necessarily the same variables; researchers will get in other research setting. More ever it was found that the 'Perceived Instructor Efficacy' and 'Personal Adjustment' were two factors chosen by the high-ability students whereas the lowest ability group of students needs more External Motivation/ Future and External Motivation/ Current for their academic success. Furthermore, all the domains are showing a global picture of overall students' performance. Study conducted by Prevatt et al. (2011) found that the factors or construct of General Academic Skills had the highest internal consistency, while the External Motivation/Current showed the lowest internal consistency. They also found that Personal Adjustment, General Academic Skills, Internal Motivation/Confidence, Socializing, and

Concentration were the most highly predictive subscales of grade point average. It measures a variety of latent traits. ASICS not only facilitates the academic abilities but measures the skills, knowledge and moral values too. We can say that the ASICS scale used for this study had measured what it was supposed to measure very well.

Internal Structure: reliability is the internal consistency and validity is the external consistency in a measure. Instrument is good if consistency is good. Confidence interval of this instrument is 95%. In this scale, the Cronbach alpha reliability means internal consistency is 0.93 which is excellent. The reliability (stability evaluation) for each domain is as follows:

Academic Skills	-0.93 (0.92-0.94)
Efficacy of Instructor	-0.92 (0.92-0.93)
Career Decidedness	-0.87 (0.86-0.89)
External Motivation/Future	- 0.88 (0.86-0.89)
Confidence	-0.87 (0.85-0.88)
Personal Adjustment	- 0.86(0.84-0.87)
Concentration	-0.86(0.85-0.88)
Socializing	-0.84(0.82-0.86)
Internal Motivation/Interest	-0.89(0.88-0.90)
Lack of Anxiety	-0.77(0.74-0.80)

ORIENTATION OF THE SUBJECTS

Prior to the administration of the test, a detailed discussion was carried out with the subjects about the purpose of the study, training procedures and techniques, its benefits and limitations by the researcher. Before the scientific test administration, procedure was explained in detail and proper understanding; co-operation was obtained for reliability of the data.

RESEARCHER RELIABILITY

The reliability of data together with the reliability of the tester was ensured. The investigator took all the measurement with the assistance of other professionals from recognized colleges about Psychological wellbeing and academic performances. Before conducted the test, the researcher discussed about testing procedure with concerned guide and got sufficient experience to administer the test.

SUBJECT RELIABILITY

The test and retest also conducted to the same subjects under similar condition by the same investigator.

5.4 INTERVENTION

Pilot study was conducted with 33 experts to finalize the yoga module. Subjects were given practice of *yogic* discipline. Training duration was total 60 days. Base of the practice was taken according to tradition of *Yoga* and *Upaniṣad*. It involved *sūrya namaskāra*, *āsana*, *kriyā*, *prāṇāyāma*, loosening exercise, breathing application and meditation. Subjects were doing practice 5 days only in a week and time duration was 45 minutes.

Control Group

The participants of control group were not given any specific training; however, they were kept busy with lecture on “spirituality in student life” for 5 days and sports activities (volleyball and football in alternate days) for 45 min. at the same time of the day as the *yoga* training session.

5.4.1 IMPORTANT INSTRUCTIONS (Compliance ensured)

1. *Yoga* practice starts after emptying the bowl only.
2. Evening practice should be after four hours from the lunch.

3. Meal or light deserts should be taken after the 30 minutes of practice.
4. The *yoga* practices should be done smoothly without any jerk. Straining of any part of the body should be avoided.
5. In general, the eyes should be closed (except for some selective movements and eye exercises) while practicing the *yoga*.
6. *Yoga* practices should be done on a mat or on some thick spread on the floor but not directly on the floor.
7. Those who have undergone surgery should start practicing the *yoga* after three months or advised by *yoga* expert.
8. Simple and Nutritious and Sattvic food is ideal.
9. Loose and comfortable dress should be worn. Cotton dresses are best, while doing *āsana*.
10. Mind should concentrate on the movements for deriving full benefit from the *āsana*.

5.4.2 YOGA PRACTICES SCHEDULES FOR EXPERIMENTAL GROUP

Yoga practices were given from following table 1 for 5 days a week on each day for 45 minutes:

Table 1- list of practices

Sr. No.	Name of the practices		Rounds/ cycles	Time in minutes (Total-45)
1	Starting Prayer		1	2
2	<i>Kriyā</i>	1. <i>Kapālabhāti</i> (Frontal brain cleansing)	90 strokes	1
		2. <i>Agnisār kriyā</i>	3	2
3	Breathing Practices	1. Hands in and out breathing	5	1
		2. Hands stretch respiration	5	1

		3. Ankle stretch respiration	5	1
		Total time		3 mts
4	<i>Sithilikarāṇa vyāyāma</i>	1. Jogging	30	1
		2. Forward and backward bending	10	1
		3. Side bending	10	1
		4. Twisting	10	1
		Total time		4 mts
5	<i>Sūrya Namaskāra</i>	12 Steps	11	11 mts
6	<i>Asana</i>	1. <i>Tārāasana</i>	2	1
		2. <i>Vṛkṣāsana</i>	2	1
		3. <i>Pāda hastāsana</i>	2	1
		4. <i>Ardha kaṭicakrāsana</i>	2	1
		5. <i>Bhujāṅgāsana</i>	2	1
		6. <i>Śalabhāsana</i>	2	1
		7. Quick Relaxation Technique (QRT)	1	3
		Total time		9 mts
7	<i>Prāṇāyāma</i>	1. <i>Nārīśodhan</i>	9	3
		2. <i>Sitalī</i>	5	1
		3. <i>Sitkārī</i>	5	1
		4. <i>Bhrāmārī</i>	5	2
		Total time		7 mts
8	<i>Dhyāna</i>	OM Meditation		5
9	Closing Prayer	<i>Sānti Pāṭh</i>	1	1
Total time				45 mts

