P-ISSN:2349-5502 Review Article

Hypertension

Biomedical Review-Journal of Basic and Applied Medical Science



www.biomedicalreview.in

2019 Volume 6 Number 1 Jan-Dec

A Siddha Polyherbal Formulation for Hypertension– A Review

Velmurugan V.^{1*}, Shajitha R.², Elakkiya K.³, Priyadharshny M.⁴, Powrna V.⁵

DOI:

^{1*} Vithyapathi Velmurugan, Department of Pothu Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India.

² R. D. Shajitha, Department of Kuzhanthai Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India.

³ K. Elakkiya, Department of Pothu Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India.

⁴ M. Priyadharshny, Department of Pothu Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India.

⁵ V. Powrna, Department of Pothu Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India.

A Polyherbal Formulation [PHF] is one of the most famous Siddha formulations that are used traditionally in hypertension. Polyherbal Formulation [PHF] from Malabar-nut root (Justicia adhatoda Linn), Ink nut (Terminalia chebula Retz), dried Grapes (Vitis vinifera Linn) is good for treating hypertension and coronary arterial disorders. This review explains the pharmacological potential of PHF along with the other pharmacological activities of the part of each ingredient used in this formulation. This review helps the researcher to explore more about the importance of Siddha Polyherbal Formulation.

Keywords: PHF- Polyherbal Formulation, Hypertension, Coronary arterial disorders

Corresponding Author	How to Cite this Article	To Browse
Vithyapathi Velmurugan, , Department of Pothu Maruthuvam, A.T.S.V.S Siddha Medical College, Munchirai, Tamil Nadu, India. Email: vithu.dr@gmail.com	Vithyapathi Velmurugan, R. D. Shajitha, K. Elakkiya, M. Priyadharshny, V. Powrna, A Siddha Polyherbal Formulation for Hypertension– A Review. Biomed Rev J Basic Appl Med Sci. 2019;6(1):32-34. Available From http://www.biomedicalreview.in/a-siddha- polyherbal-formulation-for-hypertension-a-review	



Biomedical Review-Journal of Basic and Applied Medical Science 2019;6(1)

Introduction

A Polyherbal Formulation [PHF] is an herbal remedy based on purified herbs in Siddha medicine. The properties like Hypolipidemic activity, antitussive, antimicrobial, cardiovascular protection, anticholinesterase, anti-inflammatory andantioxidative are found in this herbal preparation. Traditionally, it is used for hypertension.

Materials and Methods

Method of Preparation of Polyherbal Formulation [PHF]

Malabar-nut root, dried grapes and Ink nuts are made into small pieces manually or using a pulverizer. These are soaked into water for overnight. Next day morning, this water was boiled up to 1/8 of its volume. The collected water is prepared by filtering the boiled water process. Sugar and honey was mixed along with this filter water. Patient should take a dose of 60ml of this mixture twice a day after the meals [1].

Ingredients of PHF pharmacological activities

A. Terminalia chebula Retz(Combretaceae)

The fruits, leaves and bark of T.Chebula have been used since Vedic period and it is recommended for many diseases. The leaf extract of T.Chebula has hypolipedemic activity [2]. This plant has been investigated for its chemical constituents and found to contain a large amount of pentacyclictriterpenes [3]. Naturally occurring triterpenoids and some of their derivatives are known to have hypolipidemic activity [4, 5]. Chebulinic acid which is one of the active constituents in T.Chebula has absorbed to elicit the blood pressure lowering effect in rats [6]. Flavonol, aglycone and their glycosides are the main phenolic component of T.Chebula. They are potent antioxidants, which are believed to prevent degenerative diseases including cardiovascular diseases. They have biological effects like vasodilatory action [7,8] and inhibition of platelet aggregation [9]. Combined effect of active principle present in the T.Chebula might offer protection against cardiac damage [10].

B. Justicia adhatoda Linn (Acanthaceae)

It is a highly valuable in siddha medicinal plant used to treat cold, cough and asthma. Its main action is expectorant and antispasmodic (bronchodilator) [11]. 1. Cardioprotective: In combination of vasicine and vasicinone, significant reduction in cardiac depressant effects was observed. No effect was shown by vasicinone (DI-form), however L form was found to be weakly effective stimulant of cardiac muscles [12].

2. Anti-cholinesterase: Vasicinone obtained from the roots, produced transient hypotension in cats, contraction of isolated intestine and depression of isolated heart in guinea pigs, thus showing good anti cholinesterase activity [13].

