

## Role of Yoga-nidra and Shirodhara on Hypertensive Patients

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### Abstract

Background: The present society modified lifestyle and food pattern create various types of disorders such as Obesity, Diabetes and Hypertension. Hypertension is a one of the psycho-somatic disease Hypertension is the most common cardiovascular disease affecting more than one billion people It has been estimated that hypertension accounts for 6% of deaths worldwide. The burden of hypertension increases with age, and among individuals aged  $\geq 60$ , hypertension prevalence is 65.4%. Essential hypertension is high blood pressure with unknown aetiology. Out of total hypertensive patients, 95% patients are having essential hypertension. worldwide. Ayurveda and yoga are sister sciences that have been united for thousands of years for the sake of healing body ,mind and consciousness .both ayurveda and yoga are mutually supportive and offer many ways to prevent and heal various disorders as well as cleanse and rejuvenate the body. Aims & Objectives: The aim of present study was role of yog nidra and shirodhara on hypertensive patients. Materials & Methods: The study was conducted on 32 hypertensive patients aged 30-60 years, were randomly selected from Polyclinic, Dev Sanskriti Vishwavidyalaya, Gayatrikunj, Hardwar through the method of accidental sampling. In this study “Pre- Post Single group design” was used and *t-test* has been used for statistical analysis . there were significant reduction in mean values of systolic blood pressure and diastolic blood pressure From the present study it was observed that a significant reduction in the systolic blood pressure, diastolic blood pressure occurs in subjects practicing yognidra and shirodhara ( $p < 0.001$ ). result: The finding reveals that significantly reduced the level of systolic and diastolic blood pressure of the hypertensive. Therefore this Research Paper was undertaken to find a safe and effective treatment for Hypertension that is free from any adverse effects and would maintain Blood Pressure.

**Key words:** Yoga Nidra, shirodhara , Hypertension

In the 21st century, a scientific and technological evolution has occurred. Due to rapid modernization, People are leading more stressful lives. The present era can be described as the era of anxiety and stress. The modern man is constantly facing symbolic stress. This stress and strain of day to day life affects one's bodily organs through several psycho-physical mechanisms. . It is the most common type and affects 90-95% of hypertensive patients and there are many risk factors such as sedentary lifestyle, obesity, sodium sensitivity, alcohol intake, and vitamin D deficiency, and it is also related to aging. Sedentary individuals have a 20% to 50% increased risk of developing hypertension<sup>1</sup>. Millions of people have high blood pressure and many do not even know they have this serious condition. The mortality rate was 56.4% in 1995-2005, today approximately 1

billion people worldwide are suffering from high blood pressure and its number is expected to increase to 1.5 billion by the year of 2025.<sup>2</sup> (WHO, 2003)

*Hypertension* (High blood pressure) is a circulatory state; arise from any cause, in which the pressure of the blood within the arteries becomes elevated beyond normal limits. In general the term includes any rise in arterial pressure whether temporary involving systolic pressure, diastolic pressure or both of renal or normal origin<sup>3</sup>. According to W.H.O. the blood pressure of 160/95 mm of Hg or higher should always be considered as hypertension. Blood pressure in between is considered as borderline or possible hypertension. The rise of persistent systemic arterial diastolic blood pressure above 100 mm of Hg. or more is more risky than rise

of systolic blood pressure. Generally systolic and diastolic hypertension occurs together. Systolic hypertension is caused from increased cardiac output or arterial rigidity in aged. Arterial rigidity by arteriosclerosis, affecting intima of arterioles and capillary of vital functional organs is pathogenic. Diastolic hypertension develops from the increased vascular resistance to the blood flow at the level of arterioles. In capillaries the blood flow is slow; hence, there is no development of resistance.<sup>3</sup>

Hypertension and its complications are a leading cause of death in modern societies. Today anti hypertensive drug therapy has been the only effective form of management. Unfortunately, the drug regimes available are by no means ideal. They cause major side effects in many patients, risk of dangerous consequences and a shortened life span. In this light, the emergence of Yoga Nidra relaxations a safe, effective and inexpensive treatment for mild to moderate hypertension is most encouraging both for doctor and the community at large. The effectiveness of Yoga Nidra in lowering the elevated blood pressure levels of hypertensive patients has been validated in numerous clinical studies. The practice is now widely prescribed by doctors in several countries. (Deepa et al, 2012<sup>4</sup>; Lekh, Raj Bali, 1979)<sup>5</sup>