5.4.3 KAPĀLABHĀTI (FRONTAL BRAIN CLEANSING)

Kapālabhāti is the splendor of frontal lobe of the brain. It is one of *ṣaṭ kriyā* and *prāṇāyāma* as well. There are the three techniques to practice the *kapālabhāti*. It is named as air cleansing, sinus cleansing and mucous cleansing. Practicing Method:

- Sit in any meditative posture likes *padmāsana* or *vajrāsana*.
- Spine should be straight while sitting.
- ‘Breath out’ is active with the jerk and ‘breath in’ is passive
- Practice should be in rhythmic way.
- Passive inhalation is performed automatically when abdominal muscles are relaxed after each stroke.
- Initially practice should not be done more than one minute.
- At the end of the practice, respiration is stopped for a while and one can observe it.
- Craving for respiration will be suspended temporarily.
- Same time mind dissolves for a while and experiences a new horizon of peace and love.
- Be patient till respiration returns to as usual position.

Guidelines

- Spine should be straight till practice ends.
- Passive inhalation is performed automatically when abdominal muscles are relaxed after each stroke.
- Practice should be started with slow rate. We should not suddenly practice at the speed of 60 strokes per minute. Continue practice will make it easier and we can reach 60 to 90 strokes slowly and slowly.

Benefits

- Good remedy for functional types of coughs and colds.
- Improves abdominal breathing which is helpful at the time of an asthmatic attack.
- This emergency breathing can be when-ever are feels the need.

- Improves digestion and excretion processes.
- Makes the abdomen elastic and the abdominal wall flexible increases the efficiency of the diaphragm.
- Face and forehead regions are glowed up immediately.
- Activate adrenal as well as sex glands.

Limitations

- Person with nose bleeding and critical blood pressure should not practice.

5.4.4 AGNISĀR KRIYĀOR VAHNISĀR DHAUTI (TRIGGERING THE ASSIMILATING FLARE)

Agnisār kriyā is the triggering the fire responsible for digestion. The *agni* is *Sanskṛta* word which means the flare used for oxidizing the food and *sār* is used for main essence.

Practice method

- Can be practiced in standing and while sitting like *Bhadrāsana* or *Padmāsana*
- Breathe in deeper
- Breath out freeing the lungs from the air
- Bend forward a little aligning the elbows
- Keep your hands on the knees and do the *jālandhar bandh*.
- Do inward and outward movement of the abdominal muscles in a speed
While keeping the breath outside
- Perform all actions in relaxed way
- Allow the untie the throat lock
- Wait till breath to come in natural way before starting the second cycle

Duration

‘Slow and steady wins the race’ is the principle of yoga practice. 10 movements in one cycle are enough. After regular practice one should increase the flapping movements which can be extended up to 30 in one cycle.

Awareness

Physical-on abdominal movement

- On *maṇḍipur cakra*

Precautions

This should be practiced after emptying the bowels. This creates the heat and one should follow the cooling pranayama in summer after practicing the *agnisār kriyā*.

Contra-indications

Participants who are suffering from high blood pressure, heart disease, peptic ulcer and diarrhea should avoid it. Pregnant ladies should not practice this.

Benefits

This practice removes the lethargy, massages the abdominal muscles and improves the digestive capacity. This *kriyā* also stimulates the *samāna prāṇa*.

BREATHING PRACTICES

5.4.5 HANDS IN AND OUT

- 1- Place yourself in initial position of *Tārāasana*.
- 2- Straighten your hands in the front and keep your both palms jointly.
- 3- Unfurl your both the hands while breathing in towards it's each own side in the same direction as horizon.
- 4- Take the hands in the front while breathing out.
- 5- Do again for six times this practice coordinating the breath and hand gesture.

- 6- Relax in initial position.
- 7- Experience the change in respiration and the gross fuselage.

5.4.6 HANDS STRETCH

- 1- Be positioned straight with heels joining and toes separated up to 6 inches.
- 2- Position your hands near to chest.
- 3- Interconnect the fingers and position the palms on the chest. Interlock the fingers and place the palms on the chest.
- 4- Moderate and ease your shoulder.
- 5- Terminate the visual aspect of both the eyes.

Application

Stage 1: (Straight)

- 1- Straighten the hand in line with shoulder while breathing in.
- 2- Adjust and turn the hands in such a manner that palms open out outwards.
- 3- Straighten the hand in gentle way without strain.
- 4- Undo the whole process while breathing out and take the palm on the chest. Again, moderate and ease the shoulder.
- 5- This is one cycle of the practice. Do it 6 rounds.

