

A study of the effects of Yoga Prana Vidya one month intensive residential programme for participants on their physical health, psychological well-being and improved immunity

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Abstract : This study has been undertaken to investigate the outcomes of a Yoga Prana Vidya (YPV) intensive one-month fully residential intervention on 12 selected female participants for this programme. The intervention model included components of Physical exercises, Yogic breathing exercises, forgiveness sadhana, meditations and Yoga Prana Vidya (YPV) energy healing protocols for self and others. Physical health parameters such as body weight, BMI, BP, HRV (Heart rate variability), Spirometric tests, and brain wave analysis were measured before and after the one-month under study. Analysis of the results using descriptive statistics showed group average reduction of BMI 3.5%, weight 3.2%, BP 16.24% / 19.48%, HRV 19.33%. Spirometric results showed an improvement of 6.9% of FEV1 value. Brainwave analysis showed reduction of left-right imbalance by 20.73%. Average Alpha wave measurements increased from 73.3 to 81. Other physical improvements experienced by the participants include 1.Body Posture, 2. Flexibility, 3. Increased Mobility in Walking/Running, 4.Physical Stamina/Energy and 5. Holding Breath for longer time. Health improvements experienced include 1.Pain - neck, Back, Body, Knee 2. Acidity/Constipation 3. Digestion/Appetite 4.Frequency & Urgency of Urination 5. Hearing Impairment 6.Dysmenorrhea 7. Diabetic conditions. Psychological improvements in Concentration/Focus/Attention, Courage/Self-confidence, Time Management and memory. Emotionally more stable, Overcoming fears successfully; Group adjustment and alignment manifesting, with receptiveness to criticism. The main factors of this intensive programme influencing these improvements are identified as: Physical and breathing exercises, Meditations, application of healing protocols, one-time full fruit diet in the morning and salt-less vegetarian diet. This model of integrated YPV group practice programme offers great scope as an integrated disease prevention protocol, and to boost immunity holistically.

IndexTerms – Yoga Prana Vidya, YPV, integrated, holistic, Energy Healing, Healthy diet, disease prevention, disease treatment

I. INTRODUCTION

World Health Organisation (WHO) defines health as - "... a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2020). YPV System is designed with the same motto, basing on ancient practices (Yogi Ramacharaka, 1904 & 1906) and it consists of integrated and holistic system for complete physical and mental health and wellbeing of people. The Yoga Prana Vidya (YPV) Healing Approach involves rapidly increasing the natural healing ability of the body to heal itself. Some or all of the following steps in this system are applied by healers to bring about improvements in the patient conditions, and also work as preventive medicine for sustaining good health and wellbeing: 1. Physical Exercises Including walking, 2. Rhythmic Yogic abdominal Breathing (RYB) Exercise, 3. Balanced and salt-less Diet, 4. Planetary Peace Meditation - PPM, 5. Forgiveness Sadhana, 6. YPV Healing Techniques, and 7. Group Practices including on-line group or webinar practices. Yoga Prana Vidya is taught to interested and eligible learners in various levels of competencies, and corresponding certifications are issued for practice.

Yoga Prana Vidya healing protocols and techniques have been found to successfully treat and cure difficult medical cases (Neravetla & Nanduri, 2019), self-healing case of high blood cholesterol levels and asthma (Nanduri & Rajkumari, 2019), Addressing eye problems and achieving improvements of Vision (Nanduri & Chaitra, 2019), Treating EXOSTOSIS of ear without surgery (Gupta & Nanduri, 2019), Successful management of Post-Herpetic Neuralgia (PHN) (Sachdeva & Nanduri, 2019), Treatment of heart block case patient without surgery (Ramya & Nanduri, 2019), Management and control of diabetes (Ashalatha, Ramya & Nanduri (2019).

The purpose of this experimental study is to study and document the effects of the intervention on physical and psychological dimensions of the participants of intensive YPV training in the first one month, as no such study was previously conducted, though the experience gained in conducting previous similar intensive programmes indicated multi-dimensional improvements in the participants.

