



Current trends in the management of hypertension among Ayurvedic physicians in Kerala

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ABSTRACT

Hypertension is a major public health problem causing 10.8% of all deaths in India according to a 2014 report. In Ayurveda, hypertension is not a specifically named disease, and there is a lack of consensus among the experts on the Ayurvedic perspective of hypertension, which may reflect in the management approach as well. The present study was done to get insights on the general approach of Ayurvedic physicians working in Government hospitals in Kerala adopted for the management of hypertension, and to ascertain the presence of any uniform trend or tangible differences in its treatment and prognostic approaches among them. A survey was done among 20 physicians working in Govt. hospitals in Kerala, with a pre-set questionnaire. Grade of hypertension managed were reported as up to grade 1 by 45%, up to grade 2 by 30% and up to grade 3 by 25% of the physicians. The pathogenic components (*samprapti ghataka*) assigned to hypertension included *vata dushti*, *kapha dushti*, *Vata-Pitta dushti*, *Vata-Kapha dushti*, *Kapha- Pitta dushti*, *Raktha dushti* and *Avarana*. 60% of physicians advised stopping the medications when ideal blood pressure attained. A variety of medicines selected according to the stage of pathology (*avastha*) are being used for management of hypertension by the physicians. There are variations in treatment prospects of hypertension among practicing physicians of Govt. Ayurveda hospitals in Kerala. *Thalam* (application of suitable medicine over the scalp) and lifestyle modification were the individual treatment modalities adopted commonly by all the physicians interviewed, indicating their usefulness in hypertension management.

INTRODUCTION

Hypertension or elevated blood pressure is a major public health problem in the world, particularly in low and middle income countries.[1] According to a 2014 report, in India, hypertension accounts for 10.8 per cent of all deaths and 4.6 per cent of all Disability Adjusted Life Years (DALYs) in the country.[2] This is largely because, hypertension increases the risk of stroke and atherosclerotic coronary heart disease. A crucial focus in all the international guidelines in the management of hypertension is both the achievement of optimum blood pressure (BP) as well as overall reduction in cardiovascular (CV) risk.

In Kerala, like in other parts of India people opt for modern medicine as well as Ayurveda for the treatment of hypertension. In

Ayurveda, Hypertension is treated based on the *dosa* and *dushya* involved in its pathogenesis. Different names by which hypertension has been denoted by academicians of Ayurveda includes *Raktagata vata* (Y.N Upadhyaya-1950), *Rakta Vikshepa* (J.P Shukla - 1954), *Shiragata Vata* (G.N Chaturvedi-1962), *Avrita Vata* (R.K Sharma-1966), *Rakta Chapa* (Ravani and Mahaishkar UB-1967), *Rakta Sampida* (S.B Pandey -1972), *Vyana Bala* (B.Triguna- 1974), *Dhamanipraticchaya* (A.DAthawale), *Dhamani Prapurnata* (AD Athavale - 1977), *Rasa Bhara* (T.SAthawale-1979), *Rakta Vriddhi* (G.N Chaturvedi-1981), *Rudhira Mada* (V.N Dwivedi- 1991) and *Rakta vata* (P.VSharma-1993).[3] It has also been described as *Vyanabalavaishmya* (derangement of *vyana vata*). [4], [5] The management guidelines provided for Hypertension by central institutes like CCRAS (Central Council for Research in

Ayurvedic Sciences) are however non comprehensive. No details regarding the prognosis with Ayurvedic treatment or the span of medication has been provided, hypertension being considered a chronic disorder calling for a long term treatment in the system of modern medicine. Also, the medicine list provided in the guideline does not include the drugs very commonly used by physicians in Kerala. As different theories have been proposed to explain hypertension from an *Ayurvedic* perspective, there is no consensus amongst the experts.^[6] Thus, differences in the approach to hypertension and its management in Ayurveda is a subject which requires to be addressed for developing a standardized practice guideline. The present study was done to get insights on the general approach for the management of hypertension among Ayurvedic physicians working in Government run hospitals in Kerala, and check for the presence of any uniform trend or tangible differences in its treatment and prognostic approaches.