Stage 2: (At 135°)

1. Replicate the exact practice extending the hands at 135°.
2. Do it 6 rounds.

Stage 3: (Vertical)

- 1- Do the same practice another time extending the hands over the head.
- 2- Interconnected palm should move near to nose.
- 3- Do these 6 round



ANKLES STRETCH

- 1- Be in initial position of *Tārāasana*.
- 2- Keep the palm on thigh and fix the eye on a certain distance.
- 3- Take up your hands and extend the ankle. Assume that you are heightening inflexible.
- 4- Escort your hands towards a lower position and heels on the ground while breathing out.
- 5- Do it 6 rounds

LOOSENING PRACTICES

Objective of the loosening practices is to impart the correct drilling to the spine. Loosening practices slacken the couplings in the body. This practice also increases the vigor and patience.

Sithilikaraṇa vyāyāma is loosening practice which is executed with momentum and replication. This is the dynamic exercise.

Following are the fundamental of loosening practice:

- (i) Slackening the different couplings of the body.
- (ii) Tensing and relaxing the spine by duplicating the exercise

Unique points for positive effectiveness

- 1- Do the practice step by step.
- 2- Practice should be done with awareness.
- 3- Increase the momentum slowly.
- 4- Group practice should be in integration with all.
- 5- Escalate the replication in accordance with individual stamina.

5.4.8 JOGGING

Stage I: Run slowly

- 1- Be in initial position of *Tārāasana*.
- 2- Place the loose fist near the chest.
- 3- Moderate the shoulders.
- 4- Commence jogging on the toes without hurrying.
- 5- Finish within 20 rounds.

(You can increase number of counts according to your stamina at slow pace)

Stage II: Forward jogging

- 1- Uplift the knees in the front as much as you can.
- 2- Knees can be lifted to chest.
- 3- Can be practiced up to 20 times.

Stage III: Backward jogging

- 1- Heel should touch to the buttocks.
- 2- Can be replicated up to 20 times.

Stage IV: Side jogging

While jogging keep the heels to their respective sides.

Stage V: *Mukha Dhaṭi*

1. Position with the trunk bow and palm on thigh with legs apart.
2. Breathe in maximum and throw out the air by force in a flow.
3. Perform many rounds.

5.4.9 FORWARD AND BACKWARD BENDING

- 1- Be in initial position of *Tārāasana*.
- 2- Raise the hands over the head with palm facing in the front.

- 3- Move the upper body backside while breathing in with hands over the head.
- 4- Move the upper body front side while breathing out.
- 5- Perform to and for bending movements of the body in a fast way with breath regulation.
- 6- Practice 20 rounds with accelerating pace.
- 7- Slowly stop the practice.

5.4.10 SIDE BENDING

- 1- Position in initial position of *Tārāasana*.
- 2- Apart the legs.
- 3- Lift the hands to their respective side parallel to the ground while breathing in.
- 4- Further lift the left hand and make the arch towards the right side till the finger touches the right heel.
- 5- Stand up with breath in.
- 6- Perform 4 to 5 rounds to either side in turn.
- 7- Moderate in *Sithila Tārāasana*.

5.4.11 TWISTING

- 1- Place yourself in initial position of *Tārāasana*.
- 2- Make a gap between legs approximately one meter.
- 3- Lift the hands to their respective side parallel to the ground while breathing in.
- 4- Place the leg hard on the deck and swivel to the right keeping the right hand straight.
- 5- Same time twist the neck.
- 6- Fold the left hand at the elbow.
- 7- Return while breathing in.

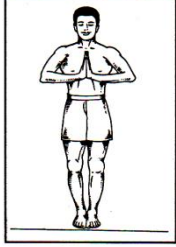
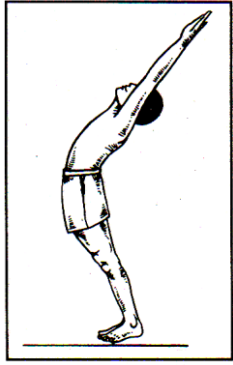
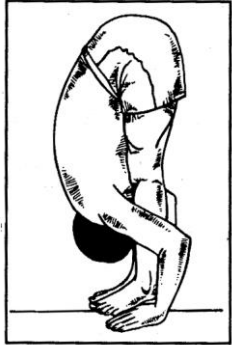
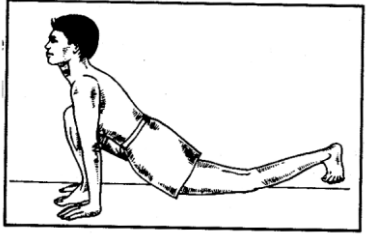
- 8- Replicate same on the left.
- 9- Slowly accelerate the speed.
- 10- Do 10 to 20 times.
- 11- Moderate in *Sithila Tārāasana*.

5.4.12 SŪRYA NAMASKĀRA (SUN SALUTATION)

All living beings depend on the Sun for their life. The practice of *sūrya namaskāra* in *yoga* provides a variety of benefits. It can be practiced in the morning or in the evening.

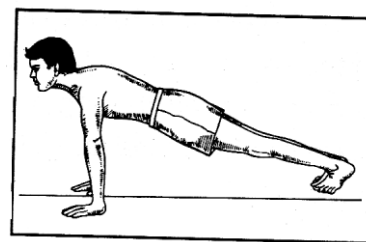
Both *āsana* and *prāṇāyāma* are included in *sūrya namaskāra*. Doing this before the other *āsana* activates and energizes the body, preparing it for the other *āsana*. It is made up of 12 postures in a cycle and can be done 3 – 12 times.

