

Egyptian Journal of Botany

http://ejbo.journals.ekb.eg/



Batrisu Vasanu: A Folk Polyherbal Formulation of Gujarat from the Perspective of Unani medicinal System

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HERBAL remedies with different therapeutic properties assume a huge part during pregnancy, labour, and post-pregnancy periods across the globe. Batrisu vasanu or Katlu is an ethnobotanical popular polyherbal folk Galactagogue and postpartum remedy from Gujarat. It is only traditionally practiced and suggested by elderly members of society in the postpartum phase. As the preparation and its uses are not reported precisely earlier from the Unani system, in this study we have tried to focus on qualitative analysis of the ingredients added and their variations among marketed Batrisu vasanu products.

From 2020 to 2021, a modern study was undertaken in the central Gujarat region. Five (5) Commercial suppliers were chosen from three major districts: Vadodara, Ahmadabad, and Panchmahal. We have made the checklist from the ingredients mentioned on the pack, their botanical details were analysed using Unani and Ayurvedic Pharmacopoeias. Relative frequency of citation (RFC) was calculated to find the consistency in ingredient.

The composition of collected samples showed only 24-27 herbs per sample with a range of 7 ingredients instead of 32. Total 57 medicinal herbs of 53 species, from 49 genera belonging to 34 plant families were reported. Nine plant taxa were found in all the samples examined, with the highest Relative Frequency of Citation (RFC) value, supporting its frame for post pregnancy care.

It is concluded that samples were added with diverse types of herbs, and were having a highly inconsistent polyherbal composition. Although this polyherbal composition is not included in the Tibbi system, it gives us an opportunity to confirm the plant taxa from the Unani perspective.

Keywords: Galactagogue, Katlu, Postpartum medicine, Tibbi, Traditional medicine.

Introduction

India had an abundance of regular natural unrefined plant materials from nature. The practise of treating illnesses and diseases with common spices and plants has been prevalent since ancient times in most of the social orders in practically every state in India. Being heavy with a child and conveying a child is the most important part of a woman's life. From one end of the world to the other, it is a huge and joyful occasion. Even though it is a festival period for the lady and her loved ones giving birth is a physiological, mental, and critical event in a woman's life. She faces both emotional and physical challenges during the prepartum, delivery, and postpartum periods. Throughout the nine months, she requires physical, physiological, and mental assistance to adapt to changes in her body and the foetus. During this stage, a pregnant woman must go through various temporary stages involving physical, mental, and hormonal changes.

The periods of labor are restoratively subcategorized as the pre-conveyance time frame (prepartum), conveyance period, and the postpregnancy time frame. The postpartum period has been named the "fourth phase of work", and has three particular nonetheless nonstop stages. It is also agreed into 1. 6-12 hrs, 2. 2-6

^{*}Corresponding author email: kamartaha815@gmail.com
Received 22/09/2022; Accepted 02/03/2023
DOI: 10.21608/ejbo.2023.164643.2146
Edited by: Prof. Dr. Wafaa Amer, Faculty of Science, Cairo University, Giza, Egypt.
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weeks, 3. 2-6 months and 4. 6 months to a year (Romano et al., 2010). Every one of the stages is to be administered and extremely essential thinking about ladies' wellbeing. In the vast majority of the Southeast Asian societies, the above-mentioned period falls under the postpregnancy time frame. It is constantly viewed as a significant point bringing about the recuperation of a lady's wellbeing by offering a time of 10-45 days. During the post-pregnancy time frame, the great advancement of the youngster needs great consideration notwithstanding fair nutritious drinking of to breastfeed regimen is fundamental for the recuperation of the mother and child (Baqui et al., 2008). It is well-known as a perilous time for both mothers and new-born. This time is marked by extraordinary changes that are even more noticeable than before, with medical issues putting both mother and child in a vulnerable position. The incarceration period is the period following conveyance in which ladies and infants are bound to a specific region and she wishes to Adhere to limitations such as eating less and other practices. It is related to physical and mental confusions, as well as passionate changes in her body physiology (Jain et al., 2011).

The World Health Organization (2006) also recognized the importance of being informed about traditional practices in many societies. In general, a 40-day time frame of an additional emotionally supportive network accommodated the new mother and her kid in the best way possible. Regardless of insufficient evidence to support the circumstance and content of the postpregnancy visit, yet there is substantiation proof that this is a high time of enhanced wellbeing consideration for both mother and infant. Humoral therapeutic research discovered that pregnancy is distinguished by a hot state, but parturition is distinguished by a loss of hotness, resulting in a lady oversupply of hotness, prompting a cold state (Anonymous, 1993).