MATERIALS AND METHODS

A questionnaire for the survey was developed under an expert panel. Though the survey was not formally validated, the development process involved comprehensive reviewing and pilot study. The questionnaire included 13 questions on the diagnosis, line of management, choice of medicine, duration of treatment, dietary modifications etc. (full questionnaire in Appendix A). It included six multiple choice type and seven descriptive questions. The inclusion criteria for the physicians included, being employed in Government sector in Kerala, under the Department of ISM (Indian Systems of Medicine), NHM (National Health Mission) or DAME (Directorate of Medical Education). Also, at least 5 years of practice, being responsible for the treatment of at least 100 patients with hypertension per month.

An initial screening was conducted among physicians, following which verbal consent was taken from the physicians willing to participate, and eligible physicians completed the survey. 50 accessible physicians selected based on convenience sampling were screened. Out of them 25 physicians were both willing and met the inclusion criteria and the questionnaire was handed over to them either personally or through email. 20 physicians returned the filled in responses. The study was done from 15th December 2018 to 20th April 2019.

Statistical analysis:

The analysed data was summarized using descriptive statistics. The variables were expressed by percentages.

RESULTS

Base line characteristics of participated physicians:

A total of 20 responses were obtained. The age of the participated physicians ranged between 33 to 60 years, the mean age of physicians being 45.35 (with a standard deviation of 10.13). There were a total of eleven female physicians and nine male physicians. Out of the 20, three physicians were from ISM department, one from NHM and 16 from Govt. Ayurveda College hospitals. Among the physicians from Govt. Ayurveda college hospitals, three were from department of Kayachikitsa, two from dept. of Shalya Tantra, three from dept. of Shalakya Tantra, one from dept. of Rasa shastra and Bhaishajyakalpana, one from dept. of Prasootitantra, one from dept. of Roganidana, three from dept. of Panchakarma, two from Dept. of Agadatantra

Trends in the management of hypertension:

The Ayurvedic naming or Sanskrit names adopted for hypertension among physicians are *Raktaatimarda* (15%), *raktaavrtavatam* (10%), *sopha* according to condition (5%), *raktadushti* (5%) and *sonitamada* (5%) (Chart no. 1). Majority of the physicians (70%) did not adopt any Ayurvedic naming for it. A regular screening for hypertension is adopted by majority of the physicians (75%). Also, 14 physicians (70%) reported that they received pre diagnosed hypertension cases for Ayurvedic management. 45% physicians reported that they received 2-10 hypertension cases per 100 patients, and 40% physicians reported that they received 10-20 hypertension cases per 100 patients (Chart no.2). Grade of hypertension managed by the physicians were reported as grade 1 (140-159/90-99) by 45% of physicians, grade 2 (160-179/100-109) by 30% of physicians, grade 3 ($\geq 180/\geq 110$) by 25% of the physicians (Chart no.3). The *sampraptighataka* (factors involved in pathogenesis of hypertension) assigned to hypertension included vitiation of *vata* (15% of total responses), vitiation of *kapha* (15% of total responses), *Vata-Pitta* vitiation (30% responses), *Vata Kapha* vitiation and *Kapha- Pitta* vitiation (5% each), *Raktha* vitiation (35% responses), *Avarana* (45% responses) (Chart no.4).

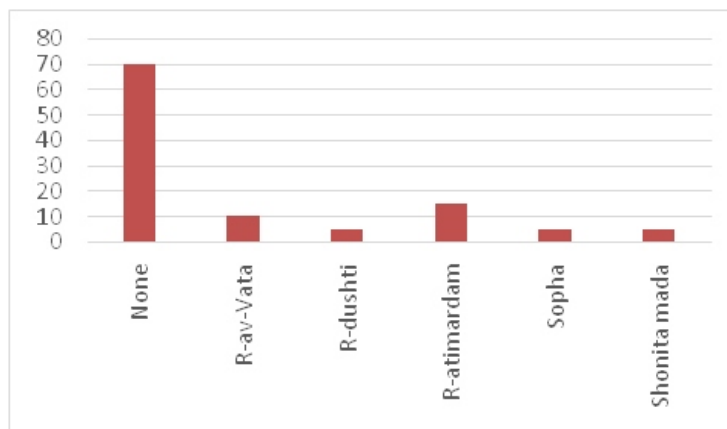


Fig. 1 : Sanskrit names or Ayurvedic terms adopted for hypertension

(Abbreviations: R- Raktha, av- avarana)