12 Postures of *Sūrya Namaskāra*

<p>Posture 1: <i>Praṇāmāsana</i></p> <p>Stand on the mat, facing the East, with the palms together in front of the chest. Legs should be placed close together. Breathe normally.</p>	
<p>Posture 2: <i>Hastautthān</i></p> <p>Raise the arms above the head, taking a deep breath and bend the body slightly backwards, without bending the knees.</p>	
<p>Posture 3: <i>Pāda Hastāsana</i></p> <p>Bend forward at the waist, breathing out at the same time without bending the knees. Keep the palm side of the respective feet on the floor. Try to touch the knees with the forehead.</p>	
<p>Posture 4: <i>Aśvasañcalan</i></p> <p>Take a breath and extend the right leg backwards. Place the left leg between the arms, look straight.</p>	

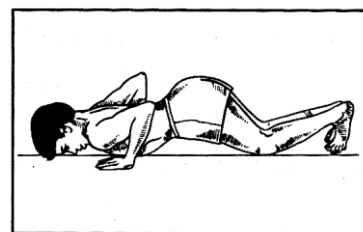
Posture 5: *Dvipāda Hastasañcalan*

Stretch the left leg backwards and place the feet close together. Body should not touch the ground. Alignment from head to feet to be observed. Retain the breath within the body (*Kumbhak*)



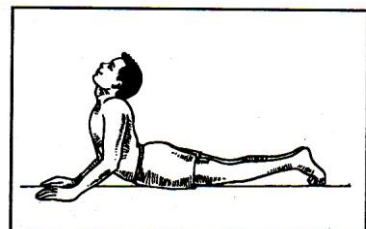
Posture 6: *Aṣṭāṅga Namaskār*

Release the breath slowly and lower the body to the mat without shifting the arms. The forehead, chest and knees alone should touch the mat. Raise the buttocks (8 parts of the body i.e. two palms, two toes, two knees, chest and forehead must touch the mat).



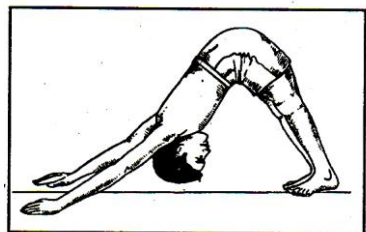
Posture 7: *Bhujāṅgāsana*

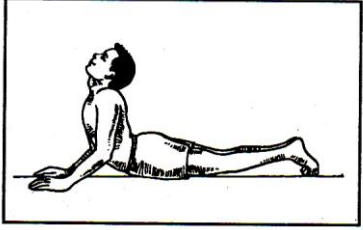
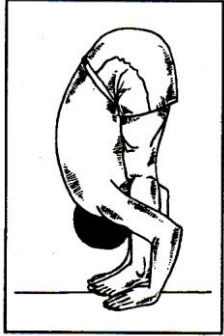

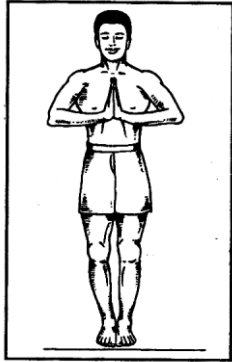
Inhale and uplift the half upper off the mat. Abdomen will now be on the mat.







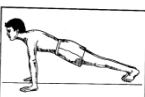


Posture 8: *Adho Mukhāsana (Parvatāsana)*

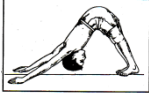




Release the breath slowly and raise the buttocks off the mat. The hands and feet remain stationary during the movement. The head is bent downwards, and the feet firmly planted on the ground. The body in this position resembles the alphabet “A”



<p>Posture 9: <i>Aśvasañcalan</i></p> <p>Take a breath, keep the hands in the same position, fold the right knee and keep the leg in the front to place it between the arms. Raise the head.</p>	
<p>Posture 10: <i>Pāda Hastāsana</i></p> <p>Release the breath and take the other leg also in the front, placing it beside right leg. The forehead should touch the knees. Hands and legs should be parallel at this point.</p>	
<p>Posture 11: <i>Hastautthān</i></p> <p>Straighten up, inhale and uplift the arms above the skull. The body should be bent backwards slightly (same as posture 2)</p>	
<p>Posture 12: <i>Praṇāmāsana</i></p> <p>Stand straight bring the arms down and keep the palms joint before chest (same as posture 1).</p> <p>When repeating the exercise the position of the legs in poster No.4 & No.9 are to be alternated.</p>	

Sūrya Namaskārawith Mantra& Awareness

S. No		Asana (Posture)	Breathing	Concentration	Mantra
1		<i>Praṇāmāsana</i>	Inhale and Exhale	<i>anāhat cakra</i>	<i>om mitrāy namaḥ</i>
2		<i>Hastautthān</i>	Inhale	<i>viśudhi cakra</i>	<i>om ravaye namaḥ</i>
3		<i>Pāda Hastāsana</i>	Exhale	<i>svādhiṣṭhāna cakra</i>	<i>om sūryāya namaḥ</i>
4		<i>Aśvasaṅcalan</i>	Inhale	<i>ājñā cakra</i>	<i>om bhānave namaḥ</i>
5		<i>Dvīpāda Hastasaṅcalan</i>	Exhale	<i>viśudhi cakra</i>	<i>om khagāy namaḥ</i>
6		<i>Aṣṭāṅga Namaskār</i>	Inhale and Exhale	<i>maṇipur cakra</i>	<i>om pūṣṇe namaḥ</i>
7		<i>Bhujāṅgāsana</i>	Inhale	<i>svādhiṣṭhāna cakra</i>	<i>om hiraṇyagarbhāy namaḥ</i>