Herbals with different therapeutic properties assume a huge part during pregnancy, labor, and post-pregnancy periods across the globe. The Cultural Revolution included exhaustion and debasement of conventional recuperative information and furthermore prompted variety in philosophies of essential primary medical services framework (Gupta et al., 2003). Yet at the same time, the utilization of natural medication is common and filling in different continents of

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the planet. Still, the use of herbal remedies is predominant and rising in various parts of the world. In Gujarat, a well-known composition is widely used with a composition of 32 herbs and spices known as *Batrisu* (local name). The plant parts of *Batrisu* are equipped for focusing on one or numerous complexities related to the postpregnancy time frame. In our investigation article, we are highlighting on its composition alongside upholding the Unani pharmacopeia and its helpful effect on the mother and her infant.

Batrisu vasanu

In the current study, we are attempting to focus on one of the customary nutraceuticals utilized in Gujarati society. India is highly rich in numerous food traditions, and previous generations of women have devised and introduced several ingenious food traditional compositions to meet both our daily and remarkable needs. Every society has a customary approach to mindful and taking care of the ladies in their postpregnancy period. Subsequently, this study aims to subjectively break down the homemade polyherbal formulation utilized in the definition and the convenience, as well as the value of these natural medication plants in this formulation, proposed as a people medication, are described in this article.

From Gujarat, likewise homemade therapeutic preparation and one of the broadly devoured conventional advantageous foods, as well as an ethno medicinal galactagogue is Batrisu vasanu. The word 'Batrisu'here alludes to 32 plant species, and 'vasanu' signifies its planning. It is otherwise called Battisa or katlu and is taken during the initial three months of lactation (Mulimani et al., 2001). It is accepted to further develop lactation and wellbeing while it likewise helps the invulnerability of the mother and the infant. It is supposed to improve the lactation of the mother and her health. Over and above, it also boosts the immunity of the mother and the new born. Due to the popularity of this herbal preparation, it is widely marketed at herbal drug and condiment shops in powder form as it is generally advertised as a natural medication. In any case, without any reference for this polyherbal blend or polyherbal mixture, the botanical composition of the marketed product is a serious concern. It was put forward that all promoted items follow the normal puzzle of restorative herbals/spices in Batrisu vasanu.

Materials and Methods

The contemporary study was conducted in the central Gujarat region from 2020 to 2021. We have selected the commercial suppliers from 3 major districts Vadodara, Ahmadabad, and Panchmahal. From each district, randomly 3 shops of Saraiya (herbal suppliers) and Unani medicinal raw material suppliers were selected and visited. Each shop was enquired for the marketed product with local popular name Batrisu vasanu or Katlu and their raw material and ingredients for the same. Five products with on-pack information labels about ingredients were included in the study. We have also confirmed the same with Hakim (Unani practitioner) from the above places for their conformity with the ingredients used in this preparation (Hakim, 1991). Samples were then coded (PH01 to PH05) to maintain the confidentiality of the manufacturer for further research. Ingredients listed on packets were noted and redundant names were removed. Names of the herb written in vernacular names were validated using standard local language and scientific literature. In addition to the above, we have also enquired from the hakims for the same purpose (Hakim, 1991). Further referencing was done with standard Unani books (Gupta, 2003). Ayurvedic Pharmacopoeia of India (API) - Part I (Joshi et al., 2017), The Unani Pharmacopoeia of India -Part I (Anonymous, 2007) & Bustanul Mufradat (Urdu edition) (Hakim, 1991) were used for confirming all plant details. The data were recorded in Microsoft Excel, which was then used for statistical analysis, and graphics were presented. Relative frequency citation (RFC) value was calculated by dividing the number of times a particular species was mentioned in plant samples i.e., PH01-PH05 (FC) by the total number of plant samples (N). RFC value was calculated for all plants by the following equation:

RFC = FC/N X100

Results

To overcome the physical & physiological challenges after childbirth our society has suggested one polyherbal formulation term as a Batrisu vasanu. We have initiated this particular survey as the ingredients mentioned on the packet of commercial production houses vary in their composition. Botanically this study reports a total of 53 species belonging to 34 different families comprising of 49 genera (Table 1). The major families for these plant species were Zingiberaceae, Apiaceae, and Fabaceae. The relative frequency of citation (RFC) of these herbs ranged from 0.2 to 1.00 (Table 2). Nine plant taxa were commonly seen as in all the samples investigated which also had highest RFC value, supporting its fame for post pregnancy care (Table 3).

During the study period, a total of five samples of Batrisu vasanu from Unani and herbal raw material suppliers' products were collected. The samples were coded as PH01 to PH05 for further study. Only two samples have mentioned the manufacturing date and a detailed nutrition chart on the packet. The names of the herbal constituents were generally written in vernacular Gujarati. The number of plants per sample was highest in PH01 and lowest in PH04 (Fig. 1). The comparative account of herbal plants shows the presence of 58 plant parts and exudates in all samples. A total of 14 different plant parts like seed, stem bark, corm, floral bud, fruit, gall, kernel, leaf, mace, nutmeg, rhizome, root, tuberous root, plant exudates (gum & resin) were reported in the study. The major plant parts used in products were the roots, fruits & seeds (18.96%) followed by stem bark (17.24%) (Fig. 2).