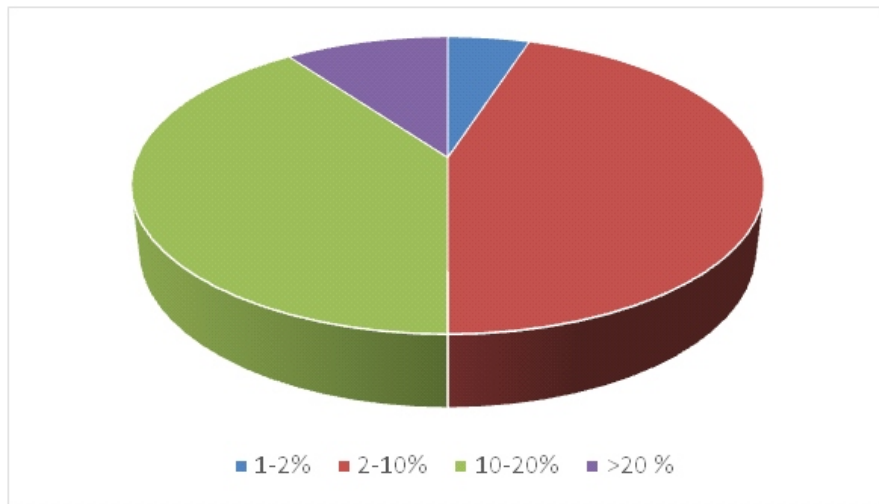


Fig. 2 : No. of cases of hypertension per hundred patient visits in OPD

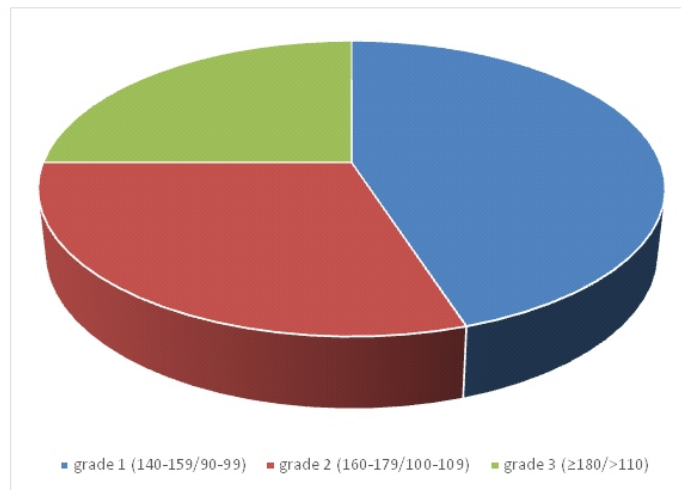


Fig. 3 : Maximum level of hypertension managed

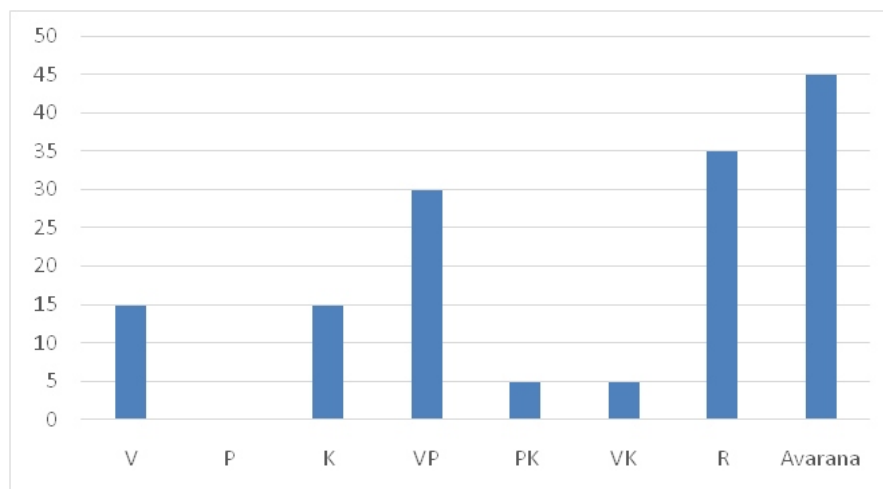


Fig. 4 : Sampraptighataka

(Abbreviations: V- Vata, P- Pitta, K- Kapha, VP- Vata pitta, PK- Pitta kapha, VK- Vata kapha, R- Raktha)