2. YOGA PRANA VIDYA SYSTEM

Energy in the HEF (Human Energy field) is typically referred to as subtle energy, which is electromagnetic in nature (Ross, 2019). It is a system of wave-particle matter, transmitting and receiving vibrational information governing the physical matter of the body. Healing is achieved by directing coherent, harmonic energy into distortions caused by stressors and disease. There are several modalities of Energy Medicine that interact with the subtle energy of the body. These include, but are not limited to, PEMF therapy, Polarity Therapy, Acupuncture, Healing Touch, Therapeutic Touch, Reiki, and *Pranic Healing*. The pathway from the physical body through the hormones to the psychological and emotional body is through the endocrine system, which is closely associated with the *chakra system*. The major glands of the endocrine system are the hypothalamus, pituitary, thyroid, parathyroid, adrenal, pineal, pancreas and reproductive glands.

Yoga Prana Vidya (YPV) healing protocols apply these principles to direct abundantly available Pranic energy to chakras and organs of human body to heal for recovery from various ailments, including infectious diseases.

Scientists in US recognised that healing practices that purport to sense and modulate “Subtle energies” of the body have existed for thousands of years in a wide range of cultures (Jain & Mills, 2009). This family of practices, which includes healing touch (HT), Johrei, Pranic Healing, Reiki, Qigong and Therapeutic Touch (TT), is increasingly referred to as Biofield Therapies, a term coined during the US National Institutes of Health Conference in 1992 (Jain *et. al.* 2015).

When assessing clinical effectiveness of Biofield therapies, it is important to recognize main distinctions in the manner they are practiced. Biofield therapies may be delivered either proximally (with the practitioner and the receiver in the same room) or distally (with the practitioner and receiver not in the same room; in some cases, separated by hundreds or thousands of miles). This latter form of distal treatment is usually called *distant healing*.

Distance Healing Intention Therapies: In a research review article titled “*Distant Healing Intention Therapies: An Overview of the Scientific Evidence*”, Radin, Schlitz and Baur (2015) provided a broad overview of “Distant Healing Intention” (DHI) therapies, i.e. intentional healing modalities claimed to transcend the usual constraints of distance through space or time. Their study includes a summary of previous reviews and meta-analyses that have explored a diverse array of DHI modalities, outcome measures, and experimental protocols. They concluded that some significant experimental effects of distance healing (DHI) have been observed

YPV System of Healing is based on the fact that the human body has the ability to heal or normalize itself at a certain rate. By increasing the energy level of the affected part or the entire body, the rate of healing can be accelerated several times, thereby resulting in fast recovery. Distant healing protocols are being very successfully practiced when patients from any location seek healing help from a healer located elsewhere. Numerous patient feedback reports are documented and available in Ashram archives and have been verified by the authors (Neravetla & Nanduri, 2019). This intensive YPV programme is unique and there are no previously conducted studies on this topic by any other similar system. YPV as an integrated system is expected to cause holistic improvements for which important parameters used for measurement in this study are reviewed as stated below.

Obesity is commonly associated with severe mental illness (SMI). Physical activity has been shown to reduce morbidity and mortality from chronic conditions. (Northey & Barnett, 2012). Experience has established that YPV Practice enables reduction of obesity.

Blood pressure and pulse rate are two important parameters of health. While blood pressure is the force of blood moving through blood vessels, heart rate is the number of times the heart beats per minute (AHA, 2020).

- They are two separate measurements and indicators of health.
- For people with high blood pressure (HBP or hypertension), there’s no substitute for measuring blood pressure.

A rising heart rate does not cause blood pressure to increase at the same rate. Even though the heart is beating more times a minute, healthy blood vessels dilate (get larger) to allow more blood to flow through more easily. When we exercise, the heart speeds up so more blood can reach your muscles. It may be possible for the heart rate to double safely, while the blood pressure may respond by only increasing a modest amount. Meditative practices such as those practiced in YPV have an effect of normalizing blood pressure

When a heart beats, blood is pushed through the body, causing a change in blood pressure and a pulse in main arteries. In healthy individuals, this means the heart rate is often synchronized with the pulse. However, heart rate and pulse rate are technically different because a heart rate measures the rate of contractions (heart beats) of the heart, whereas a pulse rate measures the rate of palpable blood pressure increases throughout the body. **HRV (Heart rate variability)** is a measure of the variation in time between each heartbeat. People who have a high HRV may have greater cardiovascular fitness and be more resilient to stress. (Harvard Health Publishing, 2017a).

