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Vibhitaka[*Terminaliabellirica (Gaertn) ROXB*] its classical and ethnomedicinal uses – Critical review.

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ABSTRACT: *Vibhitaka [Terminaliabellirica (Gaertn)]* has been used extensively in Ayurveda. The drug possess *katu, tiktha, kashaya rasa, madhuravipaka* and *ushnavirya.* It has action on different diseases like *kasa , pandu , apatantraka ,hridroga, netraroga etc* .The drug is responsible for the therapeutical actions like anti inflammatory, antibacterial, analgesics and bronchodilatory due to have been scientifically proven. Apart from Ayurvedic classics,*vibhitaka* has been used for various ethnomedicinal purposes by tribes in the country.

KEY WORDS: *Vibhitaka (*Terminaliabellirica) , Ayurveda classics , Ethnomedicinal claims.

INTRODUCTION

Vibhitaka is one among the ingredient of *triphala*, Which has been in use since ancient times.Rigveda, mentions the use of *vibhitaka* for making dice, furniture and boat set[1]. Acharya caraka included *vibhitaka* in *virechanopaga, jwaraharaganas*[2] and *Acharya susrutha* included it in *mustadi and triphaladigana*[3] .

Terminaliabellirica belongs to the family combretaceae . The generic name " *Terminalia* is derived from Latin word " terminus or terminalis , which mean the leaves being crowded or born on the tip of the shoots. It is a large deciduous tree grows up to 60 ft height. Leaves are gathered at the extremities of branches, which are simple, elliptic. Flowers are greenish yellow with offensive odour . Fruit are drupe, 1 to 2.5 cm in diameter ,ovoid , grey in colour .The useful parts are fruit ,kernel and bark .In medicinal preparations fruit are commonly used. It is found in plains and lower hills of south east Asia. In India it is growing in Madhya Pradesh , Uttarpradesh , Maharashtra and Kerala. In Kerala mostly seen in Malabar region [4].

Myrobalan contain various phytoconstituents such as glycosides , flavanoides , tannin and phenolic compounds , which are responsible for various pharmacological activities like antimicrobial , antipyretic , antidiabetic and bronchodilatory . The term ' *Vibhitaka* means it remove the fear of disease and cut the disease from the root itself. [5]The drug has *kashaya rasa,laghu , rookshaguna , madhuravipaka , Ushnavirya and tridosha samana*[6]. It alleviates the *dushti of rasa ,raktha, mamsa, medas, and* it is used in different forms in diseases like kasa , swasa and it also has a synonyms 'kasagni , this term reveals the important of the drug in respiratory ailments . This drug is used in other diseases like *premeha ,sophapandu* etc. *Taila,* which is taken from kernelposses *kesya* property . Other than the classical text it also being used traditionally by different tribes in the country.

MATERIALS AND METHODS

Compilation and tabulation of classical uses of *Vibhitaka* were done from classical text, Nighantus, and Ethnomedicinal claims were collected from internet publication and Journal's. The tabulated data were analysed.

Table.1 Rasa panchaka of vibhitaka

S.L	Classical text	*Rasa*	*Guna*	*Veerya*	*Vipaka*	*Prabhava*
1	DN [7]	-	*Laghu, sara*	-	*Katu*	-
2	SON [8]	*KashāyaMadhuram*	*Laghu, sīta*	*Sīta*	-	-
3	MPN [9]	*Kashāya*	*Rūksha*	*Ushna*	*Madhura*	-
4	RN [10]	*Katu ,tikta, Kashāya*	*Laghu*	*Ushna*	*Madhura*	-
5	KDN [11]	*Kashāya*	*Rūksha,laghu*	*Ushna*	*Madhura*	-
6	BP [12]	*Kashāya*	*Laghu,Rūksha*	*Ushna*	*Madhura*	-
7	SG [13]	*Katu,tiktha,Kashāya*	*Laghu*	*Ushna*	*Madhura*	-
8	PN [14]	*Kashāya*	-	*Ushna*	-	-

