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## Compendious Review on *Ashwagandharista*: An Ayurvedic Tonic



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### ABSTRACT

*Sandhana Kalpana* prove more beneficial in the treatment of many diseases as it has medicinal as well as nutritive value, important one is alcohol generated during process work as a solvent for maximum extraction of raw drug as well as preservative. Compare to other preparation it is having longer shelf life. Quick absorption and maximum bioavailability in short duration. It spreads to all tissues of other body rapidly. *Ashwagandharishta* is an Ayurvedic polyherbal preparation mentioned in *Bhaishajya Ratnavali* in *Murchharogadhikara* notorious for its motley therapeutic uses. *Ashwagandharishta* is widely used as a *Rasayana*, which protracts lifespan and rejuvenates the body. The name *Ashwagandharishta* comes from its chief ingredient *Ashwagandha*, a herb. The roots of *Ashwagandha* are exploited as an adaptogen in both Ayurveda and Unani system of medicine. In present review, an attempt was made to compile available literature on *Ashwagandharista* from classical treatises, online sources.



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## INTRODUCTION:

Natural products have been an important resource for maintaining life for ages. Even today, natural products are becoming increasingly important as alternative medicines and source of pharmacotherapeutics either directly or as raw materials from which more or less complex chemical structures with proven biological activity are isolated. The last few decades have seen a resurgence of interest in the use of herbal products.<sup>1</sup>

Most of the *Ayurvedic* herbal dosage forms have shorter shelf life. So it was thought by our *Acharyas* to develop some herbal dosage form which have long shelf life and enhance the therapeutic efficacy of a drug with improved therapeutic value than their initial form.

*Sandhana Kalpana* supersedes all other *Kalpanas* because of its high efficacy, quick effect, lesser therapeutic dose, long shelf life, palatability, good smell and universal acceptance. Our *Acharyas* have always tried to make the preparations more palatable, potent and with longer shelf life. An unabated effort in this direction yielded a procedure called as *Sandhana Kalpana*. *Asava* and *Arishtas* are the two major formulations of *Sandhana Kalpana*.

According to *Acharya Sharangdhar Asava & Arishta* defined as alcoholic preparations prepared with without *Kwatha* and with *Kwatha* respectively. *Asava* and *Arishta* are prepared by soaking the drugs in powder form or in the form of *Kashaya* in a solution of sugar or jaggery for a specific period of time during which it undergoes fermentation. This anaerobic fermentation produces self-generated alcohol thus facilitating the dissolution of the active principles in the liquid media contained in the drugs. The alcohol so generated also serves a preservative in the formulae.

*Guda*, *Sharkara* and *Madhu* are the most commonly used sweetening substances and they are responsible for the production of alcohol. There are many references available for the use of different sweetening substances for the manufacturing of *Asava* and *Arishta*.

*Ashwagandharista* is a well-known polyherbal hydroalcoholic *Ayurvedic* formulation of *Sandhana kalpana (Arishta Kalpana)* and it is only mentioned in *Bhaishajya Ratnavali* in *Murchharogadhikara*. This medicine is effective in the treatment of *Murchha* due to many reason.

**Table 1. References available for *Ashwagandharista***

| Sr.no. | Name of Text books  | Time Period                   |
|--------|---|-------------------------------|
| 1.     | <i>Bhaisajya Ratnavali</i> <sup>ii</sup>                          | 18 <sup>th</sup> century A.D. |
| 2.     | <i>Rasa Tantra Sara and Siddhaprayoga Sangraha</i> <sup>iii</sup> | 21 <sup>st</sup> century A.D. |
| 3.     | <i>Ayurveda Sara Sangraha</i> <sup>iv</sup>                       | 21 <sup>st</sup> century A.D. |
| 4.     | The Ayurvedic formulary of India                                  | 21 <sup>st</sup> century A.D  |
| 5.     | Ayurvedic Pharmacopeia of India                                   | 21 <sup>st</sup> century A.D  |

**Table 2: Constituents of *Ashwagandharista***

| Sr.no.                | Name of drug       | Botanical name                       | Family name    | Part to be use | Quantity of the drug |
|-----------------------|--------------------|--------------------------------------|----------------|----------------|----------------------|
| <b>Kvath Dravayas</b> |                    |                                      |                |                |                      |
| 1.                    | <i>Asvagandha</i>  | <i>Withania somnifera</i> Dunal.     | Solanaceae     | Rt.            | 2.4 kg               |
| 2.                    | <i>Musali</i>      | <i>Chlorophytum tuberosum</i> Baker. | Asparagaceae   | Rt.            | 960 g                |
| 3                     | <i>Manjistha</i>   | <i>Rubia cardifolia</i> Linn.        | Rubiaceae      | Rt.            | 480 g                |
| 4                     | <i>Haritaki</i>    | <i>Terminalia chebula</i> Retz.      | Combretaceae   | P .            | 480 g                |
| 5                     | <i>Haridra</i>     | <i>Curcuma longa</i> Linn.           | Zingiberaceae  | Rz.            | 480 g                |
| 6                     | <i>Daruharidra</i> | <i>Berberis aristate</i> DC.         | Berberidaceae  | St.            | 480 g                |
| 7                     | <i>Yastimadhu</i>  | <i>Glycyrrhiza</i>                   | Papillionaceae | Rt .           | 480 g                |