Spirometry is the term given to the basic lung function tests that measure the air that is expired and inspired. There are three basic related measurements: volume, time and flow. Spirometry is objective, noninvasive, sensitive to early change and reproducible. It is performed to detect the presence or absence of lung disease, quantify lung impairment, monitor the effects of occupational/environmental exposures and determine the effects of medications (Moore, 2012). YPV breathing exercises have an effect on lung function curing respiratory ailments.

Brain wave analysis is used in this study with MUSE brain-sensing headband for brainwave analysis of participants to know how the YPV meditation techniques influence the brain and behaviour. The Muse brain-sensing headband uses EEG sensors to detect brain activity in users as they meditate. It then provides real-time feedback via an app, prompting users to re-focus their attention. Over time, repetitive training on re-focusing helps users develop stronger mindfulness and focus as well as better stress control and improved mood. The Kansas state University study (Businesswire, 2017) used the Muse meditation headband and found that there was a significant statistical difference in students’ office referrals after participating in the program, with referral numbers dropping from an average of 6.33 office referrals to an average of 1.78. In addition to a reduction in office referrals, students reported the following qualitative experiences:

- Students used words like “soothing,” “calming” and “relaxing” to describe the experience
- Students indicated they could focus without the headset after the meditative exercises
- Students indicated they heard the sounds of their meditative sessions as they used relaxation techniques at school and at home – without the device.

3. RESEARCH METHODOLOGY

This is an interventional study of one month duration with pre and post test data recorded at the beginning and end of the month and analysed. The following sections outline the plan and method that how the study was conducted.

3.1 Population and Sample

The population for this study is YPV trained Healers and trainers with several years of experience in the field practice of successful healing of patients having various physical and psychological ailments. An intensive residential programme is conducted annually to upgrade their healing competencies in both proximal and distal healing modes. There were 12 participants in this programme who were purposively selected and signed informed consent to take part in this research study. The participant profile is given in Table 1.

Table 1: Participant's Demographic Details

Sl. No.	Code Name	Age	Gender	Educational Qualification	Profession	Years of YPV practice	Marital Status	Regional background
1	LL	37	Female	B Pharm	Pharmacist, YPV Trainer & Healer	7	Single	Kannada
2	Ru	24	Female	B.A	YPV Trainer & Healer	6	Single	Hindi
3	Sd	41	Female	B.Com	YPV Trainer & Healer	6	Married	Hindi
4	UK	53	Female	B.Com	YPV Trainer & Healer	6	Married	Hindi
5	RD	60	Female	M.A	Teacher, YPV Trainer & Healer	10	Married	Telugu
6	SS	29	Female	B.E, MBA	YPV Trainer & Healer (Was working as Analyst)	5	Single	Hindi
7	Pb	52	Female	10th	YPV Trainer & Healer	21	Married	Hindi
8	Rk	51	Female	M.Com	YPV Trainer & Healer	11	Married	Kannada
9	SB	43	Female	B.Tech(House and Interior Design)	Lecturer, YPV Trainer & Healer	5	Married	Hindi
10	ML	49	Female	12th	YPV Trainer & Healer	8	Married	Tamil
11	Sh	41	Female	B.Com	YPV Trainer & Healer	7.5	Married	Hindi
12	Ca	42	Female	PGDCS	YPV Trainer & Healer	6	Married	Tamil

All of the 12 participants were females, with age ranging from 24 to 60 years (mean age 43.5 years), 10 of them did academic graduation or above, and 2 were less than Graduation. All were YPV Trainers & Healers, with years of experience ranging from 5 to 21 years (average 8.2 years), 9 Married and 3 Single. They were also from different regional language backgrounds (7-Hindi, 2-Kannada, 2-Tamil and 1-Telugu).

3.2 YPV Intensive interventional programme

The daily programme starts at 6 am and ends at 10 pm, with breaks in between. The participants invest 6 ½ days in a week on an average in this programme. For full concentration on the programme, the participants are allowed movement within the Ashram campus premises only without any external interference. Table 2 shows the activities and schedule they have to follow. All activities are group activities. Medium of instruction was English, interspersed with Hindi.