8		<i>Adho Mukhāsana (Parvatāsana)</i>	Exhale	<i>viśudhi cakra</i>	<i>om marīcaye namaḥ</i>
9		<i>Aśvasaṅcalan</i>	Inhale	<i>ājñā cakra</i>	<i>om ādityāya namaḥ</i>
10		<i>Pāda Hastāsana</i>	Exhale	<i>svādhiṣṭhāna cakra</i>	<i>om savitre namaḥ</i>
11		<i>Hastautthān</i>	Inhale	<i>viśudhi cakra</i>	<i>om arkāya namaḥ</i>
12		<i>Praṇāmāsana</i>	Inhale and Exhale	<i>anāhat cakra</i>	<i>om bhāskarāya namaḥ</i>

Note

- 1) Every pose is regulated by *prāṇāyāma*
- 2) Practice minimum 3 to 12 *sūrya namaskāra* daily
- 3) Try to practice by closing the eyes

Benefits of *Sūrya Namaskāra*

1. It is a wholesome exercise. Complete body is toned up and assists to get rid of all diseases.
2. Stomach, alimentary canal, intestines, heart, liver etc. are strengthened.

3. The bones of the vertebral column and hips become flexible. Blood circulation improves, impure blood is eliminated, and skin diseases are cured.
4. Muscles of the arms, legs, thighs, shoulders and collar bones are strengthened.
5. Mind attains peace and strength.
6. Diabetes is controlled.
7. Health is improved.

5.4.13 TĀRĀASANA (PALM TREE POSE)

This *āsana* is known as palm tree pose. Although it is the starting position for several standing poses, it is practiced separately as well.

Complimentary - Any inverted *āsana*

Type - Standing Posture

Category - Cultural

Method of Practice

1. Position in an upright posture.
2. Bring the crus jointly together and keep the hands along with their thighs.
3. See in line with your eyes in front.
4. Gently lift the both hands on top of head.
5. Interconnect the fingers and roll out the palms up
6. Breathe in and stretch the hands including complete body. Lift the heel and balance on toes.
7. Clench for a while.
8. Bring down the heels first and later hands. This is one round. After relaxing, repeat 6 rounds.

Caution

- One should not hurry during practice.
- Administer the weight on both the feet.

- Jolt should not come in the body.
- Initially practice should be done with open eyes and after mastery can go with closed eyes.

Benefits

- Helps to increase height.
- Spine becomes stretchable.
- Improves the immunity of lungs.
- Balance at psycho physiological level is maintained.
- Helpful in early pregnancy for toning abdominal muscles and nerves.
- Leg muscles are toned up.
- Helps to clear the bowels.

5.4.14 TREE POSES

At the final stage, body is positioned unmoving like a tree.

Complimentary - Self

Type - Standing

Category - Cultural

Method of Practice

1. Position in an upright posture.
2. Bring the feet jointly and make sure that knees are straight with hands sideways.
3. Uplift the right leg and keep the heel to the inside of the left thigh. Left leg will be straight while uplifting the right.
4. The right sole must press the inner space of the port thigh with the toes pointing moving down.
The folded leg should be at right angle to the side leg and both thighs must be in orientation.
5. Adapt namaskar mudra.

6. Raise both the hands over the head and straighten the hand.
7. Stretch up and balance your body with easiness
8. Bring the arms down up to chest.
9. Come to the initial stage while bringing down the right foot.
10. Repeat with the alternate leg.

Benefits:

- All the leg joints are unlatched and improve the blood flow.
- Leg muscles are toned and strengthened.
- It develops the sense of mental balance.
- It tones the nerve flow especially in the leg.
- It regulates the excretory system.
- Coordination of the nerves with the muscles is developed.

5.4.15 PĀDAHASTĀSAN (HAND-TO-FEET)

Pāda and *hastāsan* is *Sanskṛta* word which means foot of the leg and hand respectively. This *āsana* is used as initial practice of front bending *āsana* to achieve better stretch.

Complimentary –*Ardha Cakrāsana*

Type - **Standing**

Category - **Cultural**

Method of Practice

- Apart your legs about six inch and position yourself in upright posture.
- Uplift the hands over the head while breathing in and keeping the palms in the forward position.
- Lean down ahead while breathing out without tension in the body.
- Place the fingers near to the floor. Don't force the body while placing the finger near the floor. Practice should be as per body convenience.