|                         |                                      |   |                |         |                             |
|-------------------------|--------------------------------------|---|----------------|---------|-----------------------------|
|                         |                                      | <i>glabra</i> Linn.                           |                |         |                             |
| 8                       | <i>Rasna</i>                         | <i>Pluchea lanceolata</i> C.B. Clarke         | Asteraceae     | Rt./Lf. | 480 g                       |
| 9                       | <i>Vidari</i>                        | <i>Pueraria tuberosa</i> Linn.                | Leguminosae    | Rt.Tr.  | 480 g                       |
| 10                      | <i>Arjuna</i>                        | <i>Terminalia arjuna</i> Roxb.                | Combretaceae   | St.Bk.  | 480 g                       |
| 11                      | <i>Mustaka</i>                       | <i>Cyperus rotundus</i> Linn.                 | Cyperaceae     | Rz.     | 480 g                       |
| 12                      | <i>Trivrt</i>                        | <i>Ipomoea turpethum</i> R.Br.                | Convolvulaceae | Rt.     | 480 g                       |
| 13                      | <i>Sveta sariva</i>                  | <i>Hemidesmus indicus</i> Linn.               | Apocynaceae    | Rt.     | 384 g                       |
| 14                      | <i>Krisna sariva</i>                 | <i>Cryptolepis buchanani</i> Roem and Schult. | Asclepiadaceae | Rt.     | 384 g                       |
| 15                      | <i>Sveta Chandana</i>                | <i>Santalum album</i> Linn.                   | Santalacea     | Ht.Wd.  | 384 g                       |
| 16.                     | <i>Rakta Chandana</i>                | <i>Pterocarpus santalinus</i> Linn f.         | Leguminosae    | Ht.Wd.  | 384 g                       |
| 17.                     | <i>Vaca</i>                          | <i>Acorus calamus</i> Linn.                   | Araceae        | Rz.     | 384 g                       |
| 18.                     | <i>Citraka</i>                       | <i>Plumbago zeylanica</i> Arg.                | Plumbaginaceae | Rt.     | 384 g                       |
| 19.                     | <i>Jala for decoction reduced to</i> | <i>Water</i>                                  |                |         | 98.3041 lit.<br>12.288 lit. |
| <b>Praksepa dravyas</b> |                                      |   |                |         |                             |
| 20.                     | <i>Madhu</i>                         | <i>Honey</i>                                  |                |         | 14.4 kg                     |
| 21.                     | <i>Dhataki</i>                       | <i>Woodfordia fruticosa</i> Linn Kurz.        | Lytheraceae    | Fl .    | 768 g                       |

|     |                   |  |               |         |       |
|-----|-------------------|--|---------------|---------|-------|
| 22. | <i>Sunthi</i>     | <i>Zingiber officinale (Linn) Roxb.</i>  | Zingiberaceae | Rz.     | 96 g  |
| 23. | <i>Marica</i>     | <i>Piper nigrum Linn.</i>                | Piperaceae    | Fr .    | 96 g  |
| 24. | <i>Pippali</i>    | <i>Piper longum Linn.</i>                | Piperaceae    | Fr.     | 96 g  |
| 25. | <i>Tvak</i>       | <i>Cinnamomum zeylanicum Breyn.</i>      | Lauraceae     | St .Bk. | 192 g |
| 26. | <i>Sukshmaila</i> | <i>Elettaria cardamomum Manton.</i>      | Zingiberaceae | Sd.     | 192 g |
| 27. | <i>Tejapatra</i>  | <i>Cinnamomum tamala Ness and Eberm.</i> | Lauraceae     | Lf .    | 192 g |
| 28. | <i>Priyangu</i>   | <i>Callicarpa macrophylla Vahi</i>       | Verbenaceae   | Fl.     | 192 g |
| 29. | <i>Nagakesara</i> | <i>Mesua ferrea Linn.</i>                | Guttiferae    | Stmn.   | 96 g  |

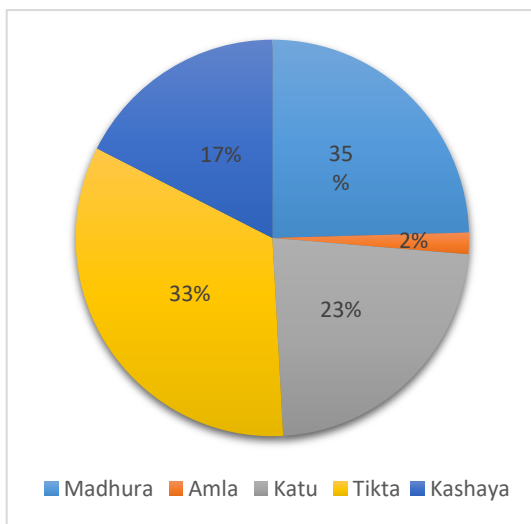
### Method of Preparation:

1. Take ingredients of *kwatha dravyas* (Decoction herbs), completely dry it and make a coarse powder.
2. Make a fine powder of ingredients of *Prakshepa dravya* except *Dhataki (Woodfordia fruticosa)*.
3. Add specific amount of water to *kwatha dravya* (Decoction herbs), heat up to its one fourth volume. Then filter it through muslin cloth.
4. Now add *Dhataki (Woodfordia fruticosa)* and honey. Seal the container mouth and ferment the mixture.
5. After its completion, filtrate the fermented material and pour in an air-tight container.

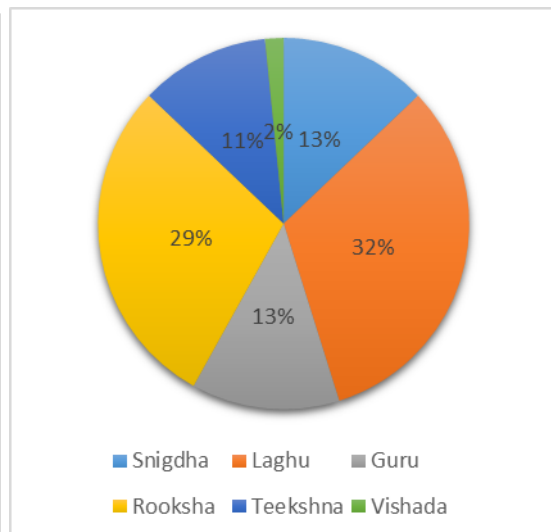
**Table 3. : Pharmacodynamic of each ingredients :**