Table 2: Intervention activity concentration

S.No.	Activity	Time invested: Percent of Total time
1	Physical exercises+ breathing exercises	28%
2	Meditation	20%
3	Book study	18%
4	Healing actions	11%
5	Purification and manifestation of virtues	9%
6	Service	7%
7	Lecture/discourse	7%
Other		
1	Group leadership – on daily rotation	
2	Controlled vegetarian and salt-less diet	

3.3 Data and Sources of Data

For this study primary data has been collected. The physical health parameters measured were: weight (Kg), BMI (Body mass index), BP, HRV (Heart rate variability), Spirometric tests for lung function, brain wave data using MUSE instrument. In addition, each participant was asked to write a concise reflective essay (of 2 to 3 pages) about how they experienced the programme in terms of their physical, psychological and personal domains and this document also was considered in the qualitative analysis.

3.4 Data Analysis

Descriptive Statics has been used to find the maximum, minimum, mean and comparison of the numerical data of all the variables of the study. Qualitative analysis of the narrative reflective essays was carried out to find main themes using key words.

4. RESULTS AND DISCUSSION

4.1 Results

4.11 Weight and BMI

Table 4.11 shows the measurements of weight and BMI as primary variables of changes over the intervention. IN the beginning of the intervention 4 out of the 12 participants were overweight with BMI over 25. After the end of one month, only two were observed to be overweight. For the group as a whole, average reductions noticed are: BMI 3.5%, weight 3.2% and waist reduction 0.6 %.

Table 4.11: Weight & BMI

WEIGHT & BMI

AS ON 21-03-2020

NAME	Weight Kg	BMI	Waist
LL	44.7	17.0	29.0
Ru	42.7	20.0	29.5
Sd	55.3	21.3	32.0
UK	58.4	24.3	35.5
RD	78.8	32.8	43.0
SS	50.5	20.2	31.0
Zs	50.2	20.1	34.0
Rk	50.6	23.1	36.0
SB	72.2	28.6	37.0
ML	65.5	26.2	38.0
Sh	43.1	18.7	29.0
Ca	61.1	25.4	34.0

AVG WEIGHT= 56.09 Kg
AVG BMI=23.14
AVG Waist= 34 inch

AS ON 21-04-2020

NAME	Weight Kg	BMI	Waist
LL	43.9	16.7	29.0
Ru	42.3	19.6	28.5
Sd	53.6	20.7	30.0
UK	55.5	23.6	36.2
RD	75.1	31.3	43.5
SS	46.8	18.7	29.2
Zs	49.2	19.2	34.1
Rk	49.3	22.8	35.8
SB	68.9	26.9	37.0
ML	64.4	25.3	38.3
Sh	43.4	18.8	29.0
Ca	59.3	24.5	35.4

AVG WEIGHT= 54.31Kg
AVG BMI =22.34
AVG Waist= 33.8 inch

GROUP REDUCTION IS 3.5% IN BMI, 3.2% IN WEIGHT AND 0.6% IN WAIST

4.12 BP and pulse

Table 4.12 shows measurements of BP and pulse taken at the beginning and end of the month. It is observed that 3 out of 12 participants found to be mildly hypertensive at the start of the intervention, whereas all participants showed normal after the end of the month. The pulse rate was found normal for all.

Table 4.12: BP & Pulse

BP & PULSE							
AS ON 21-03-2020				AS ON 21-04-2020			
NAME	BP-Systolic	BP-Diastolic	Pulse Rate	NAME	BP-Systolic	BP-Diastolic	Pulse Rate
LL	110	60	75	LL	90	60	79
Ru	100	70	99	Ru	90	60	80
Sd	120	70	87	Sd	90	50	93
UK	130	80	79	UK	100	70	89
RD	120	70	92	RD	100	58	91
SS	120	80	108	SS	100	80	80
Zs	140	90	104	Zs	120	60	90
Rk	120	90	85	Rk	110	70	81
SB	130	90	76	SB	130	70	75
ML	110	80	71	ML	90	60	79
Sh	100	70	80	Sh	88	50	83
Ca	100	70	97	Ca	70	50	88
AVG BP SYS = 117 AVG BP DIA = 77 AVG PULSE = 88				AVG BP SYS = 98 (16.24%) AVG BP DIA = 62 (19.48%) AVG PULSE = 84 (04.55%)			