Out of 53 plants 12 plants were used in Unani System of Medicines in curing gynaecological disorders of which one plant species is suggested to be for abortifacient, six for emmenagogues, two species having stimulant action on uterine muscles and three species having depressant action on uterine muscles (Kumar, 2014).

Discussion

Katlu or Batrisu is the Gujarati approach to feeding the nursing moms as well as the newborn child, which is involving this specific plan in powder structure. Different plant morphological sources and various flavours are additionally utilized generously in this body warming preparation. We have started this particular survey on the ingredients and composition mentioned on the packet from various commercial production houses, which are quite different. The comparative account of folk herbal ingredients depicts the presence of overall 58 ingredients in total from all the samples procured from the market. However, present-day science talks about the nutraceutical nature of any item depending on its phytoconstituents. To focus more on normalization to figure out the adequacy of crude herbal raw materials from plant sources.

					Plant narts and
Sr. No.	Scientific name	Family	Unaniname	Local name	exudates used
-	Abutilon glaucum (Cav.) Sweet	Malvaceae	Kanghi	Balbij, Baldana	Sd
2	Alpinia galanga (L.) Willd.	Zingiberaceae	Khoolanjan	Panjad, Khulinjan	Rh
б	Anethum graveolens Ucria	Apiaceae	Tukhm Soya	Suva	Sd
4	Asparagus recemosus (Wild)	Asparagaceae	Satawar	Shatavari	Ro
5	Bambusa arundinacea (Retz.) Willd.	Poaceae	Tabasheer	Vaskapoor, Vanslochan	Pe
9	Bombax ceiba L.	Malvaceae	Mochras, Sainbhal	Shimaro	Pe
7	Butea monosperma (Lam.) Kuntze	Fabaceae	Kamarkash	Keshudo	Pe
8	<i>Centaurea behen</i> Lam.	Asteraceae	Behman Safed	Behman Safed	Ro
6	Chlorophytum borivilianum Santapau & R.R.Fern.	Asparagaceae	Musli safaid	Safed Musli	Ro
10	Cinnamomum camphora (L.) J.Presl	Lauraceae	Kapoor	Kapoor	Pe
1			Taj	Taj	Sb
11		Lauraceae	Tejpatta	Tamal patra, Tajpatra	Lf
12	Cocos nucifera L.	Arecaceae	Nariyal	Nariyal	Fr
13	Colchicum luteum Baker	Colchicaceae	Sooranjan	Suranjan	C & Sd
14	Coriandrum sativum L.	Apiaceae	Kashneez Khushk	Dhana	Fr
15	Cuminum cyminum L.	Apiaceae	Zeera safaid	Jeera	Sd
16	Curculigo orchioides Gaertn.	Amaryllidaceae	Musli siyah	Kali Musli	Rh
17	Curcuma longa L.	Zingiberaceae	Zardchob, Haldi	Haldar	Rh
18	Dactylorhiza hatagirea (D.Don) Soo	Orchidaceae	Salab misri	Salampanja, Panjabi Salam	Ro
19	Elettaria cardamomum (L.) Maton	Zingiberaceae	Heel Khurd	Elaichi	Fr
20	Foeniculum vulgare Mill.	Apiaceae	Saunf	Variyali	Fr
21	Hygrophila auriculata (Schumach.) Heine	Acanthaceae	Talmakhana	Ekharo	Sd
22	<i>Ipomoea hederacea</i> Jacq.	Convolvulace ae	Habbunneel	Mughalai	Sd
23	Lepidium sativum L.	Cruciferae	Tukhme Hilyun	Asaliyo, Aseriya	Sd
24	Mesua ferrea L.	Guttifereae	Zafran	Nagkesar	FI
25	<i>Mucuna prurita</i> Wight	Fabaceae	Kauch	Safed Kaucha	Sd
96	Ministica functions Houtt	Munichicasaa	Iatmbal	Javintri	Ma
07	MAN BRICH JU HELAND TIONH.	INTATIONCACCAC	Jay pilal	Jayphal	Nu
27	Orchis latifolia L.	Orchidaceae	Sualab misri	Salabmisri	Ro