| Sr.no | Name of the Drug                 | Rasa                                    | Guna                           | Viraya | Vipaka  | Prabhava   |
|-------|----------------------------------|---|--------------------------------|--------|---------|--|
| 1.    | Asvagandha <sup>v</sup>          | Katu, tikta ,<br>kashaya                | Snigdha, laghu                 | Ushna  | Katu    | Balances tridosha,<br>especially kapha and<br>vata dosha |
| 2.    | Musli <sup>vi</sup>              | Madhur , tikta                          | Guru, snigdha                  | Sheeta | Madhura | Vatapitta shamaka,<br>kaphavardaka                       |
| 3.    | Manjistha <sup>vii</sup>         | Madhur ,<br>Kashaya, tikta              | Guru , rooksha                 | Ushna  | Katu    | Kaphapittashamaka,m<br>ainly pittahara                   |
| 4.    | Haritaki <sup>viii</sup>         | Madhur, amla,<br>katu,tikta,<br>kashaya | Laghu, rooksha                 | Ushna  | Madhura | Natural detoxifying                                      |
| 5.    | Haridra <sup>ix</sup>            | Tikta, katu                             | Rooksha, laghu                 | Ushna  | Katu    | Balances vata and<br>kapha,                              |
| 6.    | Daruharidra <sup>x</sup>         | Tikta, kashaya                          | Laghu, rooksha                 | Ushna  | Katu    | Balances pitta and<br>kapha dosha.                       |
| 7.    | Yasti <sup>xi</sup>              | Madhura                                 | Guru,snigdha                   | Sheeta | Madhura | Vata-pittahara   |
| 8.    | Rasna <sup>xii</sup>             | Tikta                                   | Guru                           | Ushna  | Katu    | Kaphavata samaka,<br>vishagna                            |
| 9.    | Vidari <sup>xiii</sup>           | Madhura                                 | Guru, snigdha                  | Sheeta | Madhura | Vatapitta shamaka  |
| 10.   | Arjuna <sup>xiv</sup>            | Kashaya                                 | Rooksha, laghu                 | Sheeta | Katu    | Balances kapha and<br>pitta dosha, hridya                |
| 11.   | Mustaka <sup>xv</sup>            | Tikta, katu,<br>Kashaya                 | Laghu, rooksha                 | Sheeta | Katu    | Balances kapha and<br>pitta                              |
| 12.   | Trivrit <sup>xvi</sup>           | Tikta, katu                             | Laghu,<br>rooksha,<br>teekshan | Ushna  | Katu    | Balances kapha and<br>pitta, increases Vata<br>Dosha.    |
| 13.   | Sveta<br>sariva <sup>xvii</sup>  | Tikta ,<br>Madhura                      | Guru, snigdha                  | Sheeta | Madhura | Balances all three<br>Doshas.                            |
| 14.   | Krsna sariva<br><sup>xviii</sup> | Tikta ,<br>Madhura                      | Guru, snigdha                  | Sheeta | Madhura | Balances all three<br>Doshas.                            |
| 15.   | Sveta<br>Chandana <sup>xix</sup> | Tikta ,<br>Madhura                      | Laghu ,<br>rooksha             | Sheeta | Katu    | Balances kapha and<br>pitta dosha                        |
| 16.   | Rakta<br>Chandana <sup>xx</sup>  | Tikta ,<br>Madhura                      | Guru, rooksha                  | Sheeta | Katu    | Balances kapha and<br>pitta dosha                        |
| 17.   | Vaca <sup>xxi</sup>              | Katu, tikta                             | Laghu,<br>teekshna             | Ushna  | Katu    | Balances kapha and<br>vata dosha, Medhya                 |
| 18.   | Citraka <sup>xxii</sup>          | Katu                                    | Laghu ,rooksha<br>, teekshana  | Ushna  | Katu    | Balances kapha and<br>vata doshas                        |

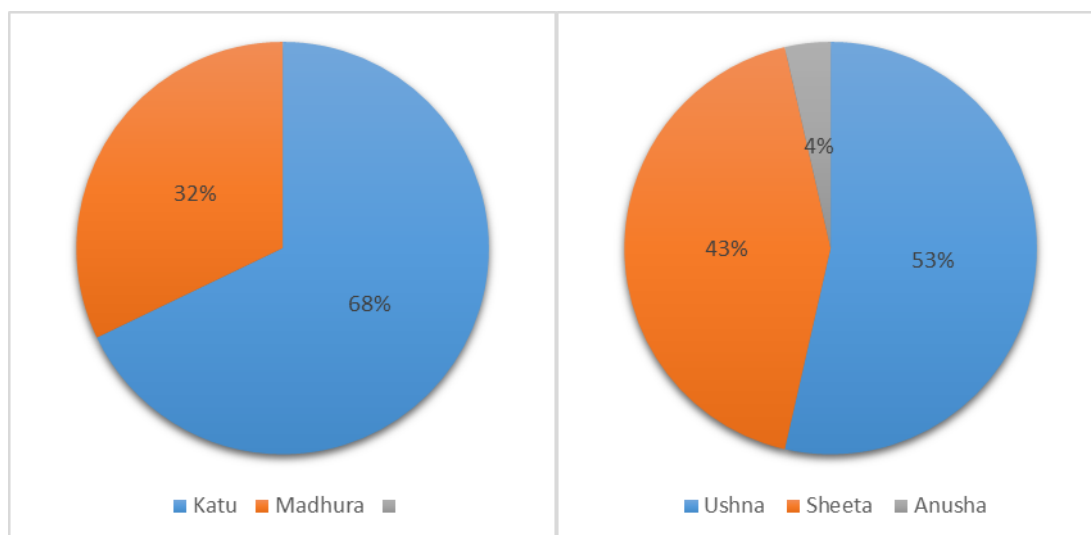
|     |                            |                         |                          |        |         |  |
|-----|----------------------------|-------------------------|--------------------------|--------|---------|--|
| 19. | Madhu <sup>xxiii</sup>     | Madhura, Anuras-Kashaya | Laghu, Vishada, rooksha  | Ushana | Madhura | Balances kapha and pitta dosha           |
| 20. | Dhataki <sup>xxiv</sup>    | Kashaya                 | Laghu, rooksha           | Sheeta | Katu    | Balances kapha and pitta dosha, madakari |
| 21. | Sunthi <sup>xxv</sup>      | Katu                    | Laghu, snigdha           | Ushna  | Madhura | Vata shamaka                             |
| 22. | Marica <sup>xxvi</sup>     | Katu, tikta             | Laghu, rooksha, teekshna | Ushna  | Katu    | Kaphaghan, Vatanulomana                  |
| 23. | Pippali <sup>xxvii</sup>   | Katu                    | Laghu, snigdha           | Anusna | Madhura | Balances kapha and vata dosha,           |
| 24. | Tvak <sup>xxviii</sup>     | Katu, tikta, madura     | Laghu, rooksha, teekshna | Ushana | Katu    | Balances kapha and vata dosha, increase  |
| 25. | Suksmaila <sup>xxix</sup>  | Katu, madura            | Laghu, rooksha           | Sheeta | Katu    | Balances kapha and vata dosha            |
| 26. | Tejapatra <sup>xxx</sup>   | Katu, tikta, madura     | Laghu, rooksha, teekshna | Ushana | Katu    | Kapha vata shamaka                       |
| 27. | Priyangu                   | Tikta, Kashaya, Madhura | Laghu, rooksha           | Sheeta | Katu    | Tridosha shamaka                         |
| 28. | Nagakesara <sup>xxxi</sup> | Kashaya, tikta          | Rooksha, teekshna, laghu | Ushana | Katu    | Balances kapha and pitta dosha           |