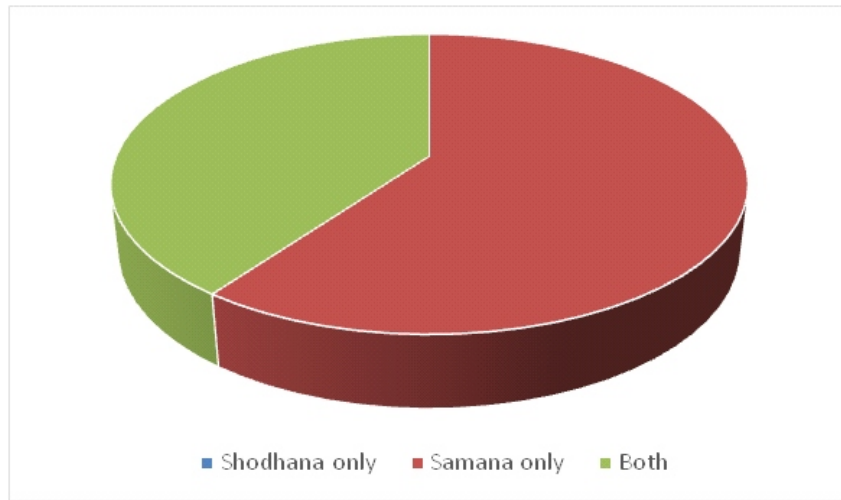


Fig. 5 : Line of treatment

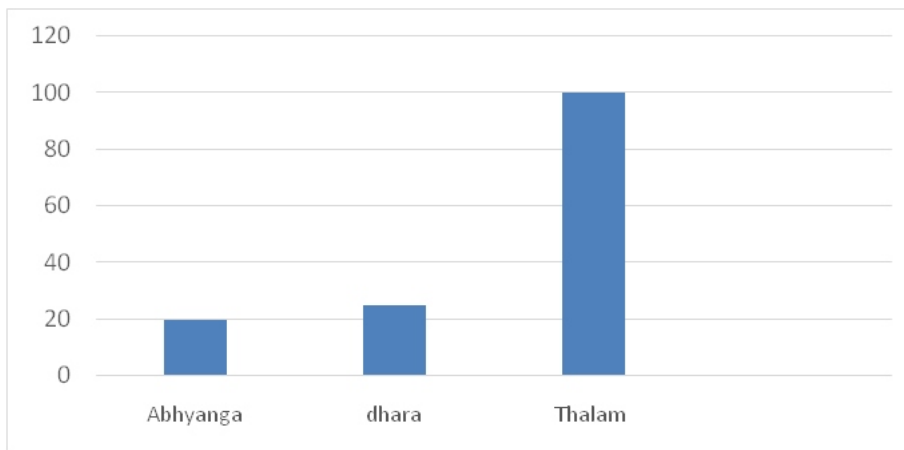


Fig. 6 : Maximum level of hypertension managed

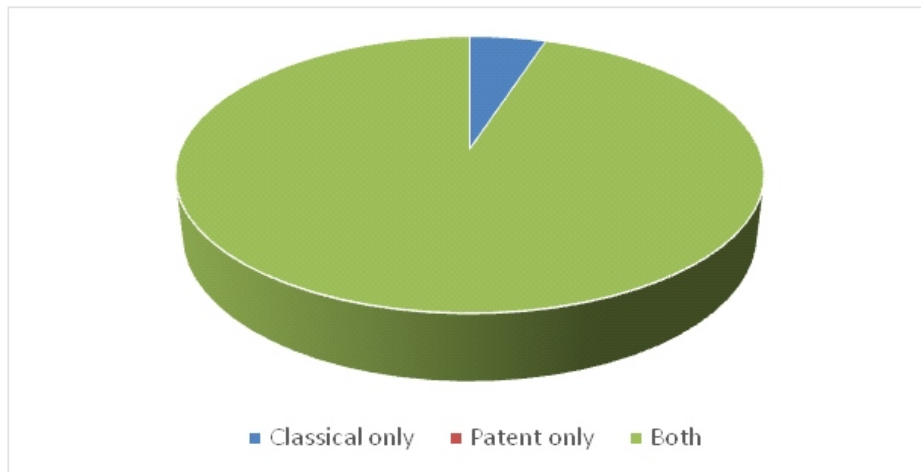


Fig. 7 : Type of medicines used

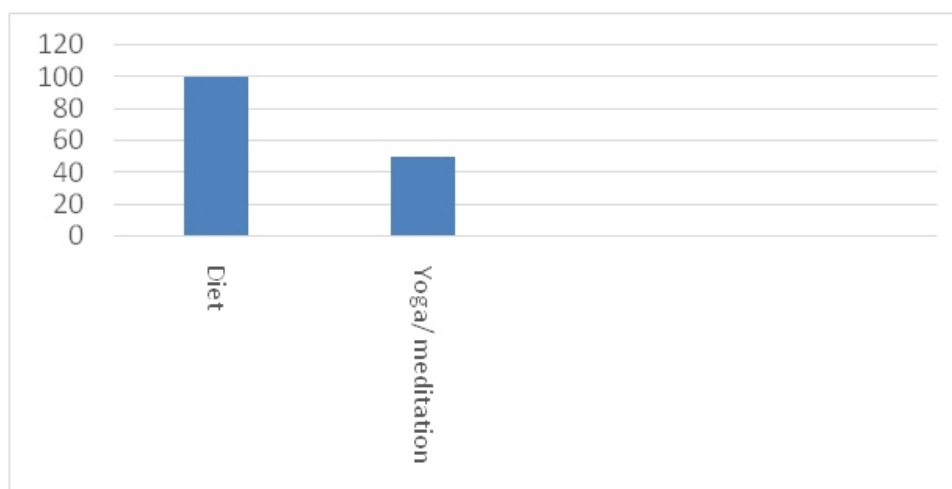


Fig. 8 : Life style modifications indicated

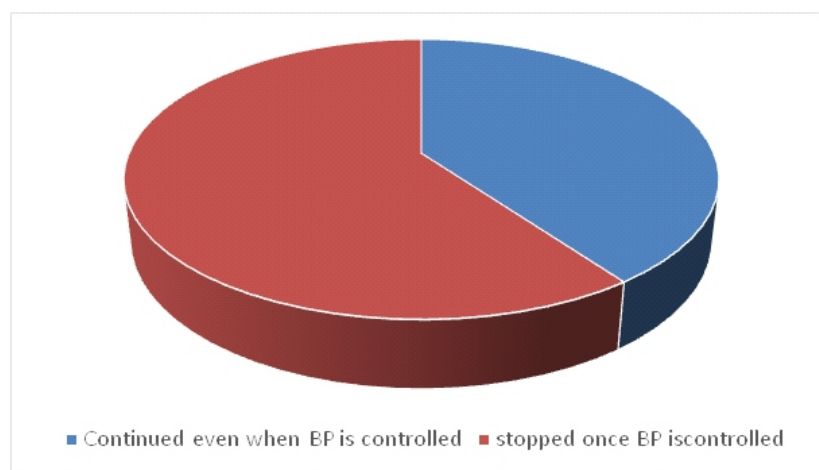


Fig. 9 : Duration of medication

For the above question of pathogenic factors, physicians gave more than one response. The line of treatment adopted was *samana* (sanatory or curative) according to 60% of physicians and both *sodhana* (eliminatory) and *samana* by 40% of physicians (Chart no. 5). *Bahyaprayoga* (External/topical application of medicines) also found an important place in the treatment of hypertension. All the physicians reported the use of *thalam* (application of medicine over the scalp). The medicines used for *thalam* included Kachuradichurna with Ksheerabala tailam, Rasnadi churna with Ksheerabala tailam, Karuthavattu gudika with Samanga tailam (Oil processed with Biophytum sensitivum (L).DC) and Rasnadi churna with juice of lemon. Other modes of *bahyaprayoga* (external mode of treatment) of medicines included *abhyanga* (massage with medicated or non-medicated oil) and *dhara* (treatment which involves gently pouring liquids like medicated oil, milk and buttermilk in a stream, over the body or head for a fixed duration of time). *Abhyanga* constituted 20% of the responses, and *dhara* constituted 25% of responses (Chart no.6). Majority of physicians (95%) used both classical Ayurvedic preparations and Proprietary medicines for its management (Chart no. 7). Classical Ayurvedic

drugs used included Ashtavargam kashaya, Punarnavadi kashaya, Brihatyadi kashaya, Rasonadi kashaya, Saptasaram kashaya, Gandharvahastadi kashaya, Drakshadi kashaya, Dhanadananadi kashaya, Chukkuchundadi kashaya, Drakshasavam, Abhayarishtam, Puthivalkasavam, Arjunarishtam, Partharishtam, Triphala churnam, Dhanwantaram gulika, Sarpagandhadi gulika, Yogarajaguggulu vati, Kanchanaraguggulu vati, Siddhamakaradhawa and Prabhakara vati. Proprietary drugs used were Cardostab tablets, Cardocare tablets, Bipasil tablets, Cardocalm tablets, Normalin tablets, HT Kot tablets and Parthalashunadi tablets. Arjunatwak (*Terminaliaarjuna* (Roxb.) Wight & Arn) and Kulattha (*Dolichosbiflorus* L.) were used as single drugs. Lifestyle modification was advised by all the physicians. 100% physicians advised dietary modifications and 60% physicians advised Yoga or meditation in its management (Chart no. 8). The medications given for hypertension was continued for the entire life time with dose adjustment by 40% of physicians, whereas 60% of physicians stopped the medications when ideal blood pressure attained (Chart no. 9). Whenever modern antihypertensive medication was to be withdrawn, it was tapered according to progress. Regular follow up of patients was

advised by all the physicians. Follow up being advised twice in a week, biweekly, or every month based on the initial blood pressure and comorbidities. Patients were also advised to visit the doctor in case of symptoms like headache, light-headedness, sleeplessness, giddiness, numbness, nausea, stress etc.