4.13 Heart Rate Variability (HRV)

ANALYZING THE RESULT

The results are represented in 5 ways, they are:

Highly stressed – Very Low HRV

Slightly Stressed –Low HRV

Mildly Calm - Normal HRV

Relaxed - High HRV

Deeply Relaxed - Very High HRV



The HRV measurements before after for the participants are given in Table 4.13. It is observed that for 4 out of 12 participants, the heart rate variability reduced from stressed to relaxed and calm after the one month intervention.

Table 4.13: HRV RESULT FROM SANKETLIFE 2.0 DEVICE

HRV DATA ANALYSIS

AS ON 21-03-2020		
NAME	HR	HRV
L1	94.0	MILDLY CALM
R1	101.0	MILDLY CALM
S1	95.0	POSSIBLE ATRIAL FIBRILLATION
L2	107.0	SLIGHTLY STRESSED
R2	100.0	MILDLY CALM
S2	114.0	MILDLY CALM
P1	94.0	SLIGHTLY STRESSED
R3	90.0	SLIGHTLY STRESSED
S3	126.0	MILDLY CALM
L3	73.0	MILDLY CALM
S4	83.0	MILDLY CALM
C1	97.0	MILDLY CALM
AVERAGE HR = 97.83 BPM		

AS ON 21-04-2020		
NAME	HR	HRV
L1	79.0	RELAXED
R1	81.0	RELAXED
S1	74.0	RELAXED
L2	82.0	DEEPLY RELAXED
R2	78.0	MILDLY CALM
S2	78.0	RELAXED
P1	80.0	RELAXED
R3	88.0	MILDLY CALM
S3	71.0	RELAXED
L3	78.0	MILDLY CALM
S4	79.0	RELAXED
C1	79.0	RELAXED
AVERAGE HR = 78.92 BPM (TOTAL-19.33% DECREASE IN HR)		

Result: Out of 12 people with low HRV and Normal HRV; 7 people improved by jumping 2 levels to High HRV, 3 people jumped 1 level to High HRV and 2 jumped 3 levels to High &Very High HRV.

4.14 SPIROMETRY TEST

There are two measurements that are crucial in the interpretation of Spirometric results. The first is called the forced vital capacity (FVC). FEV1% is FORCED EXPIRATORY VOLUME, is a measurement taken from a pulmonary function test. It calculates the amount of air that a person can force out of their lungs in 1 second. Table 4.141 shows reference limits of FEV1%.

Table 4.141: FEV1 % Range

FEV1% value	RESULT
>80%	normal
80%	mildly abnormal
50%–79%	moderately abnormal
35%–49%	severely abnormal
Less than 35%	very severely abnormal

Source: www.worker-health.org

- ▶ Lung capacity is the total amount of air that your lungs can hold. Over time, our lung capacity and lung function typically decrease slowly as we age after our mid-20s. Some conditions like chronic obstructive pulmonary disease (COPD) can significantly speed up these reductions in lung capacity and functioning.
- ▶ *Symptoms For Low Lung Capacity*
 - shortness of breath, especially with exertion
 - inability to catch their breath or get enough breath
 - chronic or a long-term cough, usually dry, but sometimes accompanied by white sputum or mucus
 - weight loss/ gain
 - chest pain
 - wheezing or gasping breath
 - fatigue or extreme exhaustion without a logical reason
 - depression

Table 4.142 shows the Spirometric measurements of the participants at the beginning and end of the intervention. It may be observed that for 6 out of the 12 participants, the results showed moderate to severe restriction at the beginning, whereas after the intervention only three participants showed moderate restriction condition.