There are different opinion about the *rasa panchaka* of *vibhitaka*. Majority of *nighantu*mentions, *vibhitaka* possess *kashaya rasa*. As per *Raja* and *Sodhalanighantu rasa* of *vibhitaka*is *katutikthakashaya* and *kashayamadhura* respectively. Other than Sodhala*nighantu*, all other nighantus mentions, *vibhitaka* as an *ushnaviryadravya*. *Vibhitaka* possess madhura*vipaka*, Dhanwanthari *nighantu* consider it as a katu*vipaka*

Table 2. Karma of vibhitaka

SL N.O	**Karma**	**DN**	**S0N**	**M.P.N**	**RN**	**KD**	**BP**	**SA**	**SG**	**PN**
1	*Bhedanam*			+		+	+			
2	*Krimihara*						+		+	
3	*Swasakāsahara*	+	+	+		+	+		+	+
4	*Kesyam*	+	+	+		+	+			+
5	*Netryam*		+	+	+	+	+	+		
6	*Madakrit*			+		+	+			
7	*Vaiswaryajith*	+				+	+			
8	*Palithagnam*				+					
9	*Chardigna*						+	+		
10	*Vaktrarogna*	+								
11	*Switram*		+			+				
12	*Pāndu*		+			+				
13	*Varnyam*					+				
14	*Śukraharam*		+			+				

Table 3. Uses in samhitas

SL. NO	**Disease**	**Therapeutical uses**	**References**	**Kalpana**	**Mode of administration**	**Scientific validation**
1	Garbhini	*Yoni purana* in retained placenta[15]	C.sa 8/41	Kalka	External	Study of the effect of Myrobalan bark extract on isolated rat uterus (Lalyong

						.et al. 2013)[16].
2 3.	Premeha	*Vibhitaka*along with *rohitaka* and *kutaja*made to choorna and can be given *kapha – pithapremeha* + honey[17] *Akshataila* used internally for *snehapana* before *sodhana*[19]	C.chi 6/36 AH.chi12/1	Choorna Taila	Internal Internal	*Terminaliabellirica* stimulate the secretion and action of insulin and inhibit starch digestion and protein glycon in vitro(V kasabari et al. 2010.)[18] Anti diabetic and antioxidant activity of *Terminaliabellirica* . (Sabu et al.2009)[20]
4 5.	Sopha	*Phalamajjalepanam* cure all kind of *sopha* associated with *daha.*[21] *Vibhitakakalkam with tandulambu*[22]	C.chi 12/717 A.S chi 19/3	*Kalka* Kalka	External External	The drug has properties like decreasing lipid peroxide action and reducing the mediator of inflammation like histamine, COX2 and prostaglandin and several other mediators. (Shameertodengal et al 2012).[23]
6 7	*Kasa*	*Leha*prepared *with pippali,vibhitaki added* with*honey – kaphaja kasa.*[24] *Mukhadharana* of *vibhitaka*[26]	AH.chi*3/46-47* AH.chi 5/60	Leha	Internal	A clinical study of the anti- tussive and anti asthmatic effect of *vibhitakaphalachoorna* in the case of swasa - kasa.(V.P Trivediet al. 1979)[25] . Anti-Spasmodic and Bronchodilatory Properties of

						Terminaliabellrica Fruit, (Anwarul Hassan Gilani, Arif-Ullah Khan, Tuba ali, SaadAjmal) [27]
8	Netryam	*Vibhitakasthim ajja*with honey cure*vrana sukra*[28]	AH.U 3/46-47		External	-
9	Palitham	Akshataila used for graying of hair[29]	A.H.Su 5/65	Taila	External	-
10	Apatantraka	Powder of*mustha ,pippali,nagara,athivisha,vibhitaka,*along with wine or warm water cure*apatantraka*[30]	A.S chi .23/21	Choorna	Internal	-
11	Pandu	Powder of*vibhitaki*along with*ayachoorna ,nagarachoorna,andtilachoorna*take equally mix with equal amount of jaggery can be use severe *pandu roga.*[31]	A.S chi 18/9	Choorna	Internal	-
12	Switrakrimi	*Vibhitakataila* mixed with cobra snake ash for rubbing over the lesion[32]	A.S chi 22/22	Taila	External	-