- Moderate the neck. Knees should be in unbending position. Forehead touching or about to touch the knees.
- Be in the position till you feel comfortable while diluting the complete back.
- Go back to the initial point by pedal- back method.
- Ease yourself before starting the succeeding cycle

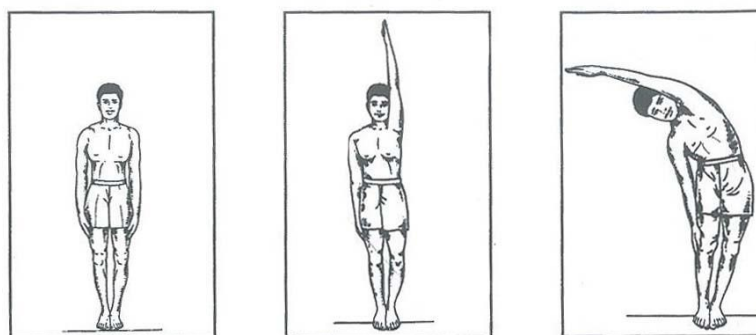
Limitations

Individual having problem of back pain, hernia, cardiovascular disease and hypertension should stay away from this practice.

Benefits

- This practice balances the metabolism of the body.
- Posterior and hamstring muscles stretched and strengthened.
- Massage and toning of sciatica nerves is done.
- Oxygenated blood is galloping in the lower and middle body.
- Reduces belly, helps to get rid from constipation and indigestion.
- Neck nerves are stimulated and toned.

5.4.16 ARDHA KAṬICAKRĀSANA (HALF LATERAL WHEEL POSE)



- Stand straight
- Take a deep breath; raise the left hand above the head, holding it close to the head.
- Exhale and bend the body to the right.

- Hold the position for 5 breaths, and then come back to the original position.
- Repeat with the other hand.

Benefits

- Spinal cord becomes flexible.
- Functioning of the liver and spleen improves.

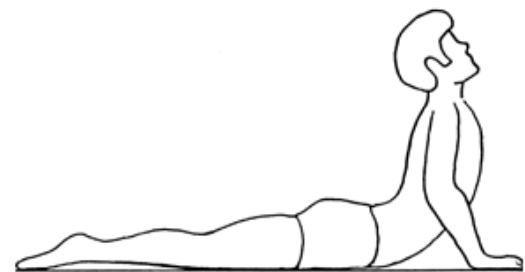
5.4.17 BHUJANĠĀSANA (COBRA POSE)

NAME - "*bhujang*" is a *Sanskṛta* word which means snake. At the final position, it look likes a cobra snake.

Complimentary – Locust pose

Type - Prone

Category - Cultural



Cobra Posture

Method of Practice

- Lie down on the stomach resting both the hands on the side of the shoulder near the body (pectoral muscle).
- Close the eye and put the forehead on the floor.
- Ease the lower back and complete body.
- Leisurely uplift the head region while breathing in.
- Uplift the head, compact neck and shoulder.
- Keep hold on in the final pose with normal breath.
- Come back to initial stage while breathing out and lower the torso.
- Rest the lower back.
- Can practice up to 5 rounds.

Time:

Initially practice should be for short duration and step by step increase the timing.

Limitations

One who is suffering from ulcer, hernia and hyperthyroid should abstain from this practice.

Benefits:

1. Breathing pattern is regulated and upgraded.
2. This practice helps to develop deeper breathing.
3. This facilitates to manage the back-pain person.
4. Nerves of the spine are toned up.
5. Gynecological disorder is governed and strengthened.
6. Helps to get rid from constipation.
7. Appetite is revitalized.
8. Liver and kidney are revived.

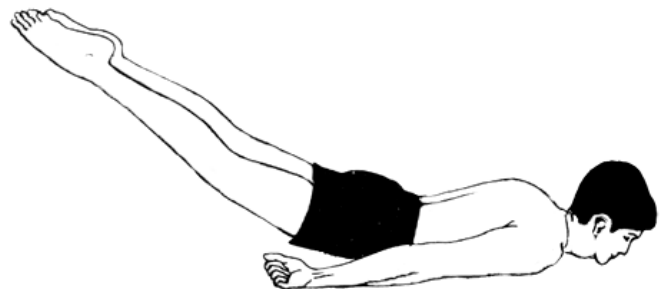
5.4.18 ŚALABHĀSANA (LOCUST POSE)

Salabhā is *Sanskṛta* word which is revealed as locust in English.

Complimentary - *Bhujāṅgāsana*

Type: - Prone

Category: - Cultural

**Method of Practice:**

1. Repose on stomach accompanied by jointly bottom of the leg.
2. Position both the hands underneath the outer casing accompanied by palms skywards.
3. Chin should be repose on the deck all over the operation.
4. Ease in this position.

5. Skeletal muscles of the leg should be stretched tight before starting the practice.
6. Take up both the legs away from the ground in upward direction accompanied by hands as straight as an arrow.
7. Keep hold on in the final pose with normal breath
8. Come back to initial position.
9. Dilute the body with the face downwards till breath becomes usual.
10. Repeat 3 cycles.

Caution:

- This should be done after 4 hours of the food.
- After this *āsana*, *dhanurāsana* should be done and accompanied by the front duck down postures.
- One who is suffering from cardiovascular disease, any abdominal ulcer and high blood pressure should not practice.
- Learner should do slow practice.

Limitations

Begin with watchful practice in case of back pain.

Benefits

- Gastrointestinal tract is overhauled and rejuvenated.
- Digestive organs are manipulated and revived.
- Adrenal glands are attuned, regulated and balanced.
- Kidneys are tempered and revitalized.
- Extra fats are alleviated on all sides of the abdomen.
- Liver is revitalized.

- Performance of the digestive track, excretory track and reproductive systems is boosted and enhanced.
- Blood circulation is enhanced across the body.
- Inflexibility of the nerve is alleviated.
- Reorientation of the spinal column is enacted.
- Bulging belly is minimized.
- Rheumatic pain of the hips is regulated and managed.