TABLE 1. Enumeration of plant species listed on five different samples

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Sr. No.	Scientific name	Family	Unaniname	Local name	Plant parts and exudates used
28	Paeonia officinalis L.	Paeoniaceae	Ood Saleeb	Peony	Ro
29	Phoenix dactylifera L.	Arecaceae	Khurma	Khajoor	Fr
30	Pinus gerardiana Wall. Ex D.Don	Pinaceae	Maghz Chilghoza	Chilgoza	Sk
31	Piper longum L.	Piperaceae	Filfil Daraz	Ganthoda,Pipalimool Lindineenar Pinali	Ro Fr
32	Piper nigrum L.	Piperaceae	Filfil Siyah	Kala Mari	Sd
33	Pistacia vera L.	Anacardiaceae	Maghaze pista	Pista	Sk
34	Plantago ovata Forssk.	Plantaginaceae	Luab Aspghol	Isabgol dana, Othamijiru	Sd
35	Prunus amygdalus Batsch	Rosaceae	Maghaze badam	Badamgir	Sk
36	Pueraria tuberosa (Roxb. Ex Willd.) DC.	Fabaceae	Badari kund	Vidarikand,	Tu
37	Quercus infectoria G. Olivier	Fagaceae	Mazoo	Mayafal, Maujoophal	Ga
38	Rubia cordifolia L.	Rubiaceae	Majeeth	Manjistha	Ro
39	Salvia haematodes L.	Lamiaceae	Behman surkh	Behman Lal	Ro
40	Sida acuta Burm.f.	Malvaceae		Bala	Ro
41	Symplocos racemosa Roxb.	Symplocaceae	Lodh Pathani	Lodhar	Sb
42	Syzygium aromaticum (L.) Merr. & L.M. Perry	Myrtaceae	Qaranfal	Laving	FI
43	Terminalia arjuna (Roxb. Ex DC.) Wight & Arn.	Combretaceae	Arjun	Arjun	Sb
44	Terminalia bellirica (Gaertn.) Roxb.	Combretaceae	Balela	Baheda	Sb
45	Terminalia tomentosa Wight & Arn.	Combretaceae		Sadad, Asana	Sb
46	Trachyspermum ammi (L.) Sprague	Apiaceae	Ajwain	Ajwain, Ajmo	Fr
47	Trapa bispinosa Roxb.	Lytheraceae	Singhara Khushk	Singhara nut	Fr
48	Tribulus terrestris L.	Zygophyllace ae	Kharkhasak	Gokhru	Fr
49	Trigonella foenum-graecum L.	Fabaceae	Hulba	Methi	Sd
50	Vitex negundo L.	Verbenaceae	Sambhaloo	Nirgundi, Harenu, Renuka	Fr
51	Withania somnifera (L.) Dunal	Solanaceae	Asgandh	Ashwagandha	Ro
62	Zanthorndum annatum DC (Errit)	Dutanaa	Vahahhanda	Tejbal	Fr
7C	zannoxyuun urmanun DC.(rum)	NULACEAC	Nauaukilaliua	Tejovati	Sb
Abbreviati Exudates (ions: Rhizome (Rh); Root (Ro); Tuberous root (Tu); Stem bark (Sb); Corm (C); Pe).	Leaf (Lf); Flower bud (Fl); Fruit (l	Fr); Seed (Sd); Seed Kerne	l (Sk); Gall (Ga); Nutmeg (Nu); Mi	ace (Ma); Plant

TABLE 1 Cont.

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Sr. No.	Botanical name	Plant parts and exudates used	PH01	PH02	PH03	PH04	PH05	RFC value	Approximate amount of plant parts and exudates used (grams)
-	Abutilon glaucum (Cav.) Sweet	Sd.	-	0	0	0	0	0.2	10
2	Alpinia galanga (L.) Willd.	Rh.	0	1	-	0	0	0.4	10
ŝ	Anethum graveolens L.	Sd.	0	1	0	0	1	0.4	10
4	Asparagus recemosus Willd.	Ro.	1	1	1	1	1	1	20
5	Bambusa arundinacea (Retz.) Willd.	Pe.	0	0	0	1	0	0.2	10
9	Bombax ceiba L.	Pe.	1	0	0	0	1	0.4	10
7	Butea monosperma (Lam.) Kuntze	Pe.	1	0	1	0	1	0.6	10
8	<i>Centaurea behen</i> Lam.	Ro.	-	1	1	1	0	0.8	15
6	Chlorophytum borivilianum Santapau & .R.Fern.	Ro.	-	0	1	0	1	0.6	25
10	Cinnamomum camphora (L.) J.Presl	Pe.	-	0	0	0	1	0.4	10
5	Cinnamomum tamala (Buch.Ham.)T.Nees &	Sb.	-	0	0	1	1	0.6	10
11	C.H.Eberm.	Lf.	-	0	0	1	1	0.6	25
12	Cocos nucifera L.	Fr.	0	1	0	0	0	0.2	10
13	Colchicum luteum Baker	C & Sd.	0	0	1	0	0	0.2	25
14	Coriandrum sativum L.	Fr.	0	1	1	0	0	0.4	10
15	Cuminum cyminum L.	Sd.	0	0	0	1	0	0.2	10
16	Curculigo orchioides Gaertn.	Rh.	-	0	-	0	-	0.6	30
17	Curcuma longa L.	Rh.	-	1	-	0	-	0.8	10
18	Dactylorhiza hatagirea (D.Don) Soo	Ro.	1	0	1	0	0	0.4	15
19	Elettaria cardamomum (L.)Maton	Fr.	-	1	-	1	-	1	10
20	Foeniculum vulgare Mill.	Fr.	0	0	0	1	0	0.2	10
21	Hygrophila auriculata (Schumach.) Heine	Sd.	1	1	1	0	0	0.6	10
22	<i>Ipomoea hederacea</i> Anon.	Sd.	1	0	0	0	0	0.2	10
23	Lepidium sativum L.	Sd.	0	-	1	0	0	0.4	10
24	Mesua ferrea L.	FI.	-	0	0	1	-	0.6	15
25	<i>Mucuna prurita</i> Wight	Sd.	1	1	1	1	1	1	50
č		Ma.	-	1	-	1	-	1	20
07	Myristica fragrans Houti.	Nu.	1	1	1	1	1	1	10
27	Orchis latifolia L.	Ro.	1	1	0	1	0	0.6	20
28	Paeonia officinalis Thunb.	Ro.	0	1		0	0	0.4	10