Table 4. Uses in samgraha

SL.NO	**Disease**	**Therapeutical Uses**	**Reference**	**Kalpana**	**Mode of administration**	**Scientific validation**
13	Jwara	Paste of kernel of *vibhitaka*is beneficial in burning sensationinjwara[33].	V.M 1/161	Kalkam	Internal	Anti-Salmonella Activity of Terminaliabellirica In vitro and in vivo Studies. (madani et al.2008) [34] Screening of Terminaliabellirica Fruits Extracts for its Analgesic and Antipyretic Activities.(sharma et al.2009)[35]
14	Kasa	*Mukhadharana of abhaya,sunti,kana,vibhitaka* or only *vibhitaka* in mouth cure *kasa ,swasa*[36]	V.M11/43	Kashaya	Internal	Antispasmodic and bronchodilatory properties of terminaliabellirica fruit (A .h gilani et al 2008) [37]
15		*Vibhitaka* added with *gritha* and covered with cow dung then steamed and held in mouth [38]	L.R 3/20 CD11/27	Gritham	Internal Internal	Anti-Spasmodic and Bronchodilatory Properties of Terminaliabellirica Fruit, (Anwarul Hassan Gilani et al.)[39]
16		*Mukhadharana* of *vibhitaka*[40]				
17	Swasa	*Vibhitakichoorna* with honey [41]	R.M 11/5	*Choorna*	Internal	-

18	Parinama sula	Intake ofayachurna cooked with juice of *aksha* ,*amalaka* ,and *siva* mixed with jiggery [42] .	V.M 27/50	*Choorna*	Internal	The anti-ulcer activity of ethanolic extract of Terminaliabellirica fruits ETB was investigated in pylorus ligation and ethanol induced ulcer models in wistar rats. [43] (Gpchoudari et al .)
19.	Netrarog a	Akshamajja rubbed with stanya cure vranasukra . [44]	R.M 3/16	Kalkam	External	Saha et al. (2011) postulated that the paste of Terminaliabellrica have proper efficacy on wound healing.[45]
20	Hridgath avatha	*vibhitaka* and aswagandha made to paste and taken with hot water and honey.[46]	V.S	Kalkam	Internal	-
21	Athisara	*Vibhitaka* along with saindhava.[47]	V.S 5/172	Choorna m	Internal	Antidiarrhoeal activity was performed using castor oil induced diarrhoea ,PGE2 induced entero pooling and gastrointestinal motility test (bimleshkumar et al 2010)[48]
22	Switra	Seed of avalguja , bakuchi taken with vibhitakitwak and root of kakodumbara[49]	C.K	Kalkam	External	-
23	Pandu	Vibhitakalavan a taken with takra and madhu .[50]	C.K	Lavana	Internal	-

24	Swarabheda	Choorna of vibhitaka, pippali,saidavam with takra to alleviate swarabheda[51] .	CD 13/9	Choorna	Internal	-
25		Powder of *vibhitaka ,saindava, pippali* along with kanji .[52]	R.M 10/3.	Choorna	Internal	

Table 5. Uses in kerala traditional books

SL.NO	Disease	Therapeutical Uses	Reference	Kalpana	Mode of administration	Scientific validation
26	Timira	Decoction of *vibhitaki,bringaraja,asana* added with *tilataila* used for nasya[53]	S.Y	Taila	Nasya	Evaluation of anticataract potential oftriphala in selenite induced cataract :invitroand in vivo studies . .(S.kGuptha et al 2010)[54]
27	Ballatha kavisha	Lepana of rind or bark[55]	S.Y	Kalkam	External	-
28	*Jwara* in *ballatha ka*visha	*Akshakwatha* added with honey ,*sitha,jeeraka*[56]	A.K.D	*Kashaya*	Internal	-
29		*Kwatha* prepared with *laksha and aksha.*	A.K.D	*Kashaya*	Internal	
30		Drug *aksha* grinded with	A.K.D	*Kalkam*	External	

		buttermilk is applied externally cure allergic eruption [57]				
31	*Udumbara visarpa*	Seed of *aksha ,manjishta,maduka* are grinded with *nalikeradugdha* is applied externally cure disease[58]	*A.K.D 18/111*	*Kalkam*	External	-
32	Valmika visarpa	Seed of aksha and flower of madhuka are grinded with masthu is applied externally. [59]	AKD18/121	*Kalkam*	External	-
33	Switra	Avagujabeeja with *vibhitaka*kashaya taken in the morning [60]	C.M	*Kashayam*	Internal	-