5.4.19 QUICK RELAXATION TECHNIQUE

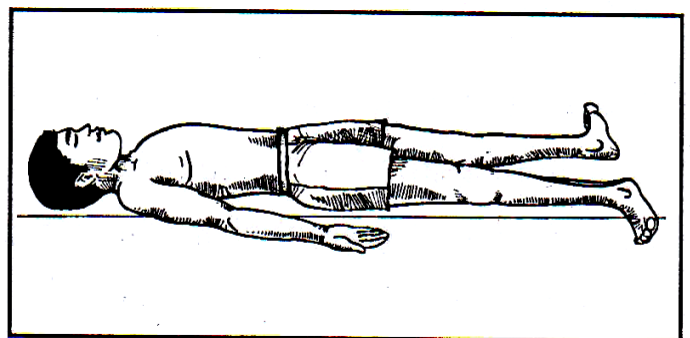
At the end of *āsana* practice one need to lie down and relax. Usually this position is done lying flat on the back.

If thoughts arise or sounds from the environment distract you, acknowledge them and then try to release your awareness from them by focusing again on your breathing. Relaxation is not like sleeping in that your body is relaxed but your mind is both silent and alert and focused only on your breathing or movement of belly. End the practice by bring your awareness to the presence of your body. Stretch out and come up slowly.

Sthiti- Nāvāsana

Technique

- Notice the variation of motion as rise and fall in the stomach. Behold the notice of up and down motion in belly. Feel for 6 rounds.



- Observe the abdominal motion with the breath. Breath in facilitates the rising of the stomach and breath out sinking. Notice for 6 rounds.
- While observing the breath, breath becomes slow and deeper. Slow and deeper breath is energizing and healing body, mind and intellect. When you observe the outgoing breath, all the body muscles are collapsing, agitation and nervousness is freed. Rejoice the tranquility and peacefulness of the mind.
- Slowly come up from side of the body.

5.4.20 NĀRĪŚODHAN PRĀṄĀYAM

Sit in *padmāsana* or *vajrāsana*

- Rest the left palm on the left knee in *Cin mudrā*.
- Hold the right hand in *nāsikā mudrā* (The index and middle fingers folded, with the other three extending)
- Lock down the starboard nose. Inhale by port nose at a leisurely pace.
- Now lock down the port nose and exhale slowly by starboard nose. Again, inhale by same and breathe out by left nose.
- This is one round of breathing. The duration of the inhalation and the exhalation should be equal. Repeat 5-20 times.
- Ideal if performed in the morning and the evening.



Benefits:

- Brain and body cells are activated.
- Cleans the nerves and improves the quality of meditation.
- Body becomes light, the eyes shine, and digestion improves.

- Imbalance in the left and right hemispheres of the brain will be corrected
- Oxygen carrying capacity in the blood stream will be increased
- Purified blood will be supplied to all the limbs and organs of the body.
- Immunity system in the body will be increased.

5.4.21 ŚĪTALĪ PRĀṆĀYAM (BEAK TONGUE)

This practice cools the body and quenches thirst.

Preparation

- Sit on favorite *āsana* (*padmāsana* or *vajrāsana*). Middle and upper body should be in straight line especially head, cervix and vertebral column.
- Join the fingers to stay in *jñān mudrā*.

Steps

- Enlarge the tongue in front of the mouth utmost. Turn over the tongue in roll out manner to shape like duct.
- Suck the breath by way of ducted tongue.
- Take the tongue inside the mouth and hold the breath with easiness.
- Breathe out at slow pace by the nose.

Practice

- Perform 9 to 15 cycles.
- It is possible in footing position also.
- This practice can be done in dayspring and sundown also during hot climate.

Benefits

- Provides coolness to the fuselage of the human being.
- Governs the heat in brain centers.

- It lowers the sentimental agitation.
- It relaxes the aggressive muscles.
- This technique is calmative for mind before sleep.
- It regulates the thrust.
- Brings down the high blood pressure.

Caution

- One should avoid who is suffering from hypotension.
- Retention of the breath should not be done by weak heart person.
- Avoid in cold season.

5.4.22 ŚĪTKĀRĪ PRĀṆĀYAM (FOLDED-UP TONGUE)

- Sit on the favorite *āsana*. Middle and upper body should be in straight line especially head, cervix and vertebral column.
- Bring the teeth with each other.
- Open the mouth to reveal the teeth.
- Bend the tongue rearward averse to soft palate.
- Take deeper breath with slow pace by way of teeth inducing the hissing sound.
- Lock the mouth after breathes in.
- Breathe out at slow pace by the nose.
- Perform 9 to 15 rounds.

Benefits

- Provides coolness to the fuselage of the human being.
- Governs the heat in brain centers.
- It lowers the sentimental agitation.

- It relaxes the aggressive muscles.
- This technique is calmative for mind before sleep.
- It regulates the thrust.
- Brings down the high blood pressure.

Caution

- One should avoid who is suffering from hypotension.
- Retention of the breath should not be done by weak heart person.
- Avoid in cold season

5.4.23 BHRĀMARĪ PRĀṆĀYAM (HUMMING BEE)

- Place yourself in comfortable sitting posture
- Ease the body with closed eyes.
- Take the breath inside by the nose.
- Breathe out at slow pace by the nose creating the humming sound like bee.
- Perform 5 to 10 cycles.