TABLE 2. Instredients in five different samples (PH01-PH05) and relative frequency of citation (RFC) value

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TABLE	2. Cont.								
Sr. No.	Botanical name	Plant parts and exudates used	PH01	PH02	PH03	PH04	PH05	RFC value	Approximate amount of plant parts and exudates used (grams)
29	Phoenix dactylifera L.	Fr.	0	-	-	0	0	0.4	50
30	Pinus gerardiana Wall. ex D.Don	Sk.	0	1	0	0	0	0.2	10
, 1 1	D:=2 1	Ro.	1	1	1	-	-	-	50
10	riper tongum L.	Fr.	1	0	0	0	1	0.4	30
32	Piper nigrum L.	Sd.	1	1	1	1	1	1	15
33	Pistacia vera L.	Sk.	0	0	0	0	-	0.2	10
34	Plantago ovata Forssk.	Sd.	0	0	0	0		0.2	10
35	Prunus amygdalus Batsch	Sk.	0	0	0	0	1	0.2	10
36	Pueraria tuberosa (Roxb. ex Willd.) DC.	Tu.	1	0	0	0	0	0.2	10
37	Quercus infectoria G. Olivier	Ga.	0	0	1	0	0	0.2	25
38	Rubia cordifolia L.	Ro.	1	0	0	0	0	0.2	10
39	Salvia haematodes L.	Ro.	1	1	1	1	0	0.8	10
40	Sida acuta Burm.f.	Ro.	1	0	1	0	0	0.4	10
41	<i>Symplocos macrophylla</i> subsp.Rosea (Bedd.) Noot.	Sb.	1	0	0	0	1	0.4	10
42	Syzygium aromaticum (L.) Merr. & L.M. Perry	Fl.	0	0	0	1	0	0.2	10
43	Terminalia arjuna (Roxb. ex DC.) Wight & Arn.	Sb.	0	1	1	1	0	9.0	10
44	Terminalia bellirica (Gaertn.) Roxb.	Sb.	0	0	0	-	0	0.2	10
45	Terminalia tomentosa Wight & Arn.	Sb.	0	0	1	0	0	0.2	10
46	Trachyspermum ammi (L.) Sprague	Fr.	0	0	0	1	0	0.2	10
47	<i>Trapa bispinosa</i> Roxb.	Fr.	0	1	1	0	0	0.4	15
48	Tribulus terrestris L.	Fr.	1	0	0	0	0	0.2	30
49	Trigonella foenum-graecum L.	Sd.	0	1	1	1	0	0.6	15
50	Vitex negundo L.	Fr.	1	0	0	0	0	0.2	10
51	Withania somnifera (L.) Dunal	Ro.	1	1	1	-	-	-	50
63		Fr.	1	-	1	1	-	-	10
76	zannoxyum armatum DC.	Sb.	0	1	0	1	-	0.6	20
53	ZIngiber officinale Roscoe	Rh.	1		-	-1			50
Abbreviati Exudates (l	ons: Rhizome (Rh); Root (Ro); Tuberous root (Tu); Stem bar Pe).	k (Sb); Corm (C); Leaf (Lf); Flower	bud (Fl); Fri	uit (Fr); Seed	l (Sd); Seed I	ćernel (Sk); (Gall (Ga); Nı	utmeg (Nu); Mace (Ma); Plant

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Sr. No.	Scientific name	Plant part	Therapeutic action
1	Asparagus racemosus Willd.	Root	To treat Lactation Problems (Yadav et al., 2006), Increased Milk production concurrent with increased growth of mammary glands (Farzana et al., 2016), Female tonic, in threatened abortion, preeclampsia associated with pregnancy, galactogogue (Karemore & Avari, 2017).
2	Elettaria cardamomum (L.) Maton	Fruit	Aids in digestion (Korikanthimathm et al., 2001), antiemetic & antispasmodic (Goyal, 2017). Useful in general weakness, diuretic, useful in abdominal Pain & piles (Gogte, 2000).
3	Mucuna prurita Wight	Seed	Aphrodisiac, Anti galactagogue, Fertility promotion effect, Anti- inflammatory, promotes muscle mass and body weight, high nutritional property, useful in impotence and oligospermia (Gogte, 2000)
4	Myristica fragrans Houtt.	Mace, Nutmeg	Stimulant of menstruation, dysmenorrhoea, used in impotency & premature ejaculation (Gogte, 2000). Anti-oxidant, anti-inflammatory & anti-collagenolytic activity (Jangid et al., 2014).
5	Piper longum L.	Root	Galactagogue, digestive & haematinic (Goyal, 2017). Brain tonic, rejuvenator Increased breast milk secretion (Sonitha & Kumar, 2021).
6	Piper nigrum L.	Seed	Galactagogue (Luecha & Umehara, 2013)
7	Withania somnifera (L.) Dunal	Root	Antianxiety & neuroprotective (Kulkarni & Dhir, 2008). General tonic (Umadevi et al., 2012). Galactogogue (Roqaiya et al., 2015).
8	Zanthoxylum armatum DC.	Bark	Improves speech and increase saliva secretion, abortifacient, antifertility and antipyretic (Alam & Saqib, 2015).
9	Zingiber officinale Roscoe	Rhizome	Anti-hyperglycaemic (Kulkarni et al., 2008). Antiemetic, antispasmodic and anti-inflammatory (Goyal, 2017).