Table 6. Ethnomedicinal claims

SL.NO	Disease	Ethno medicinal claims	Kalpana	Mode of administration
34	Teeth	Tribals of Ayodya hills use leaves and root paste to cure body pain and stem used as tooth brush.[61]	Kalka	External
35	Acene	Tribal women of Assam apply the paste of fruit to remove pimple spot.it also used as hair tonic .[62]	Kalka	External
36	General debility	Sanatal and oraons prescribe stem bark decoction for general debility.[63]	Kashaya	Internal
37	Leprosy	Treat leprotic wounds with paste of vibhitaka .[64]	Kalka	External
38	Leucoderma	Lodhas use stem bark paste to cure leucoderma[65]	Kalka	External
39	Gastrointestinal Problems	Tribals of Ranji district use dry fruit for stomach disorder.[66]		Internal
40	Mouth disorder	Decoction of *vibhitaka* used for tooth ache ,sore throat ,bleeding gum[67]	Kashaya	Internal
41	Diarrheoa	. For dysentery and stomach pain dried	Panaka	Internal

		fruits are soaked in one cup water followed by drinking the water on an empty stomach for 1-2 days. During this time, flattened rice has to be taken as meal. [68]		
42	Erectile dysfunction	The fruits of *Terminaliabellrica*, (Gaertn.) Roxb. Terminaliachebula, and Phyllanthusemblica are mixed with Abrusprecatorius root and taken with cow's milk to cure erectile dysfunction .[69]	Churnam	Internal
43	Diphtheria	*Vibhitakachoornam* take with hot water cure diphtheria [70]	Churnam	Internal
44	Malaria	Stem used for making tooth brush in malaria [71]	Churnam	Internal
45	Infertility	*Terminaliabellirica* (Gaertn.) Leaves are used for Offerings in Infertility, Diabetes [72.]	Kalka	External
46	Vomiting	Paste of two or three tender leaves are prepared and is given thrice a day to cure vomiting and loosemotion[73].	Kalka	Internal

DISCUSSION

The study oftraditional and ethno medicinal uses of medicinal plants is an effective way to explore the wide therapeutical applicability. Different simple combinations of *vibhitaka* can be seen in many diseases. Analysing the Ayurveda classics ,we can understand that the drug *vibhitaka* works on multisystem level. The drug has *kashaya rasa ,laghu , rukshaguna , madhuravipaka , Ushnavirya and tridoshasamaka*. It alleviates the *dushti of rasa ,raktha, mamsa,medas and asthi* .

Analyzing both Ayurvedic classics and ethnomedicinal practices across the country, got 46 simple combinations for various diseases. kalka is the most common mode of administration, which used as both internal and external.The drug mentioned in the context of premeha ,aparapatana, sopha, kasaswasa, vatavyadhi, hridroga , mukharoga and also urdwagatarogas. Various tribal communities are now practicing different simple combinations of *vibhitaka* for ailments like rheumatological conditions, skin disease , general debility, gastrointestinal , genitourinary diseases , mukaharoga and also using for offering to god to get progeny . *Vibhitaka*has action on bahya,abhyanthara and madhyamarogamarga.. But the use of *Vibhitaka* in clinical practice restricted to only triphalachoornam. Apart from Triphala, it has a lot of combinations in different diseases. But some of them have no evidence for supporting this data.

CONCLUSION

The drug *vibhitaka* works on different systems of the body. It cure the diseases affecting the trirogamargas. There arearound 46 simple formulations are mentioned in classics. It has been used for swasa ,kasa ,pandu, switra .krimi, apatantraka, hridroga, etc . Most of the karmas scientifically proved by modern era .The chemical constituents such as Gallo-tannic acid, resins , Ellagic acid, gallic acid, lignans, 7-hydroxy 3'4' flavone , Tannins, chebulic acid, β- sitosterolmannitol are believed to be responsible for this action .Therefore, this plant is significantly used for the treatment and prevention of diseases. But some therapeutical uses have no scientific evidences to support the data. Therefore, conducting further studies will be beneficial for healthcare system.

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