Table 4.142: Spirometry results

SPIROMETRY TEST RESULT ANALYSIS					
AS ON 21-03-2020			AS ON 21-04-2020		
NAME	FEV1%	RESULT	NAME	FEV1%	RESULT
LL	51%	MODERATE RESTRICTION	LL	58%	MODERATE RESTRICTION
La	101%	NORMAL	La	99%	NORMAL
Sd	64%	MODERATE RESTRICTION	Sd	88%	NORMAL
UL	95%	NORMAL	UL	102%	NORMAL
LD	34%	SEVERE RESTRICTION	LD	50%	MODERATE RESTRICTION
SS	84%	NORMAL	SS	135%	NORMAL
Pe	63%	MODERATE RESTRICTION	Pe	72%	MODERATE RESTRICTION
Ek	80%	MILD RESTRICTION	Ek	94%	NORMAL
SB	68%	MODERATE RESTRICTION	SB	80%	MILD RESTRICTION
ML	82%	NORMAL	ML	85%	NORMAL
Sh	58%	MODERATE RESTRICTION	Sh	99%	NORMAL
Ca	103%	NORMAL	Ca	100%	NORMAL
AVERAGE=73.60			AVERAGE=88.5 (TOTAL - 20.24% INCREASE)		

Therefore Practicing YPV integrated techniques - Rhythmic, Complete, Cleansing breath and other breathing exercises, Physical, Stretching and Posture exercises, meditation and healing from the YPV system help in achieving Increased Lung Capacity.

4.15 MUSE Brainwave data analysis

According to neuroscience, human brain has electricity running through it all the time. Electrical signals work with chemicals (dopamine, serotonin, oxytocin, and so on) to create a person's experience of the world. The waves of electricity that travel across human brain in a regular, repeating pattern are called the brain waves, and they have a huge impact on how one thinks and feels. There are a few different types of brainwaves, with frequency ranges as shown below:

- Delta waves- (0.5 to 3 Hz)
- Theta waves- (3 to 8 Hz)
- Alpha waves- (8 to 12 Hz)
- Beta waves - (12 to 38 Hz)
- Gamma waves- (38 to 42 Hz)

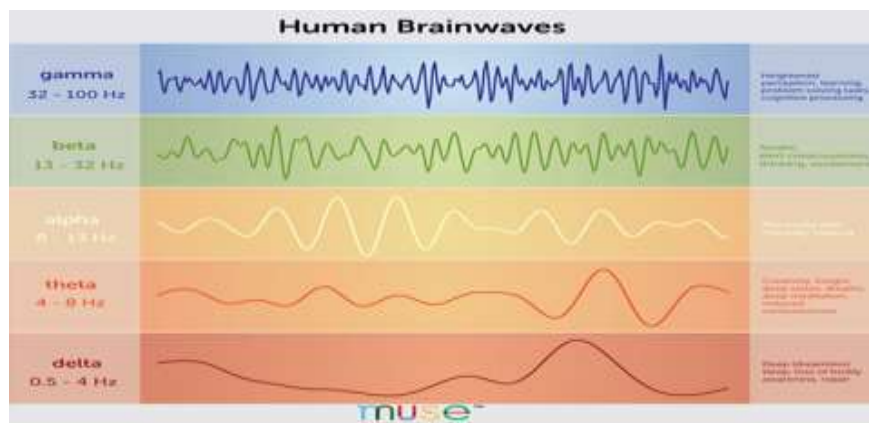
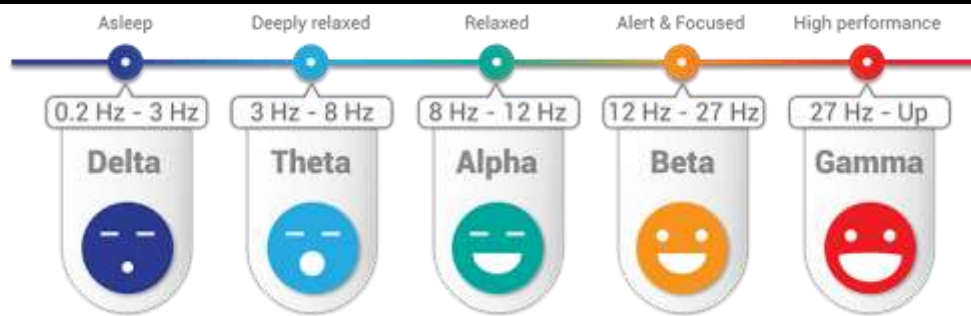


Figure 4.151 (Source: MUSE.com)