TABLE 3. Nine common plants found in all five samples



Fig. 1. Number of various plant parts and exudates in five samples

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Fig. 2. Number of uses per plant parts and exudates

This is a primary systematic investigation of Batrisu vasanu items sold over the counter on the lookout in all the raw material dealers. We have also tried to correlate Unani traditional raw material and its efficacy in this formulation. These discoveries are essentially vital to comprehend the various ingredients of Batrisu and the accompaniments in it. Even though customarily Batrisu implies 32 herbs, the current review shows as it were 24-27 ingredients per sample. Meanwhile, it shows 32 herbs only in one sample (PH01) and the rest of the other samples show an inconsistent number of ingredients (PH02, PH03, PH04, PH05). This outcome demonstrates the conflicting numbers of plant ingredients. These observations are significantly important to understand the variation of ingredients. It also indicates the uneven numbers of herbs in Unani marketed samples. The result of the calculated RFC value depicts some of these plants such as Shatavar, Filfil Daraz, Filfil Siyah, Asgandh and Sunth act as a Galactogogues (Luecha & Umehara, 2013; Rogaiya et al., 2015; Goyal, 2017; Kwan & Abdul-Rahmna, 2021) and rest others Heel Khurd, Koch, Javphal, Javitry, Kababkhanda are known for their diuretic, aphrodisiac, neuroprotective, brain tonic, anti-inflammatory, general tonic, muscle building, digestive, nourishing the body activity etc. (Gogte, 2000). The plants are Shatavar, Asgandh and Filfil Siyah find their reference as a Galactogogues in Unani as well as Ayurveda (Luecha & Umehara, 2013; Roqaiya et al., 2015; Goyal, 2017). Scientific names of the investigated plants are listed in Table-1. Out of 53 plants Unani system describes 17 plants are galactagogue (Roqaiya et al., 2015; Farzana et al., 2016). Ayurveda describes 32 plants as a galactagogue and referred as Stanyajanan and Kseerjanana (Srikanth et al., 2015). In earlier studies by Khare (2007) and Charola et al. (2022) they have reported that the Gokshura is utilized as a diuretic, calming, anabolic, cardiotonic and for hackasthma. It is also utilized as a component of natural decoction given to new mothers (Jain et al., 2011; Chaturvedi et al., 2017). While in our survey, only one (PH01) sample depicted the presence of Gokshura.

All the commercial samples depict the presence of Galactogogues. From the present study, we have also recorded that all samples have an inconsistent herbal composition in the terms of Galactagogue plants. Out of five samples, having variation in terms of galactagogue plants

i.e., PH01 and PH04 has 9; PH02 has 12; PH03 has 10 and PH05 has 8 respectively. Rest others include some Ayurvedic drug plants or they might be using substitution drug plants. As in Ayurvedic literature, substitutive drug plant names already have been mentioned (Farzana et al., 2016). Among various reports of postpartum care, root, leaf, and seed are highly referred plant parts (Kankara et al., 2015). A comparable outcome was acquired as root; fruit & seed are predominately-involved parts in Batrisu vasanu. Further, the result of just 24 plant taxa (48.97%) having RFC more than 0.5 demonstrated a profoundly conflicting natural structure.

In spite of the fact that it appears to be encouraging, clinical exploration in this region needs more consideration as it concerns the soundness of the youngster and mother both. In Asia, herbal and polyherbal combinations for selftreatment and as food enhancements can be handily bought from condimental shops and conventional healers (AlBraik et al., 2008). It frequently does not adhere to any guidelines because of the absence of neighborhood administrative bodies, which represents a greater test intending to somewhere safe, secure and quality worries. Further, we observed that commercial suppliers do not follow any standards during collection and processing for the safety and quality of this 32 vasanu formulation. However, the reported irregularity in samples signals a serious health concern for new mothers as well as newborn. In this way, it is perceived that post-pregnancy wellbeing concerns are serious and requires more consideration due to these customary practices, informal eating regimen, and ethno medicine utilization.