Satyananda Saraswati (1998) explains Yoga Nidra as a state of mind between wakefulness and dream. When someone practices Yoga nidra he opens the deeper phases of the mind. During the practice of Yoga nidra the consciousness is at different levels. Sometimes it is very close to the senses and at others, it is at a very remote distance. It is only possible to understand through the auditory channels. During Yoga Nidra the consciousness is suspended for a few moments periodically, which means that it alternates between the subconscious and unconscious states.<sup>6</sup>

Yoga Nidra is one of the finest ways to Self Realization. These days *Yoga Nidra* is practiced as a best-known technique to induce complete physical mental and emotional relaxation. *Yoga*

*Nidra* is a state of consciousness, which is neither sleep nor awaken, neither is it concentration nor hypnotism. It can be defined, as an altered state of consciousness. (Kumar, Kamakhya, 2010)<sup>7</sup>

Shirodhara is a form of Ayurveda therapy that involves gently pouring liquids over the forehead (the 'third eye'). It was developed by *vaidyas* (practitioners of Ayurveda) in Kerala, India for use in *sukhachikitsa* (restorative therapy) and can be one of the steps involved in Panchakarma. The name comes from the Sanskrit words *shira* 'head' and *dhara* 'flow'. The liquids used in *shirodhara* depend on what is being treated, but can include oil, milk, buttermilk, coconut water, or even plain water.<sup>8</sup>

Takra dhara is a form of Shirodhara, an Ayurvedic treatment method which involves continuous flow of medicated butter milk to the centre of forehead continuously for up to an hour a day. The process can last from 7 to 21 days<sup>9</sup>. It is a cure for *vata predominant* diseases, relieves tension and cures certain types of psycho-somatic diseases like hypertension.

Shirodhara is an external treatment which is simple and effective, which acts on the nervous system and calms the mind and relaxes entire physiology, thus alleviates stress, anxiety, depression, blood pressure therefore, this project was undertaken to find a safe and effective Ayurvedic method of treatment for hypertension that would be free of any adverse effect and would maintain blood pressure within normal limits, i.e., below 140/90 mmHg as recommended by the World Health organization (WHO) ayurveda and yoga are mutually supportive and offer many ways to prevent and heal various disorders is highly beneficial in the case of hypertension patients.

### Research Methodology

A total of 32 patient of hypertension of age group 30-60 were randomly selected from, PanchKarma Kendra Dev Sanskriti Vishwavidyalaya, Shantikunj, Haridwar through the method of accidental sampling. In this study “pre-post single group design” was followed in

the study. The reading were taken before and after administering yogic package

#### Diagnostic criteria

Essential Hypertension (EHT) was diagnosed as per the definition of JNC, W.H.O. (2003)<sup>10</sup>, systolic blood pressure of 140 mmHg or above and diastolic blood pressure of 90 mmHg or above.

<u>HYPERTENSION STAGE</u>		<u>SYSTOLIC.B.P</u>		<u>DIASTOLIC.B.P</u>
Normal	→	>120	or	>80
Pre Hypertension	→	120-139	or	80-89
Stage1 Hypertension	→	140-159	or	90-99
Stage2 Hypertension	→	160-179	or	100-109

#### Inclusion Criteria

Patients of either sex between the age group of 30-60yrs will be selected. Both freshly detected and treated cases of Essential Hypertension will be selected. Comorbidity of well controlled DM with essential hypertension will be included for the study. Patients with Hypertension stage1 – Systolic BP (>140 & <160 mmhg) or Diastolic BP (>90 & <100 mmhg) will be included for the study. Asymptomatic and symptomatic cases having headache, insomnia, fatigue etc will be taken for the study.

#### Exclusion Criteria

A patient suffering from any other systemic disorders such uncontrolled DM, Renal disorders, Endocrine disorders etc, which interfere with the course of treatment will be excluded.

Patients with secondary hypertension (stage 2- Systolic BP 160-179 and Diastolic BP 100-109 and stage 3 Systolic BP >180 or Diastolic BP >110) will be excluded.

Gestational hypertension will be excluded.

The disease primarily being Asymptomatic, primary parameter for assessment will be made with regards to systolic blood pressure, Diastolic blood pressure and with mean arterial blood pressure.