If one has ever been in a flow state i.e. losing sense of time and self and become extraordinarily productive, that is experiencing a burst of alpha. High alpha does a few different things, for example: eases anxiety, lowers depression, boosts creativity, Increases pain tolerance and boosts resilience to stress. Basically, high alpha indicates a calmer, happier, less reactive, more creative and productive person. Increasing alpha brain waves is the key to functioning such as a CEO. The characteristic about alpha is that one can permanently increase it, and permanently get the benefits that come alongside increased alpha. Some ways to permanently increase alpha are:

- MEDITATION
- GRATITUDE PLUS FORGIVENESS
- OTHER WAYS OF INCREASING
- BINAURAL BEATS (particular music)
- BLUE LIGHT BLOCKING GLASSES
- NEUROFEEDBACK (signal feedback)

Figure 4.152 below shows the human brain wave frequency range and the 5 types of waves that emanate from brain. Each one represents a mood state as shown, with delta at lowest and asleep condition, Gamma at highest and at high performance condition.



(Source: <https://lucid.me/blog/5-brainwaves-delta-theta-alpha-beta-gamma/>)

Fig: 4.152 Human brain wave frequency range and representative moods

Table 4.151 below shows group average of Alpha, Beta, Delta, Gamma and Theta wave recordings for the 12 participants before and after the one month study. It may be observed that Alpha wave average for the group increased from 73.3 to 81. The Gamma wave average for the group has increased from 31.9 to 41.1. Similar finding was reported by Braboszcz, Cahn, Levy, Fernandez, and Delorme (2017) who stated that increased Gamma brainwave amplitude was seen compared to control in three different meditation traditions, and in addition they observed increased Alpha activity.

Table 4.151

MUSE DATA- BRAIN AVERAGE ALL WAVES ANALYSIS	
AS ON 21-03-2020 AVG FOR 12 PARTICIPANTS	AS ON 21-04-2020 AVG FOR 12 PARTICIPANTS
AVERAGE OF DELTA IS 69.9	AVERAGE OF DELTA IS 56.1
AVERAGE OF THETA IS 54.1	AVERAGE OF THETA IS 48.4
AVERAGE OF ALPHA IS 73.3	AVERAGE OF ALPHA IS 81.0
AVERAGE OF BETA IS 53.1	AVERAGE OF BETA IS 64.5
AVERAGE OF GAMMA IS 31.9	AVERAGE OF GAMMA IS 41.1

The human brain has two regions – left brain and right brain, with each one having distinct functions. These two parts usually unequal and distinct in functioning. Those who have dominant right-brain are supposed to be intuitive, qualitative and creative free thinkers. Left-brained people tend to be more quantitative and analytical. They pay attention to details and are ruled by logic (Harvard Health Publishing, 2017b). Increased balance between left and right brains is also an indicator of improvement in balanced thinking, and experience shows that those who regularly meditate achieve this balance. Table 4.152 below shows the Alpha wave recordings for the 12 participants in this study.

Table 4.152

MUSE-AVERAGE LEFT AND RIGHT ALPHA WAVE ANALYSIS							
AS ON 21-03-2020				AS ON 21-04-2020			
NAME	ALPHA		DIFF% L&R	NAME	ALPHA		DIFF% L&R
	LEFT	RIGHT			LEFT	RIGHT	
L1	-52.944	59.243	11.90%	L1	-72.712	64.989	10.62%
R1	-56.249	59.466	5.72%	R1	-60.586	68.079	12.37%
L2	-83.191	79.854	4.01%	L2	-80.805	82.643	2.27%
R2	-80.69	71.013	11.33%	R2	-77.238	77.94	0.91%
L3	-74.228	77.651	4.61%	L3	-78.641	80.826	2.78%
R3	-84.348	84.776	0.51%	R3	91.047	94.292	3.56%
L4	-98.066	103.402	5.44%	L4	-121.086	116.334	3.92%
R4	-59.343	85.322	43.79%	R4	-87.488	70.358	19.58%
L5	-56.826	62.391	9.79%	L5	-62.184	69.631	11.97%
R5	-67.227	67.943	1.07%	L6	-85.372	81.57	4.45%
L6	-70.524	72.313	2.54%	R6	-82.323	79.231	3.76%
R6	-77.302	77.74	0.57%	R6	-83.081	79.656	4.12%
AVERAGE DIFF LEFT & RIGHT ALPHA = 8.44%				AVERAGE DIFF LEFT & RIGHT ALPHA = 6.69% (LEFT & RIGHT IMBALANCE REDUCED BY 20.73%)			

Therefore it is evident from the results that practicing integrated YPV techniques such as Physical exercises, rhythmic yogic breathing, planetary peace meditation, great invocation, blessing people in need & planet earth (all countries), forgiveness sadhana, having high gratitude and healing protocols help in achieving high alpha wave and greater balance between left and right brains.