**Figure 1:** Predominance of *Rasa* (taste) ingredients of *Ashwagandharista*



**Figure 2:** Predominance of *Guna* (property) in herbal ingredients of *Ashwagandharista*



**Figure 3:** Predominance of *Veerya* (potency) in herbal ingredients of *Ashwagandharista*

**Figure 4:** Predominance of *Vipaka* (biotransformation) in herbal ingredients of *Ashwagandharista*

**Table 4. Pharmacological action and chemical constituent of each ingredient:**

| Sr. no. | Name of drugs     | Pharmacological action  | Chemical constituents   |
|---------|-------------------|---|---|
| 1.      | <i>Asvagandha</i> | <i>Rasayana, Vatakaphapaha, Balya, Vajikarana</i>   | Alkaloids and withanolides.   |
| 2.      | <i>Musli</i>      | <i>Vrushya, Prameha, Trutahara, Rasayani, Balya, Shonitasthapana, Dahahara, Mehahara, Rasayani, Balya, Deepana, Pachana, Kustha, Kamala, Varnya, Dugdhya, Rochana, Amahara, and Vamana.</i> | Saponin: stigmasterol, hecogenin, calcium.  |
| 3.      | <i>Manjistha</i>  | <i>Pandu, Raktadoshahara, Yakrit Vikara, Sangrahini, Jvara, Kamala, Kasahara, Amahara, Dahahara, Shwasha, Deepana, Pachana</i>  | Purpurin, munjistin, xanthopurpurin, pseudo purpurin and glycosides like rubiadin, rubiprasin A,B,C, ruiearbonls, aborane triterpenoids, mangistin, 1-hydroxy 2-methoxy |



|    |                    |   |  |
|----|--------------------|---|--|
|    |                    | , <i>Rochana , Kupachan , Anulomana , Vayasthapana , Shonitasthapana , Hridaya , Vran Ropana , Mehahara , Prameha , Vamana , Trutahara , Pandu , Balya , Hikkanigrahana , Kantya , Triptighno , and Vamanopaga , Varnya , and Krimihara</i> | anthraquinone, 3-dimethoxy 2 carboxy anthraquinone, alizarin, garancin, mollugin and furomollugin.   |
| 4. | <i>Haritaki</i>    | <i>Chakshushya, Dipana, Hridya, Medhya, Sarvadopraga amana, Rasayana, Anulomana,</i><br>hepatoprotective, anticancerous   | Tannins, chebulic acid, chebulagic acid, mannitol  |
| 5. | <i>Haridra</i>     | <i>Krimighan, Varnya, Vishaghana, Prameha nashak, Kushat ghan,</i> antidiabetic, antioxidant,   | alkaloid, essential oil resin, curcumin, aromatic, turmeric oil, termerol, turpenoids, curcumone. Other than this, it contains protein (6.3%), fat (5.1%), minerals (3.5%), carbohydrates (69.4%), and moisture (23.1%), essential oil (5-8%): $\alpha$ -phellandrene (1%), sabiene (0.6%), cineol (1%), borneol (0.5%). |
| 6. | <i>Daruharidra</i> | <i>Varnya ,Mehajit, Karna ,Netra mukharogas,Shophahara, Kandu Kushtahara,Visarpahara,Vishahara,</i> hepatoprotetive, platelet activating factor   | Berberine , quaternary ammonium salt of isoquinoline alkaloid , columbamine, palmantine  |
| 7. | <i>Yasti</i>       | <i>Chakshushya ,Balakrut ,Varnya,Keshya ,Svarya ,Trushnahara,Chardihara,Kshayahara</i>  | Glycyrrhizin, glycoside isoliqirtin, glucose.  |
| 8. | <i>Rasna</i>       | <i>Vatasra ,Kasa,jwara ,shoola</i>  | Moretenol ,neolupenol,hexacosanoic   |

|     |                |   |  |
|-----|----------------|---|--|
|     |                | ,shwasa ,udara  | ,tetracosanoic acid ,tricontanol, stigmasterol, beta-sitosterol-D-glucoside  |
| 9.  | Vidari         | Shukrala, Balya, Mutrala, Pittahara, Rasayana, Svarya, Vatahara, Varnya, Stanyada, Jivaniya, Brihamaniya  | Gluconic and Malic acids.  |
| 10. | Arjuna         | Hridya Roga, Kshatakshaya, Medoroga, Prameha, Vrana, Trishna, Vyanga, antihypertensive, cardioprotective.   | Tannins, saponins, polyphenols, flavonoids, triterpenoids, sterols and minerals  |
| 11. | Mustaka        | Aruci. Vamana, Atisara, Agnimandhya, Trishna, Kasa, Shvasa. Mutrakrichra, Stanyavikara, Kandu, Kustha, Jwara, Mutrakrichra, Vata rakta, Madatyaya | Mustacone, copaene, cyperotundone, cyperolone, aureusidin (essentialoil), oleanolic acid, sesquiterpine, cyperone, cyperenone. |
| 12. | Trivrit        | Krumihara ,Shleshmodara, Jvara ,Pandu ,Hrudroga ,Pleeha ,Vatasruk ,Udavartahara   | Turpethins, Scopoletin, Turpethinic, Coumarin  |
| 13. | Sveta sariva   | Kanduhara, Kushtahara, jvara, vishapaha ,Amahara, Agnisada, Svasa kasahara ,Pradaranut  | H. Indicus -Hyperoside, Rutin ,desinine, Hexatricontane ,B-Sitosterol, hemidesminine, Hemidesmin-1,2                           |
| 14. | Krishna sariva | Tridosahara ,Grahi ,Kustaghna, jvara ,kandu ,Prameha, Kasa svasa ,aruchi ,atisara ,agnimandya   | N-butyl sorboside ,Kempferol   |
| 15. | Sveta Chandana | Rakta -prasadana ,Vrushya ,Dahahara, Antadaha   | A-santalol, B-Santene and Santalenes, Santenol, Teresantalol, nor  |