#### Research Procedure

Preparation of the medicine: a) *Takra*: 1.5 litres of milk diluted with 4 times water is boiled with 100g of skinned and crushed Musta tied in a

The diagnosis will be made based on the Blood pressure measurement and the criteria for normal, Pre hypertension, Hypertension stage1, and Hypertension stage 2 given by 7<sup>th</sup> report of Joint National committee on prevention, detection, evaluation and treatment of High Blood Pressure.

muslin bag, and is reduced to the original quantity of milk. The bag of medicament is taken out and squeezed well. When cooled, this prepared milk is fermented by the addition of a little sour buttermilk over night. Next morning the fermented medicated curd is churned by adding 500ml of Amalaki kwatha. The butter is removed completely and this mixture is used for dhara after filtering. b) *Amalaki kwatha*: 200g of dried Amalaki fruit boiled with 8 litres of water and reduced to 2 litres. 1.5 litres of Amalaki kwatha is used to mix with buttermilk & 500ml of that is used to wash the head after the procedure. In short all the procedures are same as shirodhara, but takra should not be heated or reused.<sup>11,12</sup>

Time to perform the procedure: Generally the treatment is done in the morning hours, between 7-10 am. If necessary, it can be done between 4-6 pm.

Duration: The process should be done daily for a period of 7 to 14 days. The duration of treatment as well as the time period is according to the nature of the disease and the physical condition of the patient. It is done usually for a fixed time (45minutes to 1 hour).

Post-Operative Procedure: After the dhara, the head is washed with Amalaki kwatha. Then head should be wiped with towel and Rasnadi choorna is applied. Patient is advised to take rest for a period same as the period of the procedure, then to take bath.

*Takradhara* (Shirodhara) - 20 minutes per day for 14 days

Follow- up study - patients was followed for one month.

**Result**

**Table -1:** Systolic blood pressure

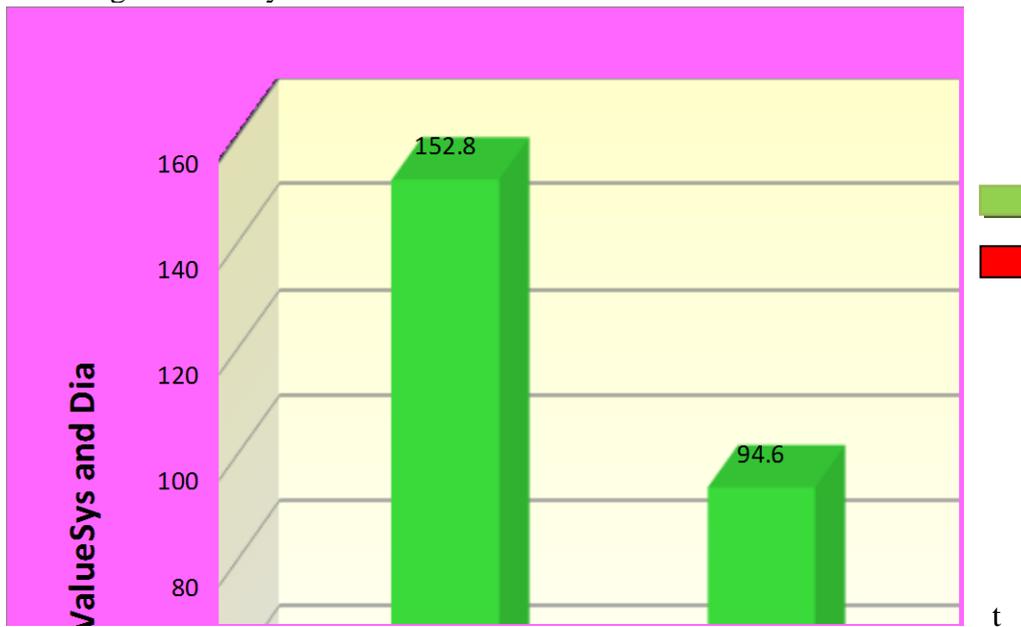
Group	Number of group	Mean	SD	t-value	Df	Level of significant
Pre	32	152.8	5.49	13.5	31	0.01
Post	32	135.4	3.38			

**Table-2:** Diastolic blood pressure

Group	Number of group	Mean	SD	t-value	Df	Level of significant
Pre	32	94.6	3.65	19.2	31	0.01
Post	32	75.34	3.68			

This table shows the result of “t-value” of the systolic blood pressure 13.5 and Diastolic blood pressure 19.2 which shows the 0.01 level of significance. So, the null hypothesis is rejected. Yogic and Ayurvedic intervention decrease the level of hypertension

Graph showing mean of Systolic Blood Pressure and Diastolic Blood Pressure



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blood pressure took place over the 1-month period, both the groups showed good control of both systolic and diastolic blood pressures.