Conclusion

As per the above discussion with reference to Galactagogues we conclude that PH02 and PH03 having more Galactagogues plants 12 and 10 respectively. Therefore, PH02 and PH03 are more effective, reliable & postpartum healer polyherbal Batrisu vasanu formulation than the other 3 samples. In this appraisal, the different quantities of therapeutic plant taxa and their conflicting utilization in monetarily promoted Batrisu vasanu items are finished up. Further, the lopsided number of spices added per item and their changed kinds infer something similar end. The customary conviction with Batrisu vasanu is as a Galactagogue and post-pregnancy healer. Nevertheless, the revealed anomaly in examples flags a genuine wellbeing worry for new moms as well as new-born. For the security of both, it is fundamental that pharmacokinetics and bioavailability data of this polyherbal item ought to be concentrated in detail. Such endeavours won't just regularize its quality yet will likewise build its adequacy as folk medicine.

Over and above, this is an attempt to answer two questions on the production of herbal and folk products as they have been suggested and used in certain cultures and societies for centuries. First, has the performance of the herbal and conventional sectors been extraordinary?. Preliminary analysis shows that this productiveness, which has a concentrated market structure, is growing at a much higher rate than that of overall trade. Considering the fact that these informal products are quite similar to Ayurvedic, therapeutic ingredients are sourced differently and namely. The second question is: what are the challenges faced by the folk and alternative medicine manufacturing sector? The paper also throws light on the economic relevance of folk or traditional knowledge and scientific knowledge. Ayurvedic practice in modern India reflects a prolonged history of standardization and professionalization that transformed certain aspects of this medical tradition. India needs to identify the extent to which Ayurvedic therapeutics and traditional medicines or nutraceuticals are safe and effective so that they could get wide global acceptance. Ayurvedic practice in present-day India reflects a delayed history of normalization and professionalization that changed specific parts of this clinical custom. India necessities to recognize the degree to which Ayurvedic therapeutics and customary medications or nutraceuticals are protected and successful so that they could get wide worldwide approval.

Acknowledgement: Authors are thankful to the Department of Botany, The Maharaja Sayajirao University of Baroda for providing the lab facilities. UGC DRS II and DST-FIST programme is also acknowledged.

Competing interest: The authors declare no conflict of interest.

Authors' contributions: Kamartaha Saiyed performed the fieldwork, collection of data and writing. Kavi Oza assisted with data analysis; write up and Vinay Raole suggested the concept, assisted with writing and edited the text.

Funding: The first author is thankful to Government of Gujarat for SHODH (Scholarship of Developing High quality research) Fellowship for financial support.

Ethical approval: Not applicable.

References

- Alam, F., Saqib, Q.N.U. (2015) Pharmacognostic study and development of quality control parameters for fruit, bark and leaf of Zanthoxylum armatum (Rutaceae). *Ancient science of life*, **34**(3), 147-155.
- AlBraik, F.A., Rutter, P.M., Brown, D. (2008) A cross-sectional survey of herbal remedy taking by United Arab Emirate (UAE) citizens in Abu Dhabi. *Pharmacoepidemiology and Drug Safety*, **17**(7), 725-732.
- Anonymous (1993) National Formulary of Unani Medicine, Part-1, Urdu Edition, Government of India Ministry of Health & Family Welfare Department of Health, New Delhi.
- Anonymous (2007) The Unani Pharmacopoeia of India. Part - I. Central Council for Research in Unani Medicine, on behalf of Ministry of health & Family Welfare (Dept. of AYUSH), Govt. of India.
- Baqui, A., Williams, E.K., Rosecrans, A.M., Agrawal, P.K., Ahmed, S., Darmstadt, G.L., et al. (2008) Impact of an integrated nutrition and health programme on neonatal mortality in rural northern India. *Bulletin of the World Health Organization*, **86**, 796-804A.
- Charola, S., Tadvi, B., Albert, S., Suresh, B., Nair, S. (2022) Analysis of a polyherbal galactagogue Batrisu vasanu, an indigenous Indian ethnomedicine. *Indian Journal of Natural Products and Resources (IJNPR)* [Formerly Natural Product Radiance (NPR)], **12**(4), 610-616.
- Chaturvedi, A., Tiwari, A.K., Mani, R.J. (2017) Traditional practices of using various medicinal plants during postnatal care in Chitrakoot district. *Indian Journal of Traditional Knowledge*, **16**, 605– 613.