|     |                       |  |   |
|-----|-----------------------|--|---|
|     |                       | <i>hara, sheeta, Ahladana, Klamahara, Shramahara, Varnya Vishahara</i>   | -Tricycloekasantalal, 1-Santenone, Santanone, teresantallic, a- and b Santatalic acids, n-octacosanol, plamitone  |
| 16. | <i>Rakta Chandana</i> | <i>Pittahara, Vrishya, Vishaghna, Netraroga, antihelminthic, aphrodisiac</i>   | Glycosides, Colouring Matter, santalin, lupeol, pterocarpan, homopterocarpan, cryptomeridol   |
| 17. | <i>Vaca</i>           | <i>Hridya, Kaphahara, Pittahara, Raktashodhaka, Svava, Vivardhaka, Vatakrit</i>  | Alkaloids (Vasicine and Vasicinol) and Oil.   |
| 18. | <i>Citraka</i>        | <i>Vanhikrut, Pachana, Kushtahara, Shothahara, Kruminut, Vatarsha, Grahi, Kushtahara, Shothahara, anti-inflammatory, anti-obesity, anti-ulcer, anti-microbial.</i>   | Chitranone, Plumbagin, 3-Chloroplumbagin, drosrone, Elliptinone, Zeylanone, Zeylinone, Maritone, Plumbagic acid, Dihydrosterone, B-Sitosterol.  |
| 19. | <i>Madhu</i>          | <i>Deepana (stomachic), Swarya (improves vocal tone), Vrana sodhana (wound healer), Veerya vardhaka (aphrodisiac), Yoga vahi (super convenient), Medhya (improves memory), Varnya (complex promoting), and is indicated in pitta vikara, Rakta vikara, Krimi, Shwasa, Atisara, Kshyaya, Vivandha</i> | The Chemical Composition of honey varies according to the chemistry of the nectar. Honey is composed mainly of a variety of sugars, traces of pollen and water. There are also enzymes present. |
| 20. | <i>Dhataki</i>        | <i>Atisara, Trishna, Visarpa, Vrana, Raktapitta.</i>   | Tannin and Glycoside.   |
| 21. | <i>Sunthi</i>         | <i>Amavata, Sandhishotha, Prameha, Shotha, Vatavyadhi, Kosthavata, Karnashoola, Avasada, Aruchi, Agnimandya,</i>   | Rhizome contains diarylheptenones (gingerenone A) gingerenone B, alpha curcumene, beta curcumene, citral  |

|     |                  |   |  |
|-----|------------------|---|--|
|     |                  | <i>Grahini, Gulma, Vibandha, Arsha, Hridroga, Kantharoga, Kasa, Jeernajwara, Sheetapitta</i>  | ,zingiberol,zingiberenes<br>,citronellol,geraniol,gingerol, etc.   |
| 22. | <i>Marica</i>    | <i>Agnimandya, Prameha, Yakridvikara,, Shwasa, Hikka, Mutrakrichhra,Adhmana,Kustha, Balashotha, Shothavedanayukta vikara, Shula, Vatavikara, Shwitra, Arma,Shukla, Dantashula, Nadidaurbalya.</i> | Alkaloids (piperine, piperethine, piperolin A & B, pipecolic acid, pipericide etc), essential oil, whose aroma is dominated (max.80%) by monoterpene hydrocarbons: humulene,B-bisabolone and caryophyllene oxide and ketone.   |
| 23. | <i>Pippali</i>   | <i>Sotha, Amavata, Vatavyadhi, Aruchi, Agnimandya, Vibandha, Gulma, Udarashula, Krimiroga, Hrid-daurbalya, Raktavikara, Vatarakta, Shwasa, Hikka, Yakshma,Kustha, Kashtaprasava.</i>              | Fruit contains piperine, pipartine and a lignin d-sesamin, two piperidine alkaloids- piperonaline and piperundecalidine; triacontane, dihydro-stigmasterol, glycosides, sesamin and methyl 3,4,5-trimethoxycinnamate (roots); piperine and sesamin (stem & fruit); sylvatin, sesamin & diaeudesmin (seed). |
| 24. | <i>Tvak</i>      | <i>Kaphavatahara, Ruchya, Vishaghna, Kanthashuddhikara</i>  | Essential oil, tannin and mucilage; Cinnamaldehyde, eugenol. benzaldehyde, methyl amyl ketone, phellandrene, pinene,cymene, linalool, cumic aldehyde, caryophyllene, safrole, methylevgenol, cinnamyl alcohol, cinnezeylanol.  |
| 25. | <i>Suksmaila</i> | <i>Anulomana, Dipana, Hridya, Mutrala, Rocana, antioxidants, anti-obesity.</i>  | Essential oil. Bornneol, camphene, p-cymene, geraneol. heptanes, D-limonene, linalool, menthone, methylheptenone, mycene, nerol,   |

|     |                   |  |   |
|-----|-------------------|--|---|
|     |                   |  | nery lacetate.  |
| 26. | <i>Tejapatra</i>  | <i>Kaphavatahara, Ruchya, Arshoghna</i> , hypnotic, anti-inflammatory  | Essential oils (d-a phellandrene and eugenol), abies in, azirdin, camphene, limonene, borny acetate, pinene   |
| 27. | <i>Priyangu</i>   | Anti-arthritic, antifungal   | Alph-amyrin, ursolic acid, betulinic acid, beta- sitostetrol, daucostero  |
| 28. | <i>Nagakesara</i> | <i>Raktapitta, Raktasrava, Raktaarsha, Raktatisara, Raktapradara, Agnimandhya, Trishna, Chardi, Pravahika, Krimi, Hrididourbalya, Klaibya, Mutraghata, Kustha, Jwara, Dourbalyahar</i> , anticonvulsant, antivenom | Mammeis in was reported from the seeds; while stamens afforded two novel biflavanones designated as mesuaferrone-A and mesuaferrone-B, mesuanic acid, beta- mesunic acid, beta-sitosterole. Other constituents are: mesuol, mesuaferrol, mesuone, mesuagin, mesuaaxanthone-A and B, euxanthone, other xanthone derivatives, ferrol-A and B. |

**Indications of *Ashwagandh arishta* according to classical treatise:**

*Klaibya* (treats erectile dysfunction)

*Napunsakata* (treats impotency)

*Beejopghat* (remedies decrease in sperm quantity)

*Kshayaj* (treats excessive loss of sperm)

*Shukradhatu* or reproductive tissue)

*Shukragatavata* (treats premature ejaculation)

*Vajikaran* ( improves libido)

*Rasayani* (rejuvenates the whole body)

*Balya* (improves strength)

*Udara* ( treats ascites)

*Antravruddhi* ( treats Hernia)

*Arsha* (treats haemorrhoids)

*Hridaya* (treats heart problems)

*Shonitasthapana* (prevents bleeding)

*Pushtida* (good for nutrition)

*Balya* (improves muscle strength)

*Vayasthapana* (prevents ageing)

*Jvara* (useful for fever)

*Prameha* (treats diabetes)

*Kasahara* (Relieves cough)

*Shwasha* (relieves breathing difficulties)

*Amahara* (treats indigestion)

*Deepana* (enhances stomach fire)

*Pachana* (helps in digestion)

*Rochana* (stimulates appetite)

*Anulomana* (improves breathing)