DISCUSSION

This study investigated the treatment approach for hypertension among different physicians serving Government run hospitals or dispensaries. Hypertension is managed by physicians according to the *dosa* and *dushya* involved in the condition, and also the causative factor involved. Hypertension is considered to be due to different *samprapti ghataka* by the physicians, the majority of responses being for *Avarana*. This indicates that most of the hypertension cases may be due to *Avarana*. A large variety of medicines are being used for its management among physicians, selected according to *avastha* (condition). *Thalam* and lifestyle modification were the individual treatment modalities adopted commonly by all the physicians interviewed, thus indicating their usefulness in reducing elevated blood pressure. *Thalam* is a treatment procedure which is found in Kerala Ayurveda textbooks, and is widely used among Ayurvedic physicians in Kerala. It is believed to be a procedure providing accelerated absorption of medicines as well as wide treatment applicability^[7] 45% of the physicians managed only the hypertension cases up to grade 1, indicating that Ayurvedic physicians largely differed in the evaluation of outcome of Ayurvedic treatment for Hypertension. This non uniformity in the understanding the prospects of Ayurvedic treatment for hypertension at level of the Govt. Ayurveda college hospitals highlights the need for workshops and training programs in developing uniformity among practitioners. Physicians also differed greatly in the name adopted for hypertension. Although the CCRAS guidelines and National Health Portal names Hypertension as *Vyanabalavaishamya*, no physician interviewed named hypertension as *Vyanabalavaishamya*. This may be because, the Ayurvedic classical texts mentions that naming of a disease is not important and, understanding its *samprapti* alone will lead to selection of appropriate line of treatment^[8] In case of Hypertension, a unified naming may be considered, as hypertension is viewed as a separate disease condition which has large pool of data available on modern medical literature, and the measurement of arterial blood pressure by sphygmomanometer is the key diagnostic tool among Ayurvedic physicians as well. As 40% of physicians interviewed recommended continuing medications (in a dose adjusted manner) for lifetime and 60% physicians terminated the medicines once desired blood pressure was achieved but reviewed routinely at specific intervals, presence of any risk or any added health benefit in continuing the medication may be investigated through an appropriate research design.

The limitation of the present study is that, convenience sampling was done for choosing the practicing physicians. This was done for a quicker investigation into the existence of a common management trends among Ayurvedic physicians in Kerala. Thus, the percentages of responses may not be as representative as in a probability sampling method.

CONCLUSION

Hypertension is being managed by Ayurvedic physicians in Govt. Ayurveda hospitals on a regular basis at OPD level. The area of differences and generality in the management of hypertension has been identified through the present survey. For

rendering uniform health benefit for Ayurvedic management of hypertension to all the sections of community, there is a need for standardization in hypertension management.

CONFLICT OF INTEREST

None

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Appendix attached in the next page.

Appendix A

Survey- Current trends in the management of Hypertension

General physician information

Name :

Age :

Gender :

Workplace with department :

Sl. no.	Questions	Yes	No
1.*	Do you manage Hypertension?		
2.	Is any classical disease naming adopted for hypertension in practice? a) If yes, what is the name given		
3.	Is a regular screening for hypertension undertaken in the OPD?		
4.	Do patients consult for the treatment of diagnosed Hypertension? a) If yes how frequently? a) 1-2 per 100 patients b) 2-10 per 100 patients c) 10-20 per 100 patients d) More than 20 per 100 patients		
5.	Range of blood pressure value for which the patients are advised to take Ayurvedic medicine : a) Any range of blood pressure is managed through Ayurvedic medicine b) High normal range: 130-139/85-89 c) Grade 1 hypertension: 140-159/90-99 d) Grade 2 hypertension: 160-179/100-109 e) Grade 3 hypertension: >or= 180/>110 f) Isolated systolic hypertension grade 1: 140-159/<90 g) Isolated systolic hypertension grade 2: >or = 160/<90		
6.	How is hypertension approached for treatment?(Samprapthikhatataka) a) Vatavriddhi/dushti b) Pitta '' c) Kapha '' d) Vata Pitta vriddhi e) Rakthadushti f) Avarana g) Others (please name).....		
7.	What is the line of treatment adopted a) Shodhana b) Samana c) Both Shodhana and Samana d) Bahyaprayoga like abhyanga, shirodhara		
8.	Type of medicine most frequently used for the management:(v against appropriate) a) Ayurvedic classical drug(if yes, please name a few) b) Proprietary medicine (if yes, please name)		
9.	Use of modern medicine (v against appropriate) : a) is continued b) is tapered c) is stopped d) Choice is made according to the level of blood pressure		
10.	Is dietary modification advised?		
11.	Is yoga and meditation advised?		
12.	Duration of treatment/medication a) Continued indefinitely even when the blood pressure becomes normal b) Stopped once the blood pressure becomes normal		
13.	Follow up for the treatment of hypertension advised: What is the time duration and symptoms considered :		

Name:

Signature:

Designation :