Benefits

- Gives the smoothening effects in the brain
- Relieves the mental tension
- Cool down the anxiety
- Helps reduce the anger

5.4.24 OM MEDITATION

Meditation is the 7th limb of *Aṣṭāṅg Yoga*. It is meant to calm the mind to release the stress at the mental level. Meditation can be done in any sitting meditative *āsana*. Person can do anytime and many times in a day to feel the inner awareness and dissolve the mind.

STHITI

Place yourself in comfortable sitting posture with easiness of the body and closed eye.

Technique

- Begin *OM* chanting in one's mind. Recite *OM* nonstop. Do rapid chanting if disturbance of the mind is happening and minimize the chanting in awareness. Once more escalate the chanting on condition of disturbance of the mind.
- Do the chanting further moderately and with natural flow. As one grows inside, one can observe the vibration of *japā* in the body.
- When minimize the repetition of chanting, make out the interval between *OM*. With the practice, this interval increases which is dissolved and diffused in silence.
- Silence becomes deep rooted with repeated practice. Effortless chanting will occur in total silence as *ajapā*.
- Base of inner silence is heart. *Ajapā OM* is diffusing in inner space.
- Blink the eyelet without disturbance. Become aware to the body and open the eyes. This is complete process for meditation.

5.4.25 CLOSING PRAYER

ॐ असतो मा सद्गमय तमसो मा ज्योतिर्गमय

मृत्योर् मा अमृतं गमय ॐ शान्तिः शान्तिः शान्तिः

om asato mā sadgamaya tamaso mā jyotirgamaya

mṛtyor mā amṛtaṁ gamaya om śāntiḥ śāntiḥ śāntiḥ

सर्वे भवन्तु सुखिनः सर्वे सन्तु निरामयः ।
सर्वे भद्राणि पश्यन्तु मा कश्चित् दुःख भाग्भवेत् ॥

ॐ शान्तिः शान्तिः शान्तिः

sarve bhavantu sukhinaḥ sarve santu nirāmayāḥ
sarve bhadrāṇi paśyantū mā kaścit duḥkha bhāgbhavet
om śāntiḥ śāntiḥ śāntiḥ

Rub the palms of the hands together and place them gently over the closed eyes. With beautiful smile on your face gently open your eyes.

Administration of tests

Psychological wellbeing scale

Scoring Instruction:

1) Edit the scoring reverse questions also (total 20 questions) # 10, 15, 5, 3, 14, 13, 16,17,18,19, 23, 26, 27, 30, 31, 32, 34, 36, 39, 41. Items which scored 6 will be given 1 score and like this 5 will be 2, 4 will be 3, 3 will be 4 and 2 will be 5 and 1 will be 6.

2) Calculate all the scores for each dimension separately. The entire 6 sub domain is having 7 items:

- ❖ **Autonomy sub domain:** 13,7,1,37,31,25,19
- ❖ **Environmental mastery sub domain:** 20,14,8,2,38,32,26
- ❖ **Personal Growth sub domain:** 21,15,9,3,39,33,27
- ❖ **Positive Relations sub domain:** 22,16,10,4,40,34,28
- ❖ **Purpose in life as sub domain:** 23,17,11,5,41,35,29
- ❖ **Self-acceptance sub domain:** 24,18,12,6,42,36,30

Academic performance scale

Scoring Instructions:

1) Recode negative phrased items (total 18 questions) #1,3,13,15,16,17,20,21,22, 24,25,28,32,36,37,40,42,49. Items which scored 7 will be given 1 score and like this 6 will be 2, 5 will be 3, 4 will be 4 and 3 will be 5 and 2 will be 6 and 1 will be 7.

2) Calculate all the scores for each dimension separately. Entire 10 domains are equipped with following numbers of items:

- **Personal adjustment** (3 items): 1, 25, 40
- **Concentration** (4 items): 2,5,16,21
- **Lack of anxiety** (3 items): 3,15,32
- **General academic skill** (12 items): 4,8,12,14,23,31,33,34,43,44,45,46
- **Internal motivation/confidence** (8 items): 6, 9,10,11,18,20,29,30
- **External motivation/future** (4 items): 7,19,38,41
- **Socializing** (4 items):13,17,37,42
- **Instructor efficacy** (5 items):22,24,28,35,36
- **Carrier decidedness** (4 items):47,48,49,50
- **External motivation/current** (3 items):26,27,39

5.5 DATA EXTRACTION

Data of selected criterion variables is extracted using Ryff's scales of psychological well-being (RPWB) and Academic Success Inventory for College Students from the subjects before (pre) and after (post) the yoga practice for 60 days. Motive of the research is completed by both the scales. The data were collected by administering the test as per the standardized procedure.

5.6 ANALYSIS OF DATA

The reports (obtained data) were gathered using questionnaire. The entire statistical analyses were done using the Statistical Product and Service solutions. Wilcoxon signed rank test was applied for statistical analyses within group and Mann-Whitney U test between groups. Non- parametric test used to review the significant differentiation among the groups between the pre test and post test on psychological wellbeing and academic performance. The investigator has analyzed scientific results obtained by application of various methodologies discussed above and the results are analyzed and presented in form of various tables and detailed discussion in the following chapter.