*Kantya* (relieves sore throat)

*Amavata* (relieves arthritis)

*Sandhi shula* (treats gout)

*Kati prishtha shula* (remedies spinal and back pain)

*Hridaya* (treats heart problems)

*Kustha* (treats skin disorders)

*Varnya* (improves complexion)

*Krimihara* (relieves intestinal worms)

*Kanthya* (improves voice)

### **Modern view:**

#### **Enhance Male Reproductive System activity**

*Ashwagandharishta* is commonly indicated for improving men's health owing due to the presence of influential spermatogenic properties. Additionally, abundance of Ashwagandha in this formulation helps in treating hypospermia (i.e., low volume of semen), oligospermia (i.e., low sperm count), asthenozoospermia (i.e., sperm motility), teratospermia (i.e., abnormal sperm shape) and stimulates spermatogenesis (i.e., sperm production) in the testis. Being a natural antioxidant-rich tonic, it increases the production of male hormones like testosterone and luteinizing hormone and also in conditions like erectile dysfunction, nightfalls and premature ejaculation.

#### **Enhances Fertility And Libido function**

*Ashwagandharishta* an absolute traditional remedy for boosting libido and improving fertility in men. It is impart with strong aphrodisiac properties that help in reducing mental stress by regulating the cortisol hormone and abate anxiety, thereby stimulating the production of testosterone that increases fertility and libido. This tonic plays a significant role in booming virility and stamina in men. Consuming this tonic along with milk right before sleeping has known to trigger blood circulation in the genitals which thereby increases the production of male hormones like testosterone and luteinizing hormone, thus improving the motility and quality of sperm in men.

### **Control Anxiety**

The copious amount of anti-anxiolytic properties in *Ashwagandharishta* is extremely advantageous for treating different types of psychotic problems like anxiety, stress, depression, dementia, etc. It regularize the Vata and Pitta imbalances in the body which in turn help to regulates the serotonin level in the body and helps to dwindle the associated symptoms of anxiety associated with tremors, excessive sweating, restlessness, uneasiness, cold hands, and feet, etc. The overriding antidepressant quality of the *arishta* helps in calming the mind, reducing irritability, anxiousness and improving overall mental health.

### **Induces sleep**

The anti-stress and anxiolytic properties of *ashwagandha* in this potent formulation extensively help in positively influencing an frenzied brain, mind and central nervous system CNS and also calming and soothing it. Hence a invaluable form of medication for managing insomnia, as it pacifies the mind and promotes deep sleep at night. Additionally, it also reduces mental stress and tension, thus lessen spell of anxiety, nervousness, and panic attacks and providing comfort to the brain and mind for restful sleep.

### **Improves Cognitive Functioning**

Consecrate with powerful antioxidants and flavonoids, *Ashwagandharishta* has been consider an Adaptogen. It clasps momentous in improving the memory capacity, concentration, focus, calmness, alertness, and intuitiveness of a person. Being a potent brain tonic and stimulator, *Ashwagandharishta* readily promotes antioxidant activity to defence the nerve cells from harmful free radical damage, thus decline oxidative stress and enhancing memory, reasoning, problem-solving, and other cognitive abilities. The neuroprotective elements in Ashwagandha used for concocting this tonic also hinder loss of memory, thereby managing conditions like Alzheimer's, Parkinson's, dementia etc.

### **Boost Immune power**

This formulation holds extravagant in improving the general stamina and energy of the body. Due to the presence of antioxidants and Vitamin C in the formulation, this polyherbal formulation put forward an eventual remedy for improving the immune system, combatting microbes and shielding the body against various microbial infections. It also exhibits the



presence of strong anti-viral, anti-bacterial, and antifungal traits, which is extremely effective in elude infections like fever, common cold, sore throat, and other respiratory woes.

### **Exhilarate Bone condition**

*Ashwagandharishta* take part in promoting bone health and reduce joint pain and inflammation. By augment the synthesis of collagen in the bones, it diminishes the incidence of fracture, maintains overall body balance and poise and provides the body with a strong and perfect skeletal structure. It also increases bone and muscle mass and treats inflammatory conditions like osteoarthritis, osteoporosis, and fibromyalgia.

### **Build on emaciated condition**

*Ashwagandharista* helps in pacifying the *Vata* and *Kapha Doshas* conditions it is used to foster skeletal and muscle mass. This *arista* delivers essential minerals and nutrients to the body, balances subcutaneous fat, and substantial promotes the strength of bones and muscles, thus treating emaciated conditions.

### **Recuperation Pyospermia**

It is a condition that is caused due to a viral infection primarily characterised by an abnormal increase of white blood cells in the semen which ultimately contract the motility and functioning of the sperm. The antibacterial and anti-inflammatory properties provide excellent remedy for treating the infection and put to rights the associated symptoms.

### **Ameliorate function of The Female Reproductive System**

*Ashwagandharishta* being a powerful health tonic helps in build on endometriosis or inflammation of the lining of the uterus. It maintains ideal female hormone levels (progesterone and oestrogen) within the blood, fortifies the health of the female reproductive organs and assist timely maturation of the eggs within the follicles. Improves fertility.

### **Virtuous for Heart health**

Treats various cardiac anomalies owing to its strong antioxidative essence. It takes part a pivotal role in fortifying the heart muscles, fend off lipid escalation in the blood vessels, and hence enormously turn down the prevalence of atherosclerosis, heart attacks, heart blocks, blood clots, strokes etc. It aids in lowering the blood cholesterol level in the body.

### **Restorate Pain And Inflammation**

powerful anti-inflammatory and Vata-balancing properties, provide extensive relief from painful and inflammatory conditions. Effective against different types of arthritis or Amavata like Rheumatoid arthritis, Gouty arthritis, Gout, etc. Allay the markers of inflammation, it boosts the immune cells or WBCs that help in taking up arms against the infection. It also drop-ship quick relief from burning sensations in several parts of the body.

### **Targe From Intestinal scuffling**

Ashwagandha is a traditional remedy for improving digestive health and treating a wide range of gastrointestinal oddity like constipation, gastritis, diarrhoea, flatulence, peptic ulcer, esophagitis, heartburn, gastroesophageal reflux disease, indigestion, and stomach pain. The carminative nature helps in flatten the food particles in the stomach and intestine, stimulates the production of digestive juices and thereby increases in absorption and assimilation of essential nutrients through the intestines. It obliges in eliminating abdominal gas and in turn, diminishes abdominal distension, bloating and gaseous cramps. Being a mild laxative, it helps in easy passage of stools thus treating constipation and piles effectively.