In this study we used yognidra & shirodhara takradhara (takradhara) which reduced both systolic and diastolic blood pressure of the patient of hypertension. During the follow-up study we observed that though a minimal rise in

**Discussion**

Essential Hypertension is a multifactor disease in which arterial pressure is persistently high without an identifiable cause. The pathogenesis of essential hypertension is not fully understood. Blood pressure is mainly dependant on cardiac output and total peripheral resistance. The possible mechanisms are believed to be

sympathetic nervous system over activity and consequent increase in peripheral vascular resistance. In addition, direct pressure effect by the sympathetic nervous system and catecholamine release from the adrenal medulla may also be involved. (Castillo R.A, et al. 2000)  
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During stress the sympathetic nervous system becomes activated and the organism shows the 'fight or flight' response. In normal circumstances, the parasympathetic system takes over after the emergency and is mainly active during sleep. But mostly it has been seen that the sympathetic system remains active during most of the daytime resulting in the experience of distress. In Yoga Nidra an attempt is made to activate the parasympathetic system, and slowly a new balance between the sympathetic and parasympathetic systems is achieved by inducing complete physical, emotional and mental relaxation. In this way, the practice of Yoga Nidra reduces stress. (Deepa et al, 2012)<sup>14</sup>

The state where the brain is completely relaxed results in mental relaxation. (Sannyasi M., 1998)<sup>15</sup> concluded on the basis of his study that the practice of yoga nidra brings alpha dominance in the brain, which is characterized by mental relaxation.

Recent study conducted that the drop in blood pressure induced by daily Yoga Nidra practice has a far reaching effect, extending throughout the day and is not merely a transient effect coincide with the practice session. (Agras,W,S,)<sup>16</sup> Another controlled study, which was found that reductions in blood pressure and anxiety levels in hypertensive patients continued for 12 months after Yoga Nidra training. (Lekh Raj Bali 1979)<sup>17</sup>

The majority of patients showed definite symptomatic improvement after 3 weeks' training of yoga nidra. Headache, giddiness, nervousness, irritability and insomnia disappeared in almost everyone. Significant decrease in blood pressure was obtained in 52% of patients. The patients were taught the preliminary form of Yoga Nidra called shavasana. (Udupa K N, 2000).<sup>18</sup>

Shiro Dhara is an external treatment which is simple and effective, which acts on the nervous system and calms the mind and relaxes entire physiology thus, alleviates stress, anxiety, depression, blood pressure etc. a few studies done on Takra Dhara in Essential hypertension, were proved to be effective

In this study, it was found that Takra dhara (*amalki* kwath) helped in reducing both systolic and diastolic pressure (as shown in table 1 and 2). In Ayurveda, hypertension is a *vaata pradhan vyadhi*. According to Ayurveda Takra possesses qualities like laghu, ruksha, guna, katu, tikta, kshaya and rasa and ushna viraya with katu vipaka. Its ushna viraya helps in vaatashaman along with *pitta shamaka* action. And Amla, as a rejuvenative herb, nourishes all the body tissues and accelerates the cell regeneration process. It also cleanses the rasa dhatu (plasma) and rakta dhatu. Amla balances all three doshas.<sup>19</sup> Amla contains five out of the six tastes and it is most important to recognize the effects of the "*virya*"(potency) and "*vipaka*"(post-digestive effect). Amla is particularly helpful in reducing *pitta* due to its cooling energy and balances both Pitta and *vata* by virtue of its sweet taste. Its qualities (*gunas*) are light (*laghu*) and dry (*ruksha*), the post-digestive effect (*vipaka*) is sweet (*madhura*), and its energy (*virya*) is cooling (*shita*).<sup>20</sup> On the other hand, Amalki fruit supports the cardiovascular system and acts as a cardiac stimulant (Williamson, 2002).<sup>21</sup>

Therefore, it can be concluded that shirodhara (*Takra dhara*) amalki will be the effectiveness in *vaata-pitta pradhan vyadhi* like *Hypertension*. It is very safe and effective treatment modalities and can be used effectively in the management of hypertensive patients.

The researchers concluded that this therapy opens a new avenue in the management of hypertension.

### Conclusion

From the above discussion, it becomes clear that the technique of yoga nidra & shirodhara has preventive, promotive and curative value. It

prevents stress and stress-related disorders by relaxation. As a promotive science, yoga nidra & shirodhara awakens the inherent creativity and promotes the learning and memory abilities of the practitioner. Researches also indicate that yoga nidra can be used as a therapeutic technique to cure psychological disorders like

anxiety, insomnia etc. and psychosomatic diseases like asthma, coronary heart disease, hypertension etc. In our present modern lifestyle, where psychological and psychosomatic problems are on the rise, the technique of yoga nidra & shirodhara may serve as a real boon for mankind.

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