Egypt. J. Bot. **63,** No.2 (2023)

- Farzana, M., Shiffa, M., Fahamiya, M. (2016) Herbs used as Mudir e Laban (Galactogogue) in Unani Medicine. *International Journal of Advance Pharmacological, Medical and Biological Science*, 2016, 1-8.
- Gogte, V.M. (2000) Ayurvedic Pharmacology & Therapeutic Uses of Medicinal Plants (Dravyagunavignyan), Bharatiya Vidya Bhavan's Swami Prakashananda Ayurveda Research Centre, Kalapati Munshi Marg Mumbai.
- Goyal, M. (2017) Use of ethnomedicinal plants for prophylaxis and management of postpartum complications among the Marwari community of Jodhpur District of Rajasthan. *Food Quality and Safety*, 1(3), 203-210.
- Gupta, A.K. (2003) "Handbook on Unani medicine with Formulae, Processes, Uses and Analysis". Asia Pacific Business Press Inc. Delhi: India.
- Gupta, M., Kapoor, A.C., Khetarpaul, N. (2003) Development, acceptability and nutrient composition of traditional supplementary foods consumed by lactating women in India. *Nutrition and Health*, **17**(2), 147-155.
- Hakim, M.A. (1991) Bustan-ul-Mufradat. Tarraqui Urdu Publication, Lucknow, India.
- Jain, N., Goyal, S., Ramawat, K.G. (2011) Evaluation of antioxidant properties and total phenolic content of medicinal plants used in diet therapy during postpartum healthcare in Rajasthan. *International Journal of Pharmacy and Pharmaceutical Sciences*, 3(3), 248-253.
- Jangid, K., Jayakumar, N.D., Varghese, S.S. (2014) Achievable therapeutic effects of Myristica fragrans (Nutmeg) on periodontitis a short review. *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(5), 591-594.
- Joshi, V.K., Joshi, A., Dhiman, K.S. (2017) The Ayurvedic Pharmacopoeia of India, development and perspectives. *Journal of Ethnopharmacology*, 197, 32-38.
- Kankara, S.S., Ibrahim, M.H., Mustafa, M., Go, R. (2015) Ethnobotanical survey of medicinal plants used for traditional maternal healthcare in Katsina state, Nigeria. *South African Journal of Botany*, 97, 165-175.

- Karemore, M.N., Avari, J.G. (2017) Herbal medicines used during pregnancy, childbirth and postpartum care. *International Journal of Pharmaceutical Sciences and Research*, 8(12), 5326-5335.
- Khare, C.P. (2007) "*Indian Medicinal Plants*", (Springer Science & Business media, LLC).
- Korikanthimathm, V.S., Prasath, D., Rao, G. (2000) Medicinal properties of cardamom Elettaria cardamomum. *Journal of Medicinal and Aromatic Plant Sciences*, 22, 683-685.
- Kulkarni, S.K., Dhir, A. (2008) Withania somnifera: An Indian ginseng. Progress in Neuropsychopharmacology and Biological Psychiatry, 32(5), 1093-1105.
- Kumar, N. (2014) Unani Medicinal Plants Used in Gynological Disorders from Tehsil Joginder Nagar, District Mandi, HP, India. *International Journal of Scientific and Research Publications*, 4(4), 1-8.
- Kwan, S.H., Abdul-Rahman, P.S. (2021) Clinical study on plant Galactagogue worldwide in promoting women's lactation: A scoping review. *Plant Foods for Human Nutrition*, **76**(3), 257-269.
- Luecha, P. Umehara, K. (2013) Thai medicinal plants for promoting lactation in breastfeeding women. In: "Handbook of Dietary and Nutritional Aspects of Human Breast Milk". pp. 645-654. <u>https://doi.org/10.3920/978-90-8686-764-6_38</u>
- Mulimani, G., Sharada, G., Naik, R.K., Bharati, P., Saroja, K. (2001) Nutritional Composition of Traditional Supplementary Foods Consumed by Gujarathi Lactating Mothers. *The Indian Journal of Nutrition and Dietetics*, **38**, 307-311.
- Romano, M., Cacciatore, A., Giordano, R., La Rosa, B. (2010) Postpartum period: three distinct but continuous phases. *Journal of Prenatal Medicine*, 4(2), 22.
- Roqaiya, M., Begum, W., Khan, A.A. (2015) A Review on Galactogogue Herbs of Unani Medicine. *Journal* of Pharmacognosy and Phytochemistry, 4(2), 112-115
- Sonitha, S., Kumar, S.P. (2021) Traditional practices of postnatal care using medicinal plants in Tirunelveli district, Tamil Nadu, India. *Journal of Medicinal Plants*, 9(5), 59-62.

Egypt. J. Bot. 63, No. 2 (2023)

- Srikanth, N., Manujula, Tewari, D., Haripriya, N., Mangal, A. (2015) Plant based Galactagogues in Ayurveda: A promising move towards drug development. *World Journal of Pharmacological Research*, 4(11), 687–705.
- Umadevi, M., Rajeswari, R., Rahale, C.S., Selvavenkadesh, S., Pushpa, R., Kumar, K.S., Bhowmik, D. (2012) Traditional and medicinal uses of Withania somnifera. *The Pharma Innovation*, 1(9), 102-110.
- World Health Organization. (2006) Glion consultation on strengthening the linkages between reproductive health and HIV/AIDS: Family planning and HIV/AIDS in women and children (No. WHO/ HIV/2006.02).
- Yadav, J.P., Kumar, S., Siwach, P. (2006) Folk medicine used in gynecological and other related problems by rural population of Haryana. *Indian Journal of Traditional Knowledge*, 5(3), 323-326.