### ***Ashwagandharishta* Dosage:**

The effective therapeutic dosage of *Ashwagandharishta* may differ from person to person depending upon the age of the patient, body strength, digestive fire or appetite, and severity of the disease. It is strictly advised to take with an *Ayurvedic* practitioner consult.

Adults: 20 ml alongside water or water infused with honey twice a day (to mask its pungent taste) or as suggested by the health care provider.

### ***Ashwagandharishta* Side-Effects:**

The most common side effects of *Ashwagandha*, which is the chief ingredient of *Ashwagandharishta* are<sup>xxxii</sup>:

Intestinal disorders in hyperthyroid patients and pregnant women

Hypnotic effect in high doses

Drowsiness or sleepiness

*Ashwagandharishta* might help in increasing sperm count. According to a small-scale study, root extracts of *ashwagandha*, which is the main ingredient of *Ashwagandharishta* powder are believed to have spermatogenic activities which can stimulate sperm count.

Although this ayurvedic herbal decoction has been studied and researched extensively and is recommended for treating umpteen health anomalies, it is still highly suggested to consume the formulation in the prescribed amount as suggested by the ayurvedic doctor.

#### ***Ashwagandharishta* Contradictions:**

This polyherbal formulation is contraindicated in the following diseases:

Acidity or hyperacidity

GERD

Gastritis

Mouth ulcer

Sour mouth or throat

#### ***Ashwagandharishta* Precautions:**

*Ashwagandharishta* being warm can induce uterine contractions and stimulate menstrual flow or uterine bleeding leading to failed pregnancy, hence it is strictly prohibited during pregnancy. With relevant information regarding the usage of this polyherbal formulation in breastfeeding mothers, it is best to refrain from consuming *Ashwagandharishta* during the lactation period as well.

#### **Research work:**

1. An experimental trial was undertaken to investigate whether *Ashwagandharishta* and *Atasi taila* (flax seed oil) protect against maximal electroshock (MES) seizures in albino rats. Further, a possible protective role of flax seed oil as an adjuvant to *Ashwagandharishta* in its anticonvulsant activity has also been evaluated in the study. MES seizures were induced for rats and seizure severity was assessed by the duration of the hind limb extensor phase. Phenytoin was used as the standard antiepileptic drug for comparison. Both flax seed oil and *Ashwagandharishta* significantly decreased convulsion phase. Pre-treatment with flax seed

oil exhibited significant anticonvulsant activity by decreasing the duration of tonic extensor phase. Contrary to the expectations, pre-treatment with flax seed oil as an adjuvant to Ashwagandharishta failed to decrease the tonic extensor phase; however, it significantly decreased the flexion phase ( $P < 0.001$ ) and duration of the convulsions ( $P < 0.05$ ). Both the drugs exhibited an excellent anti-post-ictal depression effect and complete protection against mortality.<sup>xxxiii</sup>

2. A study was done to evaluate clinical indications of *Ashwagandharishta* in experiential and scientific view in mental disorders, neurological disorders, and chronic debilitating diseases as it has *Dipana, Pachana, Rasayana, Balya, Brimhana, Nadi Balya*, sedative, hypnotic, antistress, adaptogenic and nerve tonic etc. Properties.<sup>xxxiv</sup>

3. A investigation was carried out of different types of test preparations of *Ashwagandharishta* as *Ashwagandharishta-T*, *Ashwagandharishta-M* prepared by traditional and modern methods respectively and marketed *Ashwagandharishta* they were evaluated for antimicrobial activity against common human pathogens. It was observed that all the test preparations of *Ashwagandharishta* exhibited significant zone of inhibition against selected common human pathogens. The results indicate that all the test preparations of *Ashwagandharishta* as *Ashwagandharishta-T*, *Ashwagandharishta-M* and marketed *Ashwagandharishta* might be used as natural drug for the treatment of several infectious diseases caused by these organisms.

4. A study was executed in which *Ashwagandharishta* was prepared by traditional method and was standardized by TLC method. Physicochemical and phytochemical analysis was performed to confirm the chemical constituents from *Ashwagandha* root powder. formulation should be standardized by HPTLC, HPLC and pharmacokinetic profiling methods by using markers.

5. A work was carried off to know the types of biomolecules present in it by GC MS analysis. *Ashwagandharishta* was procured from standard Ayurvedic outlet and was subjected to Gas Chromatography Mass Spectrometry after due processing. The GC MS analysis of *Ashwagandharishta* has shown some promising molecules like Prostaglandin A<sub>2</sub>, Cholesterol, Piperine, Gentamicin a, d-Mannose, Eugenol, Pipradrol among others, which have activities similar to that of *Ashwagandharishta*. This is a preliminary report where some clue about the various types of biomolecules present in *Ashwagandharishta* was obtained.<sup>xxxv</sup>

6. Alpha-7 nicotinic acetylcholine receptor is a sub type of nicotinic acetylcholine receptor which has been recognized as one of the most useful drug target for the treatment of nervous system associated disorders. Molecular docking analyses have been carried out to detect any possible secondary metabolites present in *Ashwagandharishta* that could act as agonists of alpha-7 nicotinic acetylcholine receptor. According these computational findings, it has been found that two phytochemicals; anaferine and anahygrine exhibit promising agonistic activity towards the receptor. Thus anaferine and anahygrine have high possibility to serve as alpha-7nAChR agonists which demonstrate potential drug action towards memory related disorders.<sup>xxxvi</sup>

Research was designed to evaluate the cardio protective activity of *Ashwagandharishta-T*, *Ashwagandahrishhta-M* prepared by traditional and modern methods respectively and its marketed preparation on isoproterenol (ISO) induced myocardial infarction (MI) in albino rats. Wistar albino rats of either sex were randomly divided into 06 groups comprising 06 animals in each group as normal control, ISO control, pretreatment with Inderal\*10 (10 mg/kg) per os, pretreatment with *Ashwagandharishta-T*, M and its marketed preparation at the dose of 2 ml/kg per os per day for 30 days. MI was induced in all the groups except normal control, by administering ISO (85 mg/kg) intraperitoneally, on 29th and 30th day. On 31st day, level of serum marker enzymes was determined and serum lipid profile was also measured. Then, animals were subsequently sacrificed, hearts were removed, weighed and immediately processed for biochemical studies. Pretreatment with Inderal\*10 and all the test preparations of *Ashwagandharishta* significantly prevented the ISO-induced adverse changes in the level of serum marker enzymes as creatine kinase (CK-MB), lactate dehydrogenase (LDH), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) and also improved serum lipid profile. All the test formulations pretreated groups showed significant increase in glutathione (GSH) content and significantly reduced malonyldialdehyde (MDA). Thus, experimental finding suggests that the cardio protective activity of *Ashwagandharishta-T*, M and its marketed preparation may be due to an augmentation of endogenous antioxidants as GSH and inhibition of lipid peroxidation of cardiac membrane.<sup>xxxvii</sup>