C. Vitis vinifera Linn (Vitaceae)

The active components of grape seed, grape skin and grape juice includes polyphenols such as resveratrol, phenolic acids, anthocyanins, and flavonoids. All possess patent antioxidant properties and have been shown to decrease low-density oxidation and lipoprotein-cholesterol platelet aggregation. These compounds also possess a range of additional cardioprotective and vasoprotective properties including anti-atherosclerotic, antiarrhythmic, and vasorelaxation actions [14]. An alcohol free hydro alcoholic extract which is obtained from skin of vinifera grape shows antihypertensive effect on hypertension in experimental models of rodent. The vasodilator effect of GSE (polyphenols concentration 55.5 mg) was also assessed in isolated mesenteric vascular bed of Wistar rats and also antioxidant effect was studied on lipid peroxidation of hepatic microsomes. Oral administration of GSE significantly reduced systolic, mean and diastolic arterial pressure in Wistar rats with desoxycorticosterone acetate-salt and N (G)-nitro-L-arginine methyl ester (L-NAME) induced experimental hypertension. In the rat isolated mesenteric vascular bed pre-contracted with norepinephrine, bolus injections of GSE induced endothelium-dependent vasodilatation that was substantially inhibited by L-NAME, but not by indometacin, tetraethylammonium or glibenclamide. Lipid peroxidation of hepatic microsomes which is estimated as malondialdehyde production is concentration-dependently inhibited by GSE [15].

Conclusion

PHF has an antihypertensive, cardioprotective, vasodilatory, antioxidant and hypolipidemic activity. Polyherbal Formulation [PHF] can also be used to treatcold, cough, asthma,

Atherosclerosis, arrhythmiaetc. This is an outlayer scientific study about the pharmacological activities of the PHF. So this review helps the researcher to explore more about pharmacological activities of the Polyherbal Formulation [PHF].

Acknowledgement: I would like to acknowledge the principal and all the staff members of 'A.T.S.V.S. Siddha Medical College – Munchirai' for the valuable guidance to complete this review paper. I would like to thank my parents and family members and friends for their moral support.

Reference

1. Vaithiya Rathnam Murugesa Mudaliyar, 'Gunapadam Mooligai Vaguppu', 9th edition 2013: 65.

2. Khanna A.K, Chander R., Kapoor N.K., (1993), Fitoterapia LXIV (4), 351.

3. Reddy B.M., Rao N.K., Radmesh M., (1994), Int. J. Pharmacog., Vol. 32(4): 353-356.

4. Kunda A.P., Mahato S.B., (1993), Phytochemistry,Vol. 32(4) : 999-1002.

5. B. Ahirwar, A. K. Singhai, V. K. Dixit., (2003), Effect of Terminalia chebula fruits on lipidprofiles of rats', journal of natural remedies, Vol. 3, 31 – 35.

6. GuanY.Y., Kwan C.Y., Hsu F.L., Cheng J.T., In Vitro Inhibitory effects of Chebulinic acid on the Contractile Response of Cardiovascular Muscle', Clinical Exp. Pharmacol. Physiol., Vol.23: (1996)747.

7. Duarte J.,Vizcaino F.P.,Utrilla P., Jimenez J.,Tarnargo J.,Zazzuleo A.,(1993),'Vasodilatory effect of flavonoids in rats Aortic smooth muscles structure - activity relationship', Biochem. Phamacol, Vol. 24,857.

8. Hanaski Y., Ogawa S.,Fukui.,'The Correlation between active oxygen scavengers and antioxidative effects of flavonoids', Free Rad. Biol. Med., Vol. 16: (1994) 845.

9. Tzeng S. H.,Tzeng C.M.,(1991), 'Inhibition of platelets aggregation by some flavanoids', Thromb. Res., Vol. 64, 91.

10. S.Suchalatha, C.S.Shyamala Devi. (2004) 'Protective effect of Terminalia chebula against experimental Myocardial injury induced by isoproterenol', Indian J. Exp.Biol., Vol.42:174-178. 11. Karthikeyan A., Shanthi V., Nagasathya A., (2009), 'Preliminary Phytochemical and antibacterial screening of crude extract of the leaf of Adhatoda vasica (L)', Int. J. Green. Pharm., Vol. 3: 78-80.

12. Atal C.K., (1980), 'Chemistry and Pharmacology of vasicine: A newoxytocin and abortifacient', Indian Drugs, Vol.15: 15-18.

13. Lahiri P.K., Prahdan S.N., (1964),'Pharmacological investigation of Vasicinolan alkaloid from Adhatoda vasicaNees',Indian J. Exp.Biol, Vol. 2: 219-223.

14. Leifert W.R., Abeywardena M.Y., (2008), 'Cardioprotective actions of grape polyphenols', Vol. 28(11):729-37.

15. Soares De Moura R, Costa Viana FS, Souza MA, Kovary K, Guedes DC, Oliveira EP, Rubenich LM, Carvalho LC, Oliveira RM, Tano T, GusmãoCorreia ML.Antihypertensive, (2002), 'Vasodilator and antioxidant effects of a vinifera grape skin extract', J. pharmapharmacology, Vol. 54(11):1515-20.