4.2 Qualitative data analysis of the Participants' written responses

An analysis of the reflective short essays of the participants on their experiences after one month of intervention, the following outcomes have emerged.

Physical parameters

1. Body Posture, flexibility, mobility in walking and running improved considerably for all participants.
2. Physical Stamina/Energy level increased.
3. They could overcome difficulty in holding breath during exercises

Medical /health issues

1. Those who were feeling various types of body pains such as neck, Back, Body, Knee, reported reduction in pain or complete disappearance of discomfort.
2. Some participants who had symptoms of Acidity and Constipation reported that these conditions have gone away.
3. For some, who had Digestion and appetite problems, experienced full relief.
4. Few of them who had trouble with high frequency and urgency of urination found relief.
5. Some who had minor conditions of hearing impairment; dysmenorrhea and diabetes have reported improvement.

Mental

Some of them who had difficulties of lack of concentration/focus/attention, lack of courage/self-confidence, time Management and memory reported reduction in these conditions

Emotional

Several of them reported greater balance of their emotional mood swings and now they are emotionally more stable. Some of them who had fears of various types were able to overcome those fears. They have also become more receptive to criticism.

Spiritual

All of them reported that they gained more clarity and inner reflectivity with greater awareness and concentration in meditation. Now they have been experiencing less disturbing thoughts, deeper experiences and inner peace.

Specified vegetarian Diet

With regard to the special salt-less diet, the participants experienced some difficulties initially, but in course of time they have been getting used to it because of the positive benefits to health.

General skill sets

Language comprehension and writing and speaking skills have greatly improved for all of them. Other skills such as planning and organizing, Social behavior and group alignment are other developments in their character building as a result of participation in this programme.

5. CONCLUSIONS & RECOMMENDATIONS

For the group as a whole, average reductions noticed are: BMI 3.5%, weight 3.2% and waist reduction 0.6 %., which indicates that this model of YPV is effective for health reduction of weight and BMI.

It is observed that 3 out of 12 participants were found to be mildly hypertensive at the start of the intervention, whereas all participants showed normal after the end of the month. The pulse rate was found normal for all.

A comparison of the HRV measurements before after for the participants shows that for the stressed 4 out of the 12 participants, the heart rate variability improved from stressed to relaxed and calm after the one month intervention.

Comparing the Spirometric measurements of the participants at the beginning and end of the intervention, it is observed that for 6 out of the 12 participants, the results showed moderate to severe restriction at the beginning, whereas after the intervention only three participants showed moderate restriction condition, a beneficial improvement in lung function.

Brain wave analysis indicated an increase of Alpha state through the intervention and also increased balance between left and right brain. Therefore it is evident that practicing YPV techniques including physical exercise, specified diet, ppm meditation, Great Invocation, blessing people in need & planet earth (countries), forgiveness sadhana, rhythmic yogic breathing and having high gratitude help in achieving high alpha wave. Increasing alpha brain waves can stimulate creativity and minimize depression. Neuroscientists recently made a correlation between an increase of alpha brain waves and the ability to reduce depressive symptoms and increase creative thinking.

Therefore it can be concluded that this model of integrated Yoga Prana Vidya intensive programme creates beneficial effects for people holistically. Besides considering it as a treatment option, it is a good preventive modality to avoid disease ingress for even normally healthy people. The YPV disease prevention strategy aims and fulfills its role in boosting immunity physically and psychologically for regular practitioners as per the evidence gathered.

This study incidentally conducted on 12 available female participants as sample, though the outcomes are generally compatible with sample of either gender. In future, study may be conducted on a sample mix of both genders, to identify any gender specific issues that this study has not considered.

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