7. A study was performed and the key objective was to analyze the effect of ASG on different enzyme profile i.e; Aspartate Aminotransferase (AST), Alanine aminotransferase (ALT), Alkaline Phosphatase (ALP) and Lactate dehydrogenase (LDH). A total of 40 males

and 40 females were randomly assigned to the four groups, namely group I (Control: water), group II (0.625 ml/kg BW of ASG), group III (5.0 ml/kg BW of ASG), and group IV (40.0 ml/kg BW of ASG) consisting of 10 males and 10 females in each group. To detect the outcome of ASG on different enzyme profile, it was administered chronically to both male and female Sprague-Dawley rats for 51 days. The results showed a significant decrease of serum AST level in ASG treated male rat groups ( $p < 0.05$ ) than control counterpart. In females, serum AST level in mid dose (group III) was significantly higher as compared to control ( $p < 0.05$ ). The females from mid dose group showed significant increase in serum ALT level ( $p < 0.05$ ) whereas other groups from male and female showed no significant changes. For the enzyme Lactate dehydrogenase, only the male rat high dose showed a significant decrease ( $p < 0.05$ ) than the corresponding control group. No statistically significant change was noted in Alkaline Phosphatase level for both the male and female rats at three different doses.<sup>xxxviii</sup>

8. The study was accomplished to compare the lipid peroxidation activity and related hypolipidaemic activity in *Ashwagandhrishta*-T and *Ashwagandhrishta* -M prepared by traditional and modern methods with standard Atorvastatin. Hypolipidaemic activity was evaluated on cholesterol fed rats. The antioxidant activity of *Ashwagandharishta*-T and *Ashwagandharishta*-M was increased in a concentration dependent manner. *Ashwagandharishta*-T and *Ashwagandharishta*-M inhibited the ferrous sulphate induced lipid per-oxidation in a dose dependent manner and showed inhibitory concentration (IC<sub>50</sub>) value 181.88 and 191.05 µg/ml, respectively. In hypolipidemic activity *Ashwagandharishta*-T and *Ashwagandharishta*-M at the dose of 2.0ml/kg body weight orally significantly reduced serum cholesterol (47% and 46%), serum LDL (66% and 65%), and serum triglycerides (35% and 34%). The increase in serum HDL was 19% when compared to control with both the *Ashwagandharishta*T and M and reduction in atherogenic index was found 1.25 and 1.29 in *Ashwagandharishta*-T and *Ashwagandharishta*-M treated groups respectively, which strongly supports anti-atherosclerotic property of *Ashwagandharishta*.<sup>xxxix</sup>

9. Study was to analyze the effect(s) of *Ashwagandharishta* on the kidney functions of both male and female Albino rats. Chronic toxicity tests were also done. Following treatments, the rats were observed for 51 days to know the effects of *Ashwagandharishta* on kidney functions considering 3 parameters such as serum urea, creatinine and uric acid. Our results failed to exhibit a significant increase in serum urea level at low dose ( $P < 0.01$ ), medium dose

( $P < 0.05$ ) and at high dose ( $P < 0.001$ ) in male rat groups; but with female rat groups our results showed significant increase in serum urea level at three dose levels. Regarding serum creatinine level male rats and female rats showed a trend of increase in level at different dose but effects were insignificant except medium dose in male rats ( $P < 0.05$ ). Regarding serum uric acid level our results failed to show a significant increase irrespective of dose.<sup>xi</sup>

10. A study was conducted in which it is evaluated that *Ashwagandharista* significantly reduce the secretion of acid and protect the gastric mucosa lining.<sup>xii</sup>

### Discussion:

Every man of this universe can take the drug inside the body either as a diet or in the form of medicine. But every drug must be formulated in such a way, so that it should be easy for administration. For this, different processes are derived which are known as *Kalpana* - which indicates the sense of manufacturing process.

While developing a pharmaceutical formulation, one must to keep three subjects in consideration i.e. the nature of the disease, condition of the patient and the last but most important is the nature of the drug. That's why *Acharyas* described different formulations for a single disease, also various forms of a single drug.

*Panchavidha Kashaya Kalpana* have taken origin from the herbal drugs. These five basic *Kalpana* are: *Swarasa*, *Kalka*, *Kwatha*, *Hima*, *Phanta*. But, later on with the intention of palatability, less dose, longer shelf life, potency, quick relief etc., some secondary formulations were evolved like *Churna Kalpana*, *Leha Kalpana*, *Vati Kalpana*, *Sneha Kalpana*, *Sandhana Kalpana* etc.

*Sandhana Kalpana* supersedes all other *Kalpana* because of its high efficacy. quick effect, lesser therapeutic dose, long shelf life, palatability, good smell and universal acceptance. The properties of both the solvents i.e. water and alcohol are achieved in the *Asava-arishta* preparation. Self-generated alcohol promotes rapid absorption of constituents, quick in action, increase shelf life and prevents growth of mould and bacteria. Presence of sugar and *Sandhana Dravya* increases palatability. In a nutshell, it fulfils all the desired characteristics of wanted dosage form and become superior dosage form in the field of *Bhaishajya Kalpana*. These are the reasons for *Sandhana Kalpana* being much more popular among the

physicians. *Arishta* is a type of *Sandhana Kalpana* with somewhat superior quality due to their medicinal properties.

*Ashwagandharista* is quoted in the text *Bhaisajya Ratnavali* for *murchha roga*. It contains all the constituents of *Asava-arishta* preparations like decoction as *Drava*, *madhu* as a sweetening agent, *Dhataki Pushpa* as inoculums or *Sandhana Dravya*.

### Conclusion:

Since ancient times, *Ashwagandharista* has been mentioned in several Ayurvedic scriptures as an ultimate remedy for numerous health aberrations. This incredible medicinal compound is classified as an adaptogen and *Rasayani Dravya* and assists in mitigating stress and anxiety. Additionally, being a dominant aphrodisiac, it increases libido, treats various infertility issues and improves the reproductive health in both men and women. It also ensures proper digestion, promotes memory, fortifies bone health, relieves inflammation and thus improves overall stamina and body immunity.

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